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VOLUME 1 OF 2 TEXT THROUGH APPENDIX C NSB KINGS BAY GA
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NSB Kings Bay Administrative Record
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SUPPLEMENTAL RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION REPORT SITE 11, OLD CAMDEN COUNTY LANDFILL

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

VOLUME I — REPORT through APPENDIX C

UNIT IDENTIFICATION CODE: N42237
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The recommendations and professional opinions rendered in this document were developed in accordance with commonly accepted procedures consistent with applicable standards of practice. The recommendations and opinions presented are based on assumptions about site conditions effective January 1996. Changes in site conditions or new information could modify the recommendations and opinions presented. Such changes or information should be reviewed and evaluated for possible modifications to this report in future revisions.

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CERTIFICATION OF TECHNICAL
DATA CONFORMITY (MAY 1987)

The Contractor, ABB Environmental Services, Inc., hereby certifies that, to the best of its knowledge and belief, the technical data delivered herewith under Contract No. N62467-89-D-0317/094 are complete, accurate, and comply with all requirements of this contract.

DATE: August 7, 1997

NAME AND TITLE OF CERTIFYING OFFICIAL: Richard Tringale
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Project Technical Lead

(DFAR 252.227-7036)

FINAL DRAFT

SUPPLEMENTAL RFI REPORT
SITE 11, OLD CAMDEN COUNTY LANDFILL

NAVAL SUBMARINE BASE KINGS BAY
KINGS BAY, GEORGIA

Unit Identification Code: N42237

Contract No. N62467-89-D-317/094

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August 1997

FOREWORD

To meet its mission objectives, the U.S. Navy performs a variety of operations, some requiring the use, handling, storage, or disposal of hazardous materials. Through accidental spills and leaks and conventional methods of past disposal, hazardous materials may have entered the environment in ways unacceptable by today's standards. With growing knowledge of the long-term effects of hazardous materials on the environment, the Department of Defense initiated various programs to investigate and remediate conditions related to suspected past releases of hazardous materials at their facilities.

One of these programs is the Installation Restoration program. This program complies with the Comprehensive Environmental Response, Compensation, and Liability Act as amended by the Superfund Amendments and Reauthorization Act, the Resource Conservation and Recovery Act (RCRA), and the Hazardous and Solid Waste Amendments (HSWA) of 1984. These acts establish the means to assess and clean up hazardous waste sites for both private-sector and Federal facilities.

The program that has been adopted to address present hazardous material management is the RCRA and HSWA (RCRA/HSWA) corrective action program. RCRA ensures that solid and hazardous wastes are managed in an environmentally sound manner. The law applies to facilities generating or handling hazardous waste. The HSWA corrective action program is designed to identify and clean up releases of hazardous substances at RCRA-permitted facilities.

The RCRA/HSWA program is conducted in four stages, as follows:

- RCRA facility assessment,
- RCRA facility investigation,
- corrective measures study, and
- corrective measures implementation.

The Southern Division, Naval Facilities Engineering Command manages and the U.S. Environmental Protection Agency (USEPA) and the Georgia Department of Natural Resources, Environmental Protection Division oversee the Navy environmental program at the Naval Submarine Base (NSB) in Kings Bay, Georgia. All aspects of the program are conducted in compliance with State and Federal regulations, as ensured by the participation of these regulatory agencies.

Questions regarding the RCRA program at NSB Kings Bay should be addressed to Mr. Anthony Robinson, Code 18511, at (803) 743-0339.

EXECUTIVE SUMMARY

Under contract to the U.S. Department of the Navy, Southern Division, Naval Facilities Engineering Command, this supplemental Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) report was prepared for Site 11, Old Camden County Landfill, located on the Naval Submarine Base (NSB) in Kings Bay, Georgia. This report was prepared under the Navy's Comprehensive Long-Term Environmental Action, Navy Contract No. N62467-89-D-0317, Contract Task Order No. 094.

Site 11 is a former municipal landfill that operated from 1978 to late 1981. Site 11 has been the object of several phases of investigations dating back to 1992. The site falls under the jurisdiction of RCRA because the base operates under a Hazardous and Solid Waste Amendments (HSWA) permit. Investigation and corrective action at Site 11 are part of the conditions of the HSWA permit and are overseen by the Georgia Environmental Protection Division.

An initial RFI (ABB Environmental Services, Inc., 1993a) was completed at the site, and groundwater contamination was identified that needed to be characterized. Additional RFI activities were planned under a supplemental RFI. In between the initial and supplemental RFI programs, two screening investigations were conducted in response to the detection of organic compounds, chlorinated solvents in particular, in groundwater downgradient of the site and near the NSB property line. The groundwater contamination extends off the NSB property, under the state highway, and into a subdivision. The Navy has implemented groundwater corrective action in the form of an interim measure.

Supplemental RFI activities included sampling and analyses of groundwater, subsurface soil, soil and liquid from test trenches, and sediment and surface water in Porcupine Lake (a small manmade lake in a subdivision near the site). The information obtained from the supplemental RFI activities, reported herein, indicates that groundwater contamination is generally limited to a hot spot on the western, downgradient side of the landfill. Concentrations of contaminants in groundwater beneath the landfill are significantly lower than along the western side of the landfill. Downgradient of the hot spot, in the subdivision, concentrations of groundwater contaminants are also much lower.

Thirteen test trenches were excavated into former disposal cells in the landfill. Although the area excavated is small relative to the 26 acres that the landfill occupies, a source for the chlorinated solvents was not found. Analytical data for soil and liquid samples collected from the trenches indicates that concentrations of chemicals are low, with the exception of some high levels of nonchlorinated solvents in trench liquid.

There were 5-gallon containers of unknown material observed in the landfill. Some of the containers were labeled "monoethanolamine" and several were leaking fluids. A sample of clear, viscous fluid was collected from one of the leaking containers. Analysis of RCRA F-listed solvents and semivolatile organic

compounds only detected naphthalene. The pH was also measured and was 13, which causes the material to be an RCRA hazardous waste by characteristic of corrosivity. The pH of the material is consistent with monoethanolamine, but the viscosity and various colors of fluids observed leaking from the containers does not suggest that the material was pure monoethanolamine.

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
ANOVA	an analysis of variance
bls	below land surface
BTX	benzene, toluene, and xylenes
°C	degrees Celsius
CAP	corrective action plan
CLP	contract laboratory program
CRQL	Contract Required Quantitation Limit
D	duplicate sample
DDE	dichlorodiphenyl dichloroethene
DDT	dichlorodiphenyl trichloroethane
Eh	oxidation/reduction potential
ft/yr	feet per year
GEPD	Georgia Environmental Protection Division
H_a	alternate hypothesis symbol
HEA	health and environmental assessment
H_o	null hypothesis symbol
HSWA	Hazardous and Solid Waste Amendments
ICMS	interim corrective measures screening
IM	interim measure
J	estimated concentration
K_d	distribution coefficient
K_{oc}	sorption coefficients
μg/kg	micrograms per kilogram
μg/ℓ	micrograms per liter
μmhos/cm	micromhos per centimeter
MCL	Maximum Contaminant Level
MDLs	method detection limits
mg/ℓ	milligrams per liter
mg/kg	milligrams per kilogram
mlw	mean low water
NSB	Naval Submarine Base
PAH	polycyclic aromatic hydrocarbons
PCB	polychlorinated biphenyl
PIW	private irrigation well
ppbv	parts per billion volume
ppm	parts per million
PQL	practical quantitation limit

GLOSSARY (Continued)

QA/QC	quality assurance and quality control
QC	quality control
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
ROW	right-of-way
S_w	water solubility
SVOCs	semivolatile organic compounds
TAL	target analyte list
TCL	target compound list
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

1.0 INTRODUCTION

Under contract to the U.S. Department of the Navy, Southern Division, Naval Facilities Engineering Command, this report was prepared by ABB Environmental Services, Inc. (ABB-ES), for Site 11, Old Camden County Landfill, located on the Naval Submarine Base (NSB) in Kings Bay, Georgia. This report was prepared under the Comprehensive Long-Term Environmental Action, Navy Contract No. N62467-89-D-0317, Contract Task Order No. 094.

1.1 PURPOSE OF REPORT. Site 11, an inactive solid waste management unit, is being addressed under the Resource Conservation and Recovery Act (RCRA) corrective action program. Several investigations have been completed previously, including an initial RCRA facility investigation (RFI). During the early part of the initial RFI, groundwater contamination was identified. Subsequent investigations, described more fully in Chapter 2.0, were implemented to determine if groundwater contamination had migrated offsite (Phase I interim investigation) and to evaluate the need for interim corrective measures (interim corrective measures screening [ICMS] investigation). After the ICMS investigation, the supplemental RFI activities and interim measure (IM) groundwater corrective action were planned. The supplemental RFI activities were needed to fully evaluate the effect that releases from the site had on the environment. At the same time the supplemental RFI was being planned, an IM groundwater extraction and treatment system was being designed. The two programs, supplemental RFI and IM, were implemented concurrently. During most of the supplemental RFI investigative tasks, active remediation efforts were already underway.

Information collected during the supplemental RFI at Site 11 will be used during the evaluation of potential remedial alternatives and for the health and environmental assessment (HEA). The purpose of the evaluations presented in this report are primarily for identification of contaminants and their extent in environmental media. Under the regulatory administration existing at the time this report was submitted, the Georgia Environmental Protection Division (GEPD) was unable to incorporate risk assessment into the review and consideration of environmental impact of Site 11. Therefore, recommendations made in this report take into account this existing stand on risk assessment.

The supplemental RFI field investigations were conducted according to the site specific supplemental RFI workplan (ABB-ES, 1994a), sampling and analysis plan (ABB-ES, 1994b), and health and safety plan (ABB-ES, 1994c). Subsurface soil samples were collected from continuous cores obtained from borings advanced using a rotasonic drilling technique rather than using mud rotary drilling that was proposed in the workplan. Sampling procedures, equipment decontamination, and management of investigation-derived wastes are addressed in technical memorandums as well as the project planning documents referenced in this paragraph. Chapter 2.0 of this report contains information about the investigation chronology and associated documents for Site 11. This report is focussed on contaminant distribution and extent and generally does not repeat information that is explained in existing documents.

Part of the supplemental RFI activities included collection of surface soil samples from the landfill and at background locations. These samples were

collected solely for use in the risk assessment. The surface soils were not evaluated for this report because the landfill is covered with soil brought to the site and from an unknown source. Also, the waste is buried beneath the soil and the only potential contaminants that migrate upward would be volatile organic compounds (VOCs) in vapor phase. Soil vapor and potential air emissions were investigated during activities conducted prior to and during the supplemental RFI, respectively.

1.2 REPORT ORGANIZATION. The material presented in this report has been organized into six chapters. The contents of each chapter are described below.

Chapter 1.0, Introduction, presents the purpose and format of the supplemental RFI report.

Chapter 2.0, Previous Investigations, provides a summary of findings from previous investigations including the initial RFI, Phase I interim investigation, and the ICMS investigation.

Chapter 3.0, Characterization of Potential Organic Contaminants, addresses the nature of organic contaminants identified in environmental media that were sampled during the supplemental RFI. The discussion includes results of organic chemical analyses of soil and liquid samples collected from trenches in the disposal cells, groundwater samples, subsurface soil from borings, and surface water and sediment samples from Porcupine Lake.

Chapter 4.0, Characterization of Inorganic Constituents, addresses identification of potential inorganic contaminants in groundwater, subsurface soil, soil and liquids in disposal trenches, sediment, and surface water. The discussion includes results of inorganic chemical analyses of media sampled during the supplemental RFI field investigations.

Chapter 5.0, Conceptual Model of Contaminant Transport, based on existing distribution in the environment at Site 11 and on physical and chemical characteristics, contaminant transport via groundwater flow, and fate in the environment is discussed.

Chapter 6.0, Recommendations, presents recommendations for corrective action at the site.

The following appendices contain supporting information for material presented in the text of this report.

Appendix A contains evaluations of data quality for the supplemental RFI sample analyses. Evaluations are relative to precision, accuracy, representativeness, completeness, and comparability of the data generated by the laboratory chemical analyses.

Appendices B and C contain summary tables for compounds detected and comprehensive tables for all analytes, respectively, for samples collected during the supplemental RFI.

Appendix D contains a letter report that describes the approach for evaluating inorganic concentrations in soil and groundwater samples. Criteria and justification are presented for selecting background locations.

Appendices E through H contain spreadsheets associated with statistical evaluations of soil and groundwater, including determination of distribution, outlier tests, analysis of variance tests, and comparisons of site data to background.

2.0 PREVIOUS INVESTIGATIONS

Site 11 was first investigated in 1985 when an initial assessment study was performed at NSB Kings Bay under the Installation Restoration program (C.C. Johnson and Associates, Inc., 1985). The initial assessment study consisted of records searches and interviews. Sixteen sites were evaluated and none were recommended for further investigation. However, four sites, including the Old Camden County Landfill, required further action under the facility Hazardous and Solid Waste Amendments (HSWA) permit issued to NSB Kings Bay by the GEPD. An RFI workplan was prepared in response to the HSWA permit requirements (ABB-ES, 1991). The following sections summarize the results of RFI field activities and subsequent follow-on investigations. Table 2-1 provides a summary of the investigations carried out to date and associated source documents. The source documents contain additional information about the investigations including information about specific field procedures.

The surficial aquifer is composed of poorly graded fine sands with discontinuous lenses of clay that range from a few inches up to 5 feet thick. In the vicinity of the landfill clay lenses are typically not encountered until depths of approximately 45 feet below land surface (bls). To the west in the subdivision, thin lenses of clay are present at much shallower depths. The clay lenses do not appear to have any effect on the distribution of contaminants in the surficial aquifer. The surficial aquifer is generally described as a homogenous, fine sand aquifer. Underlying the surficial aquifer is a regional confining layer separating the surficial aquifer from deeper water bearing zones. Discontinuous layers of coarse-grained, calcareous sand are present on top of the confining layer at many locations. For more information related to environmental setting, refer to the RFI Interim Report for Site 11 (ABB-ES, 1993a). The RFI Interim Report contains information about climate, soil types, regional geology, and site-specific hydrogeology.

In the discussions presented in this and subsequent chapters, there are references to Appendix IX analyses. Appendix IX refers to a list of analytes listed in Appendix IX to Part 264 of Title 40, Code of Federal Regulations (U.S. Environmental Protection Agency [USEPA], 1994).

2.1 RESOURCE CONSERVATION AND RECOVERY ACT (RCRA) FACILITY INVESTIGATION (RFI).

The RFI workplan was implemented in January 1992. At Site 11, the RFI included geophysical surveys, subsurface soil sampling, and the installation of nine groundwater monitoring wells along the landfill perimeter. The nine monitoring wells installed are approximately 13 feet bls and have 10-foot well screens that intercept the water table surface. Figure 2-1 shows the locations of the monitoring wells and soil borings. Part of the RFI included six bimonthly groundwater monitoring events. The sixth monitoring event was completed in January 1993. Results of the RFI are presented in the RFI Interim Report for Site 11 (ABB-ES, 1993a).

2.1.1 Groundwater Contamination

Samples from the first two sampling events were analyzed for Appendix IX volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), organochlorine pesticides, polychlorinated biphenyls (PCBs), dioxins and furans, herbicides, organophosphorus pesticides, and inorganics (including cyanide and sulfide). The analytical program was reduced after the

Table 2-1
Site 11 Investigation Chronology and Source Documents

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Naval Submarine Base
Kings Bay, Georgia

Program and Activity	Dates Conducted	Activities	Source Documentation
RFI Field Program	January/February 1992	Soil Borings Geophysical Surveys Subsurface Soil Sampling Monitoring Well Installation Slug Tests Groundwater Sampling Event No. 1	Technical Memorandum No. 1[1] Potential Source of Contamination Investigation/Site Investigation Solid Waste Management Unit RCRA Facility Investigation Work Plan[2]
RFI Field Program	May 1992	Groundwater Sampling Event No. 2	Technical Memorandum No. 2[3]
Hazard Ranking System (HRS) II Scoring	July 1992	HRS II Scoring	Documentation Support and Hazard Ranking System II Scoring[4]
RFI Field Program	July 1992	Groundwater Sampling No. 3	Technical Memorandum No. 3[5]
Phase I Interim Investigation	August 1992	Piezocone Penetrations Groundwater Sampling	Phase I Interim Investigation Memorandum[6]
RFI Field Program	September 1992	Groundwater Sampling Event No. 4	Technical Memorandum No. 4[7]
Interim Corrective Measure Screening Investigation	October/November 1992	Records Search Piezocone Penetrations Air Screening Survey Groundwater Sampling Soil Vapor Sampling Sediment Sampling Surface Water Sampling Private Irrigation Well Sampling Screening Risk Evaluation	Interim Corrective Measure Screening Investigation Report[8] Technical Work Plan Interim Corrective Measure Screening Investigation[9]
RFI Field Program	November 1992	Groundwater Sampling Event No. 5	Technical Memorandum No. 5[10]
RFI Field Program	January 1993	Groundwater Sampling Event No. 6	RFI Interim Report for Site 11[11]
Supplemental RFI Field Program	October/November 1993	Soil Borings Subsurface Soil Sampling Monitoring Well Installation	Technical Memorandum, 1993 Field Program and January 1994 Groundwater Sampling Event[12] Supplemental RFI for Site 11; Volume I, Workplan; Volume II, SAP; and Volume III, Health and Safety Plan[13]

See notes at end of table.

Table 2-1 (Continued)
Site 11 Investigation Chronology and Source Documents

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
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Program and Activity	Dates Conducted	Activities	Source Documentation
IM Phase I Start Up Activities	September through December 1993	Site Construction Extraction System Installation Initial Pumping Test Treatment System Installation	Interim Measure, Phase I Activities: System Installation Technical Memorandum[14]
Supplemental RFI Field Program	January 1994	Groundwater Sampling Event	Technical Memorandum, 1993 Field Program and January 1994 Groundwater Sampling Event[12]
IM Phase I	March through May 1994	Pumping Tests Pilot-Scale Operation	Interim Measure Phase I Activities: Evaluation and Recommendation Report (draft final)[15]
Supplemental RFI Field Program	April 1994	Groundwater Sampling Event	Technical Memorandum, April 1994 Groundwater Sampling Event[16]
IM Phase I Continuance	September 1994	Groundwater Sampling Event	
Supplemental RFI Field Program	November 1994	Surface Soil Sampling Surface Water and Sediment Sampling Source Characterization Air Sampling	Technical Memorandum, November 1994 Field Program[17]
IM Phase I Continuance	April 1995	Groundwater Sampling Event	

Sources: [1]ABB-ES, 1992a [2]ABB-ES, 1991 [3]ABB-ES, 1992b [4]ABB-ES, 1992c [5]ABB-ES, 1992d [6]ABB-ES, 1992e [7]ABB-ES, 1992f [8]ABB-ES, 1993b [9]ABB-ES, 1993c [10]ABB-ES, 1993d [11]ABB-ES, 1993a [12]ABB-ES, 1994d [13]ABB-ES, 1994a,b,c [14]ABB-ES, 1994e [15]ABB-ES, 1994f [16]ABB-ES, 1994g [17]ABB-ES, 1995a

Notes: RFI = Resource Conservation and Recovery Act (RCRA) Facility Investigation.
IM = Interim Measure.
SAP = Sampling and Analysis Plan.
HRS = Hazard Ranking System.
ABB-ES = ABB Environmental Services, Inc.

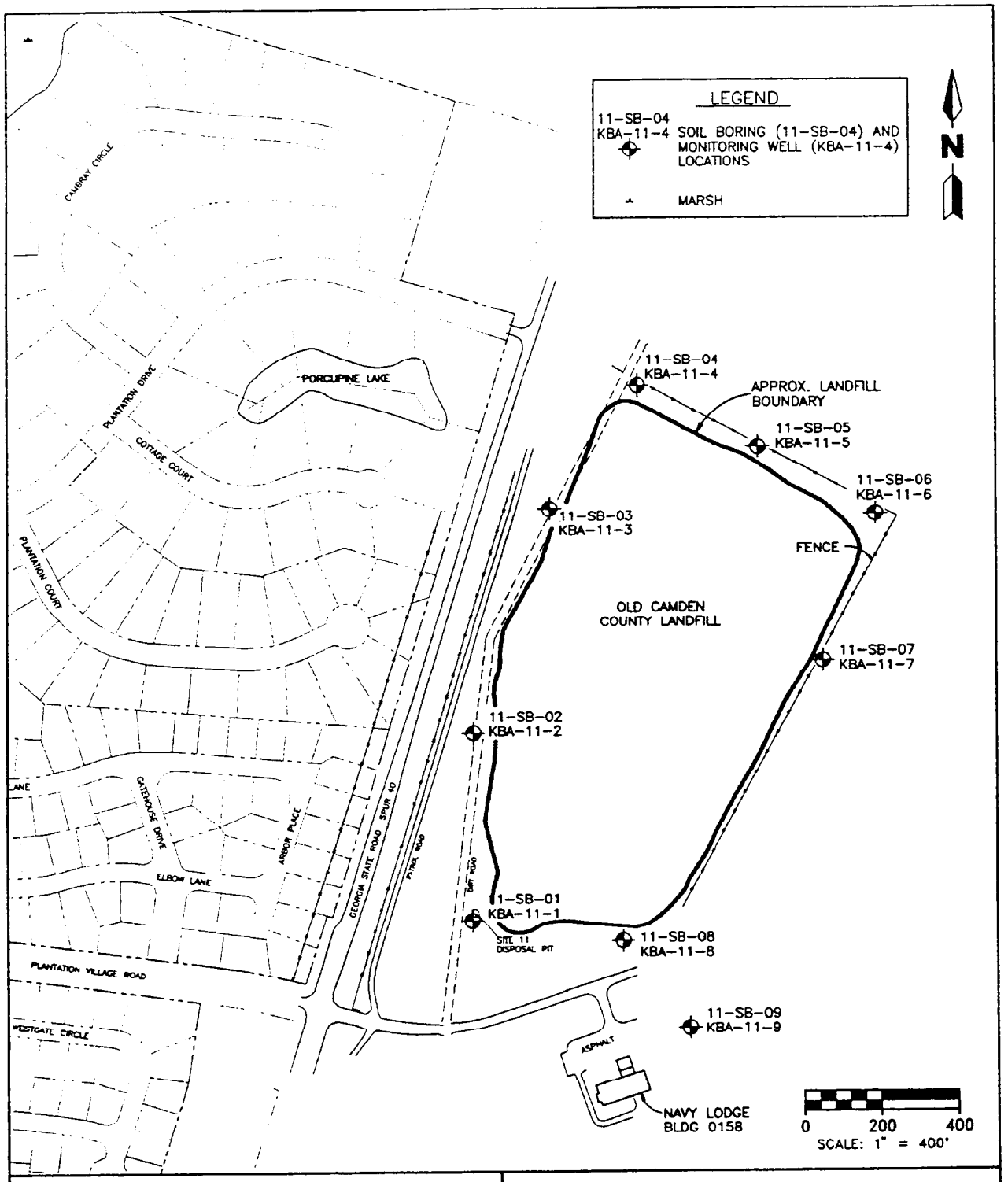

FIGURE 2-1

MONITORING WELL AND SOIL BORING LOCATIONS, 1992 AND 1993 RFI

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_2-1\DMF\951129

second sampling event to include Appendix IX volatiles, inorganics (including cyanide and sulfide), total dissolved solids, and total suspended solids. Beginning with the third sampling event, both filtered and non-filtered samples were collected for inorganic analysis.

VOCs Detected in Groundwater. Samples from five of nine groundwater monitoring wells contained detectable levels of VOCs. Samples from KBA-11-2, located on the western edge of the landfill, contained the greatest number and concentration of VOCs. In the other wells containing detectable VOCs, one to four VOCs were detected with concentrations ranging from 1 J to 28 micrograms per liter ($\mu g/\ell$).

Eleven chlorinated and nonchlorinated solvents and fuel-related VOCs were detected in groundwater samples from monitoring well KBA-11-2, with concentrations ranging from 1 J to 160 $\mu g/\ell$. Concentrations of vinyl chloride ranged from 18 to 160 $\mu g/\ell$. These concentrations exceed the Federal Primary Drinking Water Standard Maximum Contaminant Level (MCL) (USEPA, 1992) for vinyl chloride of 2 $\mu g/\ell$. No other VOCs were detected at concentrations above corresponding MCLs. Detection of VOCs, especially vinyl chloride, prompted the Navy to take aggressive measures to investigate the problem and implement corrective measures.

SVOCs in Groundwater. SVOCs detected in groundwater samples during the first two bimonthly sampling events included 1,4-dichlorobenzene and phthalate compounds. 1,4-Dichlorobenzene was detected in groundwater samples from monitoring well KBA-11-3 at concentrations ranging from 4 J to 13 $\mu g/\ell$. Two phthalate compounds, diethylphthalate and bis(2-ethylhexyl)phthalate, were detected in groundwater samples. Diethylphthalate was detected at 9 J $\mu g/\ell$ in one sample from monitoring well KBA-11-8 during the first sample event. This compound was not detected in the associated method blank, but was detected in other method blanks associated with other RFI samples. Bis(2-ethylhexyl)phthalate was detected in groundwater samples from four monitoring wells at concentrations ranging from 4 J to 94 $\mu g/\ell$. Because of their pervasive presence as sampling and laboratory artifacts, it is unlikely that future evaluations of phthalates in environmental media at the site would provide conclusive data regarding their source. A recommendation was made to delete SVOCs from the analytical program for the bimonthly groundwater sampling after the second sampling event based on the information discussed in this paragraph. SVOCs were investigated during the supplemental RFI as potential constituents in waste and in the groundwater plume.

Inorganics in Groundwater. A statistical comparison was performed on data collected during the groundwater monitoring program at Site 11. Four monitoring wells are located upgradient of the site and five monitoring wells are located downgradient of the site. Both filtered and unfiltered groundwater samples were obtained from each well and analyzed separately.

The procedure used to compare the upgradient versus downgradient data was the t-Test for Unpaired Data at the 95 percent confidence level. In all cases, the test results showed that there were no significant differences. The inorganic data from the existing shallow monitoring wells suggested that inorganic contaminants were not present in shallow groundwater based on the evaluations that were performed. However, additional data were needed from deeper intervals within the plume to confirm that inorganic contaminants are not present. This additional data was collected during the supplemental RFI and is discussed in Chapter 4.0 of this report.

Pesticides, Herbicides, PCBs, Dioxins, and Furans in Groundwater. No pesticides, herbicides, PCBs, dioxins, or furans were detected in groundwater samples during the first two bimonthly sampling events. These compounds were subsequently deleted from the groundwater monitoring program.

Data Gaps. Information obtained during the initial RFI program was used to identify data gaps that needed to be addressed in the supplemental RFI. Knowledge of the contaminant plume revealed that the existing monitoring wells were generally too shallow to adequately characterize landfill-derived constituents. Although these monitoring wells are needed to monitor the upper portion of the surficial aquifer, additional wells were needed to penetrate the plume. Installation and sampling of additional wells were included in supplemental RFI activities. Data gaps have been alleviated.

2.1.2 Subsurface Soil Contamination Nine subsurface soil samples were collected from nine soil borings drilled during the RFI field program conducted in January and February of 1992. These borings were installed for construction of groundwater monitoring wells KBA-11-1 through KBA-11-9 (see Figure 2-1). Soil samples were collected from each boring above the water table, which was approximately 6 feet bls.

VOCs in Subsurface Soils. VOCs detected in the soil samples included acetone and xylene. Acetone was detected in seven soil samples at concentrations ranging from 96 to 470 micrograms per kilogram (μg/kg). Xylene was detected in two soil samples at concentrations of 2 J μg/kg and 5 μg/kg. Acetone in subsurface soil samples from Site 11 is not considered related to the site because of the absence of acetone in groundwater samples from associated monitoring wells and the concentrations found in method blanks associated with the overall RFI field program. Xylene in soil samples was considered to be representative of site conditions.

SVOCs in Subsurface Soils. SVOCs detected in the soil samples include di-n-butylphthalate and bis(2-ethylhexyl)phthalate. Di-n-butylphthalate was detected in nine of 10 samples, but was qualified as undetected in one sample because of method blank contamination. Concentrations ranged from 45 J μg/kg to 460 μg/kg.

Bis(2-ethylhexyl)phthalate was detected in three soil samples at concentrations ranging from 200 J μg/kg to 340 μg/kg. Due to their pervasive presence in the environment, and as sampling and laboratory artifacts, future evaluations of phthalates in environmental media at the site is unlikely to provide conclusive data regarding their source.

Inorganics in Soil. Inorganic compounds detected in the 10 subsurface soil samples include arsenic, barium, beryllium, cadmium, chromium, lead, nickel, selenium, silver, vanadium, and zinc. The concentrations of inorganics detected in these samples were compared to naturally occurring concentrations for soils as reported by Kabata-Pendias and Pendias (1984) rather than to site background levels. The GEPD requires that potential inorganic contaminants be evaluated relative to site-specific background concentrations. Therefore, background subsurface soil samples were collected during the supplemental RFI. Evaluation of potential inorganic contaminants in soil is addressed in Chapter 4.0 of this report.

Pesticides, Herbicides, PCBs, Dioxins, and Furans in Soil. Ten subsurface soil samples were collected and analyzed for Appendix IX pesticides, herbicides, PCBs, dioxins, and furans. None of these compounds were detected in the subsurface soil samples.

Data Gaps. Information was lacking for a thorough evaluation of potential soil contamination within the disposal area. Contaminated soils may be present where releases originated and where soils are in contact with waste material and contaminated groundwater. Potential soil contamination within the groundwater contaminant plume was not evaluated. These data gaps were addressed during supplemental RFI activities.

2.2 PHASE I INTERIM INVESTIGATION. In August 1992, a Phase I interim investigation was conducted to begin characterization of VOCs detected in groundwater samples from well KBA-11-2. Results of this investigation are presented in the Phase I interim investigation memorandum (ABB-ES, 1992e) and are summarized in the following paragraphs.

The Phase I interim investigation included collection of 36 groundwater samples using a direct push methodology. These groundwater samples were collected from 25 locations downgradient of the landfill (See Figure 2-2). The groundwater samples were analyzed in an onsite laboratory for VOCs, including vinyl chloride, chloroethane, trans-1,2-dichloroethene, trichloroethene, and tetrachloroethene. Duplicate groundwater samples were also sent to an offsite analytical laboratory for confirmation.

The results of this investigation confirmed that vinyl chloride and tetrachloroethene had migrated, via the groundwater, beyond the boundary of the landfill. Vinyl chloride concentrations ranged from not being detected to 1,400 $\mu g/\ell$. All 24 detections of vinyl chloride exceed the MCL of 2 $\mu g/\ell$. Only four samples resulted in detections of tetrachloroethene; two of these samples had concentrations which exceed the MCL of 5 $\mu g/\ell$. This information led to the development of an ICMS investigation workplan (ABB-ES, 1993c).

2.3 ICMS INVESTIGATION. The ICMS investigation was implemented in October and November of 1992 to further delineate groundwater contamination. Results of the Phase I interim investigation provided a basis to scope the ICMS investigation. Field activities included an ambient air screening survey; collection of groundwater samples within the surficial aquifer using a direct push methodology; and collection of soil vapor, sediment, surface water, and private irrigation well (PIW) samples. Results of this investigation are presented in the ICMS Investigation Report (ABB-ES, 1993b) and are summarized in the following paragraphs. The results were used to plan and design IM groundwater corrective actions. Confirmation sampling locations for groundwater were selected for the supplemental RFI based on the distribution of contamination identified during the ICMS investigation.

2.3.1 Air Contamination During the ICMS investigation, an air screening survey was conducted over a 4-day period in the Crooked River Plantation Subdivision and at the landfill to evaluate the potential emission of vinyl chloride from soil. The survey conducted for vinyl chloride did not indicate the presence of vinyl chloride above background within the Crooked River Plantation Subdivision, west

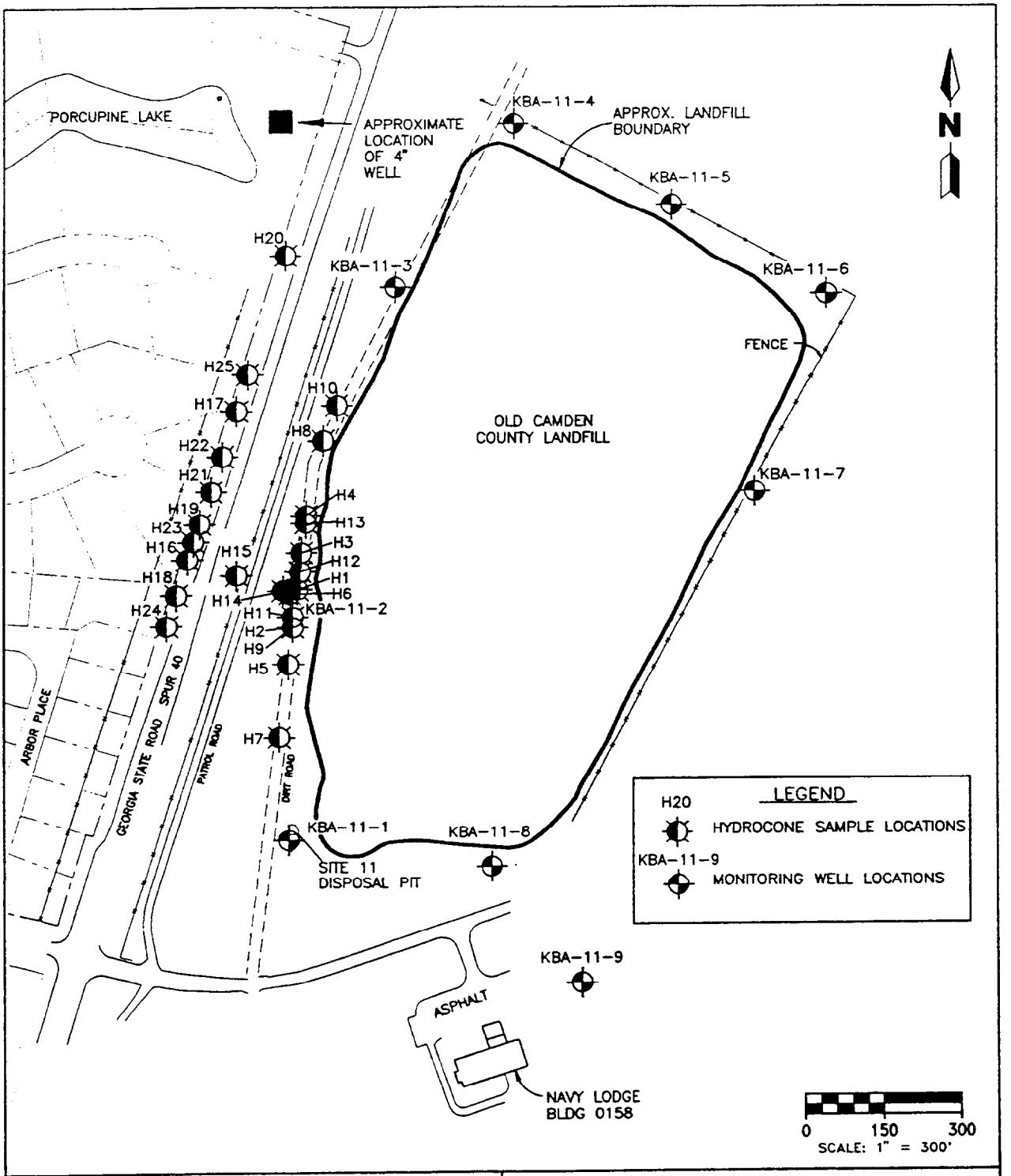

FIGURE 2-2

HYDROCONE SAMPLE LOCATIONS
PHASE I INTERIM INVESTIGATION, 1992

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_2-2\DMF\951129

of the landfill. Background concentrations of vinyl chloride ranged from 0.20 to 2.20 parts per million (ppm), which is a total concentration of compounds having a similar wave length as vinyl chloride when measured by infrared spectroscopy. Locations of air screenings are shown on Figure 2-3.

2.3.2 Groundwater Contamination The ICMS investigation data provided the first large scale, detailed images of the plume. This subsection presents chemical contour maps based on those data. Because the distribution of contaminants is related to groundwater flow in the surficial aquifer, groundwater contour maps are also presented in this subsection. The groundwater contour maps were developed from water level measurements collected during each of three sampling events for wells installed during the supplemental RFI (Figures 2-4, 2-5, and 2-6). The ICMS investigation was conducted approximately 1 year prior to installation of the supplemental RFI monitoring wells. Groundwater flow direction interpreted from the water level data collected during the supplemental RFI activities correspond well to the interpreted plume plan view maps presented in this subsection and in Chapter 3.0.

Results of the groundwater investigation indicated the contaminant plume extends west of the NSB Kings Bay property line underneath Crooked River Plantation Subdivision. Locations of groundwater samples are shown on Figure 2-7.

VOCs, consistent with those detected during the Phase I interim investigation, were present in groundwater at depths ranging from 11 to 57 feet bls to the west of the landfill. Five of 51 PIW samples contained VOCs that are common to the plume, including vinyl chloride, cis-1,2-dichloroethene, and ethylbenzene. The PIWs are privately owned irrigation wells used for nonpotable activities such as watering lawns and washing outdoor items. Samples were collected from PIWs to evaluate potential exposures to contaminated groundwater. Locations of PIWs, sampling locations, and analytical data are presented in the ICMS Investigation Report (ABB-ES, 1993b).

SVOCs detected in groundwater samples collected from locations near the landfill included naphthalene and phenolic compounds. These compounds had not been detected in groundwater previously because the shallow monitoring wells are not deep enough to tap the part of the plume that contains these compounds.

Results of Phase I interim and ICMS investigations were used to create Figures 2-8 through 2-10. These figures represent the total target VOC results. Comparison of Figures 2-8 through 2-10 indicates that most groundwater VOC contamination is approximately 30 feet bls, or near 0 feet mean low water (mlw). The interpreted plume appears to have two lobes extending to the west-southwest and to the north-northwest. Groundwater sampling results indicate that the VOC contamination is present below the site and the Crooked River Plantation Subdivision.

During January and March of 1993, follow-on activities to the initial ICMS investigation were conducted. These activities included collection of groundwater samples from 11 PIWs (January) and from within the surficial aquifer to the north of and within the landfill (March). None of the PIW samples contained VOCs related to the plume, with the possible exception of acetone. Analysis of the groundwater samples from the landfill indicated that the concentrations of VOCs beneath the landfill are generally less than those detected from locations along

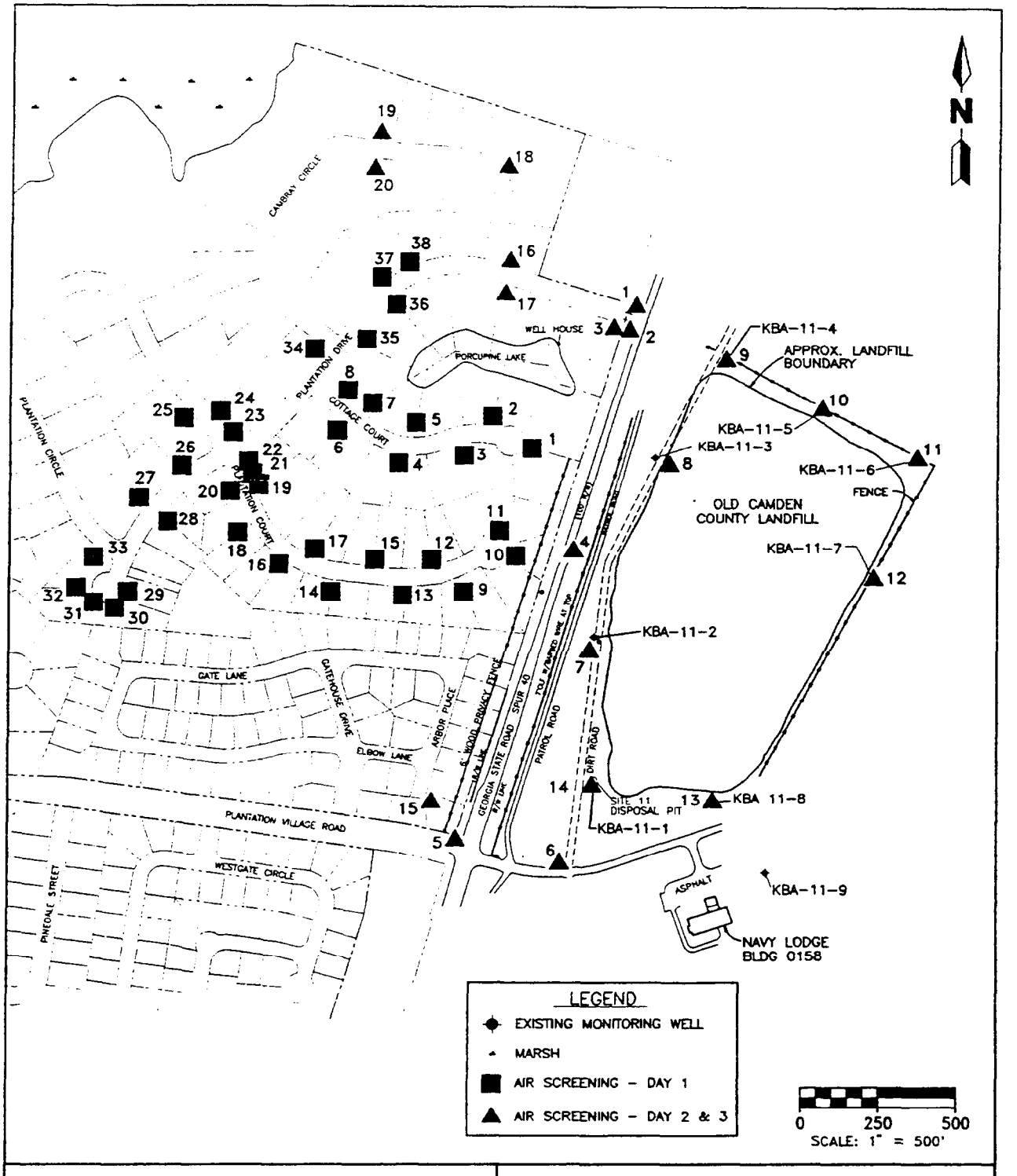

FIGURE 2-3

LOCATIONS OF AIR SCREENING SURVEY
ICMS INVESTIGATION

SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

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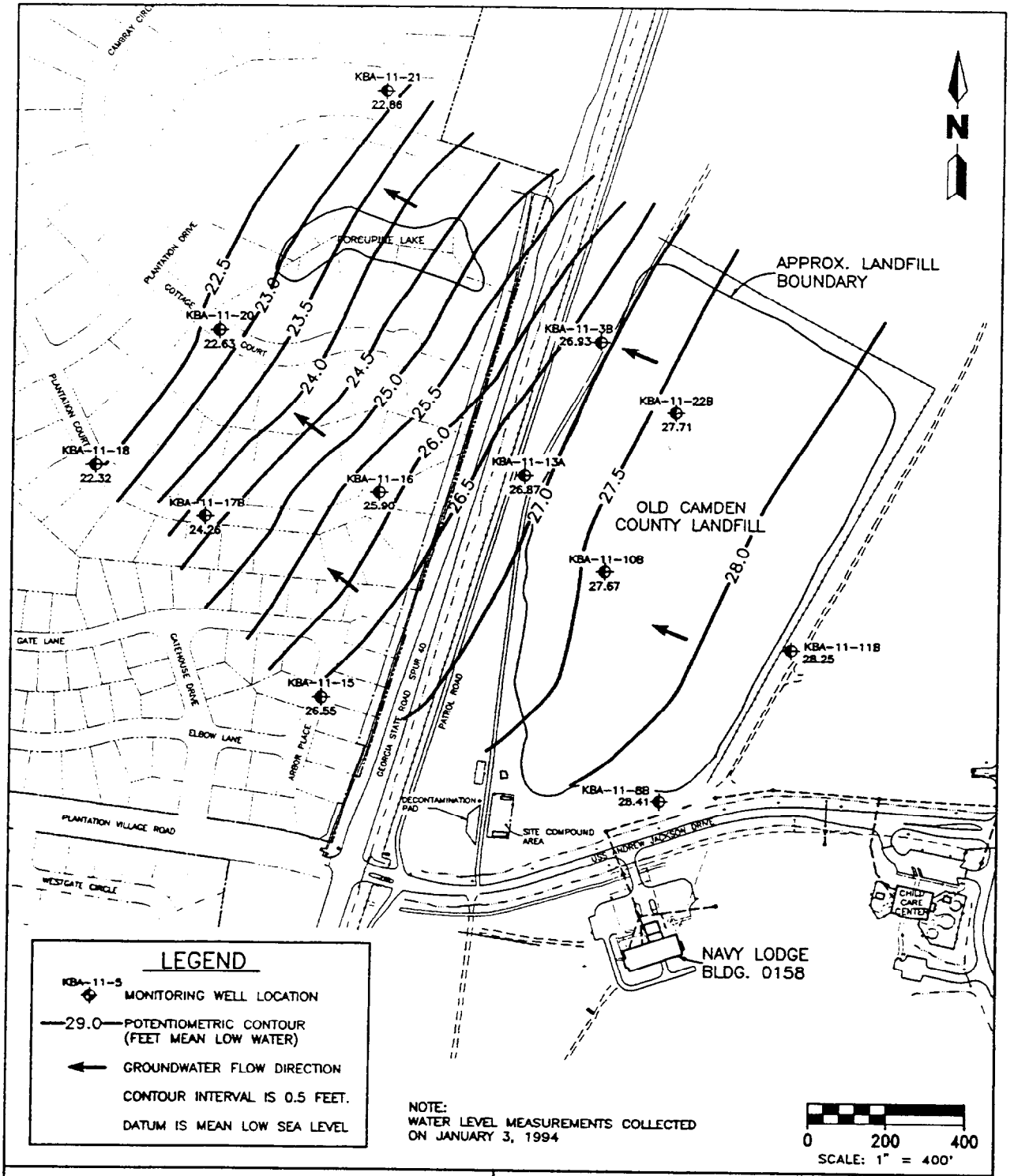

FIGURE 2-4

POTENTIOMETRIC SURFACE MAP, JANUARY 1994

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_2-4\DMF\960112

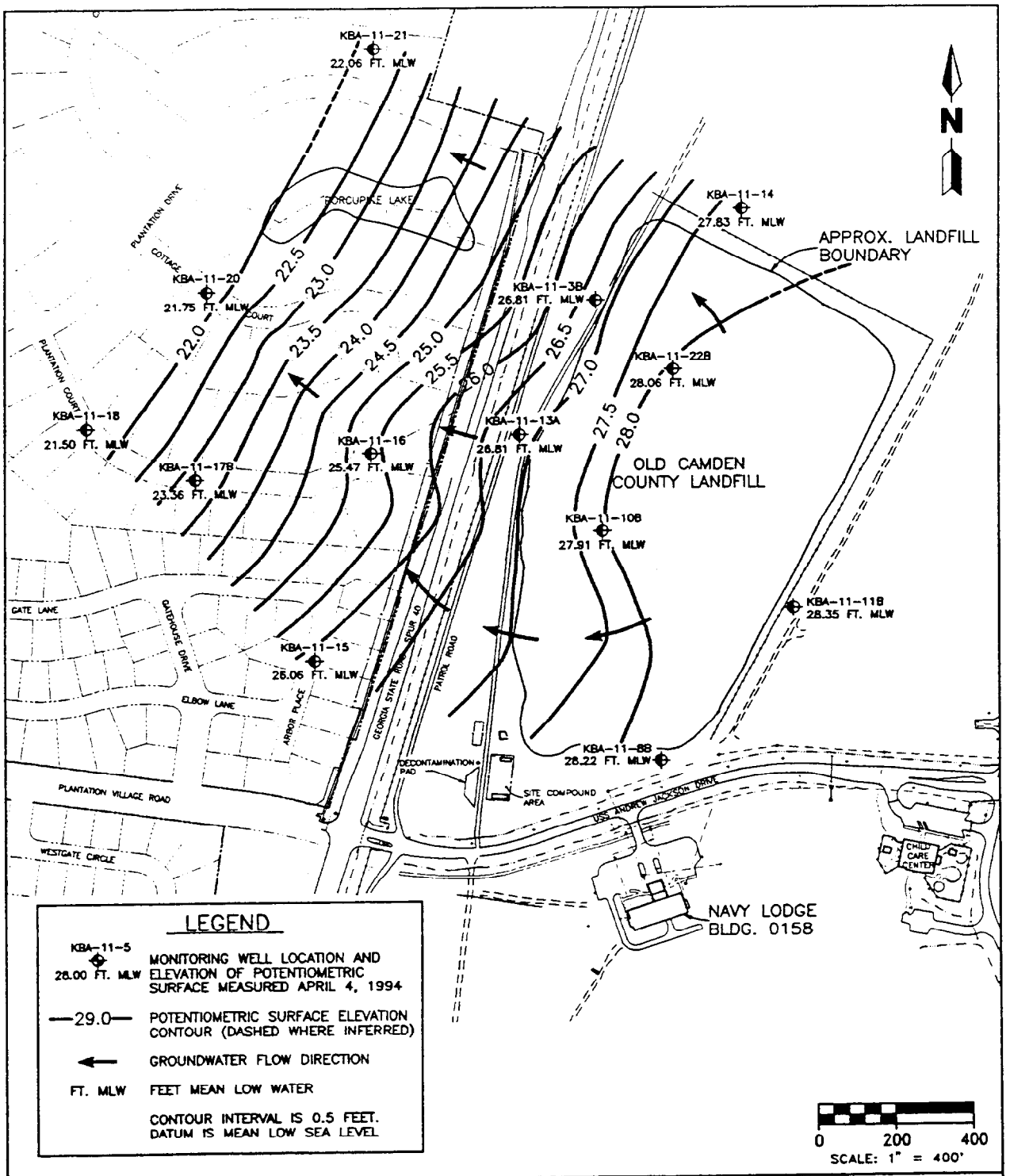

FIGURE 2-5

POTENTIOMETRIC SURFACE MAP, APRIL 1994

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

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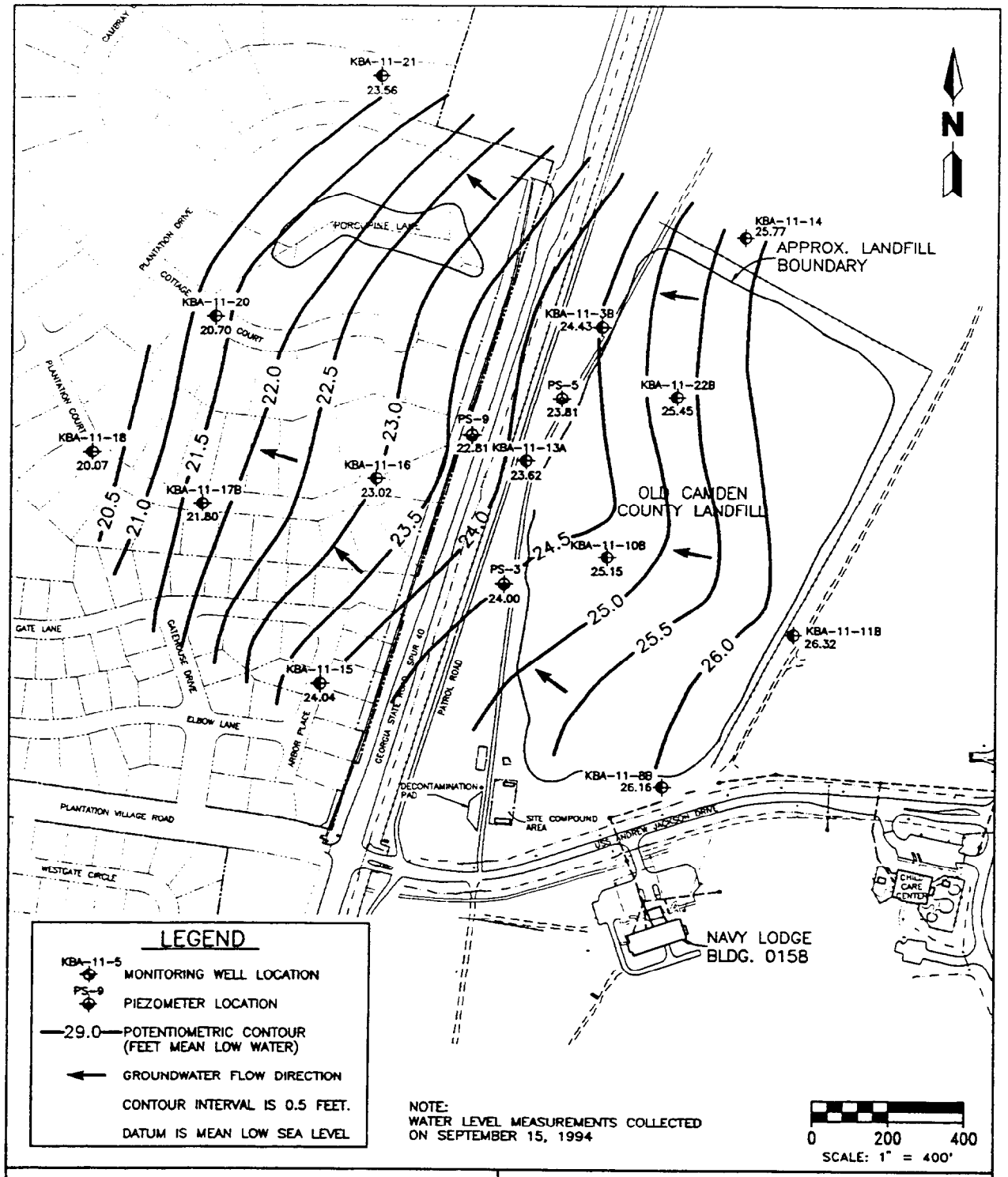

FIGURE 2-6

POTENTIOMETRIC SURFACE MAP, SEPTEMBER 1994

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_2-6\DMF\960112

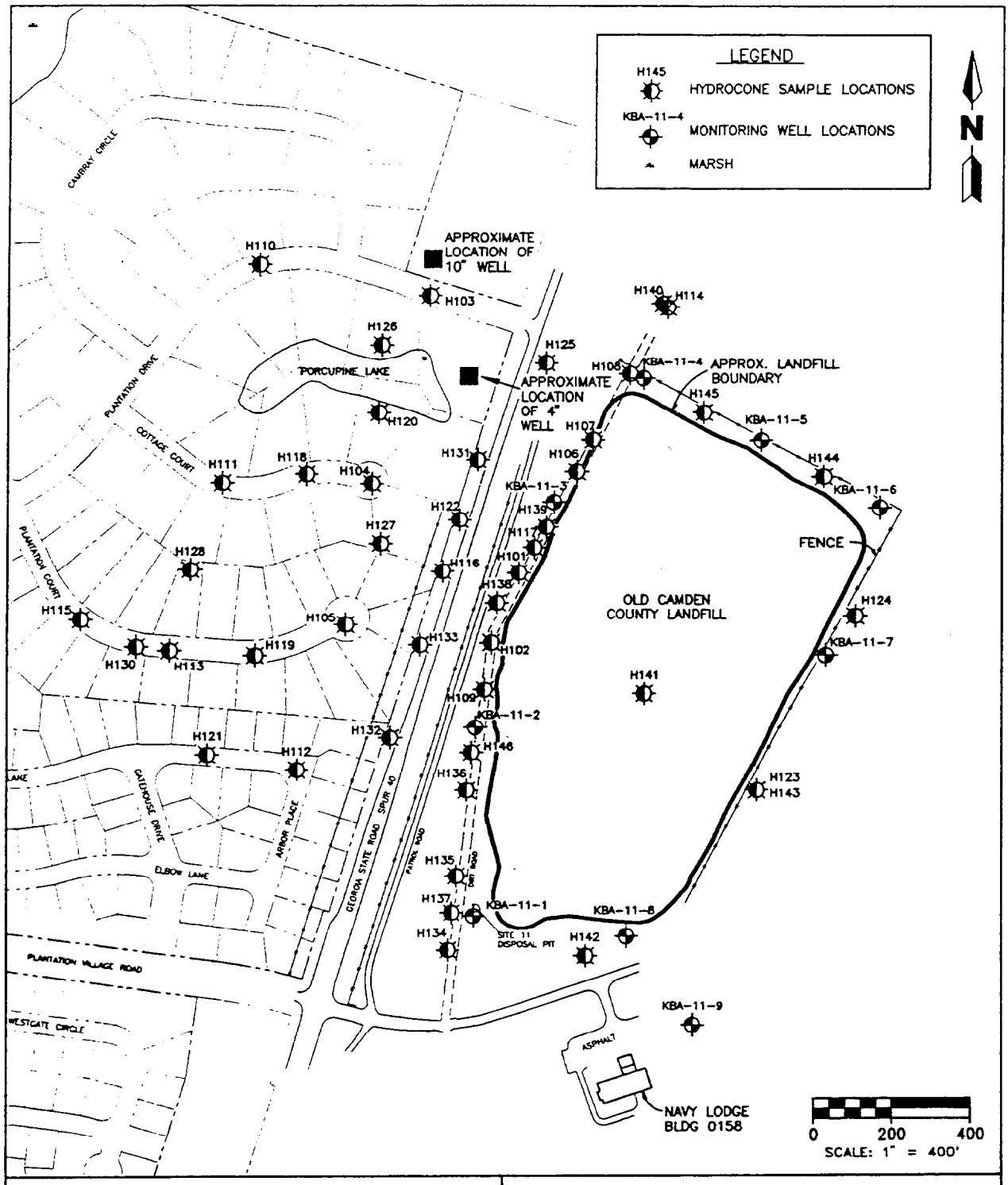

FIGURE 2-7

HYDROCONE SAMPLE LOCATIONS
ICMS INVESTIGATION, 1992

SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_2-7\DMF\960109

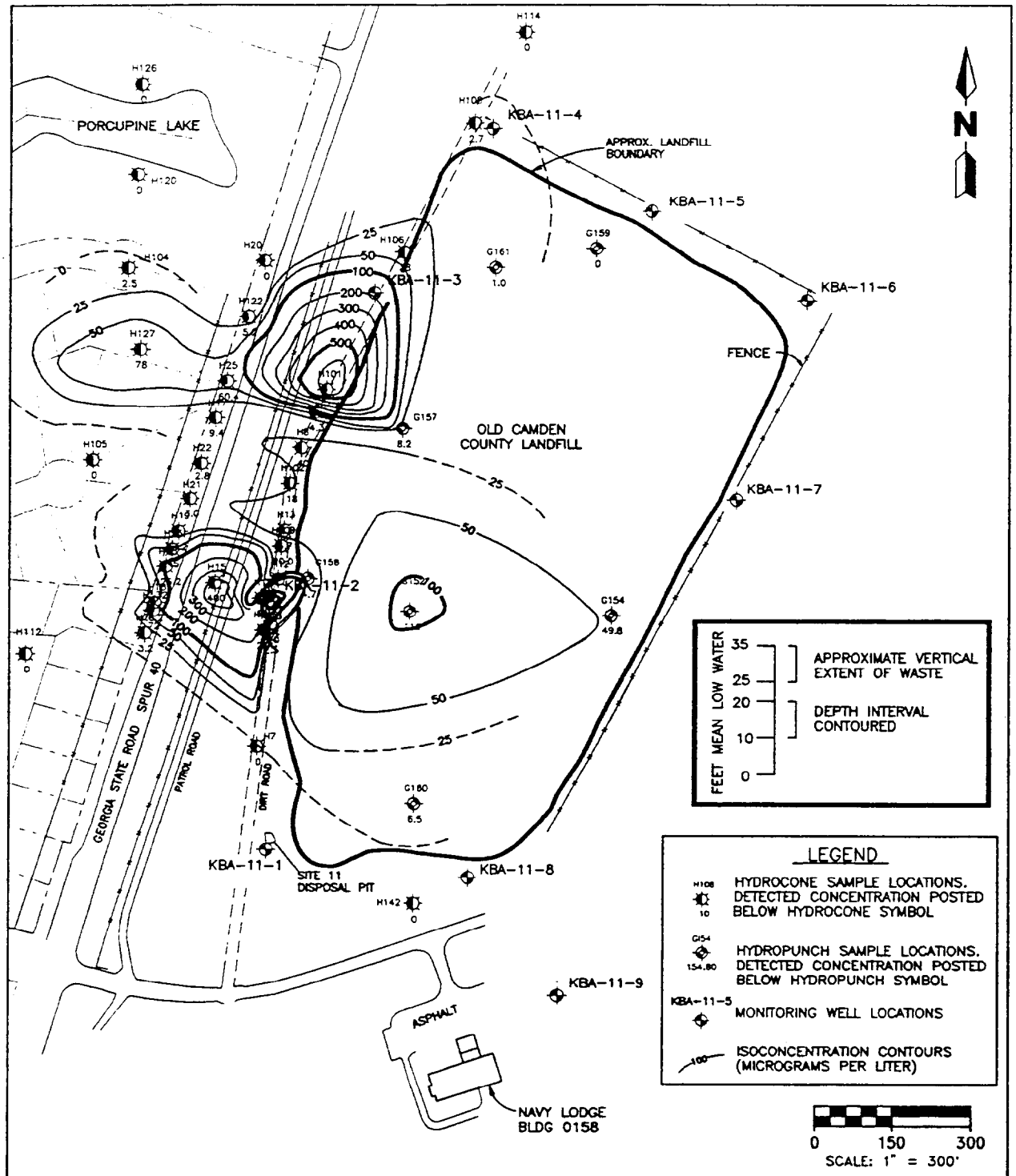

FIGURE 2-8

INTERPRETED PLUME PLAN VIEW
20 TO 10 FT MEAN LOW WATER
TOTAL TARGET VOC's IN GROUNDWATER
ICMS INVESTIGATION, 1992

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_2-8\DMF\960109

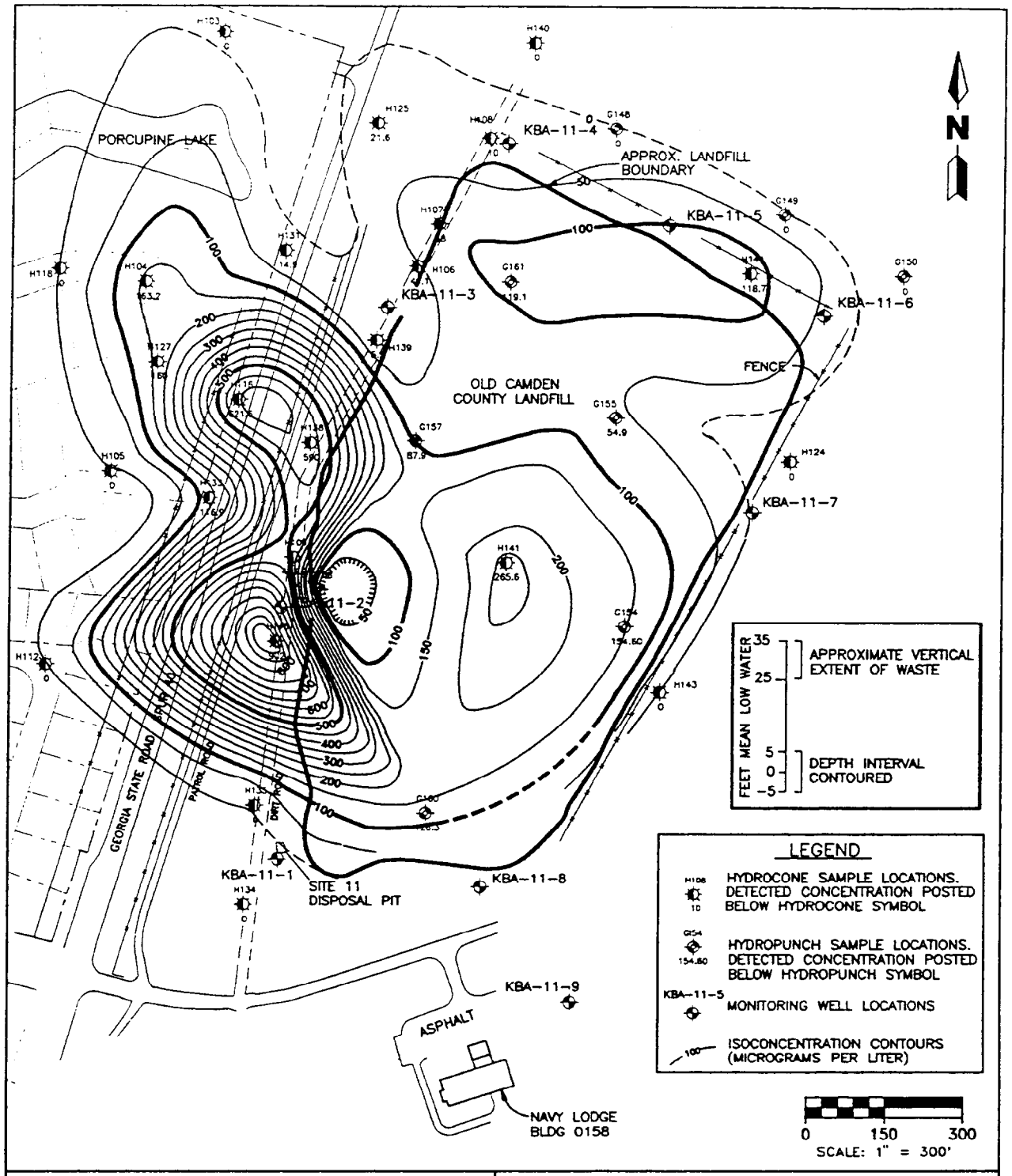

FIGURE 2-9

INTERPRETED PLUME PLAN VIEW
5 TO -5 FT MEAN LOW WATER
TOTAL TARGET VOC's IN GROUNDWATER
ICMS INVESTIGATION, 1992

SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

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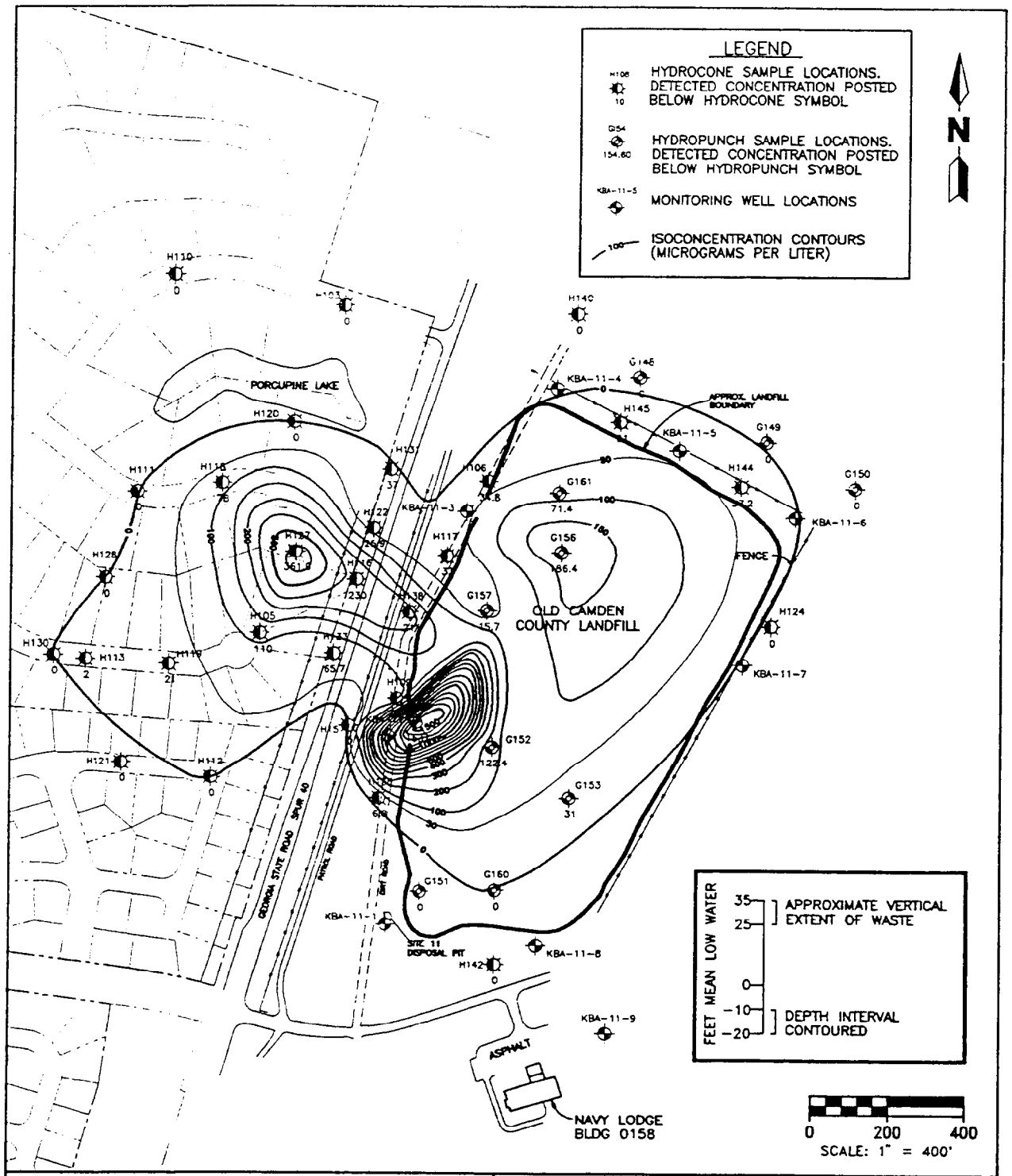

FIGURE 2-10

INTERPRETED PLUME PLAN VIEW
-10 TO -20 FT MEAN LOW WATER
TOTAL TARGET VOC's IN GROUNDWATER
ICMS INVESTIGATION, 1992

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_2-10\DMF\960109

the western margin of the landfill and extending to the western right-of-way (ROW) of Spur 40.

2.3.3 Subsurface Gas Accumulation A soil vapor survey was performed during the ICMS investigation to evaluate the potential for migration of VOCs from groundwater into the soil. Samples were collected using a vapor cone sampler. Locations of the soil vapor samples are shown on Figure 2-11. Soil vapor samples were collected from 22 locations and submitted for analysis of 10 target VOCs in the onsite laboratory; targets included vinyl chloride, cis-1,2-dichloroethene, trans-1,2-dichloroethene, trichloroethene, tetrachloroethene, benzene, toluene, ethylbenzene, m/p-xylene, and o-xylene.

Soil vapor samples were collected from 18 locations within the landfill boundaries and four locations immediately adjacent to monitoring well KBA-11-2 (Figure 2-8). Of the 22 samples collected and analyzed, two contained detectable concentrations of target VOCs. One sample contained 5.9 $\mu g/\ell$ of vinyl chloride. The second sample contained ethylbenzene at a concentration of 5.6 $\mu g/\ell$ and xylenes (total) at a concentration of 12.8 $\mu g/\ell$. Both samples were in the east-central area of the landfill. Three additional samples were collected to assess the extent of VOCs in soil vapor where these samples were collected. No target VOCs were detected in the additional soil vapor samples.

2.3.4 Surface Water and Sediment Contamination During the ICMS investigation, potential VOC and SVOC contamination of surface water and sediment in Porcupine Lake was evaluated. No other surface water bodies exist in the study area.

Two preliminary surface water samples were collected from Porcupine Lake and analyzed in the onsite laboratory to assist the air screening survey. Four additional surface water samples and four sediment samples were collected from Porcupine Lake for analysis of VOCs and SVOCs in the offsite laboratory. The surface water and sediment sampling locations are shown on Figure 2-12.

VOCs Detected in Surface Water and Sediment. VOCs were not detected during onsite VOC analysis of the sediment and surface water samples collected from Porcupine Lake. VOCs detected during offsite laboratory analysis of surface water and sediment samples were 2-butanone and acetone in one surface water sample, 11SW103, and carbon disulfide in all three sediment samples. Acetone and 2-butanone were detected at concentrations of 4 and 2 J $\mu g/\ell$, respectively. Acetone was not detected in laboratory or field quality assurance and quality control (QA/QC) samples associated with surface water sample 11SW103. However, acetone was detected at a concentration of 4 J $\mu g/kg$ in the method blank (a laboratory QA/QC sample) associated with the sediment samples from Porcupine Lake. Other QA/QC samples, such as rinsates, field blanks, and trip blanks contained acetone at concentrations ranging from 3 J to 22 $\mu g/\ell$. Although acetone concentration in surface water sample 11SW103 cannot be discounted according to data validation guidelines, there is evidence that its presence in the surface water sample is not representative of the media. 2-Butanone was not detected in any quality control (QC) samples associated with this investigation, but it is a common artifact of laboratory procedures. Methyl ethyl ketone was also detected in some groundwater samples from the plume. Additional data were collected in supplemental RFI activities to clarify the status of ketone compounds, such as methyl ethyl ketone as site contaminants.

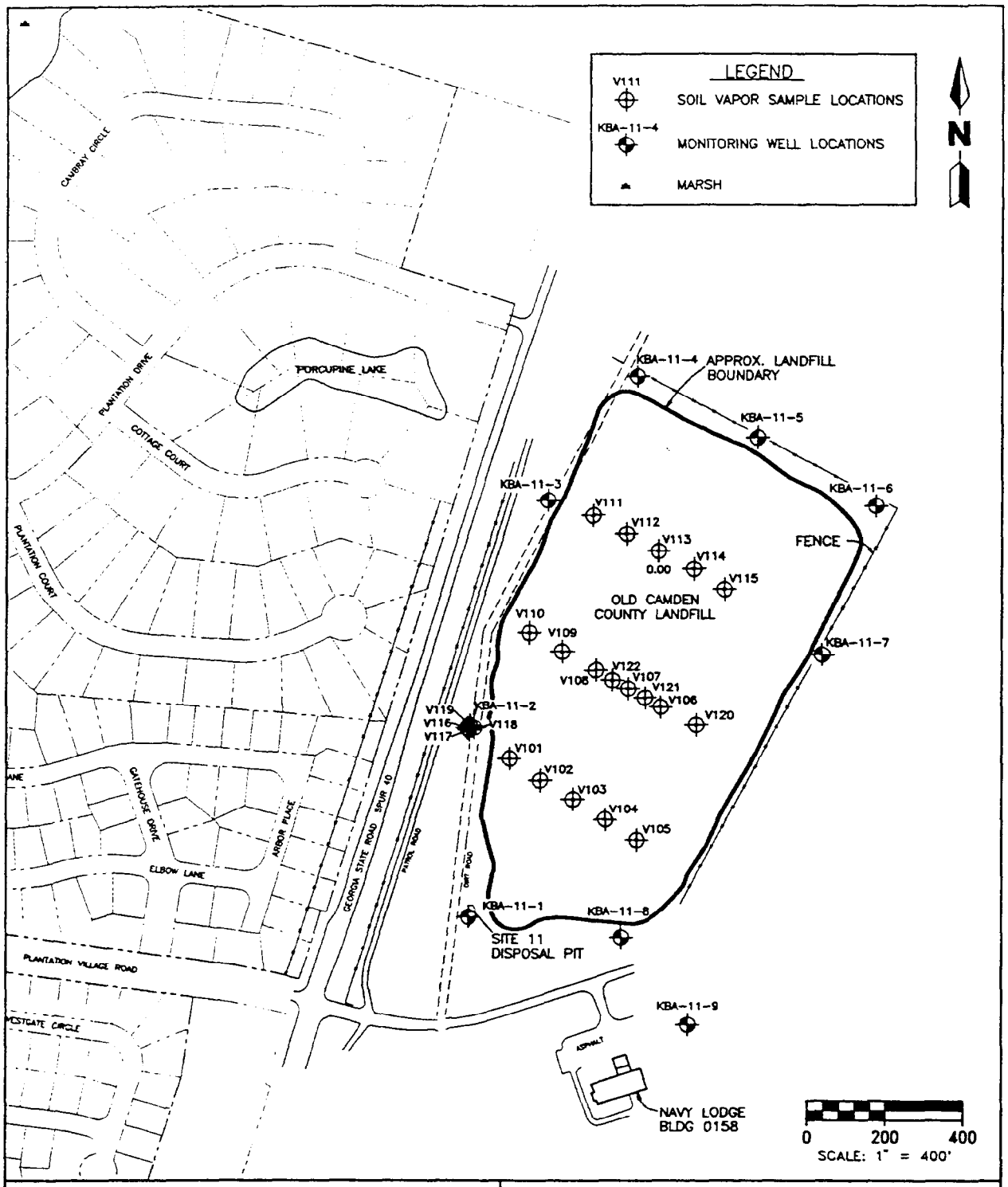

FIGURE 2-11

VAPOR CONE SAMPLE LOCATIONS
ICMS INVESTIGATION, 1992

SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_2-11\DMF\960109

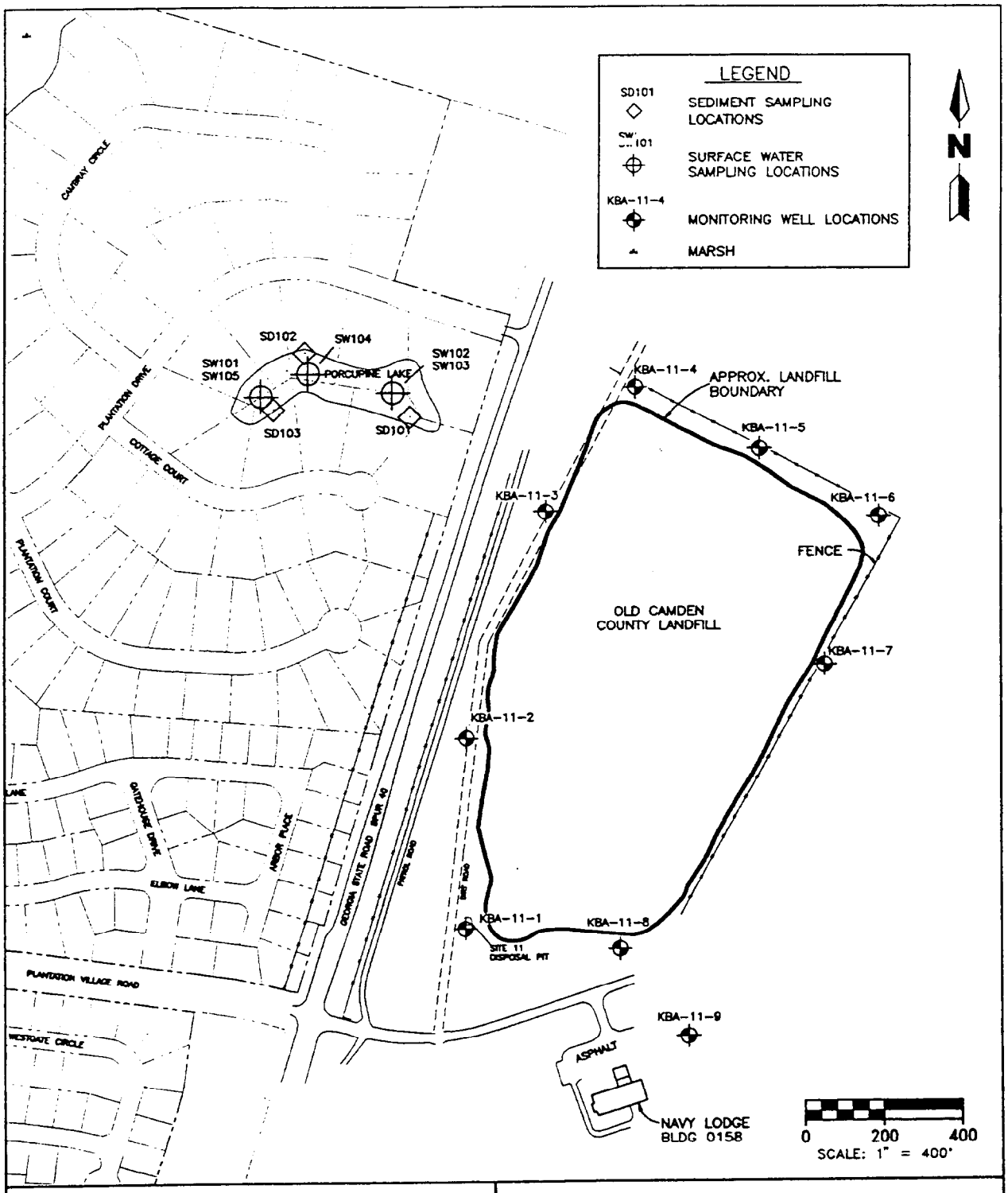

FIGURE 2-12

SEDIMENT AND SURFACE WATER SAMPLING LOCAIONS ICMS INVESTIGATION, 1992

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_2-12\DMF\960109

Two phthalate compounds, bis(2-ethylhexyl)phthalate and di-n-butylphthalate, were detected in sediment samples from the lake. One sediment sample contained bis(2-ethylhexyl)phthalate at a concentration of 47 J μg/kg. Di-n-butylphthalate was found in all samples at concentrations ranging from 120 to 400 J μg/kg. QC blanks associated with the sediment samples did not contain concentrations of these phthalate compounds, but they are common laboratory and/or sampling artifact chemicals. Bis(2-ethylhexyl)phthalate was detected in method blanks associated with other samples from the investigation at concentrations ranging from 1 J μg/ℓ to 35 μg/ℓ. This suggests that the concentrations of bis(2-ethylhexyl)phthalate may be wholly or partly attributed to laboratory artifacts. Because phthalates have low water solubility and tend to adsorb to particulates, it is unlikely that phthalates would migrate from the landfill in groundwater to be discharged into Porcupine Lake.

3.0 CHARACTERIZATION OF POTENTIAL ORGANIC CONTAMINANTS

Chapter 3.0 describes the nature and extent of organic contaminants in environmental media at Site 11 based on waste characteristics and chemical analysis of samples obtained during the supplemental RFI. The data were collected during five field events conducted between October 1993 and November 1994. Table 3-1 summarizes the media sampled during each field event.

Table 3-1
Supplemental RFI Sampling Program

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Field Event	Media Sampled
October and November 1993	Subsurface soil
January 1994	Groundwater
April 1994	Groundwater
September 1994	Groundwater
November 1994	Surface water Sediment Trench soil Trench liquid

Note: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.

Chapter 3.0 is divided into two sections which address, by media, contaminants within the source area and those beyond the limits of the landfill. Section 3.1 presents waste characteristics and the results of chemical analyses conducted on subsurface soil, liquid, and groundwater samples collected from borings, trenches, and/or wells in the landfill. Section 3.2 summarizes contaminant characteristics of groundwater, subsurface soil, and air samples obtained from background and/or downgradient locations, and sediment and surface water samples collected from Porcupine Lake.

3.1 SOURCE AREA CONTAMINATION. This section characterizes contaminant conditions at the source based on visual observations of waste materials in the landfill and chemical data generated during four field events. The section is divided into four subsections in which waste characteristics and the results of soil, groundwater, and air sample analyses are described.

3.1.1 Waste Characteristics Thirteen trenches were excavated at the Old Camden County Landfill from November 14 through 23, 1994, to document waste characteristics and evaluate source contamination. The trenches were excavated within or across disposal cells in areas of high magnetic anomalies or apparent groundwater hot spots. Test trench locations are shown on Figure 3-1. Trenches 2 and 11 were excavated at different ends of the same disposal cell. The supplemental RFI workplan contains more information about rationale for trench locations.

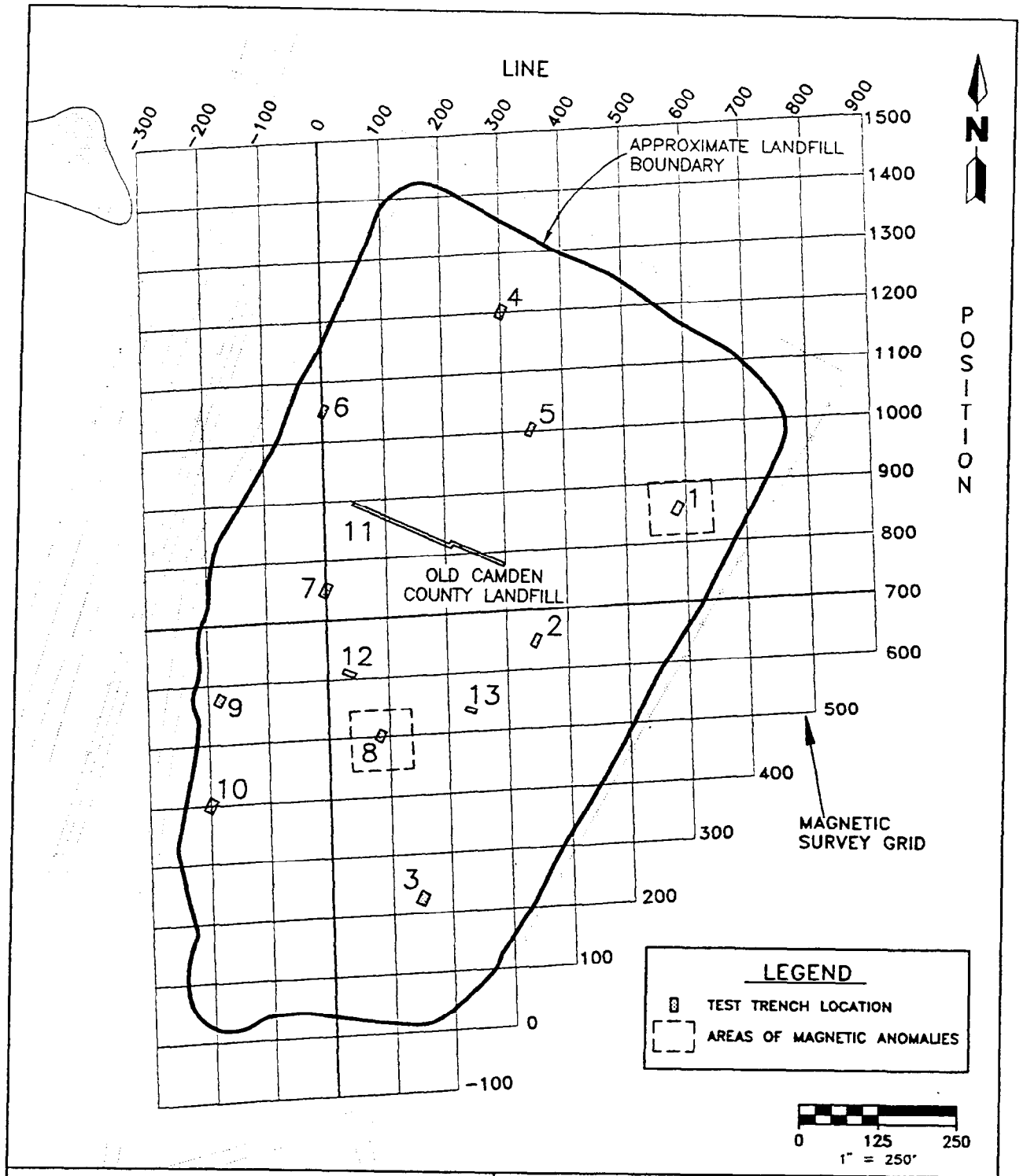

FIGURE 3-1

TEST TRENCH LOCATIONS

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_3-1\DMF\960126

The disposal cells contain a mixture of refuse and disturbed soil overlain by 2 to 3 feet of fill consisting of brown, fine sand with little silt interbedded with thin lenses of black, organic-rich, fine sand. The refuse layer terminates 7 to 14 feet bls and is underlain by undisturbed gray, fine sand with little silt. Groundwater was encountered 2.5 to 5 feet bls. Most likely the water table was deeper during the time of landfill operation. It would be difficult, if not impossible, to maintain open trenches below the water table because the sidewalls would cave into the hole.

Waste materials consisted primarily of household items such as bottles, paper, cans, and appliances, and construction debris. Two newspapers, dated February 7 and March 18, 1979, were found in Trench-7. Large-scale items included shrimp nets, a motorcycle, and a jeep. Table 3-2 summarizes the waste encountered at each trench.

Two 5-gallon containers constructed of black, painted steel with plastic liners were uncovered in Trench-2. One container appeared to be seeping a brown, paint-like substance while an unidentifiable fluid was observed leaking from the second. Subsurface soils in this trench oozed a green liquid which oxidized to blue upon exposure to air.

Approximately 20 containers similar in size and shape as those found in Trench-2, some dated 1978 or 1979, were encountered in Trench-11. Another 10 were observed in Trench-12. Several containers were partly or wholly labeled "Monoethanolamine." Monoethanolamine is a corrosive, colorless fluid used in agricultural sprays, dry cleaning detergents, emulsion paints, and polishes and as a corrosion inhibitor, rubber accelerator, and gas scrubber (Montgomery, 1991). Two containers in Trench-11 were leaking (one, a light green fluid and the second, a clear, viscous fluid). None of the containers encountered in Trench-12 appeared to be leaking.

One sample (11HS11A) of the clear, viscous fluid leaking from the container in Trench-11 was collected for chemical analysis of target compound list (TCL) SVOCs, RCRA F-listed solvents, and pH. The results are presented in Appendix C. Naphthalene (8.2 milligrams per liter [mg/ℓ]) and several unidentified organic compounds (estimated concentrations ranging from 12 to 7,700 mg/ℓ) were detected in the sample. The pH of the sample (13) is consistent with that of monoethanolamine (greater than 12, Budavari, 1989), but the viscosity of monoethanolamine is less than the apparent visocity of the fluid observed leaking. Monoethanolamine is not a TCL or Appendix IX constituent, nor is it a listed hazardous waste. However, the fluid is considered hazardous by characteristic (USEPA Hazardous Waste Code D002) based on a pH greater than 12.5 (USEPA, 1994).

No other product samples were collected from the containers. However, soil samples were collected from the three trenches where containers were observed. The results of the soil sampling and analyses are presented in the following Subsection 3.1.2.

Summary. A source for the chlorinated solvents detected in groundwater samples collected in and downgradient of Site 11 was not identified in the wastes encountered during trenching. Much of this waste consists of domestic garbage or construction debris. Although several containers of fluid waste were observed in three trenches, chemical analysis of one sample from Trench-11 identified only

Table 3-2
Waste Materials Encountered During Trench Excavation

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Trench No.	Size (feet)	Depth to Groundwater (feet bls)	Waste Materials
1	13 by 23	4.5	Bottles, trash bags filled with concessionary refuse, three small car tires, stove, jeep parts, and other scrap metal.
2	22 by 10	4.0	Paint, transmission fluid, motorcycle, tires, garbage bags, construction debris, bed springs and mattress, concrete block, shrimp nets, rope, brick, lumber, wood, railroad tie, and two 5-gallon containers (both leaking).
3	22 by 15	3.5	Domestic garbage and fill material.
4	24 by 13	3	Domestic garbage, garbage in bags, tire, and clothing.
5	23 by 10	4.5	Domestic trash, mostly bottles, cans, and clothing.
6	10 by 20.5	5	Scrap metal shelves, rags, lumber, plastic sheeting, hose, cable, file cabinet, and tires.
7	24.5 by 13	4.5	Crushed drum (old), newspapers (dated February 7 and March 18, 1979), domestic garbage, bottles, cans, and clothing material.
8	12 by 19	5	Tires, fire hose, and wood (most garbage in bags). Possible fertilizer bags.
9	20 by 13	2.5	Mostly domestic bottles, cans, and paper products.
10	24 by 15	5	Muffler, lounge chair, wood, rope and shrimp nets, metal shelves, fire hose, rags, tires, and refrigerator.
11	275 by 6	4.5	Twenty 5-gallon containers (2 leaking) and domestic waste.
12	22 by 8	4	Ten 5-gallon containers (none leaking) and domestic waste.
13	18 by 8	4	Domestic waste.

Notes: Trench depths ranged from 5 to 14 feet and varied within individual trenches so that the depth of waste disposal was discernable.

RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
bls = below land surface.

one SVOC, naphthalene. Naphthalene has been detected in groundwater and in liquid samples from three trenches, including Trench-11.

3.1.2 Characterization of Soil in the Source Area Six soil samples and one duplicate were collected from five disposal cells between November 16 and 22, 1994, to evaluate source contamination. Each sample was obtained from soils in contact with waste materials. Two additional samples were collected from below the refuse layer at two borings drilled between cells to estimate potential contaminant extent. The samples were analyzed for TCL and target analyte list (TAL) or Appendix IX constituents and sulfide (see Tables A-2 and A-3, Appendix A). Table 3-3 summarizes sample location, depth, and date of collection. Sample locations are shown on Figure 3-2. Analytical results are provided in full in Appendix C and discussed relative to location as follows.

Table 3-3
Onsite Soil Sampling Program

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Sample Date	Sample ID[1]	Sample Location	Sample Depth (feet bls)
Trench Samples			
11/16/94	11TS02	Trench-2	4
11/17/94	11TS04	Trench-4	5
11/18/94	11TS07 11TS07D	Trench-7	6
11/19/94	11TS08	Trench-8	4
11/22/94	11TS11	Trench-11	4
11/22/94	11TS12	Trench-12	4
Soil Boring Samples			
11/06/94	SB111412	KBA-11-10C	12 to 14
11/17/94	SB11512	KBA-11-22A	12 to 14

[1] Quality assurance and quality control samples are not included in this table.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
ID = identification.
bls = below land surface.
D = duplicate sample.

Trench Soils. Organic analytes were only detected at a frequency of one in six for trench soil samples, except for one pesticide that was detected in two samples; 1 VOC, 13 SVOCs, and 4 pesticides were detected in the trench soils. No PCBs or herbicides were detected in any sample. Analytes detected in trench soils are summarized in Appendix B. Ranges in concentrations and frequency of detected analytes are provided in Table 3-4.

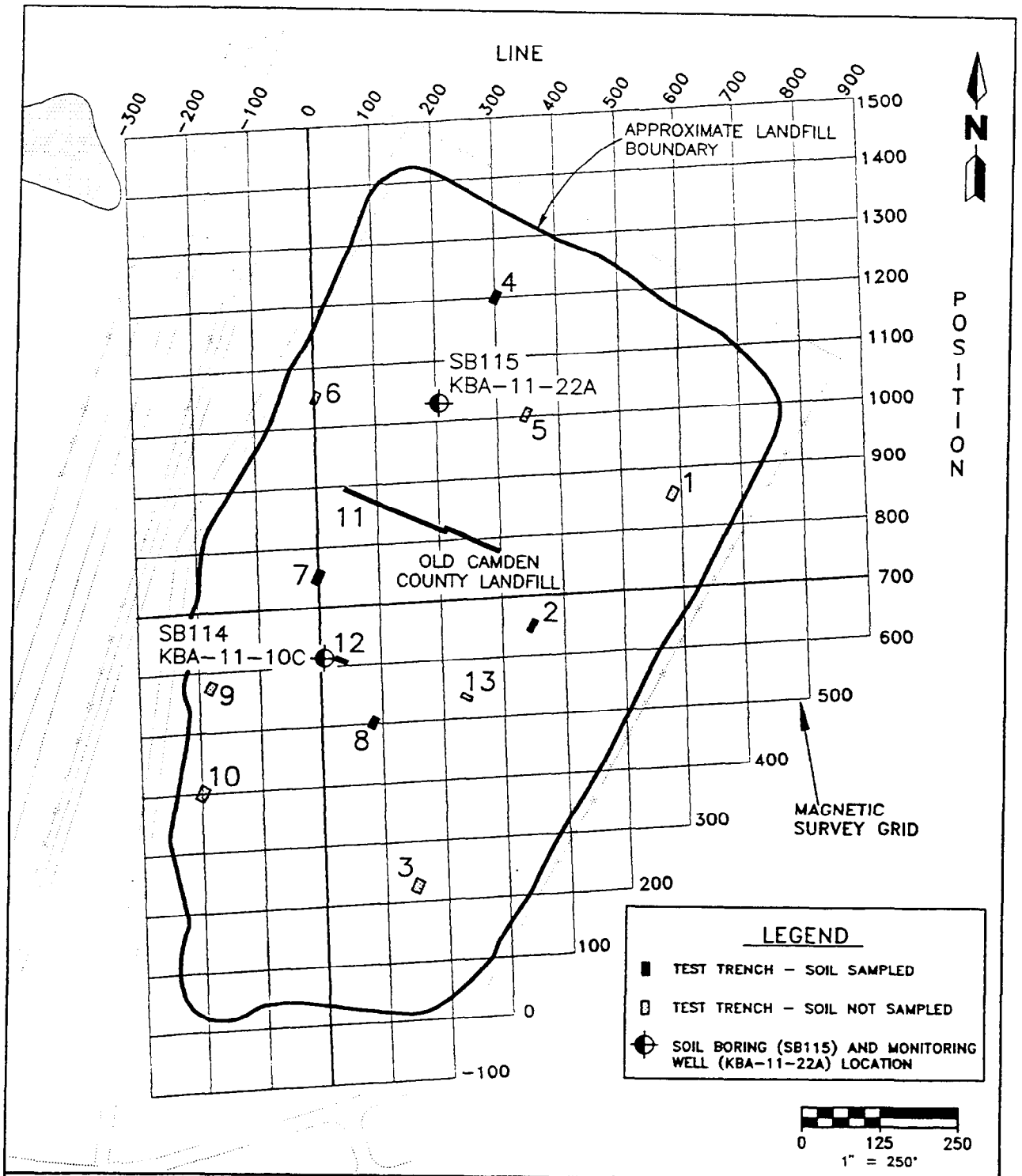

FIGURE 3-2

SOURCE AREA SOIL SAMPLE LOCATIONS

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

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Table 3-4
Ranges of Concentrations and Frequency of Organic Analytes in Trench Soil Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Constituent: (units in μg/kg)	Concentration Range	Frequency[1]
Volatile Organic Compound		
2-Butanone	ND - 3 J	1/6
Semivolatile Organic Compounds		
Acenaphthene	ND - 24 J	1/6
Anthracene	ND - 34 J	1/6
Benzo(b)fluoranthene	ND - 74 J	1/6
Benzo(k)fluoranthene	ND - 30 J	1/6
Benzo(ghi)perylene	ND - 36 J	1/6
Benzo(a)pyrene	ND - 54 J	1/6
Di-n-butyl phthalate	ND - 64 J	1/6
Fluoranthene	ND - 220 J	1/6
Fluorene	ND - 22 J	1/6
Indeno(1,2,3-cd)pyrene	ND - 37 J	1/6
Naphthalene	ND - 180 J	1/6
Phenanthrene	ND - 150 J	1/6
Pyrene	ND - 160 J	1/6
Pesticides		
4,4'-DDD	ND - 3.4 J	1/6
4,4'-DDE	ND - 2.3 J	1/6
4,4'-DDT	ND - 32 J	1/6
Endrin ketone	ND - 0.41 NJ	2/6

[1] The first number represents the number of detections and the second number represents the number of samples analyzed. Primary and associated duplicate samples were counted as one.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
μg/kg = micrograms per kilogram.
ND = not detected.
J = estimated concentration.
4,4'-DDD = 4,4'-dichlorodiphenyl dichloroethane.
4,4'-DDE = 4,4'-dichlorodiphenyl dichloroethylene.
4,4'-DDT = 4,4'-dichlorodiphenyltrichloroethane.
NJ = presumptively present at estimated concentration.

2-Butanone was detected in one sample collected from Trench-8. None of the samples collected from the remaining trenches contained this compound.

With the exception of di-n-butyl phthalate, all of the SVOCs were reported in soils obtained from Trench-11. Concentrations of these polycyclic aromatic hydrocarbons (PAH) compounds are estimated and range from 22 to 220 μg/kg (concentration ranges apply to individual analytes). Di-n-butyl phthalate was detected in one sample from Trench-2 but is believed to be an artifact; 5 of 18 laboratory blanks from the November 1994 field effort contained this compound at concentrations ranging from 31 to 320 μg/kg.

Low concentrations of pesticides were reported in samples obtained from three trenches. 4,4'-Dichlorodiphenyl dichloroethane and 4,4'-dichlorodiphenyl dichloroethene (DDE) were detected in Trench-4 soils at estimated concentrations of 3.4 and 2.3 μg/kg, respectively, while 4,4'-dichlorodiphenyl trichloroethane (DDT) (32 J μg/kg) was identified in one sample collected from Trench-12. Endrin ketone was the only pesticide detected in more than one sample. It was detected in soils collected from Trenches 2 and 12, but the reported concentrations were qualified NJ (presumptively present at estimated concentrations) because of significant quantitation differences in column confirmation. All of these compounds are suspected laboratory artifacts. 4,4'-DDT concentrations are specifically questionable because 4,4'-DDT was detected in 8 of 21 laboratory blanks. Endrin ketone and 4,4'-DDE were each detected in one laboratory blank.

Subsurface Soils Collected from Borings. Toluene was detected in the soil sample collected from KBA-11-10C. No other VOCs were identified, nor were SVOCs, pesticides, or PCBs detected in either sample (Appendix B).

Summary. 2-Butanone and PAH compounds were detected at low concentrations in soil samples collected from two disposal cells. Sources for these constituents were not identified during trenching. Because 2-butanone and PAHs were not detected in samples obtained from the disposal cells at Trenches 2, 4, and 7, or in undisturbed soils collected from locations adjacent to some cells, the overall extent of contaminated subsurface soils may be limited.

Neither contaminant type appears to have had a widespread impact on groundwater at either location. Although 2-butanone was detected in Trench-8 liquid, it has not been detected in groundwater immediately downgradient of Trench-8 at KBA-11-10 (A, B, or C). The PAHs, with the exception of naphthalene (see Subsection 3.1.1), have not been detected in Site 11 groundwater to date.

Toluene was detected in one subsurface soil sample collected below the refuse layer and adjacent to the disposal cell at Trench-12. Toluene was not detected in trench soils or waste materials but has been identified in upgradient trench (Trench-8) liquid. Therefore, it appears that the presence of this compound in near-surface soils is probably limited and can be attributed to contact with contaminated groundwater rather than a product release at this location.

3.1.3 Characterization of Trench Liquid and Groundwater in the Source Area The disposal cells in the landfill contain groundwater because the water table is shallow. The disposal cells may also be expected to contain leachate. The liquid samples collected from the trenches are referred to as trench liquid samples because they are possibly a mixture of groundwater and leachate. Groundwater samples refer to samples of groundwater collected from monitoring

wells, none of which are screened in the disposal cells. Liquid and groundwater samples were collected from trench excavations and monitoring wells at the landfill to characterize groundwater contamination at the source. The samples were analyzed for TCL/TAL or Appendix IX constituents and sulfide (refer to Table A-3, Appendix A, for analytical fractions). Selected samples collected in January 1994 were also tested for engineering and treatability parameters for use in development of the corrective action plan (CAP) (ABB-ES, 1996). Contaminant characteristics are described below according to sample type and chemical groups. Engineering and treatability parameters are summarized in the July 1994 technical memorandum entitled 1993 Field Program and January 1994 Groundwater Sampling Event for Site 11, Old Camden County Landfill (ABB-ES, 1994d).

Discussion by chemical group does not necessarily mean that all chemicals in that group were detected. Refer to Appendix B for specific analytes detected in each sample.

Trench Liquid. Five liquid samples and one duplicate were obtained from four disposal cells at five trenches between November 16 and 22, 1994. Sample locations are shown on Figure 3-3. Sampling information is summarized in Table 3-5.

Eleven VOCs, 10 SVOCs, and 9 pesticides were detected in trench liquids (Table 3-6). PCBs or herbicides were not detected in any sample. Analytical results are summarized in Appendix B and provided in full in Appendix C. Ranges in concentrations and frequency of detected analytes are provided in Table 3-6.

Ketones were detected at low concentrations (2 J to 7 J $\mu g/\ell$) in Trench-7 and 8 liquids, and at higher concentrations (16 to 210 mg/ℓ) in the sample obtained from Trench-2. 2-Butanone was also detected in laboratory blanks.

Methylene chloride was reported in the samples collected from Trenches 7 and 8. No other chlorinated hydrocarbons were detected in any sample. Methylene chloride was also detected in 3 of 13 laboratory blanks.

Aromatic hydrocarbons were detected in all samples. Concentrations of individual aromatic compounds ranged from 0.5 J to 73 $\mu g/\ell$ at Trenches 4, 7, 8, and 11 to 4,000 $\mu g/\ell$ at Trench-2. Chlorinated benzenes were detected in four samples, including the duplicate.

Phenols were detected in all samples. Concentrations ranged from 0.8 J to 19 $\mu g/\ell$ at Trenches 4, 7, 8, and 11 to 740 $\mu g/\ell$ at Trench-2. Naphthalene and 2-methylnaphthalene were identified in samples obtained from Trenches 7, 8, and 11 at concentrations ranging from 2 J to 200 $\mu g/\ell$. The highest concentration was detected in the duplicate sample collected from Trench-7.

Trichlorofluoromethane (Freon 11), dichlorodifluoromethane (Freon 12), and isophorone were detected at low concentrations (2 to 24 $\mu g/\ell$) in the sample collected from Trench-8. Trichlorofluoromethane and isophorone have not been previously detected in Site 11 groundwater while dichlorodifluoromethane was reported in one sample collected during the August 1992 Phase I offsite field screening event. None of these compounds were detected in the soils obtained from this trench.

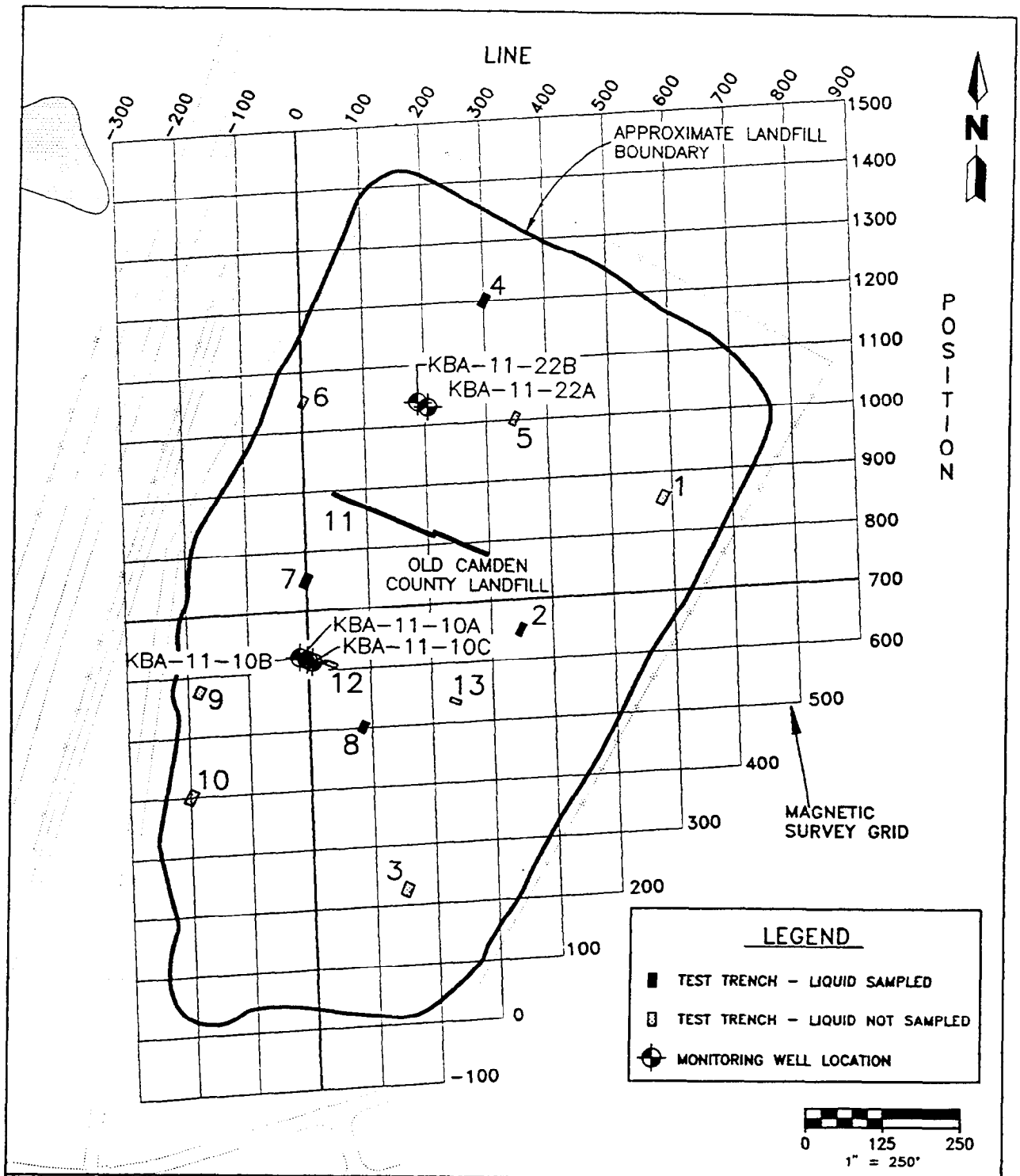

FIGURE 3-3

SOURCE AREA LIQUID AND GROUNDWATER SAMPLE LOCATIONS

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

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Table 3-5
Trench Liquid and Onsite Groundwater Sampling Program

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Location ID	Monitoring Zone[1]	Sample ID[2]	Sample Date
Trench Liquid			
Trench-2	—	11TL02	11/16/94
Trench-4	—	11TL04	11/17/94
Trench-7	—	11TL07	11/18/94
		11TL07D	
Trench-8	—	11TL08	11/19/94
		11TL08D	
Trench-11	—	11TL11	11/22/94
Groundwater			
KBA-11-10A	Shallow	10AGW01	01/07/94
		10AGW02	04/07/94
		10AGW02D	04/07/94
		10AGW03	09/15/94
KBA-11-10B	Mid	10BGW01	01/07/94
			01/08/94
		10BGW02	04/05/94
		10BGW03	09/16/94
KBA-11-10C	Deep	10CGW01	01/07/94
			01/08/94
		10CGW02	04/07/94
		10CGW03	09/16/94
KBA-11-22A	Shallow	22AGW01	01/07/94
		22AGW02	04/05/94
		22AGW03	09/15/94
KBA-11-22B	Mid	22BGW01	01/07/94
			01/08/94
		22BGW01D	01/07/94
			01/08/94
		22BGW02	04/05/94
		22BGW02D	04/05/94
		22BGW03	09/16/94
		22BGW03D	09/16/94

[1] Monitoring zones are based on observed changes in contaminant behavior with depth, and the zone monitored by each well is based on the elevation and interval of the well screen. Elevation intervals of each zone are: shallow = 5 feet mean sea level (msl) and above; mid = 5 to -20 feet msl; deep = -20 feet msl and below.

[2] Quality assurance and quality control samples are not included in this table.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
ID = identification.
D = duplicate sample.

Table 3-6
Ranges of Concentrations and Frequency of Detected Analytes in Trench Liquid Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Constituent: (units in $\mu g/\ell$)	Concentration Range	Frequency[1]
Volatile Organic Compounds		
Chlorobenzene	ND - 14	2/5
1,4-Dichlorobenzene (VOA)[2]	ND - 6	3/4
Dichlorodifluoromethane	7	1/1
Ethylbenzene	ND - 73	3/5
2-Hexanone	ND - 2 J	1/5
Methylene chloride	ND - 18	2/5
2-Butanone	ND - 16,000 J	2/5
4-Methyl-2-pentanone	ND - 210,000	3/5
Toluene	ND - 14	4/5
Trichlorofluoromethane	2	1/1
Xylenes (total)	ND - 4,000	4/5
Semivolatile Organic Compounds		
1,4-Dichlorobenzene	ND - 4 J	2/5
Diethyl phthalate	ND - 5 J	3/5
2,4-Dimethylphenol	ND - 16 J	1/5
Di-n-octyl phthalate	ND - 0.6 J	1/5
Isophorone	ND - 24	1/5
2-Methylnaphthalene	ND - 6 J	2/5
2-Methylphenol	ND - 2 J	1/5
4-Methylphenol	1 J - 740	5/5
Naphthalene	ND - 200	3/5
Phenol	0.8 J - 130	5/5
Pesticides		
alpha-BHC	ND - 0.032 J	1/5
gamma-BHC (Lindane)	ND - 0.018 NJ	1/5
alpha-Chlordane	ND - 0.22 J	1/4
gamma-Chlordane	ND - 0.48 J	1/4

See notes at end of table.

Table 3-6 (Continued)
Ranges of Concentrations and Frequency of Detected Analytes in Trench Liquid Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Constituent: (units in $\mu g/\ell$)	Concentration Range	Frequency[1]
4,4'-DDD	ND - 0.13 J	1/5
Endosulfan II	ND - 0.012 J	1/5
Endrin ketone	ND - 0.015 NJ	1/4
Methoxychlor	ND - 0.17 NJ	1/5
Organophosphorus Pesticides		
O,O,O-Triethylphosphorothioate	0.67	1/1

[1] The first number represents the number of detections and the second number represents the number of samples analyzed. Primary and associated duplicate sample detections were counted as one.
[2] Analysis by U.S. Environmental Protection Agency SW-846 8240 (1986).

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
$\mu g/\ell$ = micrograms per liter.
ND = not detected.
VOA = volatile organic analyte.
J = estimated concentration.
BHC = benzene hexachloride.
NJ = presumptively present at estimated concentration.
4,4-DDD = 4,4'-dichlorodiphenyl dichloroethane.

Diethyl phthalate and di-n-octyl phthalate were detected in samples obtained from Trenches 4, 7, and 11. Phthalates detected in Site 11 groundwater are considered sampling or laboratory artifacts (ABB-ES, 1995a), and their presence in trench samples is not considered representative of site conditions.

One or more pesticides were detected in every sample except Trench-4 liquid. Only o,o,o-triethylphosphorothioate was reported above the practical quantitation limit (PQL). Three compounds were qualified NJ because of significant quantitation differences in column confirmation. The pesticide detections could be laboratory artifacts because six pesticides were detected in one or more laboratory blanks analyzed for the November 1994 field effort. These consisted of 4,4'-DDE, 4,4'-DDT, aldrin, dieldrin, methoxychlor, and endrin ketone.

Groundwater. Groundwater samples were obtained from five monitoring wells located inside the boundaries of the landfill, KBA-11-10 (A, B, and C) and KBA-11-22 (A and B), for chemical analysis during the January, April, and September 1994 field events. Well locations are shown on Figure 3-3. Sampling information and the zone (shallow, mid, or deep) monitored by each well are provided in Table 3-5. Wells KBA-11-22A and KBA-11-10A are screened near the base of the waste discarded at the site. These two wells are most likely to provide information about new or ongoing releases from the disposal cells. The deeper wells provide information related to downward migration of contaminants in groundwater.

Ten VOCs, eight SVOCs, and five pesticides were detected in groundwater samples collected during one or more field events. PCBs were not detected in any sample. Analytical results are summarized in Appendix B and provided in full in Appendix C. Ranges in concentrations and frequency of detected analytes are provided in Table 3-7.

Acetone was detected in one groundwater sample obtained from KBA-11-22B in April 1994. No other ketones were reported in any sample.

Chlorinated hydrocarbons were reported in groundwater samples collected only from the mid zone (wells KBA-11-10B and KBA-11-22B). 1,1-Dichloroethane and cis-1,2-dichloroethene were detected in samples obtained from both mid-level wells while trichloroethene was detected only at KBA-11-22B. Concentrations of 1,1-dichloroethane and trichloroethene were below the contract required quantitation limit (CRQL) of 1 $\mu g/\ell$. Only cis-1,2-dichloroethene concentrations exceeded the 1 $\mu g/\ell$ reporting limit. Concentrations detected in groundwater samples from locations in the landfill and liquids in trenches are low compared to concentrations detected at downgradient locations. This indicates that the release of chlorinated solvents has most likely exhausted itself.

Aromatic hydrocarbons were detected in groundwater samples collected from all wells except KBA-11-10C (the deepest well in the landfill). Concentrations ranged from 0.4 J to 65 $\mu g/\ell$ and were highest in the mid zone. Chlorinated benzenes were also detected at all locations except KBA-11-10C, but were not consistently reported in every field event. Chlorinated benzene concentrations ranged from 1 to 5 $\mu g/\ell$ and were highest in the shallow zone.

Phenol was detected in groundwater samples collected from the mid and deep zones at KBA-11-10 in April 1994. 4-Methylphenol was identified in mid-level samples from KBA-11-22 during every field event.

Table 3-7
Ranges of Concentrations and Frequency of Detected Organic Analytes in Onsite Groundwater Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Constituent (units in $\mu g/\ell$)	January 1994		April 1994		September 1994	
	Concentration Range	Frequency[1]	Concentration Range	Frequency[1]	Concentration Range	Frequency[1]
Volatile Organic Compounds						
Acetone	ND	0/5	ND - 82 J	1/5	ND	0/5
Benzene	ND - 6	4/5	ND - 6	4/5	ND - 5	4/5
Carbon disulfide	0.5 J - 4	5/5	ND	0/5	2 - 31	5/5
Chlorobenzene	ND - 2	2/5	ND - 4	3/5	ND - 4	4/5
1,4-Dichlorobenzene (VOA)[2]	ND - 2	1/5	ND - 5	3/5	ND - 5	3/5
1,1-Dichloroethane	ND - 0.8 J	2/5	ND - 0.6 J	1/5	ND - 0.9 J	1/5
cis-1,2-Dichloroethene	ND - 20	2/5	ND - 18	2/5	ND - 19	2/5
Ethylbenzene	ND - 56	2/5	ND - 45	2/5	ND - 65	2/5
Toluene	ND - 12	2/5	ND - 5	2/5	ND - 2 J	1/5
Trichloroethene	ND - 0.5 J	1/5	ND	0/5	ND	0/5
Xylenes (total)	ND - 15	2/5	ND - 6	2/5	ND - 0.8 J	1/5
Semivolatile Organic Compounds						
bis(2-Ethylhexyl)phthalate	0.9 J - 6 J	5/5	ND - 18	2/5	0.7 J - 100	5/5
1,4-Dichlorobenzene	ND - 4 J	3/5	ND - 4 J	3/5	ND - 5 J	3/5
Diethyl phthalate	ND - 11	3/5	ND - 8 J	4/5	ND - 7 J	2/5
Dimethyl phthalate	ND - 4 J	1/5	ND	0/5	ND	0/5
2-Methylnaphthalene	ND - 0.6 J	1/5	ND - 0.5 J	1/5	ND - 0.7 J	1/5
4-Methylphenol	ND - 16	1/5	ND - 6 J	1/5	ND - 2 J	1/5
Naphthalene	ND - 3 J	3/5	ND - 3 J	3/5	ND - 3 J	3/5
Phenol	ND	0/5	ND - 0.9 J	2/5	ND	0/5

See notes at end of table.

Table 3-7 (Continued)
Ranges of Concentrations and Frequency of Detected Organic Analytes in Onsite Groundwater Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Constituent (units in $\mu g/\ell$)	January 1994		April 1994		September 1994	
	Concentration Range	Frequency[1]	Concentration Range	Frequency[1]	Concentration Range	Frequency[1]
Pesticides						
gamma-BHC (Lindane)	ND	0/5	ND - 0.072 J	1/5	ND	0/2
alpha-Chlordane	ND	0/5	ND - 0.027 J	2/5	ND	0/2
gamma-Chlordane	ND	0/5	ND - 0.056 J	1/5	ND	0/2
Heptachlor	ND	0/5	ND - 0.016 J	1/5	ND	0/2
Heptachlor epoxide	ND	0/5	ND	0/5	ND - 0.042 NJ	2/2

[1] The first number represents the number of detections and the second number represents the number of samples analyzed. Primary and associated duplicate sample detections were counted as one.
[2] Analysis by U.S. Environmental Protection Agency SW-846 8240 (1986).

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
$\mu g/\ell$ = micrograms per liter.
ND = not detected.
J = estimated concentration.
VOA = volatile organic analyte.
BHC = benzene hexachloride.
NJ = presumptively present at estimated concentration.

Naphthalene was detected in the shallow and mid zones at KBA-11-10 and the shallow zone at KBA-11-22. 2-Methylnaphthalene was detected only at KBA-11-10A. Concentrations ranged from 0.5J to 3J $\mu g/\ell$ and were highest at the KBA-11-10 well cluster.

Carbon disulfide was reported in all samples analyzed in January and September 1994. Carbon disulfide has been detected previously in environmental media at Site 11 and its presence is attributed to metabolism of sulfur compounds by indigenous bacteria rather than a release at the landfill (Appendix D).

Phthalates were detected in every sample except the sample from well KBA-11-10C collected April 1994. Most concentrations were reported below the PQL. Phthalates in groundwater are considered sampling or laboratory artifacts. This is based on the physical properties of phthalates, which is discussed in detail in Appendix D.

Pesticides were detected in groundwater samples collected from KBA-11-10B and KBA-11-22B in April and September 1994. These pesticides are considered laboratory artifacts for the following reasons:

- Chlordanes, gamma-benzene hexachloride, and heptachlor were detected only in groundwater samples collected during the April 1994 field event. None of these compounds were identified in confirmatory samples collected from the same wells during subsequent sampling efforts, nor were they reported in any environmental media from preceding field events.

- Heptachlor epoxide was detected only in groundwater samples collected in September 1994. This compound was not detected in confirmatory samples collected from the same wells in April 1995, nor was it detected previously in any Site 11 media. Heptachlor epoxide concentrations were qualified NJ because of significant quantitation differences in column confirmation.

- Pesticides were not detected in any groundwater samples collected during the six bimonthly sampling events conducted between 1991 and 1993.

- Of three contract laboratories which have provided analytical services on this project between January 1994 and April 1995, only one has reported pesticides in any sample.

Summary. The following constituents have been identified as source contaminants: ketones, chlorinated and aromatic hydrocarbons, chlorinated benzenes, phenols, and naphthalene. Phthalates, pesticides, carbon disulfide, isophorone, and Freon are attributed to natural biological processes, laboratory contamination, or sampling practices. Sources for the source contaminants, with the exception of naphthalene, were not identified in landfill wastes despite the presence of leaking containers and discolored soils in some trenches.

The presence of naphthalene may be associated with the material in the containers observed in the trenches. Leaking containers were encountered in two disposal cells and naphthalene has been identified in soil, water, and fluid samples obtained during trenching. Because naphthalene is relatively immobile in

groundwater, however, its extent beyond the landfill is expected to be fairly limited. Naphthalene has not been detected in subdivision wells or wells installed in the deep zone.

Ketones, chlorinated and aromatic hydrocarbons, chlorinated benzenes, and phenols have been detected in groundwater downgradient of the landfill (see Subsection 3.2.1). However, some of these contaminants, such as tetrachloroethene and vinyl chloride, were not detected in source area groundwater or soil samples. Conversely, 2-methylnaphthalene, naphthalene, and PAHs have been detected in soil, trench liquid, or groundwater at the source but, except for naphthalene, have not been reported in offsite groundwater. Naphthalene has been detected in groundwater samples from well KBA-11-13A located on the western edge of the landfill.

3.1.4 Potential for Contaminant Emission to Air Baseline air quality monitoring was conducted at Site 11 from November 8 through 10, 1994, to evaluate the potential for VOC emissions from the landfill. Nine samples and three duplicates were collected for laboratory analysis of TCL VOCs. Sample designation, location (upwind or downwind), collection date, and testing duration are summarized in Table 3-8. Air sample locations are shown on Figure 3-4.

Analytical data from samples collected upwind of Site 11 were used to establish background concentrations against which analytical data from downwind locations could be compared for characterization of air quality at the landfill. Tables 3-9 and 3-10 summarize chemical data for air samples collected during baseline monitoring. A complete list of analytical data is included in Appendix C.

Thirteen VOCs were detected in one or more downwind samples at concentrations ranging from 0.01 to 1.26 J parts per billion volume (ppbv). Ten of these analytes were also identified in upwind samples, eight of which were detected at concentrations greater than in downwind samples. Concentrations between sample locations are similar (none of the analytes detected in downwind samples exceeds two times the mean of upwind sample concentrations) indicating VOC contamination at the landfill is not affecting downwind air quality with respect to these constituents.

Three VOCs were identified in downwind samples only: vinyl chloride, chloroform, and methylene chloride. Vinyl chloride was detected at a concentration equal to the reporting limit in two samples collected from the perimeter of the landfill. Chloroform was detected at 11AIR109. Chloroform has not been detected in soils at Site 11, nor any groundwater samples collected during the last four monitoring events. The presence of vinyl chloride in air could be associated with releases from the landfill or emissions from the treatment unit at the site. However, one of the samples it was detected in, 11AIR108D, was a triplicate sample and neither of the associated replicate samples contained vinyl chloride. The low concentrations that were detected, 0.01 ppbv, and sporadic occurrence are not of concern.

Methylene chloride was detected in two primary samples and three duplicates, but the presence of this compound is attributed to laboratory practices rather than a release at the landfill. Methylene chloride was identified in three laboratory blanks and none of the primary samples associated with the duplicates contained methylene chloride.

Table 3-8
Baseline Air Sampling Program

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Sample Date	Sample ID[1]	Sample Location	Test Time	Duration
11/8/94	11AIR101	Downwind	0815 to 1240	4 hr., 25 min.
	11AIR102 11AIR102D	Downwind	0822 to 1557	7 hr., 35 min.
	11AIR103	Upwind	0828 to 1603	7 hr., 35 min.
11/9/94	11AIR104	Downwind	0811 to 1120	3 hr., 9 min.
	11AIR104D	Downwind	0811 to 1702	8 hr., 15 min.
	11AIR105	Downwind	0805 to 1513	7 hr., 8 min.
	11AIR106	Upwind	0815 to 1232	4 hr., 17 min.
11/10/94	11AIR107	Upwind	0855 to 1614	7 hr., 19 min.
	11AIR108 11AIR108D 11AIR108DD	Downwind	0850 to 1726	8 hr., 36 min.
	11AIR109	Downwind	0845 to 1729	8 hr., 44 min.

[1] Quality assurance and quality control samples other than duplicates are not included in this table.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
ID = identification.
hr. = hours.
min. = minutes.
D = duplicate sample.

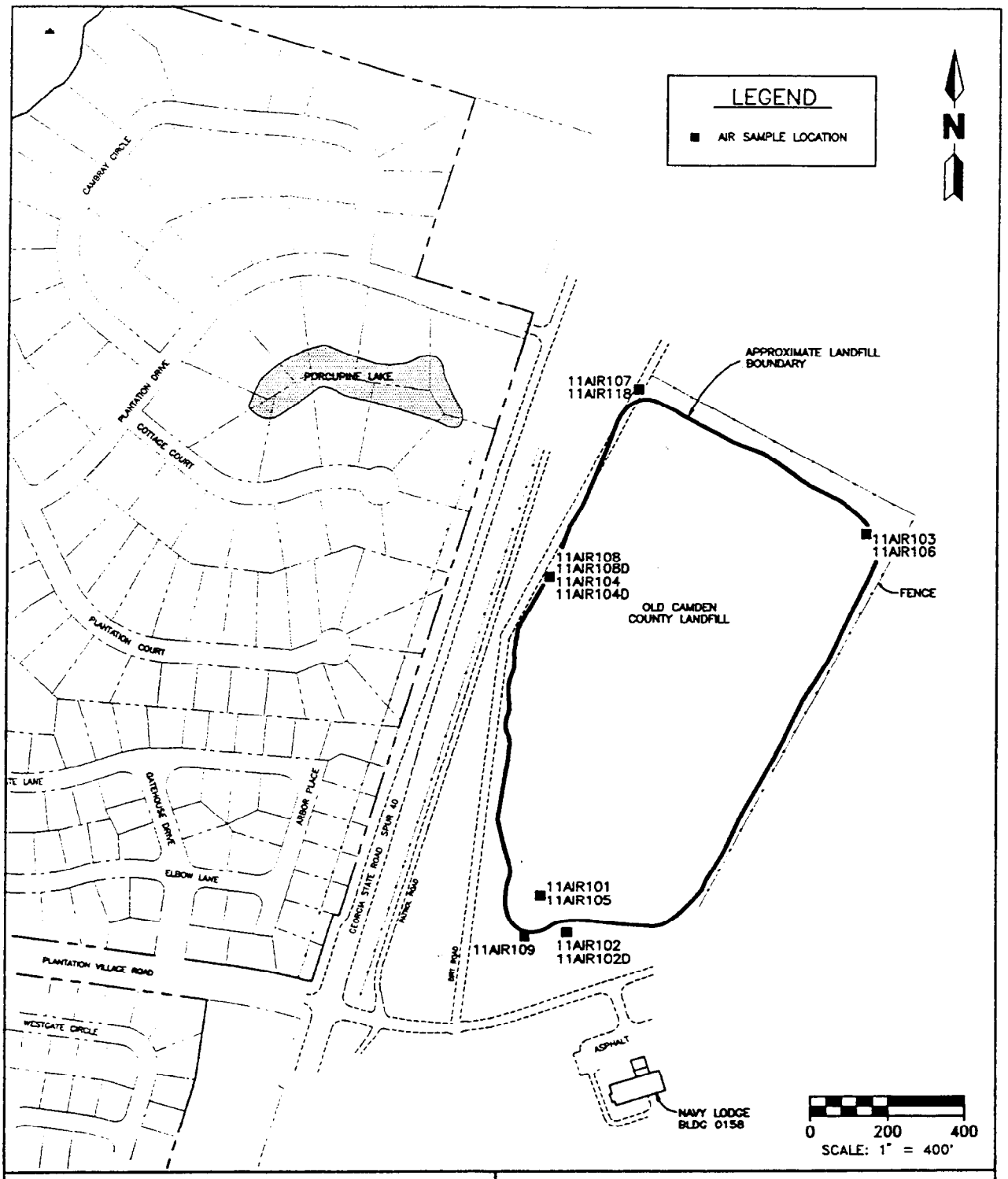


FIGURE 3-4

BASELINE AIR SAMPLE LOCATIONS

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_4-4\DMF\960110

Table 3-9
Summary of Baseline Air Sample Analytical Data, Upwind Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

	11AIR103	11AIR106	11AIR107	Frequency of Detection[1]	Mean of Detected Concentration
Volatiles Organic Compounds (ppbv)					
Benzene	0.19	0.15	2.02	3/3	0.79
Carbon tetrachloride	0.14	0.13	0.14	3/3	0.14
Dichlorodifluoromethane	0.58 U	0.54	0.53	2/3	0.54
Ethylbenzene	0.05 U	0.05 U	0.18	1/3	0.18
Freon 113	0.16	0.18 U	0.18 U	1/3	0.16
Toluene	0.20 U	0.23	1.82	2/3	1.03
1,1,1-Trichloroethane	0.13	0.13	0.13	3/3	0.13
Trichlorofluoromethane	0.38	0.34	0.34	3/3	0.35
1,2,4-Trimethylbenzene	0.05 U	0.05 U	0.15	1/3	0.15
1,3,5-Trimethylbenzene	0.05 U	0.05 U	0.10	1/3	0.10
m,p-Xylene	0.05 U	0.09	0.79	2/3	0.44
o-Xylene	0.05 U	0.05 U	0.42	1/3	0.42

[1] The first number represents the number of detections and the second number represents the number of samples analyzed.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
ppbv = parts per billion volume.
U = not detected, sample quantitation limit reported.

Table 3-10
Comparison of Background Concentrations and Downwind Air Sample Analytical Data

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Detected Compounds	Background Air Quality Concentration[1]	11AIR101	11AIR102	11AIR102D	11AIR104	11AIR104D
Volatile Organic Compounds (ppbv)						
Benzene	1.58	0.13	0.18	0.12	0.21	0.13
Carbon tetrachloride	0.28	0.12	0.14	0.13	0.12	0.12
Chloroform	ND	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dichlorodifluoromethane	1.08	0.55	0.55	0.51	0.56	0.51
Ethylbenzene	0.36	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Freon 113	0.32	0.16	0.26 U	0.35 U	0.29 U	0.20
Methylene chloride	ND	1.26 J	0.44 U	0.82 U	0.48 U	0.60 J
Toluene	2.06	0.14	0.14	0.23	0.28	0.24
1,1,1-Trichloroethane	0.26	0.13	0.13	0.13	0.13	0.13
Trichlorofluoromethane	0.70	0.32	0.35	0.34	0.34	0.30
1,2,4-Trimethylbenzene	0.30	0.05 U	0.05 U	0.05 U	0.10	0.06
1,3,5-Trimethylbenzene	0.20	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Vinyl chloride	ND	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
m,p-Xylene	0.88	0.05 U	0.05 U	0.05 U	0.17	0.05 U
o-Xylene	0.84	0.05 U	0.05 U	0.05 U	0.06	0.05 U

Detected Compounds	11AIR105	11AIR108	11AIR108D	11AIR108DD	11AIR109	Frequency of Detection[2]
Volatile Organic Compounds (ppbv)						
Benzene	0.16	0.12	0.11	0.12	0.15	6/6
Carbon tetrachloride	0.13	0.12	0.12	0.13	0.13	6/6
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U	0.30	1/6
Dichlorodifluoromethane	0.57	0.56	0.53	0.54	0.52	6/6
Ethylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0/6
Freon 113	0.21 U	0.18 U	0.31	0.15	0.13	4/6
Methylene chloride	0.59 U	0.35 U	0.94 J	0.60 J	0.49 J	4/6
Toluene	0.24	0.18	0.25	0.29	0.35	6/6
1,1,1-Trichloroethane	0.13	0.12	0.13	0.14	0.13	6/6
Trichlorofluoromethane	0.34	0.34	0.43	0.32	0.32	6/6
1,2,4-Trimethylbenzene	0.06	0.05	0.06	0.07	0.07	4/6
1,3,5-Trimethylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U	0/6
Vinyl chloride	0.01 U	0.01 U	0.01	0.01 U	0.01	2/6
m,p-Xylene	0.10	0.09	0.05 U	0.05 U	0.05 U	3/6
o-Xylene	0.05 U	0.05 U	0.05	0.06	0.05 U	2/6

[1] Background air quality concentration calculated from two times the mean concentration of upwind samples (detected values only).
[2] The first number represents the number of detections and the second number represents the number of samples analyzed. Primary and associated duplicate sample detections were counted as one.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation. ppbv = parts per billion volume.
U = not detected, sample quantitation limit reported. J = estimated concentration.

Overall, the frequency of detection of individual analytes was generally consistent between upwind and downwind samples. Detection frequencies are provided in Tables 3-9 and 3-10.

3.2 OFFSITE CONTAMINATION OF ENVIRONMENTAL MEDIA. This section characterizes contamination of environmental media outside the landfill. The section is divided into four subsections which address (1) offsite groundwater contamination at upgradient, cross gradient, and downgradient well locations, (2) subsurface soil data from borings drilled east and west of the landfill, (3) the surface water and sediment data for Porcupine Lake, and (4) the results of air quality monitoring at residential and perimeter locations during trenching.

3.2.1 Offsite Groundwater Contamination Groundwater samples were collected from 13 upgradient and cross gradient wells in January, April, and September 1994 to evaluate groundwater quality and define the extent of contamination in the upgradient direction. Samples were also collected from 17 wells located in the Crooked River Plantation Subdivision or along the western perimeter of the landfill to characterize downgradient groundwater quality and evaluate contaminant extent. Sampling information and the zone (shallow, mid, or deep) monitored by each well are provided in Table 3-11. Offsite groundwater sample locations are shown on Figure 3-5.

The samples were analyzed for TCL and TAL or Appendix IX constituents and sulfide. Selected samples collected in January 1994 were also analyzed for engineering and treatability parameters. Contaminant characteristics are described below. Engineering and treatability parameters are summarized in the July 1994 technical memorandum entitled 1993 Field Program and January 1994 Groundwater Sampling Event for Site 11, Old Camden County Landfill (ABB-ES, 1994d).

Analytical results are discussed in this section according to sample location (upgradient and cross gradient wells; wells located along the western perimeter of the landfill; and wells located in the Crooked River Plantation Subdivision). Analytical results are summarized in Appendix B and provided in full in Appendix C.

Upgradient and Cross Gradient. Upgradient and crossgradient wells are identified in Table 3-11. Ten VOCs, nine SVOCs, and six pesticides were detected in groundwater samples collected from wells located upgradient of or cross gradient to the landfill. PCBs, dibenzofurans, dioxins, and herbicides were not reported in any sample. Organic compounds, excluding phthalates, pesticides, and carbon disulfide which are considered sampling or laboratory artifacts or naturally-occurring materials, were detected only at 5 of the 13 wells.

Much of the contamination was detected in samples from a single well, in the mid zone of the aquifer and at the southern perimeter of the landfill. Aromatic and chlorinated hydrocarbons, phenols, and ketones were detected at low concentrations (0.4 J to 3 $\mu g/\ell$) in all samples obtained from KBA-11-8B. In contrast, most of the contaminants detected at the remaining wells consisted of isolated occurrences reported during only one field event.

Western Perimeter (Downgradient Edge) of the Landfill. Refer to Table 3-11 for a list of wells located in the western perimeter of the landfill. Fourteen VOCs

Table 3-11
Offsite Groundwater Sampling Program

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Well ID	Monitoring Zone[1]	Sample ID[2]	Sample Date
Upgradient and Crossgradient			
KBA-11-1	Shallow	01GW01	01/05/94
			01/06/94
		01GW02	04/05/94
		01GW03	09/13/94
KBA-11-4	Shallow	04GW01	01/07/94
		04GW02	04/07/94
		04GW03	09/15/94
KBA-11-5	Shallow	05GW01	01/07/94
		05GW02	04/07/94
		05GW03	09/15/94
KBA-11-6	Shallow	06GW01	01/04/94
			01/05/94
		06GW02	04/07/94
		06GW03	09/13/94
KBA-11-7	Shallow	07GW01	01/04/94
		07GW02	01/05/94
		07GW03	04/06/94
			09/13/94
KBA-11-8A	Shallow	08AGW01	01/05/94
			01/06/94
		08AGW02	04/06/94
		08AGW03	09/13/94
KBA-11-8B	Mid	08BGW01	01/05/94
		08BGW02	04/06/94
		08BGW03	09/13/94
KBA-11-8C	Deep	08CGW01	01/04/94
		08CGW02	04/06/94
		08CGW03	09/13/94
KBA-11-9	Shallow	09GW01	01/05/94
			01/06/94
		09GW02	04/05/94
		09GW03	09/13/94

See notes at end of table.

Table 3-11 (Continued)
Offsite Groundwater Sampling Program

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Well ID	Monitoring Zone[1]	Sample ID[2]	Sample Date
KBA-11-11A	Mid	11AGW01	01/04/94
		11AGW01D	01/04/94
		11AGW02	04/05/94
		11AGW03	09/13/94
		11AGW03D	09/13/94
KBA-11-11B	Mid	11BGW01	01/04/94
			02/22/94
		11BGW01D	01/04/94
			02/22/94
		11BGW02	04/05/94
		11BGW02D	04/05/94
		11BGW03	09/13/94
KBA-11-11C	Deep	11CGW01	01/04/94
		11CGW02	04/05/94
		11CGW03	09/13/94
KBA-11-14	Mid	14GW01	01/05/94
		14GW02	04/06/94
		14GW03	09/13/94
Western Perimeter of the Landfill			
KBA-11-2	Shallow	02GW01	01/07/94
		02GW02	04/05/94
			04/09/94
		02GW03	09/15/94
KBA-11-3A	Shallow	03AGW01	01/07/94
		03AGW02	04/05/94
			04/09/94
		03AGW03	09/15/94
KBA-11-3B	Mid	03BGW01	01/07/94
			01/08/94
		03BGW02	04/05/94
		03BGW03	09/15/94
KBA-11-3C	Deep	03CGW01	01/06/94
		03CGW02	04/05/94
		03CGW03	09/14/94

See notes at end of table.

Table 3-11 (Continued)
Offsite Groundwater Sampling Program

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Well ID	Monitoring Zone[1]	Sample ID[2]	Sample Date
KBA-11-12	Mid	12GW01	01/05/94
		12GW01D	01/05/94
		12GW02	04/06/94
		12GW02D	04/06/94
		12GW03	09/14/94
		12GW03D	09/14/94
KBA-11-13A	Mid	13AGW01	01/07/94
			02/23/94
		13AGW02	04/09/94
		13AGW03	09/15/94
KBA-11-13B	Deep	13BGW01	01/07/94
		13BGW02	04/09/94
		13BGW03	09/15/94
Crooked River Plantation Subdivision			
KBA-11-15	Mid	15GW01	01/05/94
		15GW02	04/06/94
		15GW03	09/14/94
KBA-11-16	Mid	16GW01	01/07/94
		16GW02	04/07/94
		16GW03	09/15/94
		16GW03D	09/15/94
KBA-11-17A	Shallow	17AGW01	01/06/94
		17AGW02	04/06/94
		17AGW02D	04/06/94
		17AGW03	09/14/94
KBA-11-17B	Mid	17BGW01	01/07/94
		17BGW01D	01/07/94
		17BGW02	04/07/94
		17BGW03	09/15/94
KBA-11-17C	Deep	17CGW01	01/06/94
		17CGW02	04/06/94
		17CGW03	09/14/94
KBA-11-18	Mid	18GW01	01/05/94
		18GW02	04/06/94
		18GW03	09/14/94

See notes at end of table.

Table 3-11 (Continued)
Offsite Groundwater Sampling Program

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Well ID	Monitoring Zone[1]	Sample ID[2]	Sample Date
KBA-11-19A	Shallow	19AGW01	01/06/94
			02/23/94
		19AGW02	04/07/94
		19AGW03	09/14/94
KBA-11-19B	Deep	19BGW01	01/06/94
		19BGW02	04/06/94
		19BGW03	09/14/94
KBA-11-20	Mid	20GW01	01/06/94
		20GW02	04/06/94
		20GW03	09/14/94
KBA-11-21	Mid	21GW01	01/06/94
		21GW02	04/06/94
		21GW03	09/14/94

[1] Monitoring zones are based on observed changes in contaminant behavior with depth, and the zone monitored by each well is based on the elevation and interval of the well screen. Elevation intervals of each zone are: shallow = 5 feet mean sea level (msl) and above; mid = 5 to -20 feet msl; deep = -20 feet msl and below.
[2] Quality assurance and quality control samples are not included in this table.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
ID = identification.
D = duplicate sample.

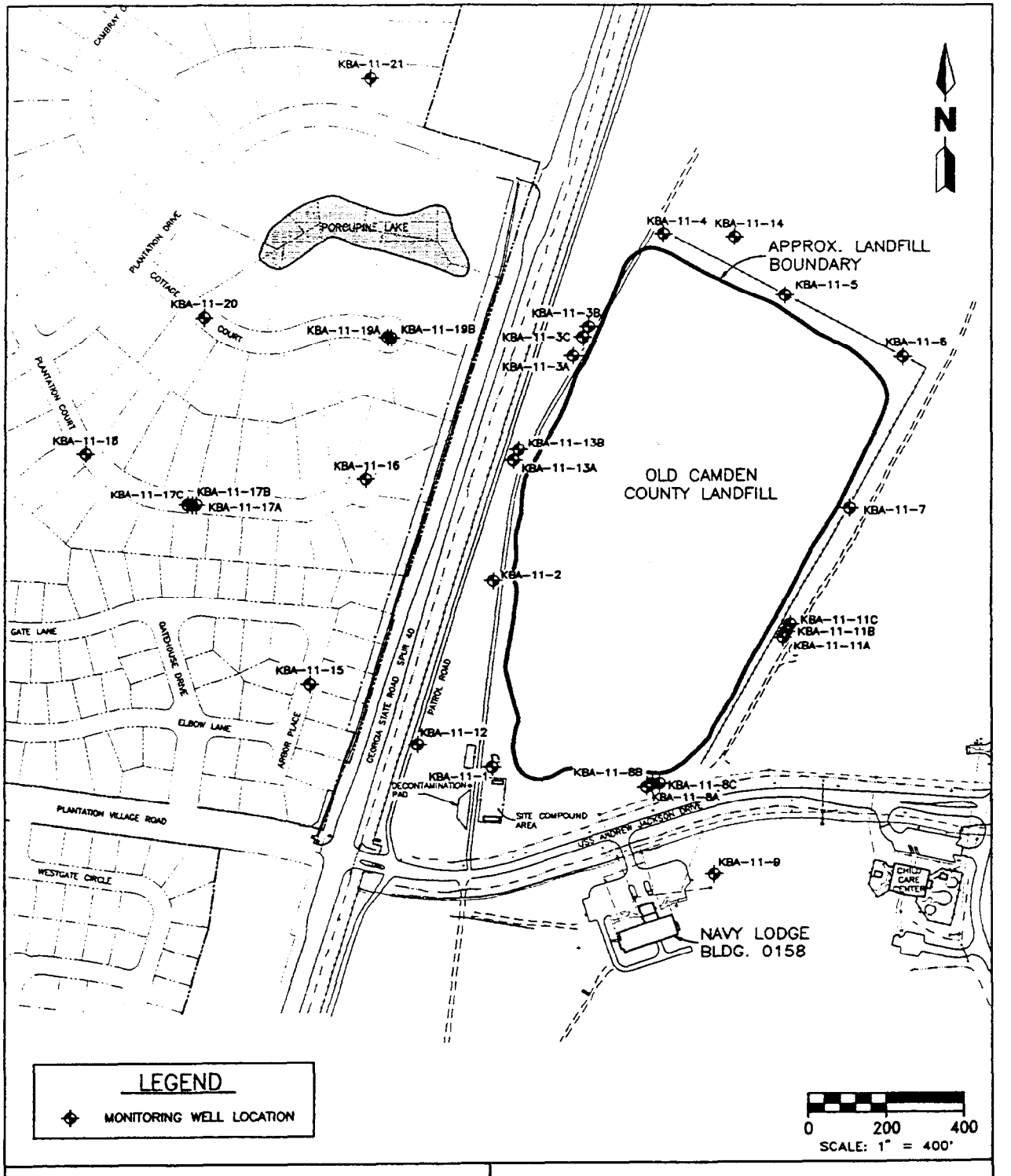


FIGURE 3-5

OFFSITE GROUNDWATER SAMPLE LOCATIONS

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_4-5\DMF\960110

and 10 SVOCs were detected in groundwater samples collected from five wells. Pesticides, PCBs, dibenzofurans, dioxins, and herbicides were not detected in any sample. Excluding phthalates, two wells (KBA-11-12 and KBA-11-13B) did not contain reportable concentrations of organic compounds.

2-Butanone and 4-methyl-2-pentanone were found at KBA-11-3A and KBA-11-3B, respectively. Each compound was only detected one time. The concentration of 2-butanone was estimated to be 38 J $\mu g/\ell$ and 4-methyl-2-pentanone was estimated to be 0.9 J $\mu g/\ell$. No other ketones were detected in any sample. Neither constituent was detected in more than one field event.

Chlorinated hydrocarbons were detected in the shallow zone at KBA-11-2, the mid zone at KBA-11-13A, and, farther north, the mid and deep zones at the KBA-11-3 well cluster. Fuel-related compounds show a similar distribution with the added detection of benzene, toluene, and 1,4-dichlorobenzene in the shallow zone at KBA-11-3A. Samples from well KBA-11-13A contain the highest concentrations of chlorinated hydrocarbons relative to all other monitoring wells. The highest concentrations were detected at KBA-11-13A where concentrations of tetrachloroethene and trichloroethene have been as high as 580 and 2,400 $\mu g/\ell$, respectively. Three compounds (chloroethane, tetrachloroethene, and vinyl chloride) were not detected in groundwater or liquid samples collected from within the landfill indicating no ongoing releases.

Phenols, naphthalene, and 3-nitroaniline were detected only in samples collected from KBA-11-13A. 3-Nitroaniline was only detected once and the concentration was only estimated to be 1 J $\mu g/\ell$. Naphthalene has been detected at KBA-11-13A consistently, with the maximum concentration being 47 $\mu g/\ell$. Phenols are common in other parts of the plume because they are fairly mobile in the environment. Unlike the chlorinated hydrocarbons discussed in the preceding paragraph, concentrations of phenols at KBA-11-13A are less than those detected in some of the subdivision wells farther downgradient. At KBA-11-13A the maximum concentration for a phenolic compound is 81 $\mu g/\ell$ (Table 3-12), whereas 4-methylphenol has been detected in the subdivision at concentrations as high as 670 J $\mu g/\ell$. Two of the compounds detected at KBA-11-13A (3-nitroaniline and 2,4-dimethylphenol) were not detected in groundwater samples collected from the landfill indicating the release is not ongoing.

Crooked River Plantation Subdivision. Refer to Table 3-11 for a list of wells located in the subdivision. Seventeen VOCs and seven SVOCs were detected in groundwater samples collected from 10 wells in the subdivision. Pesticides, PCBs, dibenzofurans, dioxins, and herbicides were not detected in any sample. Excluding phthalates and carbon disulfide, three wells (KBA-11-15, KBA-11-17A, and KBA-11-20) did not contain reportable concentrations of organic compounds.

Ketones were detected in samples obtained from five wells. In the mid zone, the number of detected compounds decreases with increasing distance from the landfill; only acetone and 4-methyl-2-pentanone have migrated as far west as KBA-11-18. These compounds are very soluble and do not tend to sorb to soil strongly, so transport in groundwater is not retarded to any significant degree. They are representative of the leading edge of the plume. Acetone was the only ketone detected in the deep zone.

Table 3-12
Ranges of Concentrations and Frequency of Detected Organic Analytes in Offsite Groundwater Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Constituent (units in $\mu g/\ell$)	Upgradient and Crossgradient					
	January 1994		April 1994		September 1994	
	Concentration Range	Frequency[1]	Concentration Range	Frequency[1]	Concentration Range	Frequency[1]
Volatile Organic Compounds						
Benzene	ND - 0.4 J	1/13	ND - 0.5 J	1/13	ND - 0.6 J	1/13
Carbon disulfide	ND	0/13	ND	0/13	ND - 19	7/13
1,4-Dichlorobenzene (VOA)[2]	ND	0/13	ND - 0.5 J	1/12	ND - 2	1/13
1,1-Dichloroethane	ND - 3	1/13	ND - 3	1/13	ND - 3	1/13
cis-1,2-Dichloroethene	ND - 2	1/12	ND - 2	1/12	ND - 2	1/13
Ethylbenzene	ND - 0.9 J	1/13	ND - 2	1/13	ND - 2	1/13
Methylene chloride	ND - 2	1/13	ND	0/13	ND - 2	1/13
2-Butanone	ND - 57 J	1/13	ND	0/13	ND	0/13
4-Methyl-2-pentanone	ND - 3 J	1/13	ND - 1 J	1/13	ND	0/13
Toluene	ND	0/13	ND	0/13	ND - 0.8 J	1/13
Trichloroethene	ND - 0.9 J	1/13	ND - 1	1/13	ND - 1	1/13
Semivolatile Organic Compounds						
bis(2-Ethylhexyl)phthalate	ND - 5 J	3/13	ND - 12	1/13	ND - 14	7/13
Butyl benzyl phthalate	ND - 2 J	1/13	ND	0/13	ND - 0.7 J	1/13
Di-n-butyl phthalate	ND	0/13	ND	0/13	ND - 0.7 J	1/13
1,4-Dichlorobenzene	ND	0/13	ND	0/13	ND - 0.9 J	1/13
Diethyl phthalate	ND - 1 J	1/13	ND - 1 J	4/13	ND - 1 J	1/13
Dimethyl phthalate	ND - 2 J	1/13	ND	0/13	ND	0/13
2-Methylphenol	ND	0/13	ND	0/13	ND - 1 J	1/13
4-Methylphenol	ND - 1 J	1/12	ND	0/13	ND - 2 J	1/13
Phenol	ND	0/13	ND	0/13	ND - 3 J	1/13
Pesticides						
Aldrin	ND	0/13	ND -0.006 NJ	1/13	ND	0/3
beta-BHC	ND	0/13	ND - 0.084 J	1/13	ND	0/3
gamma-BHC (Lindane)	ND	0/13	ND - 0.008 NJ	1/13	ND	0/3
4,4-DDD	ND	0/13	ND	0/13	ND - 0.02 NJ	1/3
Dieldrin	ND	0/13	ND	0/13	ND - 0.012 J	1/3
Heptachlor epoxide	ND	0/13	ND	0/13	ND - 0.01 NJ	1/3

See notes at end of table.

Table 3-12 (Continued)
Ranges of Concentrations and Frequency of Detected Organic Analytes in Offsite Groundwater Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Constituent (units in $\mu g/\ell$)	Western Perimeter of the Landfill					
	January 1994		April 1994		September 1994	
	Concentration Range	Frequency[1]	Concentration Range	Frequency[1]	Concentration Range	Frequency[1]
Volatile Organic Compounds						
Benzene	ND - 4	1/7	ND - 6	1/7	ND - 6	3/7
Carbon disulfide	ND - 10	1/7	ND	0/7	ND - 25	3/7
Chlorobenzene	ND - 0.8 J	1/7	ND - 3	1/7	ND - 3	1/7
Chloroethane	ND - 3	1/7	ND	0/7	ND	0/7
1,4-Dichlorobenzene (VOA)[2]	ND - 6	1/7	ND - 7	2/6	ND - 8	1/7
1,2-Dichloroethene (total)	2,900	1/1	1,800	1/1	NA	0/0
cis-1,2-Dichloroethene	ND - 12	2/6	ND - 18	2/6	ND - 700	3/7
Ethylbenzene	ND - 130	2/7	ND - 120	2/7	ND - 110	3/7
2-Butanone	ND - 38 J	1/7	ND	0/7	ND	0/7
4-Methyl-2-pentanone	ND	0/7	ND - 0.9 J	1/7	ND	0/7
Tetrachloroethene	ND	0/7	ND - 580	1/7	ND - 460	1/7
Toluene	ND - 170	3/7	ND - 89	3/7	ND - 120	2/7
Trichloroethene	ND - 300	1/7	ND - 2,400	2/7	ND - 770	2/7
Vinyl chloride	ND - 170	3/7	ND - 110 J	2/7	ND	0/7
Xylenes (total)	ND - 240	2/7	ND - 200	2/7	ND - 310	2/7
Semivolatile Organic Compounds						
bis(2-Ethylhexyl)phthalate	ND - 4 J	4/7	ND - 80	2/7	ND - 32	5/7
Butyl benzyl phthalate	ND	0/7	ND	0/7	ND - 1 J	1/7
Di-n-butyl phthalate	ND - 4 J	1/7	ND - 1.1 J	1/7	ND - 0.6 J	1/7
1,4-Dichlorobenzene	ND - 8 J	1/7	ND - 8 J	1/7	ND - 8 J	1/7
Diethyl phthalate	ND - 13	2/7	ND - 8 J	3/7	ND - 25	4/7
2,4-Dimethylphenol	ND - 54	1/7	ND - 19	1/7	ND - 81	1/7
2-Methylphenol	ND - 5 J	1/7	ND - 1.5 J	1/7	ND - 3 J	1/7
3-&4-Methylphenol	54	1/1	NA	0/0	NA	0/0
4-Methylphenol	ND	0/6	ND - 12	1/7	ND - 13	1/7
Naphthalene	ND - 34	1/7	ND - 47	1/7	ND - 16	1/7
3-Nitroaniline	ND	0/7	ND	0/7	ND - 1 J	1/7

See notes at end of table.

Table 3-12 (Continued)
Ranges of Concentrations and Frequency of Detected Organic Analytes in Offsite Groundwater Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Constituent (units in $\mu g/\ell$)	Crooked River Plantation Subdivision					
	January 1994		April 1994		September 1994	
	Concentration Range	Frequency[1]	Concentration Range	Frequency[1]	Concentration Range	Frequency[1]
Volatile Organic Compounds						
Acetone	ND - 320 J	2/10	ND - 120 J	2/10	ND - 660 J	3/10
Benzene	ND - 2	2/10	ND	0/10	ND - 0.9 J	1/10
Carbon disulfide	ND - 2	3/10	ND	0/10	ND - 30	5/10
Chloromethane	ND - 0.6 J	1/10	ND	0/10	ND	0/10
1,1-Dichloroethane	ND - 13	3/10	ND - 11	1/10	ND - 3	1/10
1,1-Dichloroethene	ND - 0.7 J	1/10	ND	0/10	ND	0/10
1,2-Dichloroethene (total)	ND	0/1	4.0 J	1/1	NA	0/0
cis-1,2-Dichloroethene	ND - 7	2/9	ND - 0.8 J	1/9	ND - 1	2/10
1,2-Dichloropropane	ND - 0.8 J	1/10	ND	0/10	ND	0/10
Ethylbenzene	ND - 5	1/10	ND	0/10	ND	0/10
2-Hexanone	ND - 6 J	1/10	ND	0/10	ND	0/10
Methylene chloride	ND - 7	1/10	ND - 11	2/10	ND	0/10
2-Butanone	ND - 380 J	2/10	ND - 200	1/10	ND	0/10
4-Methyl-2-pentanone	ND - 270	3/10	ND - 290	3/10	ND - 4 J	2/10
Toluene	ND - 23	1/10	ND - 24	1/10	ND - 3	1/10
Trichloroethene	ND - 0.6 J	1/10	ND	0/10	ND	0/10
Xylenes (total)	ND - 12	1/10	ND - 5.4 J	1/10	ND - 2	1/10
Semivolatile Organic Compounds						
bis(2-Ethylhexyl)phthalate	ND - 29	6/10	ND - 15	3/10	2 J - 570	10/10
Butyl benzyl phthalate	ND	0/10	ND - 0.6 J	1/10	ND	0/10
Di-n-butyl phthalate	ND - 4 J	2/10	ND	0/10	ND	0/10
Diethyl phthalate	ND - 8 J	1/10	ND - 0.5 J	1/10	ND	0/10
2-Methylphenol	ND - 8 J	1/10	ND	0/10	ND	0/10
4-Methylphenol	ND - 670	2/9	ND - 270	2/10	ND - 2 J	2/10
Phenol	ND - 100	1/10	ND - 40	3/10	ND	0/10

See notes at end of table.

Table 3-12 (Continued)
Ranges of Concentrations and Frequency of Detected Organic Analytes in Offsite Groundwater Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

[1] The first number represents the number of detections and the second number represents the number of samples analyzed. Primary and associated duplicate sample detections were counted as one.
[2] Analysis by U.S. Environmental Protection Agency SW-846 8240 (1986).

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
$\mu g/\ell$ = micrograms per liter.
ND = not detected.
VOA = volatile organic analyte.
J = estimated concentration.
NA = not analyzed.
BHC = benzene hexachloride.
NJ = presumptively present at estimated concentration.
4,4-DDD = 4,4'-dichlorodiphenyl dichloroethane.

Chlorinated hydrocarbons were detected in samples collected from five wells. The highest concentration detected was 13 $\mu g/\ell$ of 1,1-dichloroethane at KBA-11-16. Three of these compounds (chloromethane, 1,1-dichloroethene, and 1,2-dichloropropane) were not detected in groundwater or liquid samples collected from the landfill. 1,1-Dichloroethane and cis-1,2-dichloroethene were detected in the landfill, downgradient of the landfill, and in the subdivision. As with the ketones, the number of detected compounds in the mid zone decreases in the direction of groundwater flow; only one chlorinated hydrocarbon, 1,1-dichloroethane, was reported at KBA-11-18.

Aromatic hydrocarbons and phenols were detected only in the mid zone. Benzene, toluene, ethylbenzene, xylenes, and three phenols were reported at KBA-11-16 in January and April 1994. Fewer compounds were detected downgradient of the aromatic hydrocarbons, only benzene has migrated as far west as KBA-11-17B, while 4-methylphenol was the only phenolic compound detected at KBA-11-18.

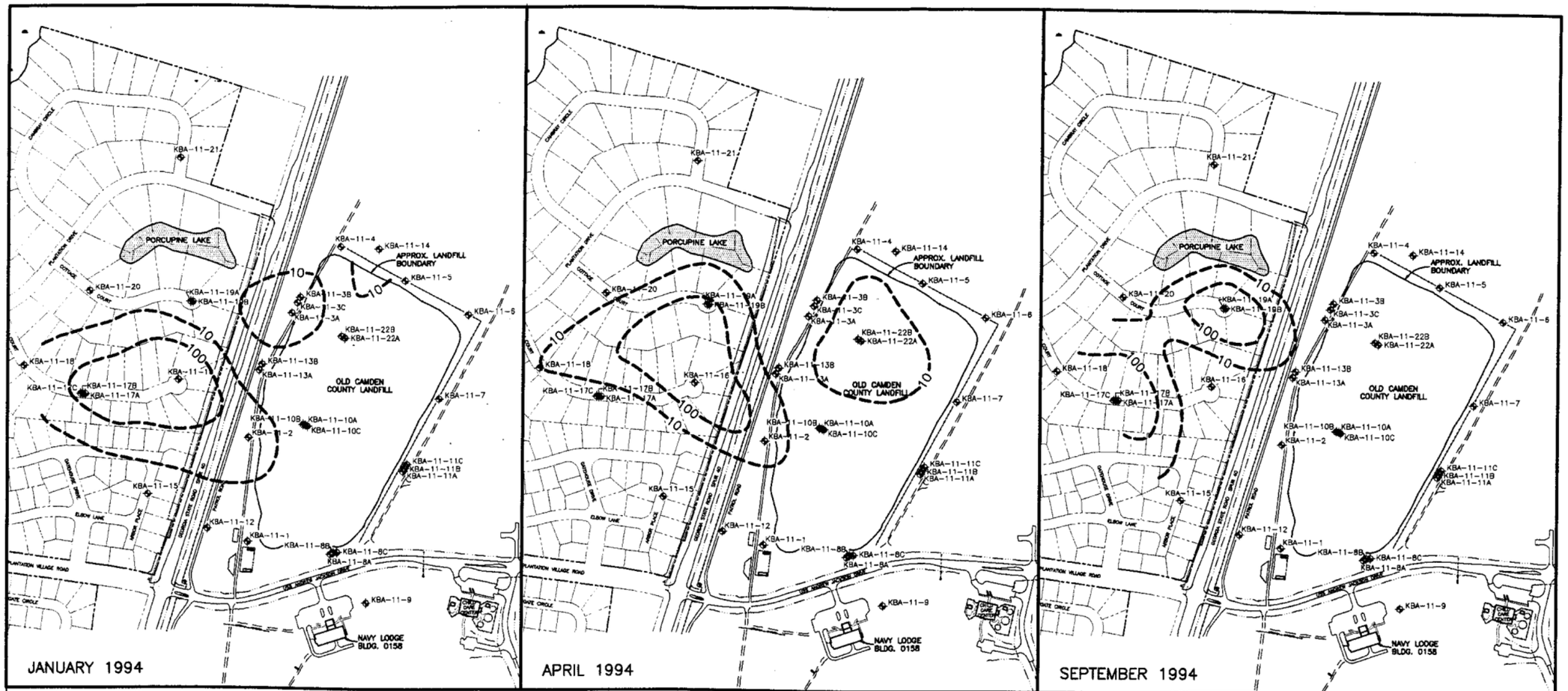
Benzene, toluene, xylenes (BTX), and phenol were also detected north of Porcupine Lake at KBA-11-21 during September 1994. BTX and phenol have not been reported previously at KBA-11-21. The potentiometric map developed from water level data collected during the September 1994 sampling event (Figure 2-6) shows groundwater flow in the vicinity of well KBA-11-21 has a stronger northern component than previously observed. The flow pattern observed during September 1994 could direct contaminated groundwater to KBA-11-21, causing low levels of BTX and phenol in samples from the well.

Contaminant Distributions and Extent. The highest concentrations and frequency of detected compounds were reported in samples collected from wells located along the western perimeter of the landfill and at KBA-11-16 in the Crooked River Plantation Subdivision. Contaminant concentrations in groundwater samples from the landfill are generally one to two orders of magnitude lower than those reported in samples collected from the perimeter and KBA-11-16. Ranges in concentrations and frequency of detected analytes are summarized in Table 3-12.

Figures 3-6 through 3-10 illustrate the maximum probable extent of contamination in planar view. The highest concentrations detected at any well cluster, regardless of sample depth, were used to construct these figures; therefore, these views do not account for variations in depth. Vertical extent is shown on the cross sections on Figures 3-11 through 3-15. Because concentrations between some sampling points varied by one or more orders of magnitude, the logarithmic values for contaminant concentrations were computed and then contoured for all plans and sections.

Method detection limits (MDLs) were used for contouring nondetected values and defining boundary conditions. A method detection limit is the minimum concentration that can be measured and reported based on MDL studies routinely conducted by the laboratory.

In some cases, the estimated limit of contamination may be less extensive than shown because nondetected values were less than the MDL and/or delineation samples were collected well beyond the outer limit of the plume. The latter is particularly true for contamination at the source where upgradient wells beyond the eastern perimeter of the landfill were used to define contaminant extent. Method detection limits are listed in Table 3-13. The highest MDL exhibited per chemical group was used when contouring total contaminants.



LEGEND

KBA-11-5 MONITORING WELL LOCATION

10 ESTIMATED ISOCONCENTRATION CONTOUR (ug/l)

KETONES

ACETONE

4-METHYL-2-PENTANONE

2-HEXANONE

2-BUTANONE

NOTE:
INTERIM MEASURE GROUNDWATER EXTRACTION AND TREATMENT BEGAN MARCH 1994.

N

0 250 500
SCALE: 1" = 500'

FIGURE 3-6

INTERPRETED PLUME PLAN VIEW
TOTAL KETONES IN GROUNDWATER

SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

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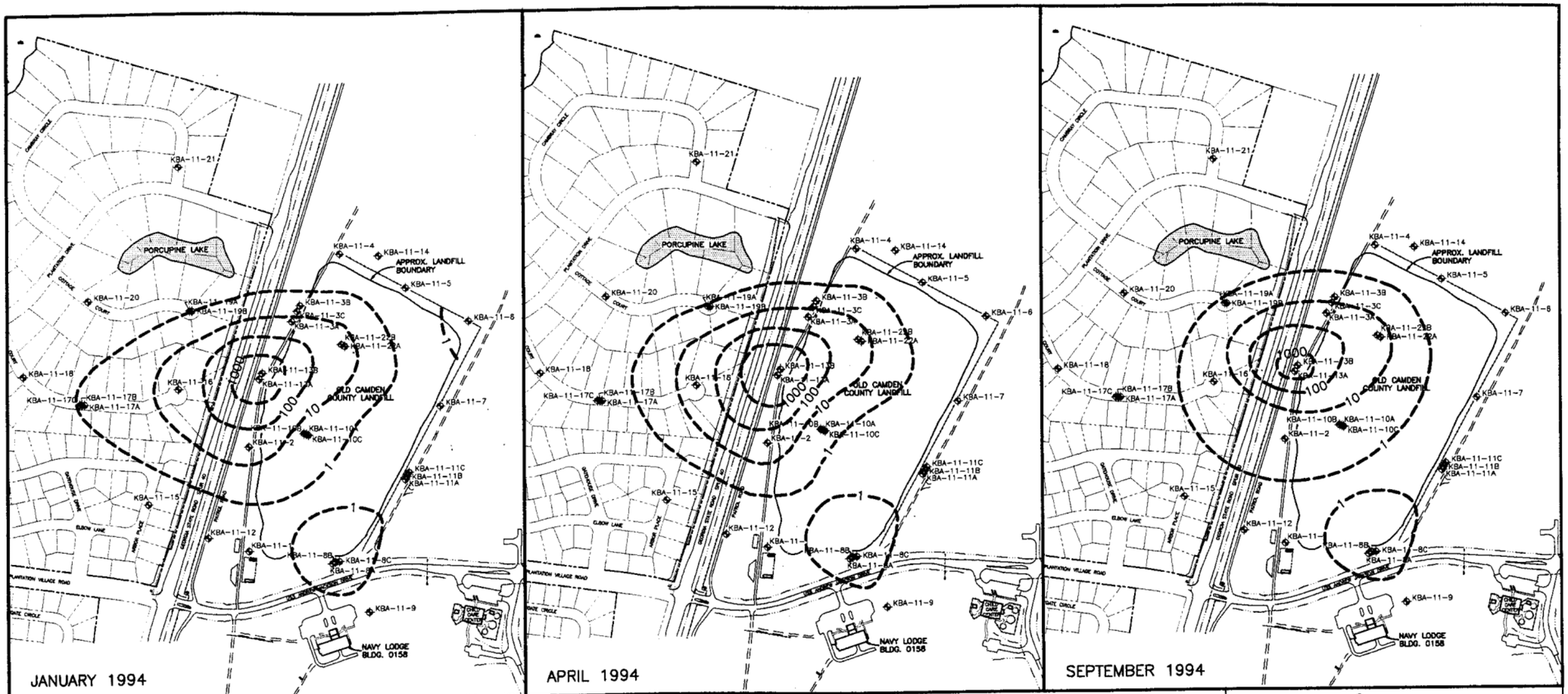


LEGEND

KBA-11-5 MONITORING WELL LOCATION

10 ESTIMATED ISOCONCENTRATION CONTOUR (ug/l)

CHLORINATED HYDROCARBONS

CHLOROETHANE	METHYLENE CHLORIDE
CHLOROMETHANE	TETRACHLOROETHENE
1,1-DICHLOROETHANE	TRICHLOROETHENE
1,1-DICHLOROETHENE	VINYL CHLORIDE
1,2-DICHLOROETHENE	

NOTE:
INTERIM MEASURE GROUNDWATER EXTRACTION AND TREATMENT BEGAN MARCH 1994.

N

0 250 500
SCALE: 1" = 500'

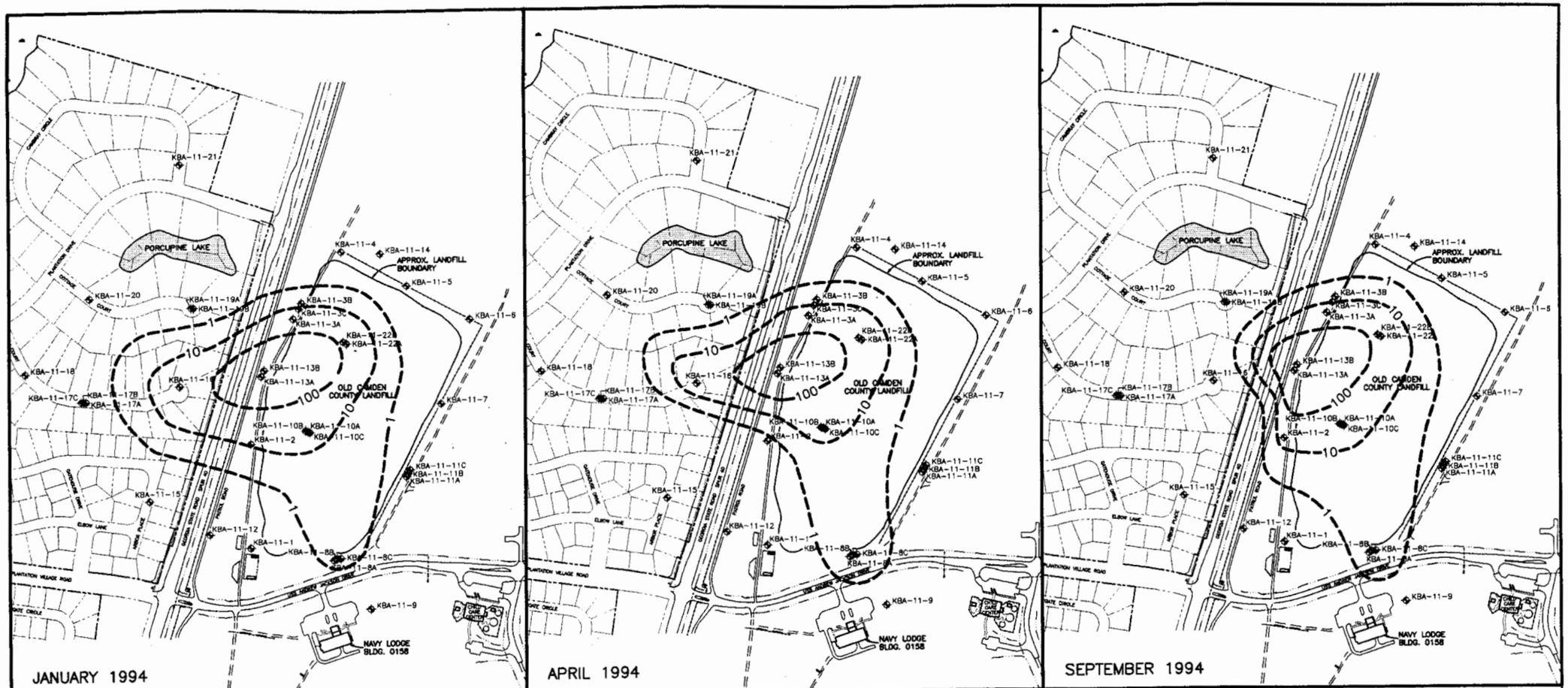
FIGURE 3-7

INTERPRETED PLUME PLAN VIEW
TOTAL CHLORINATED HYDROCARBONS
IN GROUNDWATER

SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_3-7\DMF\960111



LEGEND

KBA-11-5 MONITORING WELL LOCATION

10 ESTIMATED ISOCONCENTRATION CONTOUR (ug/l)

AROMATIC HYDROCARBONS

BENZENE	M-XYLENE
ETHYL BENZENE	P-XYLENE
TOLUENE	
O-XYLENE	

NOTE:
INTERIM MEASURE GROUNDWATER EXTRACTION AND TREATMENT BEGAN MARCH 1994.

N

0 250 500
SCALE: 1" = 500'

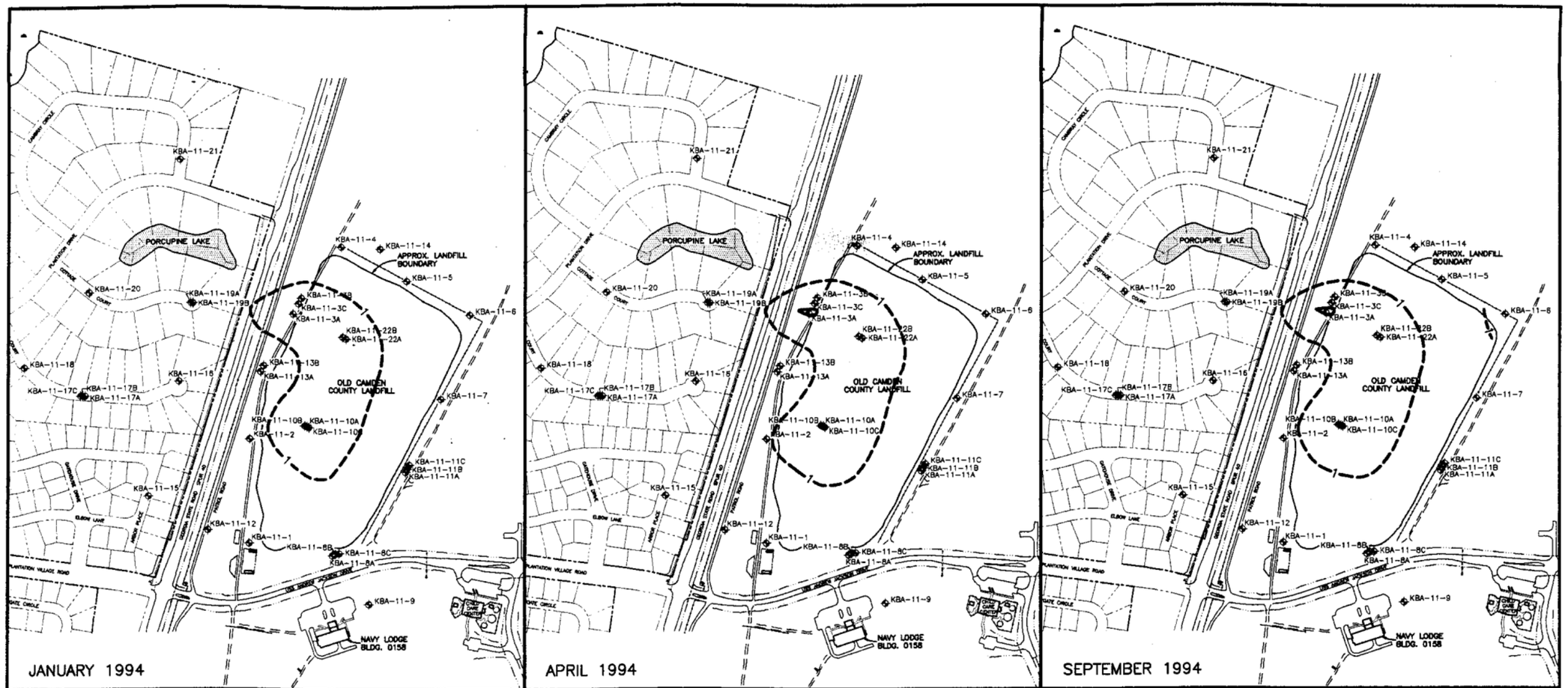
FIGURE 3-8

INTERPRETED PLUME PLAN VIEW
TOTAL AROMATIC HYDROCARBONS
IN GROUNDWATER

SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_3-8\DMF\960111



LEGEND

KBA-11-5 MONITORING WELL LOCATION

10 ESTIMATED ISOCONCENTRATION CONTOUR (ug/l)

CHLORINATED BENZENES

CHLOROBENZENE

1,4-DICHLOROBENZENE

NOTE:
INTERIM MEASURE GROUNDWATER EXTRACTION AND TREATMENT BEGAN MARCH 1994.

N

0 250 500
SCALE: 1" = 500'

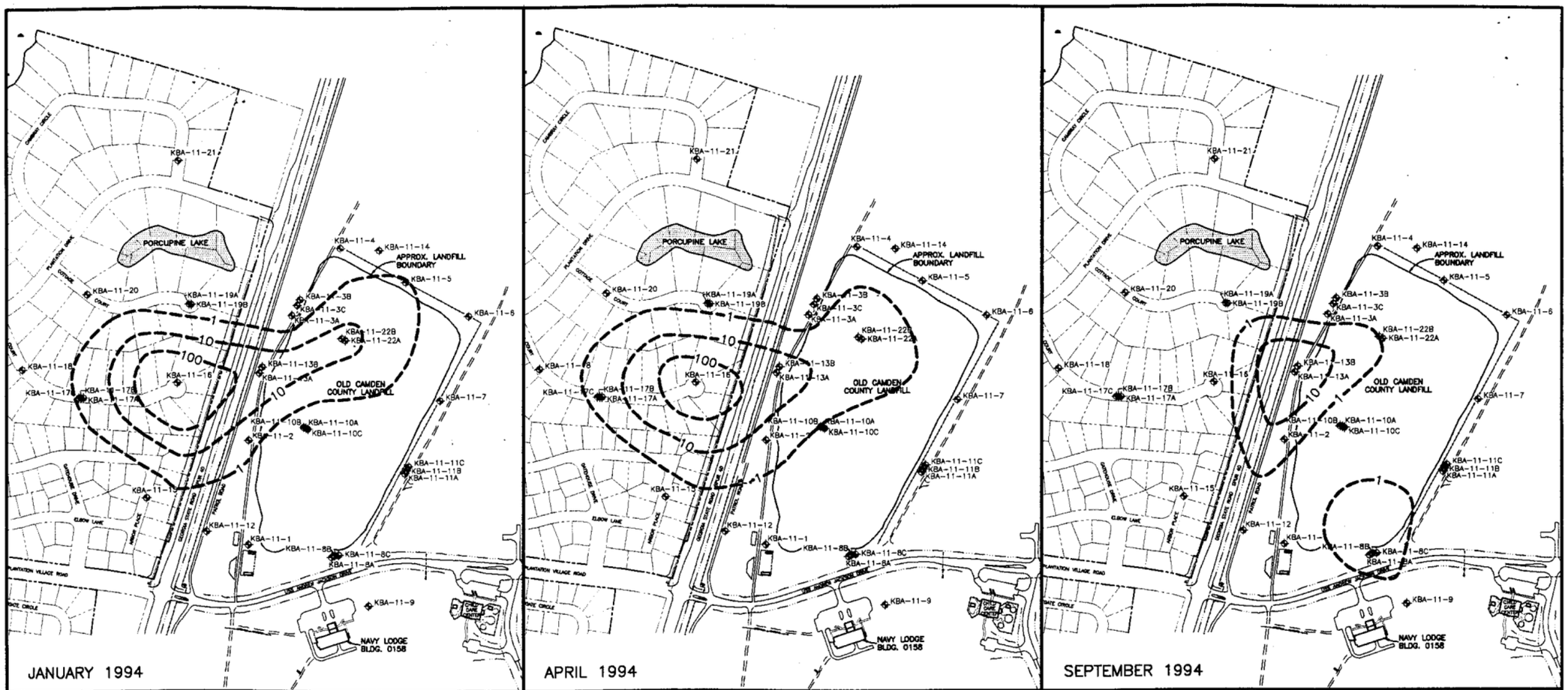
FIGURE 3-9

INTERPRETED PLUME PLAN VIEW
TOTAL CHLORINATED BENZENES
IN GROUNDWATER

SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_3-9\DMF\960111



LEGEND

KBA-11-5 MONITORING WELL LOCATION

10 ESTIMATED ISOCONCENTRATION CONTOUR (ug/l)

PHENOLS

2,4-DIMETHYLPHENOL

2-METHYLPHENOL

4-METHYLPHENOL

PHENOL

NOTE:
INTERIM MEASURE GROUNDWATER EXTRACTION AND TREATMENT BEGAN MARCH 1994.

N

0 250 500
SCALE: 1" = 500'

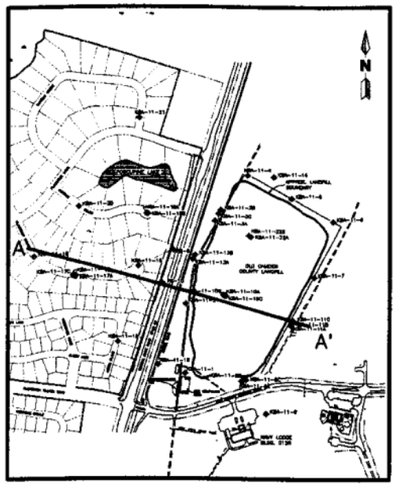
FIGURE 3-10

INTERPRETED PLUME PLAN VIEW
TOTAL PHENOLS IN GROUNDWATER

SUPPLEMENTAL RFI REPORT
FOR SITE 11

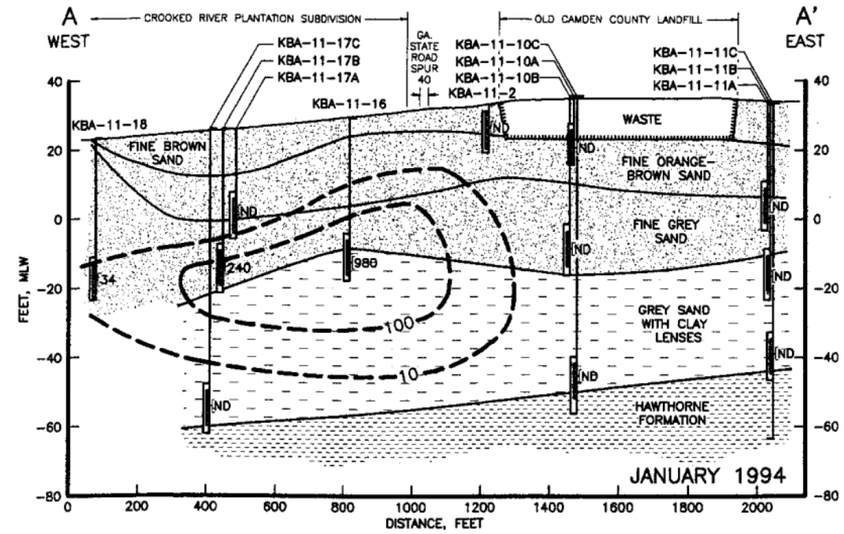
NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_3-10\DMF\960111

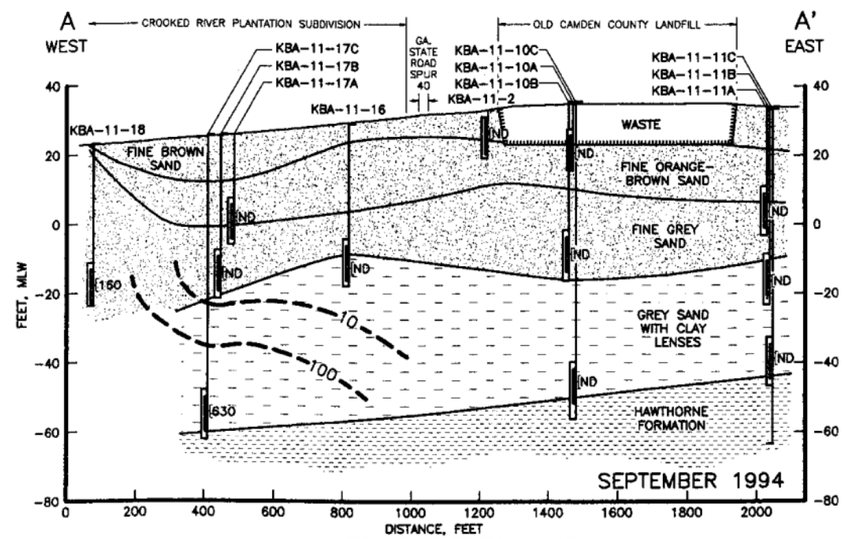


CROSS SECTION LOCATION MAP

SCALE: 1" = 1000'



NOTE: VERTICAL EXAGGERATION = 10X
SCALE: 1" = 40' VERTICAL, 1" = 400' HORIZONTAL



NOTE: VERTICAL EXAGGERATION = 10X
SCALE: 1" = 40' VERTICAL, 1" = 400' HORIZONTAL

LEGEND

- ESTIMATED DEPTH AND LOCATION OF LANDFILL
- CONTACT BETWEEN SOIL UNITS
- SCREENED INTERVAL
- 10 — ESTIMATED ISOCONCENTRATION CONTOUR (ug/l)
- 100 — TOTAL KETONE CONCENTRATIONS (ug/l)
- ND — NOT DETECTED

NOTE:
CONTACTS ARE BASED ON SOIL DATA OBTAINED FROM BORINGS AND PIEZOCONES. PIEZOCONE LOCATIONS ARE NOT SHOWN ON THESE SECTIONS. GEOLOGY IS DESCRIBED IN ABB-ES, 1993a.

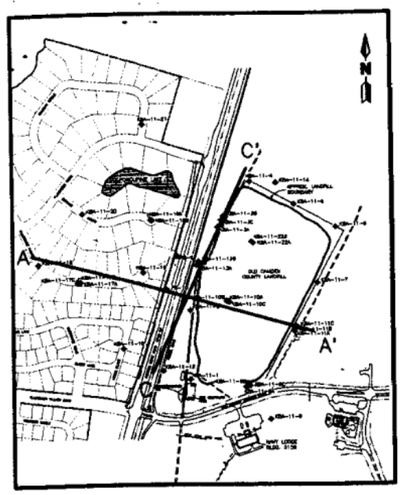
FIGURE 3-11

CROSS SECTION A-A'
TOTAL KETONES IN GROUNDWATER

SUPPLEMENTAL RFI REPORT
FOR SITE 11

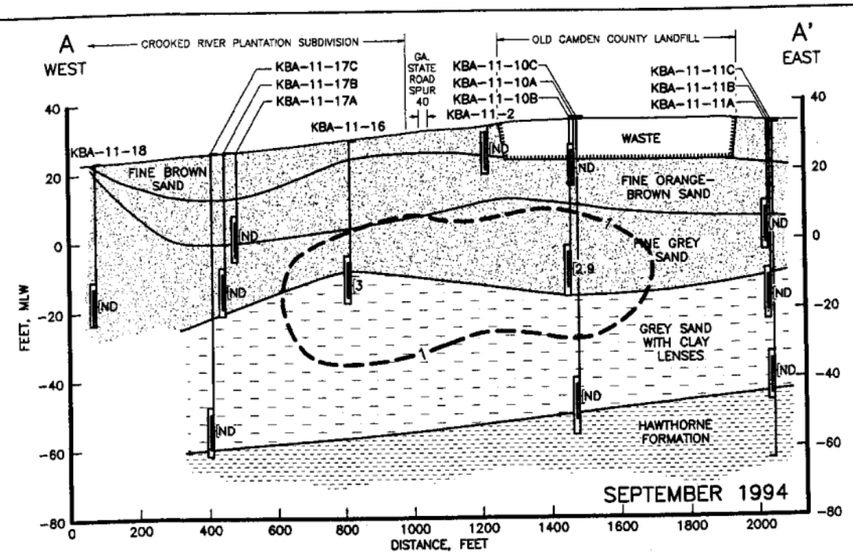
NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_3-11\DMF\960126

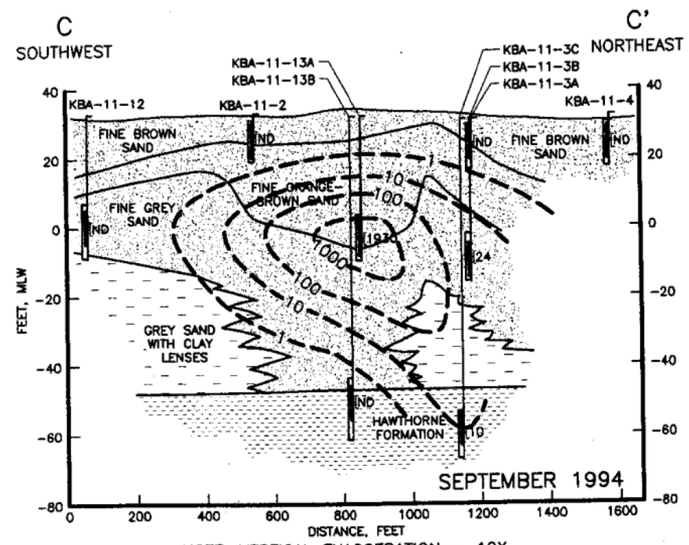


CROSS SECTION LOCATION MAP

SCALE: 1" = 1000'



NOTE: VERTICAL EXAGGERATION = 10X
SCALE: 1" = 40' VERTICAL, 1" = 400' HORIZONTAL



NOTE: VERTICAL EXAGGERATION = 10X
SCALE: 1" = 40' VERTICAL, 1" = 400' HORIZONTAL

LEGEND

- ESTIMATED DEPTH AND LOCATION OF LANDFILL
- CONTACT BETWEEN SOIL UNITS
- SCREENED INTERVAL
- 10 — ESTIMATED ISOCONCENTRATION CONTOUR (ug/l)
- 100 — TOTAL CHLORINATED HYDROCARBON CONCENTRATIONS (ug/l)
- ND — NOT DETECTED

NOTE:
CONTACTS ARE BASED ON SOIL DATA OBTAINED FROM BORINGS AND PIEZOCONES. PIEZOCONE LOCATIONS ARE NOT SHOWN ON THESE SECTIONS. GEOLOGY IS DESCRIBED IN ABB-ES, 1993a.

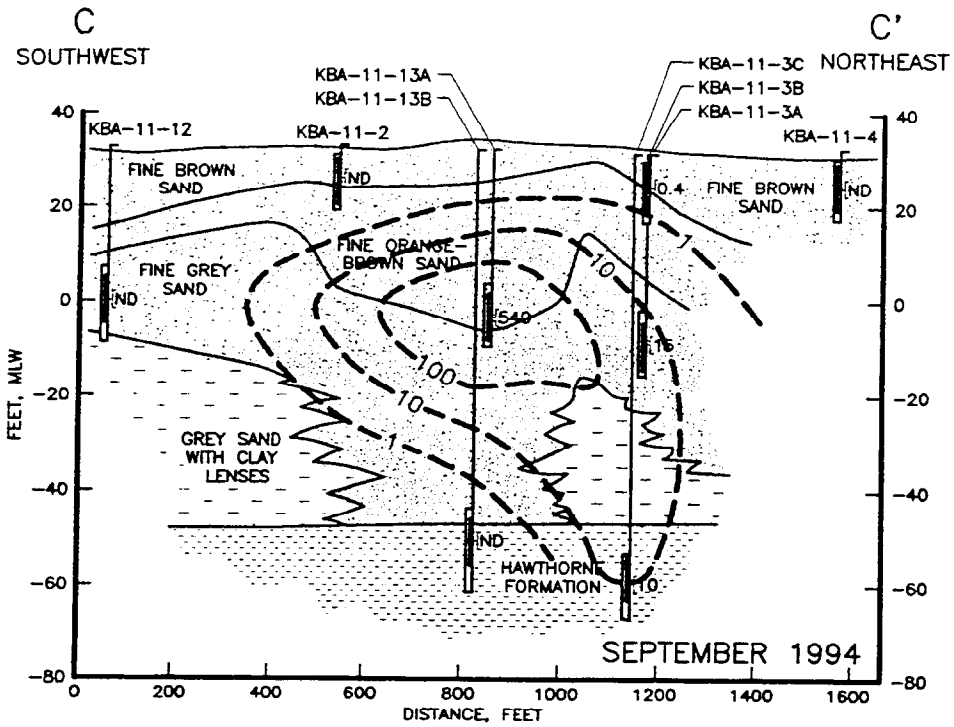
FIGURE 3-12

CROSS SECTIONS A-A' AND C-C'
TOTAL CHLORINATED HYDROCARBONS
IN GROUNDWATER

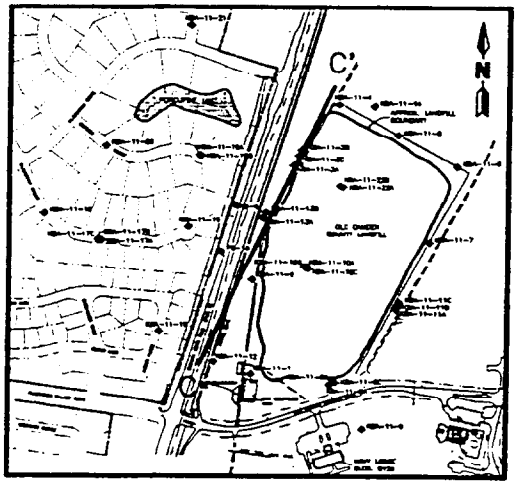
SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_3-12\DMF\960112



NOTE: VERTICAL EXAGGERATION = 10X
SCALE: 1" = 40' VERTICAL, 1" = 400' HORIZONTAL



CROSS SECTION LOCATION MAP

SCALE: 1" = 1000'

LEGEND

- CONTACT BETWEEN SOIL UNITS
- SCREENED INTERVAL
- —10— ESTIMATED ISOCONCENTRATION CONTOUR (ug/l)
- 100 TOTAL AROMATIC HYDROCARBON CONCENTRATIONS (ug/l)
- ND NOT DETECTED

NOTE:
CONTACTS ARE BASED ON SOIL DATA OBTAINED FROM BORINGS AND PIEZOCONES. PIEZOCONE LOCATIONS ARE NOT SHOWN ON THESE SECTIONS. GEOLOGY IS DESCRIBED IN ABB-ES, 1993a.

FIGURE 3-13

CROSS SECTION C-C'
TOTAL AROMATIC HYDROCARBONS
IN GROUNDWATER

SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

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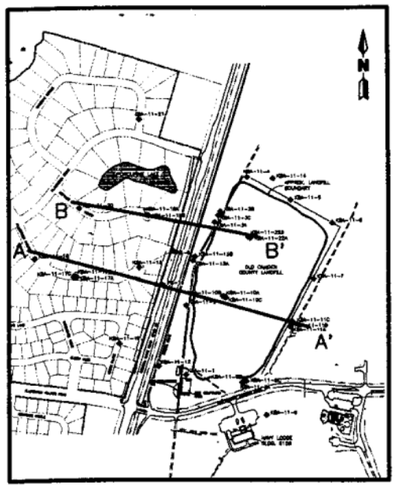
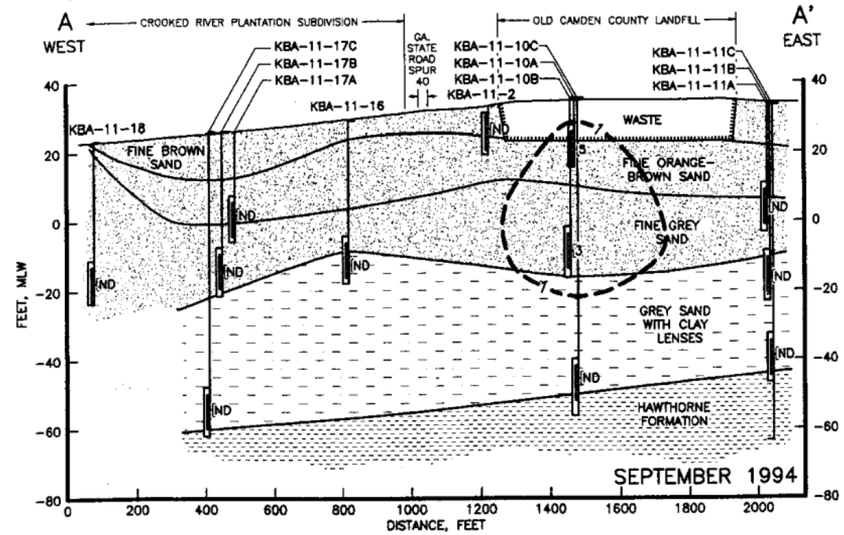
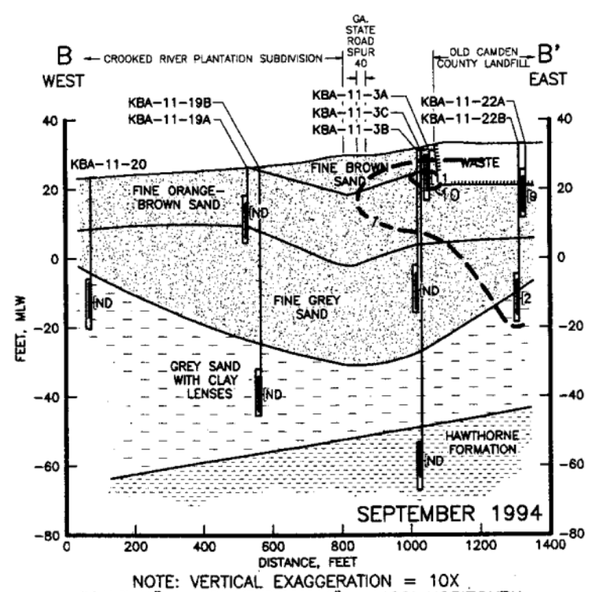


CROSS SECTION LOCATION MAP

SCALE: 1" = 1000'



NOTE: VERTICAL EXAGGERATION = 10X
SCALE: 1" = 40' VERTICAL, 1" = 400' HORIZONTAL



NOTE: VERTICAL EXAGGERATION = 10X
SCALE: 1" = 40' VERTICAL, 1" = 400' HORIZONTAL

LEGEND

- ESTIMATED DEPTH AND LOCATION OF LANDFILL
- CONTACT BETWEEN SOIL UNITS
- SCREENED INTERVAL
- 10 — ESTIMATED ISOCONCENTRATION CONTOUR (ug/l)
- 100 — TOTAL CHLORINATED BENZENE CONCENTRATIONS (ug/l)
- ND — NOT DETECTED

NOTE:
CONTACTS ARE BASED ON SOIL DATA OBTAINED FROM BORINGS AND PIEZOCONES. PIEZOCONE LOCATIONS ARE NOT SHOWN ON THESE SECTIONS. GEOLOGY IS DESCRIBED IN ABB-ES, 1993a.

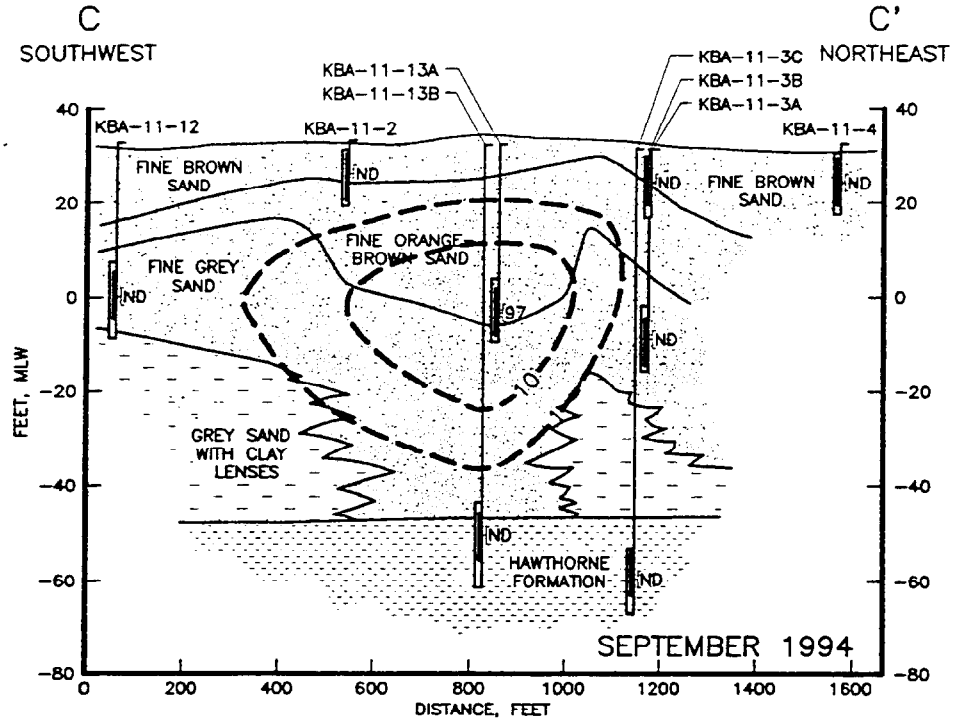
FIGURE 3-14

CROSS SECTIONS A-A' AND B-B'
TOTAL CHLORINATED BENZENES
IN GROUNDWATER

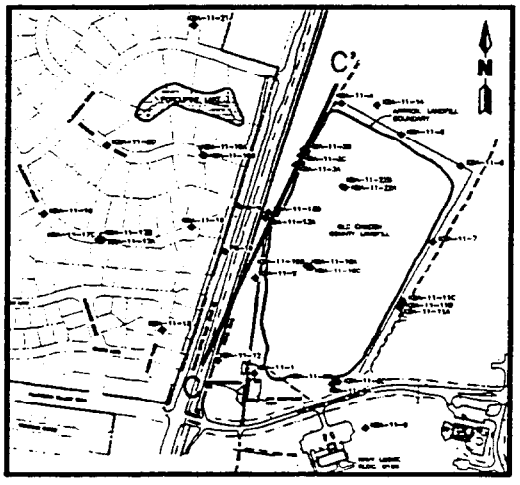
SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_3-14\DMF\960112



NOTE: VERTICAL EXAGGERATION = 10X
SCALE: 1" = 40' VERTICAL, 1" = 400' HORIZONTAL



CROSS SECTION LOCATION MAP

SCALE: 1" = 1000'

LEGEND

- CONTACT BETWEEN SOIL UNITS
- SCREENED INTERVAL
- 10 ESTIMATED ISOCONCENTRATION CONTOUR (ug/l)
- 100 TOTAL PHENOL CONCENTRATIONS (ug/l)
- ND NOT DETECTED

NOTE:
CONTACTS ARE BASED ON SOIL DATA OBTAINED FROM BORINGS AND PIEZOCONES. PIEZOCONE LOCATIONS ARE NOT SHOWN ON THESE SECTIONS. GEOLOGY IS DESCRIBED IN ABB-ES, 1993a.

FIGURE 3-15

CROSS SECTION C-C'
TOTAL PHENOLS IN GROUNDWATER

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_3-15\DMF\960112

Table 3-13
Method Detection Limits for Selected Organic Compounds

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Compound	Method Detection Limit ($\mu g/\ell$)[1]
Ketones	
Acetone	4.43
2-Butanone	[2]4.88
4-Methyl-2-pentanone	3.02
2-Hexanone	4.59
Chlorinated Hydrocarbons	
Chloroethane	0.23
Chloromethane	0.22
1,1-Dichloroethane	0.15
1,1-Dichloroethene	0.20
1,2-Dichloroethene (total)	0.18
cis-1,2-Dichloroethene	0.07
trans-1,2-Dichloroethene	0.14
Methylene chloride	[2]0.41
Tetrachloroethene	0.09
Trichloroethene	0.18
Vinyl chloride	0.20
Aromatic Hydrocarbons	
Benzene	0.09
Ethylbenzene	0.09
Toluene	0.06
Xylene (total)	[2]0.29
Chlorinated Benzenes	
Chlorobenzene	0.07
1,4-Dichlorobenzene	[2]0.13
Polycyclic Aromatic Hydrocarbons	
Naphthalene	[2]0.5
Phenols	
2,4-Dimethylphenol	[2]0.5
2-Methylphenol	0.5
4-Methylphenol	0.5
Phenol	0.5

[1] Method detection limits provided by Quanterra Laboratory.
[2] Concentration used for contouring nondetected values and defining boundary conditions.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
$\mu g/\ell$ = micrograms per liter.

The distribution and extent of contamination at Site 11 are summarized in this section by chemical group, and discussed relative to time based on the three field events. The most significant changes occurred after the April 1994 field effort when long-term operation of the interim corrective measure groundwater remediation system was implemented; over 5 million gallons of contaminated groundwater were pumped from the aquifer between April 5, 1994, and the September 1994 field event for treatment and containment of volatile organic constituents.

Ketones. Ketone-contaminated groundwater forms an east-west trending plume west of the landfill beneath the subdivision. Based on the available data, the plume is estimated to extend beyond KBA-11-18 to the west and southwest. Previous investigations, upon which the location for KBA-11-18 was selected, did not indicate contaminated groundwater as far west as KBA-11-18. Ketones are very mobile in the environment and are on the leading edge of the plume. Elsewhere, the maximum probable areal extent is relatively well defined by the existing, mid-level delineation wells (see Figure 3-6). The highest concentrations were detected in the mid zone at KBA-11-16 in January and April 1994. In September 1994, however, the highest concentrations were detected in the deep zone (see Figure 3-11).

Isolated occurrences of 2-butanone and 4-methyl-2-pentanone at KBA-11-3 in January and April 1994, respectively, and acetone at KBA-11-22B in April 1994, suggest a second, smaller plume in the shallow and mid zones at the northwest corner of the landfill. 2-Butanone was also detected in the mid zone at KBA-11-14 in January 1994, but because plume-related contaminants have not been found at location KBA-11-14 and 2-butanone is a common laboratory artifact chemical, this is probably unrelated to the site. A fourth area of localized ketone contamination was detected at KBA-11-8B in January and April 1994. None of these smaller plumes were detected in September 1994.

Chlorinated Hydrocarbons. The chlorinated hydrocarbons are centered on the western perimeter of the landfill (see Figure 3-7). In January 1994, these compounds extended west beyond KBA-11-18, but by April 1994, concentrations at this well had dropped below detection limits. Concentrations of chlorinated hydrocarbons decreased over time in the subdivision at location KBA-11-16 and at other wells (see Figure 3-16). However, not all VOC concentrations decreased (e.g., aromatic hydrocarbons) at the locations shown on Figure 3-16. From January to September 1994, the extent of chlorinated hydrocarbon has decreased (see Figure 3-7). Based on the September 1994 data, the chlorinated hydrocarbons are presently estimated to extend approximately 500 feet west of the NSB Kings Bay property line.

As shown on the cross sections on Figure 3-12, the chlorinated hydrocarbons reach a maximum, estimated depth of 65 feet bls (-40 mlw) beneath the subdivision. Along the western perimeter of the landfill, these compounds are shown to occur at least 25 feet deeper, although purging may have pulled contaminants downward into the well screen at KBA-11-3C, where purging causes the well to go dry. The highest, detected concentrations occur in the mid zone at KBA-11-13A.

Aromatic hydrocarbons. The horizontal extent of aromatic hydrocarbons in groundwater generally mimics that of the chlorinated hydrocarbons. Aromatic hydrocarbon concentrations, however, are about one order of magnitude less than

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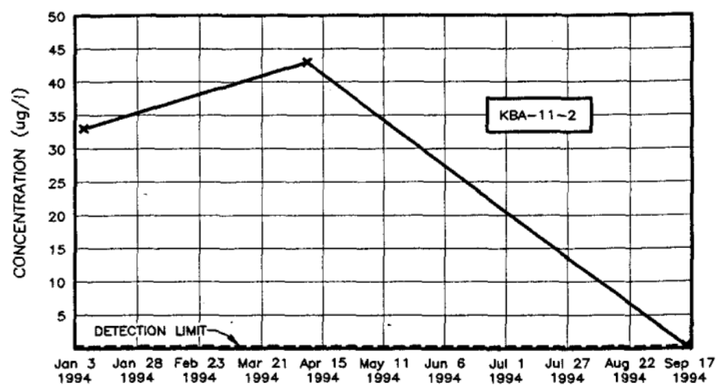
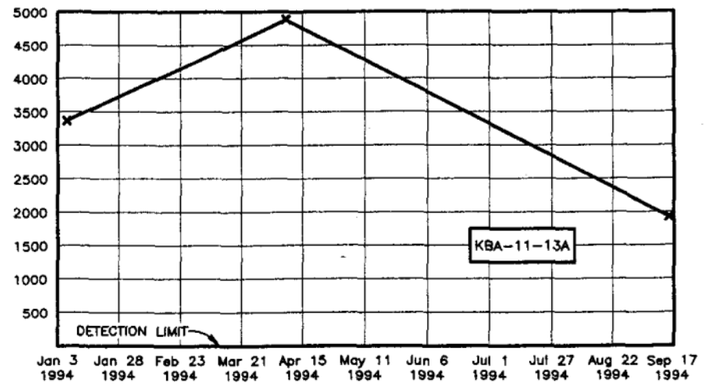
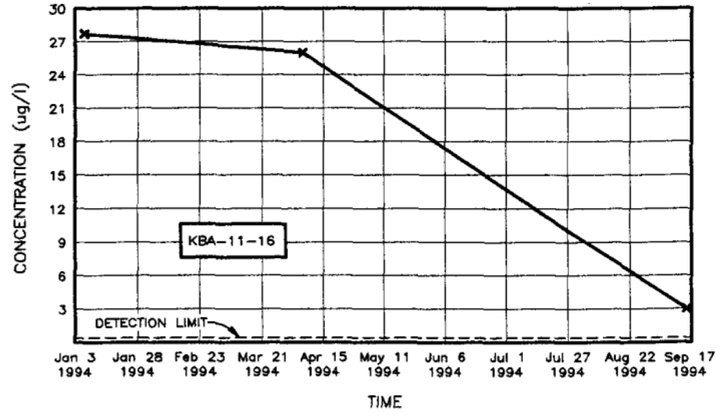




LEGEND

× TOTAL CHLORINATED HYDROCARBONS

NOTE:
METHOD DETECTION LIMITS ARE SUMMARIZED IN SECTION 3.2.1 OF THIS REPORT.



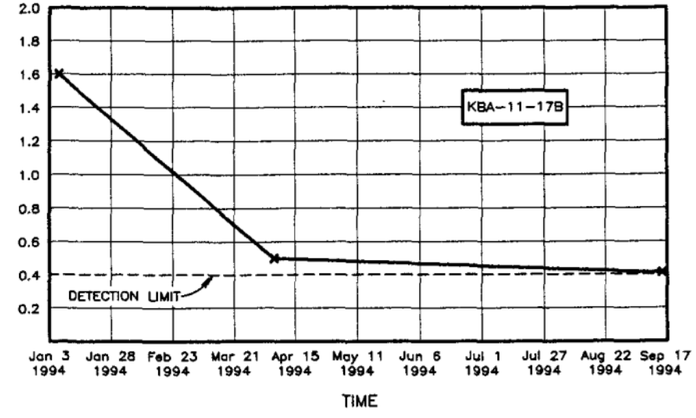


FIGURE 3-16

CONCENTRATION vs TIME
TOTAL CHLORINATED HYDROCARBONS
IN GROUNDWATER

SUPPLEMENTAL RFI REPORT
FOR SITE 11

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

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chlorinated hydrocarbon levels. The aromatic hydrocarbons are centered on the western perimeter of the landfill and extend approximately 250 feet west of the NSB Kings Bay property line based on the September 1994 data.

Unlike the chlorinated hydrocarbons, aromatic VOCs were detected in the shallow wells on the western perimeter of the landfill, although the highest, detected concentrations occur in the mid zone at KBA-11-13A. Based on the cross section on Figure 3-13, the aromatic hydrocarbons are shown to extend at least 90 feet bls (-60 mlw) beneath the landfill perimeter at KBA-11-3. Aromatic hydrocarbons were not detected at the deep wells in the subdivision.

Aromatic hydrocarbons were also detected in the mid zone south of the landfill at KBA-11-8B. The extent of contamination at this location is estimated to be relatively limited as discussed previously. Isolated occurrences of aromatic hydrocarbons elsewhere are low concentration, one-time detections which have not been confirmed.

Chlorinated benzenes. The pattern of contamination by chlorinated benzenes is generally similar to that of the aromatic hydrocarbons except that the extent of contamination is not as widespread, presumably due to the lower mobility of these compounds. Chlorinated benzenes have not been detected in the subdivision and their maximum extent in the downgradient direction is estimated to be less than 100 feet west of the NSB Kings Bay property line in the Spur 40 ROW (see Figure 3-9). The maximum vertical extent is interpreted to be about 25 feet bls along the western perimeter and approximately 60 feet bls in the landfill (see Figure 3-14).

Phenols. The overall distribution of phenols appears similar to that of the hydrocarbons (see Figure 3-10) except that the phenolic compounds are generally confined to mid-zone wells. (There are two exceptions: 4-methylphenol and phenol were detected at low concentrations in groundwater samples from one cross gradient, shallow well [KBA-11-5] and one deep well [KBA-11-10C], respectively. Neither compound was detected more than once.) The occurrence of phenols is sparse. They are typically detected at only three or four locations outside the landfill. The highest concentrations were detected at KBA-11-16 in the early monitoring rounds, but shifted east to the western perimeter of the landfill in September 1994. The extent of phenol-contaminated groundwater has also decreased with each sampling round so that the western limit is now estimated to extend no more than 150 feet west of the NSB Kings Bay property line. The maximum vertical extent is interpreted to be less than about 75 feet bls (see Figure 3-15).

3.2.2 Characterization of Offsite Subsurface Soil Eleven subsurface soil samples and two duplicates were collected for chemical analysis of TCL and TAL or Appendix IX constituents and sulfide to evaluate the nature and extent of offsite soil contamination (refer to Table A-1, Appendix A, for analytical fractions). Selected samples were also tested for biological treatability and fate and transport analysis. Contaminant characteristics are summarized below. Biological treatability conditions and parameters analyzed for fate and transport parameters are summarized in the July 1994 technical memorandum entitled 1993 Field Program and January 1994 Groundwater Sampling Event for Site 11, Old Camden County Landfill. Fate and transport are discussed in Chapter 5.0.

Subsurface soils were collected at six borings between October 23 and November 20, 1994. Sample designation, depth, and date are summarized in Table 3-14. Figure 3-17 provides sample locations.

Analytical results are discussed in this section according to sample location. Concentration ranges and frequencies of detection are provided in Table 3-15. Analytical results are summarized in Appendix B and provided in full in Appendix C.

Upgradient. Four VOCs were detected in the subsurface soil samples collected from KBA-11-11C. SVOCs, pesticides, and PCBs were not identified in any sample. 2-Butanone and toluene were detected in all samples, while xylenes were reported only in the soil collected from 25 to 27 feet bls. Carbon disulfide, a naturally-occurring constituent (see Subsection 3.3.1), was detected at two sampling intervals.

Western Perimeter of the Landfill. Eight VOCs and one SVOC (bis(2-ethylhexyl)-phthalate) were detected in subsurface soil samples obtained from five locations along the western perimeter of the landfill. Pesticides and PCBs were not identified in any sample. One compound (carbon disulfide) is attributed to natural causes rather than a release at the landfill while bis(2-ethylhexyl)-phthalate is considered a laboratory or sampling artifact.

Acetone was reported at 30 $\mu g/\ell$ in soils collected 15 feet bls (14 feet mlw) at KBA-PS-09. The areal extent of ketone-contaminated soils at this depth is estimated to be limited to the approximate vicinity of KBA-11-3 based on the areal extent of contaminated groundwater in the shallow zone (see Figure 3-6). Soils collected from 15 feet bls at KBA-PS-10, well beyond the estimated limit of contaminated groundwater in the shallow zone, did not contain detectable concentrations of ketones.

Chlorinated and aromatic hydrocarbons and ketones were detected in samples obtained from 25 feet bls from borings at KBA-11-13A, KBA-PS-10, and KBA-PS-9 (only toluene was reported at more than one location). Concentrations of individual analytes are low, ranging from 3 J to 44 $\mu g/kg$, except for acetone at KBA-PS-9 at a concentration of 320 $\mu g/kg$. The samples were collected at the top of the mid-level plume of contaminated groundwater.

VOCs were not detected in the deepest soil sample collected from 40 to 42 feet bls (approximately -8 mlw) at KBA-11-13A. This depth may mark the bottom of groundwater contamination, at least at this well; organic compounds were not detected in water samples collected from KBA-11-13B that is screened below KBA-11-13A.

Crooked River Plantation Subdivision. Five VOCs and one SVOC were detected in subsurface soils collected from within the surficial aquifer at two locations in Crooked River Plantation Subdivision. No other VOCs or SVOCs were detected in these soils, nor were pesticides or PCBs observed in any sample. Carbon disulfide is attributed to natural causes rather than a release at the landfill.

4-Methyl-2-pentanone was detected in the sample obtained from KBA-11-19A, while toluene, 4-methylphenol, and three ketones (2-hexanone, 2-butanone, and 4-methyl-2-pentanone) were reported in soils at KBA-11-16. The highest concentrations were detected in the samples obtained from KBA-11-16, where only 2-butanone and

Table 3-14
Offsite Subsurface Soil Sampling Program

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Sample Date	Boring ID	Boring Location	Total Boring Depth (feet bls)	Sample ID[1]	Sample Depth (feet bls)
10/23/93	KBA-11-11C	Upgradient and Crossgradient	96.8	SB10125 SB10125D	25 to 27
				SB10145	45 to 47
				SB10175	75 to 77
11/20/93	KBA-11-13A	Western Perimeter of Landfill	41.8	SB10425 SB10425D	25 to 27
				SB10440	40 to 42
11/03/93	KBA-PS-09	Western Perimeter of the Landfill (Spur 40 Right-of-Way)	35	SBPS915	15 to 17
				SBPS925	25 to 27
11/19/93	KBA-PS-10	Western Perimeter of the Landfill (Spur 40 Right-of-Way)	75	SBPS1015	15 to 17
				SBPS1025	25 to 27
11/18/93	KBA-11-16	Crooked River Plantation Subdivision	46.9	SB10840	40 to 42
11/18/93	KBA-11-19A	Crooked River Plantation Subdivision	21.8	SB11220	20 to 22

[1] Quality assurance and quality control samples are not included in this table.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
ID = identification.
bls = below land surface.
D = duplicate sample.

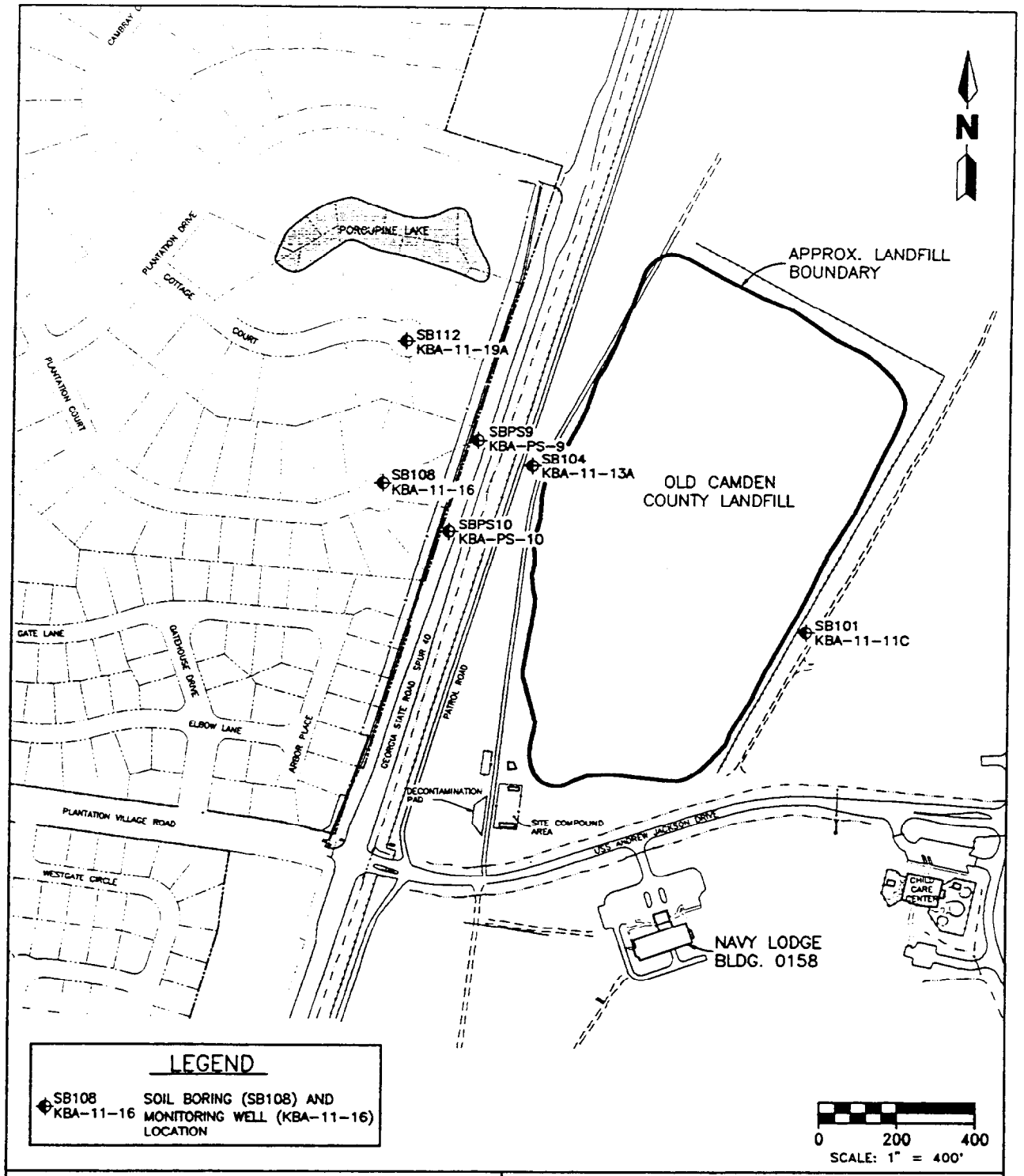

FIGURE 3-17

OFFSITE SUBSURFACE SOIL SAMPLE LOCATIONS

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

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Table 3-15
Ranges of Concentrations and Frequency of Detected Analytes in *Offsite* Subsurface Soil Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Constituent (units of μg/kg)	Concentration Range	Frequency[1]
Volatile Organic Compounds		
Acetone	ND - 320	2/11
Carbon disulfide	ND - 12 J	6/11
1,1-Dichloroethane	ND - 3 J	1/11
1,2-Dichloroethene (total)	ND - 4 J	1/11
Ethylbenzene	ND - 8 J	1/11
2-Hexanone	ND - 5 J	1/11
Methyl ethyl ketone	ND - 190	4/11
4-Methyl-2-pentanone	ND - 99	3/11
Toluene	ND - 18	6/11
Xylene (total)	ND - 44	2/11
Semivolatile Organic Compounds		
bis(2-Ethylhexyl)phthalate	ND - 630	1/11
4-Methylphenol	ND - 180 J	1/11

[1] *The first number represents the number of detections and the second number* represents the number of samples analyzed. Primary and associated duplicate sample detections were counted as one.

Notes: Resource Conservation and Recovery Act (RCRA) facility investigation.
μg/kg = micrograms per kilogram.
ND = not detected.
J = estimated concentration.

4-methyl-2-pentanone exceeded reporting limits concentrations being 190 and 99 μg/kg, respectively. All of these VOCs are also characteristic of the plume of contaminated groundwater.

The soil sample obtained from KBA-11-19A was collected at the bottom of the shallow zone at 20 feet bls (approximately 6.4 feet mlw) and it contained one ketone, 4-methyl-2-pentanone, at a low concentration of 4 J μg/kg.

The soil sample obtained from KBA-11-16 was collected from the mid zone at 40 feet bls (approximately -10 feet mlw). All of the compounds detected in this sample are present in groundwater collected from this depth. The contaminated groundwater is the source of organic compounds detected in soil, as chemicals partition between the solid and aqueous phases. This is discussed further in Chapter 5.0.

3.2.3 Characterization of Sediment and Surface Water Sediment and surface water samples were obtained from five locations at Porcupine Lake in the Crooked River Plantation Subdivision on November 8 and 9, 1994. Sample designations and depths are summarized in Table 3-16. Sample locations are shown on Figure 3-18.

Table 3-16
Surface Water and Sediment Sampling Program

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Sample Date	Sample ID[1]	Sample Depth[2]	Media
11/08/94	11SW201	4 ft., 7 in.	Surface water
	11SD201	5 ft., 7 in.	Sediment
	11SW202 11SW202D	5 ft., 8 in.	Surface water
	11SD202 11SD202D	6 ft., 8 in.	Sediment
11/09/94	11SW203	4 ft., 0 in.	Surface water
	11SD203	5 ft., 0 in.	Sediment
	11SW204	4 ft., 8 in.	Surface water
	11SD204	5 ft., 8 in.	Sediment
	11SW205	4 ft., 3 in.	Surface water
	11SD205	5 ft., 3 in.	Sediment

[1] Quality assurance and quality control samples are not included in this table.
[2] Sample depths are relative to the surface of the lake.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
ID = identification number.
SW = surface water.
ft. = feet.
in. = inches.
SD = sediment.
D = duplicate sample.

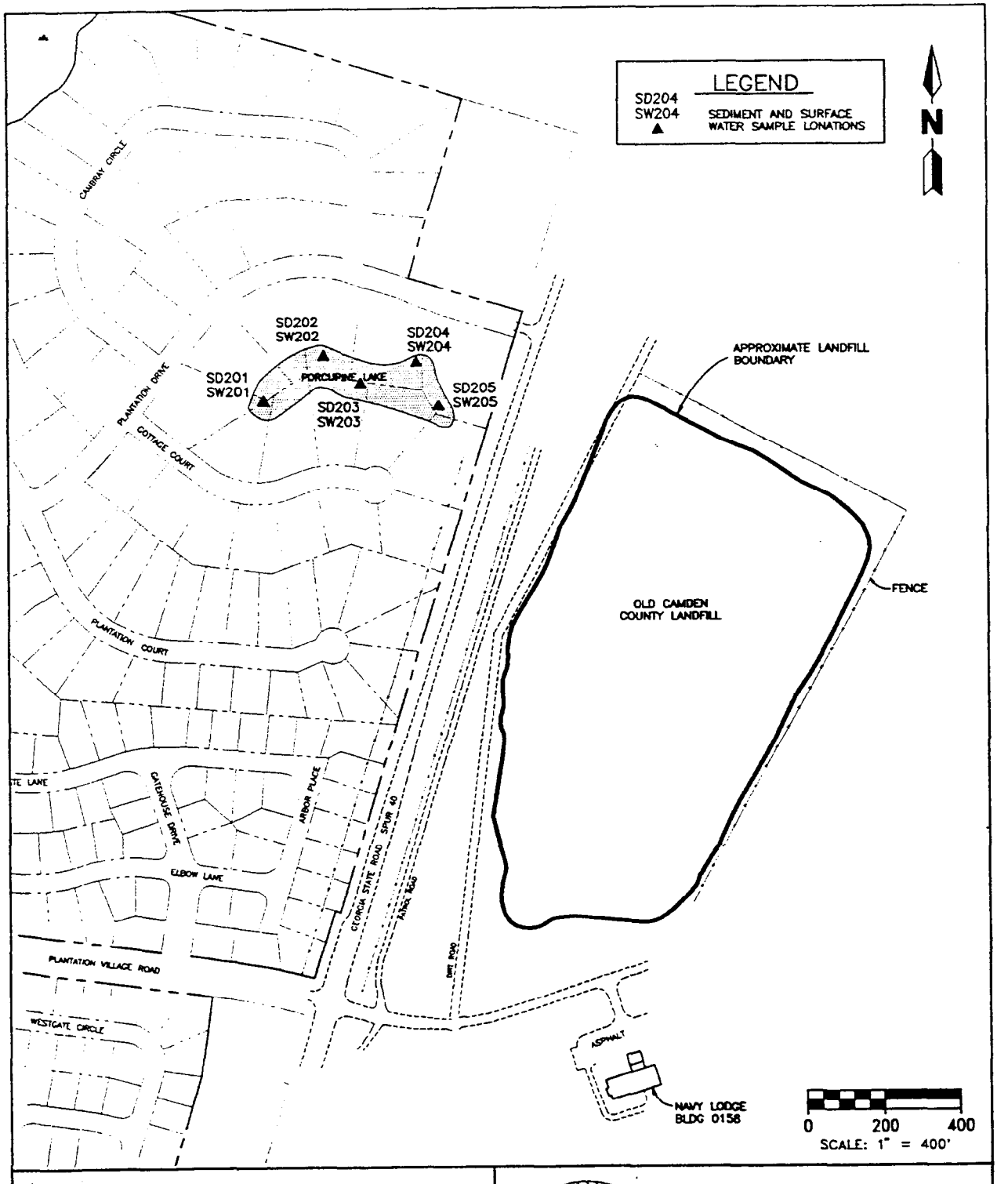

FIGURE 3-18

SEDIMENT AND SURFACE WATER SAMPLE LOCATIONS

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

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The samples were analyzed for TCL/TAL or Appendix IX constituents and sulfide (refer to Table A-3, Appendix A) to evaluate the potential for migration of contaminated groundwater from Site 11 into Porcupine Lake. One duplicate was included with each matrix. Analytes detected in one or more sediment or surface water samples are summarized in Appendix B. Analytical data are provided in full in Appendix C.

Sediment. Pentachloroethane and 1,4-dichlorobenzene were detected in samples obtained from the southeast and south-central shores, respectively. Estimated concentrations (below CRQLs) of phenol, diethyl phthalate, anthracene, and phenanthrene were reported in sediments sampled from the west and northwest shores, and 4,4'-DDE was detected at 11SD204 at the northeast shore. Ranges in chemical concentrations and frequency of detected analytes are provided in Table 3-17. No other SVOCs or pesticides were detected, nor were VOCs, PCBs, or herbicides identified in any sample.

Table 3-17
Ranges of Concentrations and Frequency of Detected Analytes in Sediment Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Constituent (units in μg/kg)	Concentration Range	Frequency[1]
Volatile Organic Compound		
Pentachloroethane	170 J	1/1
Semivolatile Organic Compounds		
Anthracene	ND - 32 J	1/5
1,4-Dichlorobenzene	ND - 33 J	1/5
Diethyl phthalate	ND - 49 J	1/5
Phenanthrene	ND - 39 J	1/5
Phenol	ND - 130 J	2/5
Pesticides		
4,4'-DDE	ND - 0.26 J	1/5

[1] The first number represents the number of detections and the second number represents the number of samples analyzed. Primary and associated duplicate sample detections were counted as one.

Notes: Resource Conservation and Recovery Act (RCRA) facility investigation.
μg/ℓ = micrograms per liter.
ND = not detected.
J = estimated concentration.
DDE = dichlorodiphenyl dichloroethylene.

With the possible exceptions of phenol and 1,4-dichlorobenzene, none of the compounds detected in these sediment samples appear to have originated at Site 11. Pentachloroethane has not been detected in soil or groundwater at the site and so is attributed to offsite sources. Diethyl phthalate is considered an artifact based on unrealistic travel times required for migration of phthalate compounds from the landfill to KBA-11-19, just south of Porcupine Lake (ABB-ES, 1995a). The presence of diethyl phthalate in 4 of 18 laboratory blanks analyzed during the November 1994 sampling event supports this conclusion.

Anthracene, phenanthrene and 4,4'-DDE have been reported in trench soils at Site 11. However, because these compounds are unlikely to migrate any distance due to low water solubilities and high sorption potentials, and none have been detected in groundwater to date, their presence in lake sediments is attributed to offsite sources rather than a release at Site 11.

1,4-Dichlorobenzene is a constituent of gasoline and is used in fumigants, insecticides, and disinfectants. Phenol is also present in disinfectants and is a photo-degradation product of 1,4-dichlorobenzene (Montgomery, 1991). Both compounds have been detected in groundwater at Site 11, so contaminated groundwater could be the source of these compounds in sediment. Chlorinated benzenes at the site have not migrated much beyond the perimeter of the landfill, presumably because of retarded transport caused by sorption to soil in the mid to deep zones, but may be moving northwestward toward Porcupine Lake in shallow groundwater. Phenol has been detected in groundwater as far north as KBA-11-21. Phenol has a moderate tendency to sorb to soil, but is highly soluble. Neither constituent has been detected in lake water.

Surface Water. Chloroform was detected in all surface water samples. No other VOCs were identified, nor were SVOCs, pesticides, PCBs, or herbicides detected in any sample. Chloroform has not been detected in Site 11 soils, or groundwater samples collected during the last four monitoring events, nor has carbon tetrachloride (a chemical transformation parent of chloroform); therefore, the presence of this analyte is attributed to offsite sources. With the absence of reportable concentrations of other organic compounds in any sample, there is no indication that contaminated groundwater at Site 11 has adversely impacted surface water at Porcupine Lake.

Specific conductivity ranged from 300 to 320 micromhos per centimeter (μmhos/cm) and pH was approximately neutral (6.5 units). Temperature averaged about 24 degrees Celsius (°C). Lake water is clear and supports submerged aquatic vegetation and benthic macroinvertebrates.

3.2.4 Characterization of Air Quality Downgradient of the Site Air quality monitoring was conducted in the vicinity of Site 11 between November 18 and 20, 1994, to evaluate the potential for VOC exposure during trench excavation. Eleven samples and five duplicates were collected for laboratory analysis of TCL VOCs; another 12 samples were screened in the field for vinyl chloride. One sample (11AIR110) was lost or destroyed by the laboratory. Sample designation, location (upwind or downwind), type (residential, perimeter or trench), collection date, and testing duration are summarized in Table 3-18. Air sample locations are shown on Figure 3-19.

Upwind samples were collected to establish background concentrations against which analytical data from perimeter and residential sample locations were compared for characterization of air quality downwind of excavation activities. Field screening was conducted to provide real-time analysis of vinyl chloride during trench excavation. Tables 3-19 and 3-20 summarize chemical data for air samples collected during trenching. A complete list of analytical data is included in Appendix C.

A total of 14 VOCs were detected in downwind samples at concentrations ranging from 0.01 to 33.3 J ppbv. Eleven of these compounds were also detected in upwind samples. VOC concentrations between upwind and downwind samples were generally

Table 3-18
Air Quality Monitoring Program Conducted During Trenching

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Sample Date	Sample ID[1]	Sample Type	Sample Location	Collection Method	Test Time	Duration
11/18/94	11AIR110[2]	Perimeter	Downwind	Summa® Air Canister	0859 to 1456	5 hr., 57 min.
	11AIR111 11AIR111D	Perimeter	Downwind	Summa® Air Canister	0854 to 1451	5 hr., 57 min.
	11AIR112	Perimeter	Upwind	Summa® Air Canister	0851 to 1537	7 hr., 46 min.
11/20/94	11AIR116	Perimeter	Downwind	Summa® Air Canister	0908 to 1121	2 hr., 13 min.
	11AIR117 11AIR117D	Perimeter	Downwind	Summa® Air Canister	0909 to 1118	2 hr., 9 min.
	11AIR118	Perimeter	Upwind	Summa® Air Canister	0911 to 1115	2 hr., 4 min.
11/15/94	11DT-1	Trench-1	Upwind	Draeger tube	1000	--
	11DT-2	Trench-1	Downwind	Draeger tube	1010	--
11/16/94	11DT-3	Trench-7	Upwind	Draeger tube	0917	--
	11DT-4	Trench-7	Downwind	Draeger tube	0942	--
	11DT-5	Trench-7	Downwind	Draeger tube	1144	--
	11DT-6	Trench-8	Upwind	Draeger tube	1700	--
	11DT-7	Trench-8	Downwind	Draeger tube	1720	--
11/17/94	11DT-8	Trench-6	Upwind	Draeger tube	0915	--
	11DT-9	Trench-6	Downwind	Draeger tube	0930	--
	11DT-10	Trench-6	Downwind	Draeger tube	1032	--
	11DT-11	Trench-5	Upwind	Draeger tube	1440	--
	11DT-12	Trench-5	Downwind	Draeger tube	1505	--
11/18/94	11AIR113	Residential	Downwind	Summa® Air Canister	0911 to 1523	6 hr., 12 min.
	11AIR114 11AIR114D	Residential	Downwind	Summa® Air Canister	0920 to 1336	4 hr., 16 min.
	11AIR115	Residential	Downwind	Summa® Air Canister	0925 to 1556	6 hr., 31 min.
11/20/94	11AIR119 11AIR119D	Residential	Downwind	Summa® Air Canister	0850 to 1132	2 hr., 42 min.
	11AIR120[2]	Residential	Downwind	Summa® Air Canister	0854 to 1134	2 hr., 40 min.
	11AIR121	Residential	Downwind	Summa® Air Canister	0857 to 1131	2 hr., 33 min.

[1] Quality assurance and quality control samples are not included in this table.
[2] Air samples lost or destroyed at the laboratory.

Notes: Summa® canister air samples were analyzed for target compound list (TCL) volatile organic compounds. Field screening was conducted for vinyl chloride using Draeger tubes.

RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
ID = identification.
® = registered trademark.
hr. = hours.
min. = minutes.
D = duplicate sample.
DT = Draeger tube sample.

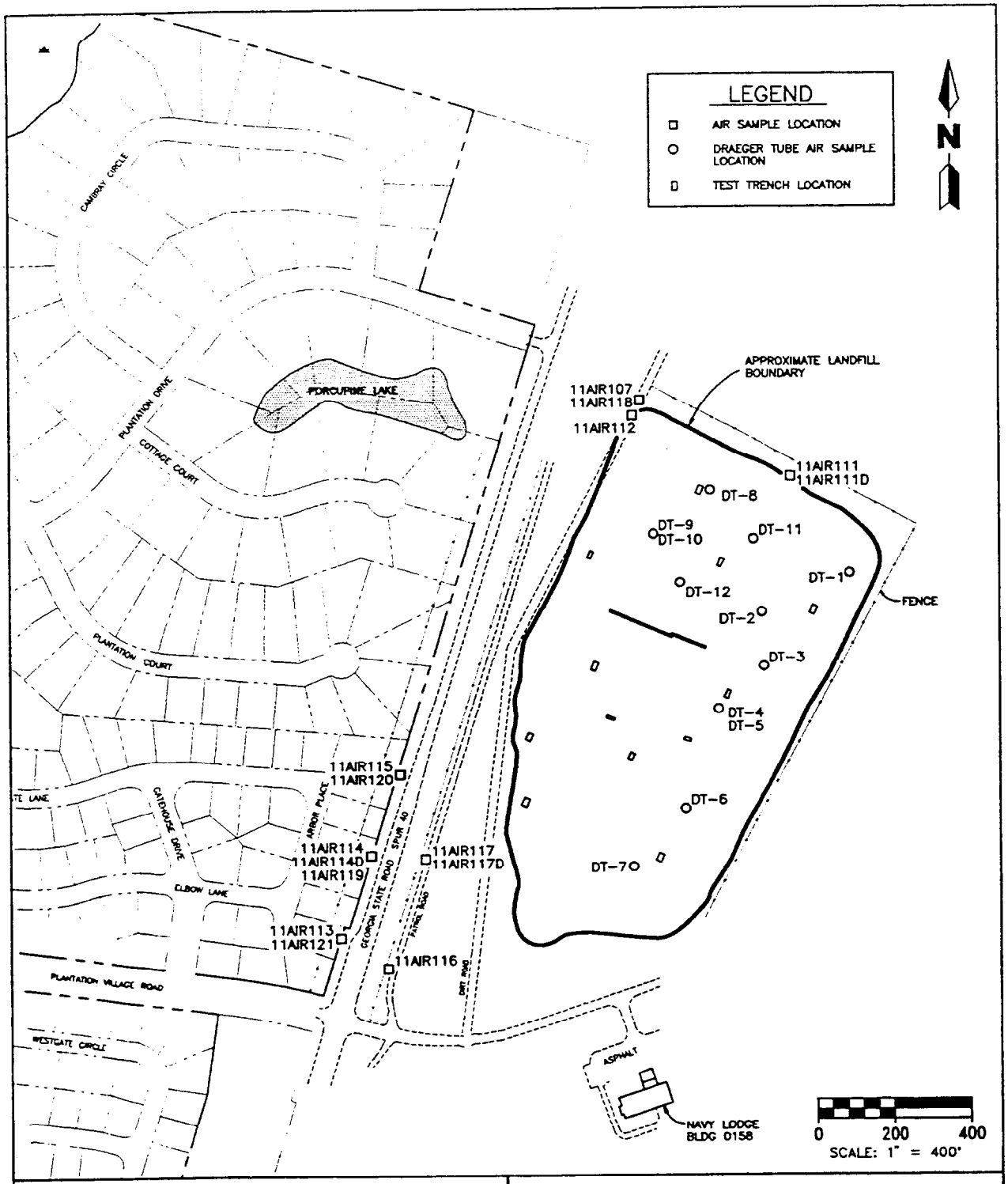

FIGURE 3-19

AIR QUALITY MONITORING SAMPLE LOCATIONS

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_3-19\DMF\960112

Table 3-19
Summary of Air Quality Monitoring Analytical Data, Upwind Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Detected Compounds	11AIR-112	11AIR-112D	11AIR-118	Frequency[1]	Mean of Detected Concentrations[2]
Volatile Organic Compounds (ppbv)					
Dichlorodifluoromethane	0.47 U	0.48 U	0.69	1/2	0.69
Trichlorofluoromethane	0.28	0.27	0.44	2/2	0.36
Methylene chloride	0.51 U	0.82 U	12.4 J	1/2	12.4
Freon 113	0.11	0.12	0.28	2/2	0.20
1,1,1-Trichloroethane	0.13	0.13	0.19	2/2	0.16
Benzene	0.19	0.19	0.29	2/2	0.24
Carbon tetrachloride	0.13	0.13	0.18	2/2	0.16
Toluene	0.26 U	0.30 U	0.59	1/2	0.59
m,p-Xylene	0.09	0.11	0.29	2/2	0.20
o-Xylene	0.05 U	0.05 U	0.10	1/2	0.10
1,2,4-Trimethylbenzene	0.06	0.06	0.09	2/2	0.08

[1] The first number represents the number of detections and the second number represents the number of samples analyzed. Primary and associated duplicate sample detections were counted as one.
[2] Duplicate samples were averaged prior to calculating the mean.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
ppbv = parts per billion volume.
U = not detected, sample quantitation limit reported.
J = estimated concentration.

Table 3-20
Comparison of Background Concentrations and Downwind Air Sample Analytical Data

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Detected Compounds	Background Air Quality Concentration[1]	11AIR111	11AIR111D	11AIR113	11AIR114	11AIR114D	11AIR115
Volatile Organic Compounds (ppbv)							
Benzene	0.48	0.18	0.19	0.19	0.20	0.19	0.23
Dichlorodifluoromethane	1.38	1.85 U	0.47 U	0.95 U	0.50 U	0.44 U	0.48 U
Carbon tetrachloride	0.32	0.13	0.13	0.13	0.13	0.12	0.13
Chloroform	ND	0.09	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Ethylbenzene	ND	0.08	0.08	0.05 U	0.05 U	0.05 U	0.05 U
Freon 113	0.40	1.07	0.10	0.15	0.12	0.10	0.12
Methylene chloride	24.8	7.84 J	0.36 U	0.88 U	0.56 U	0.30 U	0.55 U
Toluene	1.18	0.57	0.56	0.35 U	1.24	0.35 U	0.35 U
1,1,1-Trichloroethane	0.32	0.16	0.13	0.14	0.13	0.13	0.13
Trichlorofluoromethane	0.72	0.32	0.27	0.28	0.27	0.31	0.28
1,2,4-Trimethylbenzene	0.16	0.09	0.07	0.06	0.05	0.07	0.06
Vinyl chloride	ND	0.01	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
m,p-Xylene	0.40	0.28	0.29	0.12	0.14	0.13	0.13
o-Xylene	0.20	0.10	0.08	0.05 U	0.05 U	0.06	0.05 U

See notes at end of table.

Table 3-20 (Continued)
Comparison of Background Concentrations and Downwind Air Sample Analytical Data

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Detected Compounds	11AIR116	11AIR117	11AIR117D	11AIR119	11AIR119D	11AIR121	Frequency of Detection[2]
Volatile Organic Compounds (ppbv)							
Benzene	0.24	0.39	0.31	1.86	1.80	0.28	8/8
Carbon tetrachloride	0.14	0.16	0.21	0.16	0.16	0.17	8/8
Chloroform	0.09 U	1.25	0.10 U	0.67	0.78	0.17	4/8
Dichlorodifluoromethane	0.51	0.63	0.73	1.22	1.71	0.55	4/8
Ethylbenzene	0.09 U	0.10 U	0.10 U	0.13	0.14	0.07	3/8
Freon 113	0.15	0.29	0.29	3.47	4.37	0.20	8/8
Methylene chloride	1.94 U	6.89 J	9.34 J	21.7 J	33.3 J	2.09 U	3/8
Toluene	0.42	0.84	0.42	2.44	2.43	0.69	6/8
1,1,1-Trichloroethane	0.14	0.17	0.23	0.34	0.31	0.16	8/8
Trichlorofluoromethane	0.37	0.37	0.42	0.60	0.69	0.37	8/8
1,2,4-Trimethylbenzene	0.13	0.10 U	0.10 U	0.11	0.10	0.07	7/8
Vinyl chloride	0.09 U	0.10 U	0.10 U	0.05 U	0.08 U	0.05 U	1/8
m,p-Xylene	0.21	0.19	0.16	0.53	0.53	0.26	8/8
o-Xylene	0.09 U	0.10 U	0.10 U	0.19	0.20	0.09	4/8

[1] Background air quality concentration calculated from two times the mean of upwind samples (detected values only).
[2] The first number represents the number of detections and the second number represents the number of samples analyzed. Primary and associated duplicate sample detections were counted as one.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
ppbv = parts per billion volume.
U = not detected, sample quantitation limit reported.
ND = not detected.
J = estimated concentration.

similar except at perimeter areas north and south of the landfill (11AIR111 and 11AIR117) and two residential locations (11AIR114 and 11AIR119), where concentrations of some analytes exceeded mean background values by more than a factor of two (see Table 3-21). Some of these compounds can be attributed to offsite sources or laboratory contamination rather than trenching activities based on the following.

- Vinyl chloride was not detected (at a detection limit of 0.5 ppm) in the air samples screened during trenching and five compounds (1,1,1-trichloroethane, vinyl chloride, carbon tetrachloride, chloroform, and 1,2,4-trimethylbenzene) were not detected in trench soil or groundwater.

- 1,1,1-Trichloroethane, carbon tetrachloride, and 1,2,4-trimethylbenzene have not been detected in soil or groundwater at Site 11 to date. Chloroform has not been detected in Site 11 soils, nor in groundwater samples collected during the last four monitoring events.

- Car and truck exhaust probably contaminated air samples positioned along Georgia State Road Spur 40. Aromatic hydrocarbons at 11AIR114 and 11AIR119 were not detected east (upwind) of the highway at 11AIR117.

- Methylene chloride and Freon 113 were also reported in field or laboratory blanks.

The remaining compounds are ethylbenzene and dichlorodifluoromethane. Ethylbenzene was detected at two downwind sample locations, 11AIR111 located north of the landfill and 11AIR119 located along the southeastern perimeter of the subdivision. Ethylbenzene in downwind air could be caused by emissions from the landfill or from exhaust fumes created by vehicles and equipment used during the trenching effort. Dichlorodifluoromethane was detected in most of the downwind samples and at one of the upwind locations. None of the downwind concentrations exceeded the background concentration by more than a factor of two. Dichlorodifluoromethane has been detected in groundwater at the site so it is possible that the landfill may emit dichlorodifluoromethane. However, the presence of the compound in an upwind sample suggest that it is a chemical characteristic of ambient air.

4.0 CHARACTERIZATION OF INORGANIC CONSTITUENTS

This chapter presents the approach that was used and results of evaluating groundwater and subsurface soil for inorganic contaminants that may have been released from waste discarded at Site 11. The approach that was used is based on comparing inorganic analytical data from potentially contaminated sample locations to corresponding data from uncontaminated sample locations.

Unlike organic chemicals that are mostly manmade, inorganic constituents are expected in all soil, sediment, surface water, and groundwater samples. The geological materials comprising the soil and sediment are minerals that have inorganic constituents in their structure. Groundwater and surface water are in contact with the soil and sediment, respectively, and contain concentrations of dissolved inorganic constituents as a result of dissolution of the minerals in the soil and sediment grains. Small particles of soil and sediment can also become suspended in the groundwater or surface water. Laboratory analyses for inorganic constituents in water matrices measure a concentration that reflects dissolved and suspended inorganic material in the water sample.

Because inorganic constituents are naturally occurring, identification of site related inorganics requires an approach of comparing site sample data to another set of data that are representative of uncontaminated, background conditions. During July 1995, ABB-ES prepared a letter report describing an approach for selecting background locations for groundwater and soil, and evaluating the site data using statistical comparisons to background. Appendix D contains a copy of the letter report. Many of the details discussed in the letter report are referenced in this chapter.

Several different statistical analyses were used during the course of evaluating the inorganic data from Site 11. Table 4-1 lists the various tests that were used and list reference(s) where the methodology and equations can be found. Statistical tests were performed such that the Type I experiment-wise error rate was 5 percent. A Type I error is rejecting the null hypothesis when it is true.

Statistical tests involve four elements, the null hypothesis, alternate hypothesis, test statistic, and rejection region. The null hypothesis, indicated by the symbol H_o, states the condition (or hypothesis) being tested (e.g., that two distributions have the same mean). The sample measurements are used to calculate a test statistic that operates as the decision maker. The values that the test statistic can take on are divided into two regions: the acceptance region and rejection region. If the calculated test statistic falls within the rejection region, then the null hypothesis is rejected in favor of an alternate hypothesis (a significant difference). The alternate hypothesis, indicated by the symbol H_a, describes the conditions when the null hypothesis is false. If the test statistic falls within the acceptance region then the null hypothesis is accepted as true and the alternate hypothesis is false (no significant difference). The value of the test statistic that separates the rejection region from the acceptance region is the critical value.

4.1 BACKGROUND GROUNDWATER DATA. As described in the July 1995 letter report (Appendix D), seven monitoring wells satisfied criteria for use in obtaining background groundwater data. The seven wells are outside the plume of contamin-

Table 4-1
Description of Statistical Analyses Used to Evaluate Inorganic Analytical Data

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Test	Description	Applications	Critical Values	H_o	H_a	References
Test For Outliers	Determines whether apparent extreme values fit the distribution of the rest of the data.	A statistical tool used in developing a background data set that is composed of measurements from a single distribution.	Compute T_n statistic from data set and compare it to a tabulated value given in references for the significance level desired.	Highest magnitude value is part of the normal distribution of the data set.	Highest magnitude value is not part of the normal distribution of the data set.	USEPA, 1989
Parametric Analysis of Variance (ANOVA)	Compares the mean values of several data sets (i.e., wells) to determine if they are all from the same distribution. Takes into account variation between the means of the data sets being compared and variations of the observations within data sets.	Used to confirm that all background wells were from the same distribution.	Compute F statistic from well data and compare it to a tabulated value given in references.	The means of the data sets being compared are equal.	The means of the data sets being compared are not equal.	USEPA, 1989. Mendenhall, 1979.
Test For Proportions	Compares the number of detections within the characterization well data set to the number of detections within the background data set.	Used to determine if the characterization well data set and the background data set contain a significantly different proportion of detected values . Used when the total fraction of detected values within both data sets is at least 10%.	Compute z statistic from well data and compare it to a tabulated value given in references for the significant level desired.	The characterization wells and background wells have the same proportion of detected values.	The characterization wells and background wells do not have the same proportion of detected values.	USEPA, 1989.
Mann-Whitney U Test	Compares the relative frequency distribution for concentrations of the analyte in background samples and characterization samples.	Used to determine if the distribution in the characterization well data set is to the right of the background distribution. Used when the total fraction of detected values within both data sets is greater than 50%.	Compute U or z statistic from well data and compare it to a tabulated value given in references for the significance level desired. The use of the z statistic is limited to data sets containing 10 or more observations.	The characterization well data set is not shifted towards higher concentrations relative to the background data set.	The distribution of the characterization well data is shifted towards higher concentrations relative to the background distribution.	Mendenhall, 1979.

See notes at end of table.

Table 4-1 (Continued)
Description of Statistical Analyses Used to Evaluate Inorganic Analytical Data

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Test	Description	Applications	Critical Values	H_o	H_a	References
Bartlett's test	Compares the variance of two distributions to determine if they are equal.	Used to select the appropriate t test calculation. One version of the t test is used for data sets having equal variances and another for unequal variances.	Compute Chi square statistic from well data and compare it to a tabulated value given in references for the significance level desired.	The data sets being compared have equal variances.	The data sets being compared do not have equal variances.	USEPA, 1989.
Student's t Test	Compares the distribution characterization samples to the background distribution.	Used to determine if the characterization well log-normal mean is significantly greater than the background well data set log-normal mean. Used when the total fraction of detected values within both data sets is greater than 85%.	Compute t statistic from well data and compare it to a tabulated value given in references for the significance level desired.	The characterization data and the background data do not have significantly different mean concentrations.	The characterization data mean concentration is significantly greater than the background mean concentration.	Mendenhall, 1979. Microsoft Corporation, 1993.

Sources: U.S. Environmental Protection Agency, 1989.
Mendenhall, William, 1979.
Microsoft Corporation, 1993.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
H_o = null hypothesis.
H_a = alternate hypothesis.
USEPA = U.S. Environmental Protection Agency.
% = percent.

ated groundwater. The analytical data for samples from three sampling events confirmed that manmade chemicals are not present at the background locations, indicating that human activities have not affected groundwater quality at the locations. The organic analytical data for the background groundwater samples are summarized in Table 4-2. Two organic chemicals, bis(2-ethylhexyl)phthalate and carbon disulfide, reported in background groundwater samples are caused by laboratory or sampling procedures and natural processes, respectively.

Table 4-2
Summary of Analytical Results for Organic Analyses Conducted on Background Groundwater Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Monitoring Well ID	Compounds Detected	Concentration Range (μg/ℓ)	Associated Sample Event
KBA-11-1	None	N/A	N/A
KBA-11-7	carbon disulfide	13	September 1994
KBA-11-4	bis(2-Ethylhexyl)phthalate	0.8 J	September 1994
KBA-11-11A	bis(2-Ethylhexyl)phthalate	0.6 J	September 1994
KBA-11-11B	bis(2-Ethylhexyl)phthalate	14 J	September 1994
KBA-11-12	bis(2-Ethylhexyl)phthalate	32	September 1994
KBA-11-20	bis(2-Ethylhexyl)phthalate	1 J and 5 J	January and September 1994

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
ID = identification.
μg/ℓ = micrograms per liter.
N/A = not applicable.
J = estimated concentration.

Bis(2-ethylhexyl)phthalate in groundwater samples is commonly an artifact of laboratory and sampling procedures because it is present on the surface of plastic items used during the course of sampling and analysis. In the environment, bis(2-ethylhexyl)phthalate has a very low solubility and sorbs to soil particles so strongly that any migration via groundwater is extremely retarded relative to the rate of groundwater flow. In the letter report contained in Appendix D, there is a discussion of the behavior of phthalates in the environment that supports the conclusion that the bis(2-ethylhexyl)phthalate detections in the background groundwater samples is not representative of groundwater at the sample location.

Carbon disulfide was detected in a sample collected during the September 1994 sampling event from monitoring well KBA-11-7 at a concentration of 13 μg/ℓ. Carbon disulfide is an organic chemical that is naturally produced in the environment by microbial reduction of sulfates in soil (Howard, 1990). The letter report contained in Appendix D presents a more detailed discussion about the evaluation of carbon disulfide in the study area and the conclusion that the detection of this compound in a sample from well KBA-11-7 is representative of background conditions.

Inorganic analytical data from three sampling events was used to develop the background groundwater data set. Development of the data set included evaluating the distribution of the data, testing the data for outlier values, removal of outlier values from the data set, and performing an analysis of variance (ANOVA) test on the measurements from the three sampling events. These evaluations were done for each analyte of interest (Table 4-3). The purpose and outcome of these evaluations is presented in the remainder of this section.

Table 4-3
Inorganic Analytes Evaluated as Potential Contaminants

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Appendix IX Inorganic Analytes		
Antimony	Arsenic	Barium
Beryllium	Cadmium	Chromium
Cobalt	Copper	Lead
Mercury	Nickel	Selenium
Silver	Thallium	Vanadium
Zinc	Cyanide	Sulfide
Tin		
Additional Analytes Included to Support the Ecological Risk Assessment		
Aluminum	Iron	
Manganese		

U.S. Environmental Protection Agency, 1989, Appendix IX.

Note: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.

The first statistical evaluation that was performed on groundwater inorganic analytical data, background or otherwise, was to evaluate the data distribution for normality. The distribution of concentrations and natural log values of concentrations were evaluated using probability plots and statistics such as the coefficient of variation and Pearson' product moment correlation coefficient for goodness of fit compared to the standard normal distribution (Appendix E). The log-transformed concentrations better approximate a normal distribution, so log-transformed values were used for calculation of test statistics for the outlier tests and ANOVA.

The purpose of performing the outlier and ANOVA tests on the background data was to develop, for each analyte, a set of measurements that are from the same distribution. The background data set is composed of measurements from a single distribution so that comparisons to site data are useful in detecting differences.

Table 4-4 summarizes the results of the outlier tests that were performed on the log-transformed background values. Appendix F contains more detailed presentations of the outlier tests. The outlier test was used to identify measurements that do not fit the distribution of the rest of the data. Data points that showed a 95 percent or greater probability of being outlier values

compared to the other measurements of a particular analyte were removed from the data set. Before the outlier values were removed from the data set, the value of the measurement was verified to check for a transcription error that may have caused the difference.

Table 4-4
Summary of Outlier Values Removed from the Background Groundwater Data Set

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Sample Event	Analyte	Well ID	Concentration/ Qualifier	Outlier Probability (Percent)
April	Arsenic	KBA-11-12*	15.05	95.0
September	Cadmium	KBA-11-20	14	99.9
April	Nickel	KBA-11-11B	40 U	99.0
January	Selenium	KBA-11-20	15.2 U	99.0
April	Silver	KBA-11-11B	10 U	95.0
April	Tin	KBA-11-11B	1,000 U	99.9
April	Vanadium	KBA-11-11B	50 U	97.5

* Duplicate samples have been averaged.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
U = nondetected value. Sample quantitation limit reported.
J = estimated detected value.
UJ = estimated quantitation limit.

After outlier values were removed from the data set an ANOVA test was performed to verify that the measurements from the seven background monitoring wells were from the same distribution. The ANOVA test was used to detect significant differences between data from the background wells. None of the background monitoring wells was found to be significantly different, indicating that the measurements are from the same distribution. Results of the ANOVA test are summarized in Table 4-5 and presented in detail in Appendix G.

4.2 COMPARISON OF SITE GROUNDWATER DATA TO BACKGROUND. Inorganic analytical data from potentially contaminated groundwater sample locations were compared to the background data set to evaluate for significant differences. A statistical approach was used for the comparisons. Because the data sets for individual analytes contain variable percentages of nondetected values, there is not a single statistical test that would be appropriate for all of the comparisons. Three different statistical tests were used for the comparisons. Test selection for a particular comparison was based on the total number of nondetected values in the data sets being compared, as follows:

- Student's t test for 0 to 15 percent nondetected values,
- Mann Whitney U test for 16 to 50 percent nondetected values, and
- test for proportions for 51 to 90 percent nondetected values.

Table 4-5
Summary of Results of Analysis of Variance Tests Performed on Background Groundwater Inorganic Data

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Calculated F Statistic	Critical Value	Result
Aluminum	1.23	2.81	Do not reject H_o.
Antimony	0.57	2.81	Do not reject H_o.
Arsenic	0.52	2.63	Do not reject H_o.
Barium	1.08	2.66	Do not reject H_o.
Beryllium	0.14	2.70	Do not reject H_o.
Cadmium	0.57	2.70	Do not reject H_o.
Chromium	0.20	2.66	Do not reject H_o.
Cobalt	0.12	2.66	Do not reject H_o.
Copper	0.29	2.63	Do not reject H_o.
Cyanide	0.02	2.66	Do not reject H_o.
Iron	0.32	2.81	Do not reject H_o.
Lead	0.65	2.70	Do not reject H_o.
Manganese	1.20	2.81	Do not reject H_o.
Mercury	0.16	2.63	Do not reject H_o.
Nickel	0.15	2.66	Do not reject H_o.
Selenium	0.15	2.70	Do not reject H_o.
Silver	0.05	2.70	Do not reject H_o.
Sulfide	0.27	2.66	Do not reject H_o.
Thallium	0.23	2.7	Do not reject H_o.
Tin	Too few measurements to perform test.		
Vanadium	0.29	2.70	Do not reject H_o.
Zinc	0.43	2.66	Do not reject H_o.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
H_o = null hypothesis (refer to Table 4-1 for description of null hypothesis).

If the percentage of nondetected values was more than 90, then no statistical comparison was performed. Because these analytes have less than a 1 in 10 chance of being detected, they are eliminated as potential contaminants. (Similarly, there is a 90 percent chance that the analyte will not be detected.)

For the U test and Student's t test, a significant difference means that the site data contain significantly higher concentrations of an analyte than the background data set. Specifically, rejecting H_0 for the t test means that the log-normal mean value of the characterization data is greater than the mean log-normal background value. For the U test, rejecting H_0 means that the characterization data distribution is shifted to the right (towards higher concentrations) relative to the background data distribution. For the test for proportions, a significant difference means that one of the data sets contains a significantly higher number of detected values than the other. A straight forward comparison of the proportion of detected values in each data set being compared identifies the data set that contains a (statistically significant) greater proportion. Significant differences may be evidence that the site has affected groundwater, causing concentrations of certain inorganic constituents to increase.

Potentially contaminated groundwater sampling locations are referred to as characterization wells in this report. The characterization wells are suitably located to provide information to characterize releases from the site. At Site 11, characterization wells are within the zone of the surficial aquifer that is known to be contaminated by releases from the landfill based on the presence of organic chemicals characteristic of the plume of contaminated groundwater. As described in detail in the letter report, any inorganic contaminants released from the landfill can be expected to be contained within the plume of VOC contaminated groundwater based on the evaluations that have been performed (Appendix D).

The inorganic data from characterization wells were evaluated by dividing the characterization data into three subsets based on geographic location. Inorganic data from each subgroup was compared to background. One subset includes data from four characterization wells in the landfill. A second subset includes data from seven characterization wells adjacent to the landfill and on NSB property. The third subset includes data from characterization wells in the subdivision. Table 4-6 lists the identifications of the wells in each subset. A summary of the inorganic analytical results for all well groups is presented in Table 4-7. More comprehensive tables of analytical data are included in Appendices B and C. Figures 3-3 and 3-5 show the locations of the monitoring wells.

Table 4-8 lists the percentage of nondetected values and subsequent statistical tests that were used to evaluate the site data relative to background. The results of the statistical tests are also summarized in Table 4-8. More detailed presentations of the statistical comparisons are included on spreadsheets in Appendix H.

In the landfill, eight inorganic constituents were found to have significant differences when compared to background. The eight constituents are iron, aluminum, manganese, barium, arsenic, antimony, lead, and vanadium. The student's t test was used to evaluate iron, aluminum, manganese, and barium. The results of the t tests indicate that the differences were associated with wells

Table 4-6
Identification of Background, Characterization, and Delineation Well Groups

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Background Wells			
KBA-11-1	KBA-11-4	KBA-11-7	KBA-11-11A
KBA-11-11B	KBA-11-12	KBA-11-20	
Onsite Characterization Wells			
KBA-11-10A	KBA-11-10B		
KBA-11-22A	KBA-11-22B		
Characterization Wells Adjacent to the Landfill and on NSB Property			
KBA-11-2	KBA-11-3A	KBA-11-3B	KBA-11-5
KBA-11-6	KBA-11-8B	KBA-11-13A	
Delineation Wells			
KBA-11-3C	KBA-11-8A	KBA-11-8C	KBA-11-9
KBA-11-10C	KBA-11-11C	KBA-11-13B	KBA-11-14
KBA-11-15	KBA-11-17C	KBA-11-19B	KBA-11-21
Characterization Wells in the Subdivision			
KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-18
KBA-11-19A			

Notes: RFI = Resource Conservation and Recovery Act (RCRA) (RCRA) facility investigation.
NSB = Naval Submarine Base (Kings Bay, Georgia).

Table 4-7
Ranges of Concentrations and Frequency of Detection for Inorganic Analytes in Groundwater Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Background		Onsite		Adjacent to Landfill		Subdivision		Delineation Wells	
	Concentration Range (μg/ℓ)	Frequency	Concentration Range (μg/ℓ)	Frequency	Concentration Range (μg/ℓ)	Frequency	Concentration Range (μg/ℓ)	Frequency	Concentration Range (μg/ℓ)	Frequency
Aluminum	ND to 41,100	17/19	ND to 42,100	11/12	ND to 64,100	16/19	ND to 68,100	12/13	ND to 246,000	27/34
Antimony	ND to 10.5	2/21	ND to 16.5 J	4/12	ND to 20.7 J	4/21	ND to 1.9 J	1/15	ND to 23 J	10/36
Arsenic	ND to 15.2	8/21	ND to 15.7	8/12	ND to 10.9	11/21	ND to 7.7 J	10/15	ND to 19.5	15/36
Barium	6.7 J to 81	21/21	15.3 J to 71.8 J	12/12	4.6 J to 99.1 J	21/21	15 J to 524	15/15	8.5 J to 222	36/36
Beryllium	ND to 1.2 J	7/21	ND to 2.1 J	2/12	ND to 1.2 J	3/21	ND to 2 J	3/15	ND to 6.1	5/36
Cadmium	ND to 14	3/21	ND to 13.5	2/12	ND to 74.9	5/21	ND to 40.1	4/15	ND to 25.8	10/36
Calcium	1,360 J to 125,000	19/19	1,950 J to 73,900 J	12/12	939 J to 274,000 J	19/19	2,130 J to 50,100	13/13	1,320 J to 86,000	36/36
Chromium	ND to 45.5	17/21	ND to 147	11/12	ND to 74.3	17/21	7.8 J to 76.7	15/15	ND to 252	26/36
Cobalt	ND to 2.8 J	1/21	ND to 18.2 J	2/12	ND to 9.6 J	1/21	ND to 13.9 J	4/15	ND to 10.3J	4/36
Copper	ND to 24.3 J	17/21	ND to 50.2	7/12	ND to 21.3 J	14/21	ND to 63	13/15	ND to 61.5	31/36
Cyanide	none	0/21	none	0/12	none	0/21	none	0/15	none	0/36
Iron	81.4 J to 6,040	19/19	344 to 45,300	12/12	160 J to 10,300	19/19	336 to 17,300	13/13	ND to 18,700	35/36
Lead	ND to 35.4	12/21	ND to 17.6	8/12	ND to 39.8	10/21	ND to 15.2 J	7/15	ND to 77	21/36
Magnesium	345 J to 4,730 J	19/19	1,110 J to 17,700	12/12	261 J to 4,270 J	19/19	995 J to 26,700	13/13	811 J to 23,600	36/36

See notes at end of table.

Table 4-7 (Continued)
Ranges of Concentrations and Frequency of Detection for Inorganic Analytes in Groundwater Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Background		Onsite		Adjacent to Landfill		Subdivision		Delineation Wells	
	Concentration Range (μg/ℓ)	Frequency	Concentration Range (μg/ℓ)	Frequency	Concentration Range (μg/ℓ)	Frequency	Concentration Range (μg/ℓ)	Frequency	Concentration Range (μg/ℓ)	Frequency
Manganese	5.4 J to 47.6	19/19	4.4 J to 415	12/12	ND to 412	18/19	6.2 J to 64.4	13/13	1.5 J to 213	36/36
Mercury	ND to 0.33	2/21	ND to 0.24	2/12	ND to 0.44	2/21	none	0/15	ND to 1.6	4/36
Nickel	ND to 13.7 J	8/21	ND to 135	8/12	ND to 46.6	8/21	ND to 55.6	12/15	ND to 53.2	15/36
Potassium	ND to 4,450 J	16/19	8,260 to 19,400	12/12	964 J to 11,900	19/19	ND to 4,070 J	11/13	ND to 15,400	31/36
Selenium	ND to 2.5 J	1/21	ND to 8	2/12	ND to 4.3 J	1/21	ND to 13 J	3/15	ND to 23.4	4/36
Silver	none	0/21	ND to 5.3 J	1/12	ND to 6.1 J	2/21	ND to 5 J	1/15	ND to 6.4 J	4/36
Sodium	2,560 J to 37,100 J	19/19	8,390 to 39,300 J	12/12	1,390 J to 55,900	19/19	6,400 to 152,000 J	13/13	2,520 J to 218,000 J	36/36
Sulfide	ND to 1,600 J	5/21	ND to 2,200 J	4/12	ND to 2,000 J	9/21	ND to 5,300 J	5/15	ND to 3,000	10/36
Thallium	none	0/21	none	0/12	none	0/21	ND to 1.1 J	1/15	ND to 1.8 J	1/36
Vanadium	ND to 16 J	8/21	3.4 J to 40.0 J	10/12	ND to 46.8 J	14/21	ND to 63.6 J	6/15	ND to 135	13/36
Zinc	ND to 88	13/21	ND to 167	10/12	ND to 209	15/21	ND to 94	8/15	ND to 94.9	25/36
Tin	none	0/6	13.7 J	1/1	none	0/4	ND to 14.2 J	2/6	ND to 16.1 J	2/6

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
μg/ℓ = micrograms per liter.
ND = not detected.
J = estimated value.

Table 4-8
Groundwater Statistical Comparisons Summary Table and Results

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Well Group	Percent Nondetected Values	Statistical Test Used[1]	Calculated Value[2]	Critical Value	Result of Statistical Test
Aluminum	Subdivision	9	Student's t	16: N/A	N/A	N/A
				17A: t = 1.694	$t_{0.05}$ = 1.725	Do not reject H_o
				17B: t = -0.568	$t_{0.05}$ = 1.725	Do not reject H_o
				18: t = -0.607	$t_{0.05}$ = 1.725	Do not reject H_o
				19A: N/A	N/A	N/A
	Adjacent landfill	13	Student's t	13A: N/A	N/A	N/A
				2: t = 1.097	$t_{0.05}$ = 1.725	Do not reject H_o
				3A: t = 1.536	$t_{0.05}$ = 1.725	Do not reject H_o
				3B: t = -0.298	$t_{0.05}$ = 1.725	Do not reject H_o
				5: t = 2.089	$t_{0.05}$ = 1.725	Reject H_o
				6: t = 0.607	$t_{0.05}$ = 1.725	Do not reject H_o
				8B: t = -1.487	$t_{0.05}$ = 1.725	Do not reject H_o
	Onsite	10	Student's t	10A: t = 1.774	$t_{0.05}$ = 1.725	Reject H_o
				10B: t = -0.250	$t_{0.05}$ = 1.725	Do not reject H_o
				22A: t = 0.387	$t_{0.05}$ = 1.725	Do not reject H_o
				22B: t = -1.418	$t_{0.05}$ = 1.725	Do not reject H_o
	Delineation	16	U test	z = 1.84	$z_{0.05}$ =-1.645	Do not reject H_o
Antimony	Subdivision	92	None	N/A	N/A	
	Adjacent landfill	86	Proportions	z = 0.88	$z_{0.05}$ = 1.645	Do not reject H_o
	Onsite	82	Proportions	z = 1.71	$z_{0.05}$ = 1.645	Reject H_o
	Delineation	79	Proportions	z = 1.63	$z_{0.05}$ = 1.645	Do not reject H_o
Arsenic	Subdivision	51	Proportions	z = 1.85	$z_{0.05}$ = 1.645	Reject H_o
	Adjacent landfill	56	Proportions	z = 1.12	$z_{0.05}$ = 1.645	Do not reject H_o
	Onsite	53	Proportions	z = 1.74	$z_{0.05}$ = 1.645	Reject H_o
	Delineation	61	Proportions	z = 0.49	$z_{0.05}$ = 1.645	Do not reject H_o
Barium	Subdivision	0	Student's t	16: t = -0.161	$t_{0.05}$ = 1.717	Do not reject H_o
				17A: t = 4.826	$t_{0.05}$ = 1.717	Reject H_o
				17B: t = 0.842	$t_{0.05}$ = 1.878	Do not reject H_o
				18: t = 0.674	$t_{0.05}$ = 1.717	Do not reject H_o
				19A: t = 1.632	$t_{0.05}$ = 1.717	Do not reject H_o
	Adjacent landfill	0	Student's t	13A: t = 0.431	$t_{0.05}$ = 1.717	Do not reject H_o
				2: t = -1.359	$t_{0.05}$ = 1.717	Do not reject H_o
				3A: t = -0.589	$t_{0.05}$ = 1.717	Do not reject H_o
				3B: t = -0.640	$t_{0.05}$ = 1.717	Do not reject H_o
				5: t = 0.323	$t_{0.05}$ = 1.717	Do not reject H_o
				6: t = -1.697	$t_{0.05}$ = 1.717	Do not reject H_o
				8B: t = 1.115	$t_{0.05}$ = 1.717	Do not reject H_o

See notes at end of table.

Table 4-8 (Continued)
Groundwater Statistical Comparisons Summary Table and Results

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Well Group	Percent Nondetected Values	Statistical Test Used	Calculated Value	Critical Value	Result of Statistical Test
Barium (continued)	Onsite	0	Student's t	10A: t = 5.122	$t_{0.05}$ = 1.723	Reject H_o
				10B: t = 0.136	$t_{0.05}$ = 1.717	Do not reject H_o
				22A: t = -3.383	$t_{0.05}$ = 1.719	Do not reject H_o
				22B: t = -0.546	$t_{0.05}$ = 1.723	Do not reject H_o
	Delineation	0	Student's t	10C: t = -0.088	$t_{0.05}$ = 1.717	Do not reject H_o
				11C: t = -1.890	$t_{0.05}$ = 1.725	Do not reject H_o
				13B: t = -1.023	$t_{0.05}$ = 1.717	Do not reject H_o
				14: t = 0.795	$t_{0.05}$ = 1.717	Do not reject H_o
				15: t = 1.719	$t_{0.05}$ = 1.717	Reject H_o
				17C: t = -1.547	$t_{0.05}$ = 1.722	Do not reject H_o
				19B: t = -4.060	$t_{0.05}$ = 1.812	Do not reject H_o
				21: t = 3.890	$t_{0.05}$ = 1.717	Reject H_o
				3C: t = -1.498	$t_{0.05}$ = 1.717	Do not reject H_o
				8A: t = -0.684	$t_{0.05}$ = 1.717	Do not reject H_o
				8C: t = 0.813	$t_{0.05}$ = 1.717	Do not reject H_o
				9: t = 1.136	$t_{0.05}$ = 1.717	Do not reject H_o
Beryllium	Subdivision	69	Proportions	z = 1.16	$z_{0.05}$ = 1.645	Do not reject H_o
	Adjacent landfill	76	Proportions	z = 1.45	$z_{0.05}$ = 1.645	Do not reject H_o
	Onsite	73	Proportions	z = 1.03	$z_{0.05}$ = 1.645	Do not reject H_o
	Delineation	79	Proportions	z = 1.74	$z_{0.05}$ = 1.645	Reject H_o
Cadmium	Subdivision	83	Proportions	z = 1.29	$z_{0.05}$ = 1.645	Do not reject H_o
	Adjacent landfill	83	Proportions	z = 1.17	$z_{0.05}$ = 1.645	Do not reject H_o
	Onsite	88	Proportions	Could not perform test (nP <5).		
	Delineation	79	Proportions	z = 1.55	$z_{0.05}$ = 1.645	Do not reject H_o
Chromium	Subdivision	11	Student's t	16: t = 0.463	$t_{0.05}$ = 1.717	Do not reject H_o
				17A: t = 1.066	$t_{0.05}$ = 1.717	Do not reject H_o
				17B: t = 0.214	$t_{0.05}$ = 1.717	Do not reject H_o
				18: t = 0.813	$t_{0.05}$ = 1.717	Do not reject H_o
				19A: t = 1.923	$t_{0.05}$ = 1.717	Reject H_o
	Adjacent landfill	19	U test	z = 0.2138	$z_{0.05}$ = -1.645	Do not reject H_o
	Onsite	15	U test	z = -0.1497	$z_{0.05}$ = -1.645	Do not reject H_o
	Delineation	24	U test	z = 0.15	$z_{0.05}$ = -1.645	Do not reject H_o
Cobalt	Subdivision	86	Proportions	z = 1.87	$z_{0.05}$ = 1.645	Reject H_o
	Adjacent landfill	93	None	N/A	N/A	

See notes at end of table.

Table 4-8 (Continued)
Groundwater Statistical Comparisons Summary Table and Results

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Well Group	Percent Nondetected Value	Statistical Test Used	Calculated Value	Critical Value	Result of Statistical Test
Cobalt (continued)	Onsite	88	Proportions	Could not perform test (nP <5).		
	Delineation	91	None			
Copper	Subdivision	17	U test	z = -2.8718	$z_{0.05}$ = -1.645	Reject H_o
	Adjacent landfill	26	U test	z = 0.6918	$z_{0.05}$ = -1.645	Do not reject H_o
	Onsite	27	U test	z = 1.1414	$z_{0.05}$ = -1.645	Do not reject H_o
	Delineation	16	U test	z = -1.41	$z_{0.05}$ = -1.645	Do not reject H_o
Cyanide	Subdivision	100	None	N/A	N/A	
	Adjacent landfill	100	None	N/A	N/A	
	Onsite	100	None	N/A	N/A	
	Delineation	100	None	N/A	N/A	
Iron	Subdivision	0	Student's t	16: N/A	N/A	N/A
				17A: t = 1.757	$t_{0.05}$ = 1.725	Do not reject H_o
				17B: t = 0.582	$t_{0.05}$ = 1.725	Do not reject H_o
				18: t = 0.725	$t_{0.05}$ = 1.725	Do not reject H_o
				19A: N/A	N/A	N/A
	Adjacent landfill	0	Student's t	13A: N/A	N/A	N/A
				2: t = 0.933	$t_{0.05}$ = 1.725	Do not reject H_o
				3A: t = 2.343	$t_{0.05}$ = 1.725	Reject H_o
				3B: t = -0.409	$t_{0.05}$ = 1.725	Do not reject H_o
				5: t = 1.533	$t_{0.05}$ = 1.725	Do not reject H_o
				6: t = -0.736	$t_{0.05}$ = 1.725	Do not reject H_o
				8B: t = 2.172	$t_{0.05}$ = 1.725	Reject H_o
	Onsite	0	Student's t	10A: t = 13.129	$t_{0.05}$ = 1.731	Reject H_o
				10B: t = 0.473	$t_{0.05}$ = 1.725	Do not reject H_o
				22A: t = 3.183	$t_{0.05}$ = 1.725	Reject H_o
				22B: t = -0.603	$t_{0.05}$ = 1.725	Do not reject H_o
	Delineation	2	Student's t	10C: t = 0.410	$t_{0.05}$ = 1.725	Do not reject H_o
				11C: t = -0.442	$t_{0.05}$ = 1.725	Do not reject H_o
				13B: t = -0.473	$t_{0.05}$ = 1.725	Do not reject H_o
				14: t = 2.166	$t_{0.05}$ = 1.725	Reject H_o
				15: t = 0.861	$t_{0.05}$ = 1.725	Do not reject H_o
				17C: t = -0.265	$t_{0.05}$ = 1.725	Do not reject H_o
				19B: t = -0.335	$t_{0.05}$ = 1.735	Do not reject H_o
				21: t = 1.938	$t_{0.05}$ = 1.725	Reject H_o
				3C: t = -3.287	$t_{0.05}$ = 1.725	Do not reject H_o
				8A: t = 2.916	$t_{0.05}$ = 1.725	Reject H_o
				8C: t = 1.202	$t_{0.05}$ = 1.725	Do not reject H_o
				9: t = 0.969	$t_{0.05}$ = 1.725	Do not reject H_o

See notes at end of table.

Table 4-8 (Continued)
Groundwater Statistical Comparisons Summary Table and Results

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Well Group	Percent Nondetected Value	Statistical Test Used	Calculated Value	Critical Value	Result of Statistical Test
Lead	Subdivision	47	U test	z = 0.8022	$z_{0.05}$ = -1.645	Do not reject H_o
	Adjacent landfill	48	U test	z = -0.1509	$z_{0.05}$ = -1.645	Do not reject H_o
	Onsite	35	U test	z = -4.566	$z_{0.05}$ = -1.645	Reject H_o
	Delineation	40	U test	z = 0.47	$z_{0.05}$ = -1.645	Do not reject H_o
Manganese	Subdivision	0	Student's t	16: N/A	N/A	N/A
				17A: t = 0.481	$t_{0.05}$ = 1.725	Do not reject H_o
				17B: t = -0.816	$t_{0.05}$ = 1.725	Do not reject H_o
				18: t = 0.092	$t_{0.05}$ = 1.725	Do not reject H_o
				19A: N/A	N/A	N/A
	Adjacent landfill	3	Student's t	13A: N/A	N/A	N/A
				2: t = 1.166	$t_{0.05}$ = 1.725	Do not reject H_o
				3A: t = 16.182	$t_{0.05}$ = 1.739	Reject H_o
				3B: t = 0.139	$t_{0.05}$ = 1.725	Do not reject H_o
				5: t = 1.189	$t_{0.05}$ = 1.725	Do not reject H_o
				6: t = -0.271	$t_{0.05}$ = 1.725	Do not reject H_o
				8B: t = 2.571	$t_{0.05}$ = 1.725	Reject H_o
	Onsite	0	Student's t	10A: t = 17.872	$t_{0.05}$ = 1.725	Reject H_o
				10B: t = -0.699	$t_{0.05}$ = 1.725	Do not reject H_o
				22A: t = 5.147	$t_{0.05}$ = 1.725	Reject H_o
				22B: t = -1.601	$t_{0.05}$ = 1.725	Do not reject H_o
	Delineation	0	Student's t	10C: t = 1.918	$t_{0.05}$ = 1.725	Reject H_o
				11C: t = 2.698	$t_{0.05}$ = 1.725	Reject H_o
				13B: t = 0.973	$t_{0.05}$ = 1.725	Do not reject H_o
				14: t = 0.814	$t_{0.05}$ = 1.725	Do not reject H_o
				15: t = 1.269	$t_{0.05}$ = 1.725	Do not reject H_o
				17C: t = 1.00	$t_{0.05}$ = 1.725	Do not reject H_o
				19B: t = 0.108	$t_{0.05}$ = 1.734	Do not reject H_o
				21: t = 1.377	$t_{0.05}$ = 1.725	Do not reject H_o
				3C: t = -2.087	$t_{0.05}$ = 1.725	Do not reject H_o
				8A: t = 13.705	$t_{0.05}$ = 1.726	Reject H_o
				8C: t = 0.535	$t_{0.05}$ = 1.750	Do not reject H_o
				9: t = -1.375	$t_{0.05}$ = 1.725	Do not reject H_o
Mercury	Subdivision	94	None	N/A	N/A	
	Adjacent landfill	90	Proportions	Could not perform test (nP <5).		
	Onsite	88	Proportions	Could not perform test (nP <5).		
	Delineation	89	Proportions	z = 0.19	$Z_{0.05}$ = 1.645	Do not reject H_o
Nickel	Subdivision	43	U test	z = -3.0167	$z_{0.05}$ = -1.645	Reject H_o
	Adjacent landfill	61	Proportions	z = 0.12	$z_{0.05}$ = 1.645	Do not reject H_o
	Onsite	50	U test	z = -1.401	$z_{0.05}$ = -1.645	Do not reject H_o
	Delineation	59	Proportions	z = 0.12	$z_{0.05}$ = 1.645	Do not reject H_o

See notes at end of table.

Table 4-8 (Continued)
Groundwater Statistical Comparisons Summary Table and Results

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Well Group	Percent Nondetected Values	Statistical Test Used	Calculated Value	Critical Value	Result of Statistical Test
Selenium	Subdivision	89	Proportions	Could not perform test (nP <5).		
	Adjacent landfill	95	None	N/A	N/A	
	Onsite	88	Proportions	Could not perform test (nP <5).		
	Delineation	91	None	N/A	N/A	
Silver	Subdivision	97	None	N/A	N/A	
	Adjacent landfill	94	None	N/A	N/A	
	Onsite	96	None	N/A	N/A	
	Delineation	92	None	N/A	N/A	
Sulfide	Subdivision	72	Proportions	z = 0.63	$z_{0.05}$ = 1.645	Do not reject H_o
	Adjacent landfill	67	Proportions	z = 1.31	$z_{0.05}$ = 1.645	Do not reject H_o
	Onsite	73	Proportions	z = 0.59	$z_{0.05}$ = 1.645	Do not reject H_o
	Delineation	74	Proportions	z = 0.33	$z_{0.05}$ = 1.645	Do not reject H_o
Thallium	Subdivision	92	None	N/A	N/A	
	Adjacent landfill	100	None	N/A	N/A	
	Onsite	91	None	N/A	N/A	
	Delineation	98	None	N/A	N/A	
Tin	Subdivision	83	Proportions.	Could not perform test (nP <5).		
	Adjacent landfill	100	None	N/A	N/A	
	Onsite	88	None	Only one measurement.		
	Delineation	83	Proportions	Could not perform test (nP <5).		
Vanadium	Subdivision	60	Proportions	z = 0.00	$z_{0.05}$ = 1.645	Do not reject H_o
	Adjacent landfill	46	U test	z = -2.2691	$z_{0.05}$ = -1.645	Reject H_o
	Onsite	44	U test	z = -2.433	$z_{0.05}$ = -1.645	Reject H_o
	Delineation	62	Proportions	z = 0.29	$z_{0.05}$ = 1.645	Do not reject H_o

See notes at end of table.

Table 4-8 (Continued)
Groundwater Statistical Comparisons Summary Table and Results

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Well Group	Percent Nondetected	Statistical Test Used	Calculated Value	Critical Value	Result of Statistical Test
Zinc	Subdivision	42	U test	z = -0.5936	$z_{0.05}$ = -1.645	Do not reject H_o
	Adjacent landfill	33	U test	z = -0.2641	$z_{0.05}$ = -1.645	Do not reject H_o
	Onsite	30	U test	z = -1.6092	$z_{0.05}$ = -1.645	Do not reject H_o
	Delineation	34	U test	z = -0.51	$z_{0.05}$ = -1.645	Do not reject H_o

[1] Refer to Table 4-1 for descriptions of statistical tests and corresponding references.
[2] For results of the student's t test, the well identification number is listed to the left of the calculated value.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
H_o = null hypothesis.
N/A = statistical comparison not applicable.
< = less than.

KBA-11-22A and KBA-11-10A. Two of the eight constituents, lead and vanadium, were evaluated using the Mann-Whitney U test. The remaining elements, arsenic and antimony, were evaluated using the test for proportions. Results of the U test and test for proportions do not necessarily indicate which well is the source of the difference.

For the analytes that failed the test for proportions and Mann-Whitney U tests, the site data were compared to the log-normal 95th percentile values. The values that exceed the 95th percentile background value may be the source of the differences detected by the statistical tests. Arsenic values that exceed the log-normal 95th percentile value are associated with well KBA-11-10B for the January and April 1994 sampling events. Antimony values that exceeded the background log-normal 95th percentile value are associated with wells KBA-11-22A and KBA-11-10A for the September 1994 sampling event. None of the onsite lead values exceeded the background 95th percentile value. Vanadium and zinc values that exceed the log-normal 95th percentile background value are associated with wells KBA-11-10A and KBA-11-10B, April and September 1994.

The statistical comparison results for wells adjacent to the landfill are similar to the results for the onsite wells, except that significant differences were not found for lead, barium, antimony, and arsenic. Significant differences for iron, aluminum, and manganese were limited to wells, KBA-11-3A and KBA-11-8B, except that well KBA-11-5 had a significant difference for aluminum. Vanadium values, evaluated using the U test, exceed the log-normal 95th percentile background value were associated with wells KBA-11-13A, KBA-11-3A, and KBA-11-5.

Results of statistical comparisons for characterization wells in the subdivision were rather unique in that significant differences were found for nickel, cobalt, chromium, and copper. None of the other well groups had significant differences for these analytes. Arsenic and barium values for the subdivision characterization wells were also significantly different when compared to background, similar to the onsite characterization wells. In the subdivision, KBA-11-17A had significantly higher concentrations of barium.

The only analytes in the delineation well group that had significant differences were beryllium, iron, barium, and manganese. However, the beryllium differences are attributed to a higher percentage of detected values in the background data set rather than the delineation data set. With the exception of iron, barium, and manganese, the extent of any other inorganic releases are defined by the delineation wells. In an ideal situation, none of the delineation data would have differences when compared to background, but geologic settings are inherently heterogeneous on the ppm scale of these observations. Most of the background wells are in the shallow to middle zones of the surficial aquifer, but 7 of 12 delineation wells are deep. If the surficial aquifer has different background populations in the deep zone, this could cause statistical differences when delineation data or characterization data from deep wells are compared to background. Variations in iron and manganese concentrations can be attributable to the fact that they are major cations in the minerals comprising the aquifer matrix.

In summary, the statistical results indicate that the characterization data do have significant differences when compared to background. Analytes having significant differences are iron, aluminum, barium, arsenic, antimony, lead, manganese, nickel, vanadium, chromium, copper, and cobalt. The differences may

be related to waste disposal activities at the site. The fact that only three sampling events were evaluated limits the degree of certainty associated with any conclusions drawn from the statistical comparisons. Natural variations beyond the background concentrations that have been defined for the site cannot be entirely ruled out.

4.3 CHARACTERIZATION OF SITE SUBSURFACE SOIL. On September 13, 1995, subsurface soil samples were collected from 10 background locations to the north and east of Site 11 (Figure 4-1). The samples were analyzed for organic and inorganic constituents. The organic data were used to evaluate the locations for conditions that would not be representative of background, such as manmade chemicals. One phthalate compound was detected in two of the background subsurface soil samples, SB20603 and SB20803. The detection of a phthalate does not effect the useability of the background sample because phthalates are commonly artifacts of sampling and analytical procedures. A comprehensive list of validated analytical data for the background subsurface soil samples is included in Appendix C. The absence of organic compounds supports the conclusion that the locations sampled are representative of background conditions.

Subsurface soil samples for characterization of potential contaminants were collected during two field programs. The first program was the initial RFI conducted during early 1992, during which time subsurface soil samples were collected from nine borings installed for monitoring wells (Figure 4-2). This field program and the analytical results were reported in the interim RFI report (ABB-ES, 1993a), but a background data set was not available for use in evaluating potential inorganic contaminants. Therefore, the 1992 subsurface soil samples were included in the statistical evaluations presented in this report.

The second field program that included collection of subsurface soil samples was the supplemental RFI drilling program conducted during October and November 1993. The locations sampled during the November 1993 program were inside the landfill, to the east of the landfill, and to the west of the landfill (Figure 4-2).

The statistical approach used to develop the background subsurface soil data set and compare the site subsurface soil inorganic data to corresponding background data is the same approach that was used for groundwater and described in Section 4.2 of this report, except that an ANOVA test was not used. An ANOVA test is not applicable to the background subsurface soil data because the background soil data was derived from a single sampling event, unlike the groundwater background data that was composed of data from multiple sampling events. The same analytes were evaluated in soil and groundwater (Table 4-3).

The background soil data were evaluated for outlier values (Appendix F). Three analyte concentrations in one of the background soil samples (11SB21003) were identified as outlier values. The three analytes are manganese (9.1 mg/kg), cyanide (0.15 J mg/kg), and nickel (4.5 J mg/kg). These measurements were removed from the background data set prior to comparing to site data.

The site subsurface soil characterization inorganic data and background data are summarized in Table 4-9. More detailed reports of these data can be found in Appendices B and C. Table 4-10, summarizes the results of the statistical comparisons to background for each analyte evaluated. Appendix H contains spreadsheets where more details about the statistical analyses are presented.

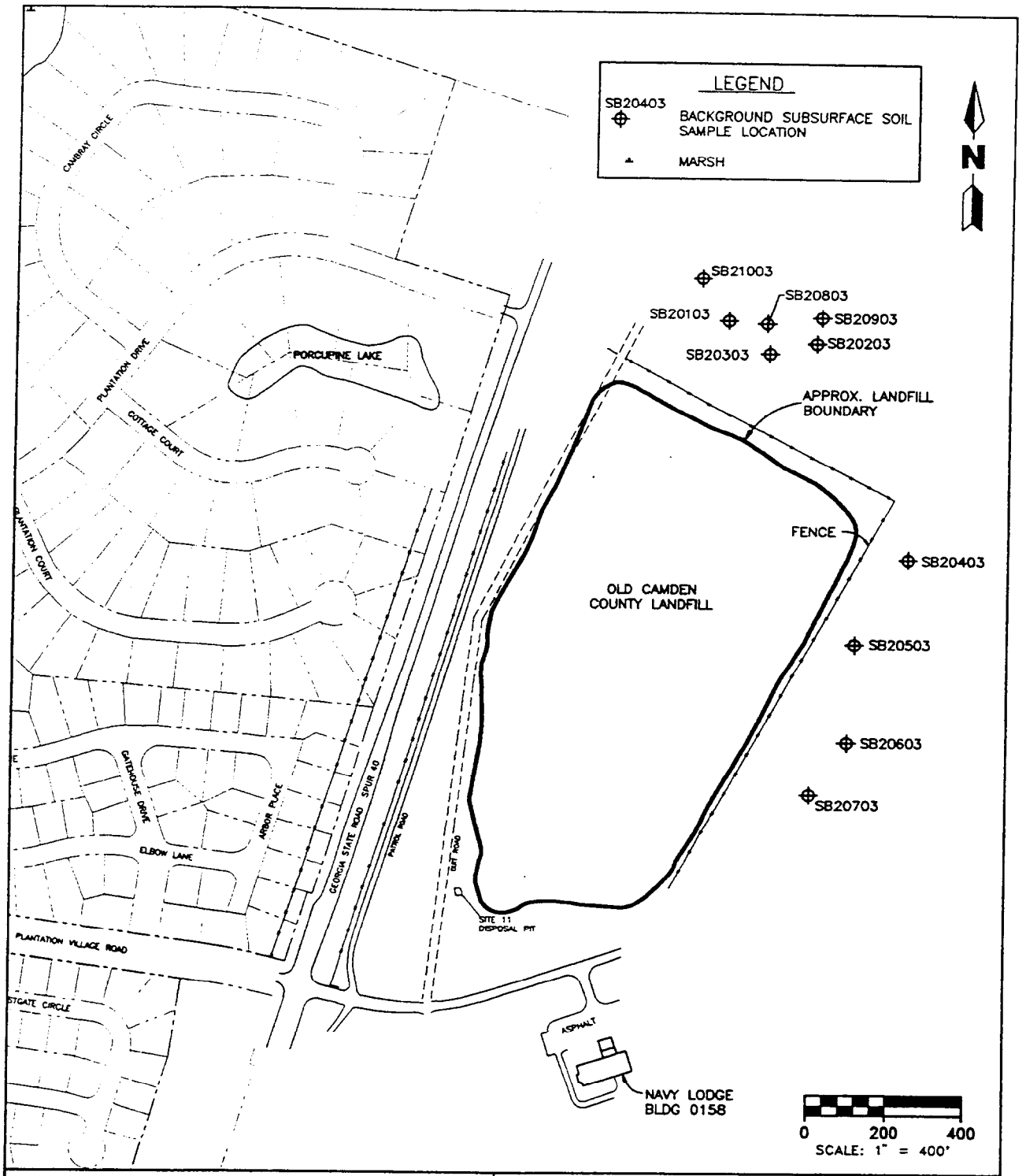

FIGURE 4-1

BACKGROUND SUBSURFACE SOIL SAMPLE LOCATIONS

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

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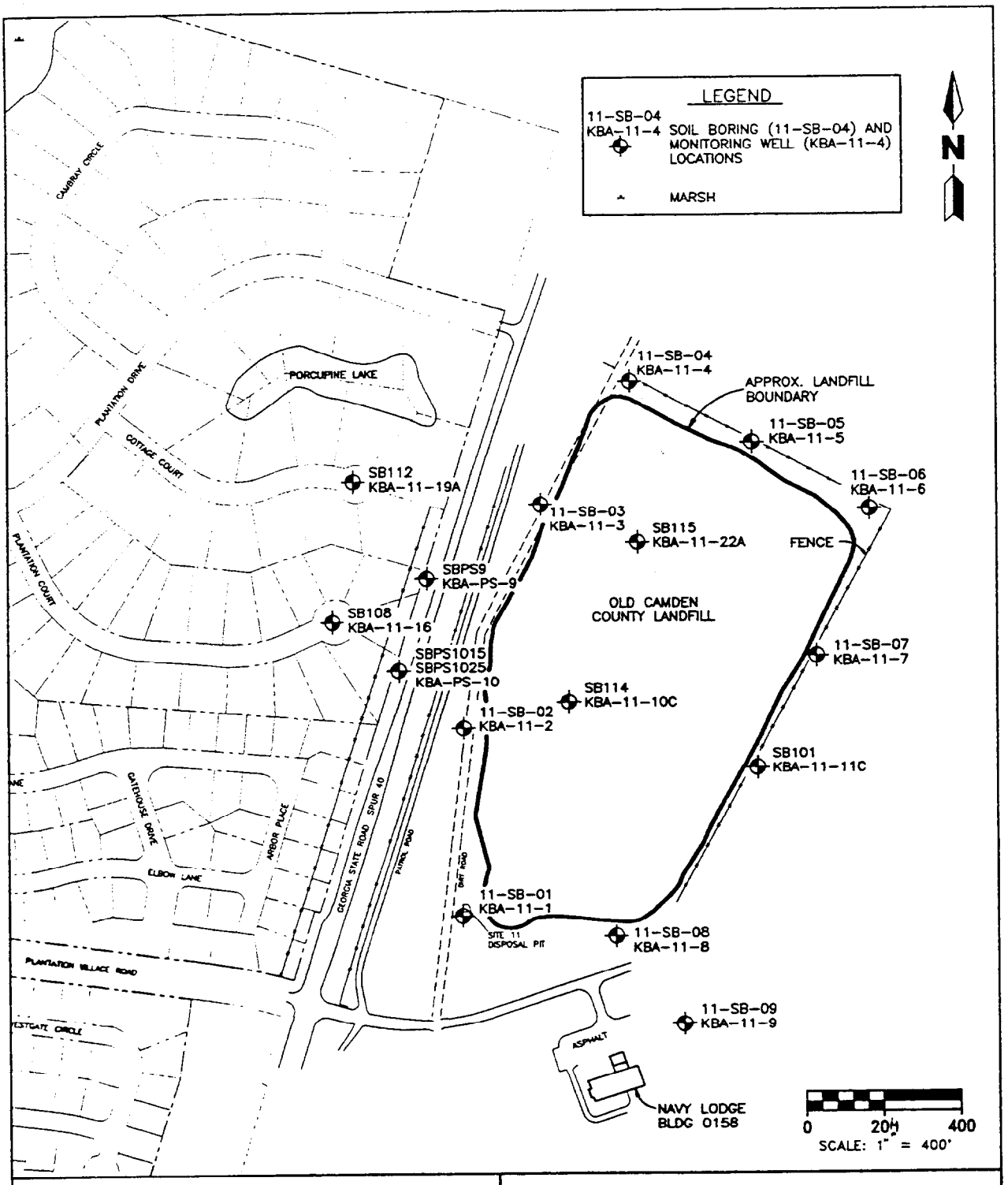

FIGURE 4-2

LOCATIONS OF CHARACTERIZATION SUBSURFACE SOIL SAMPLES

SUPPLEMENTAL RFI REPORT FOR SITE 11

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

D:\DWG\ABB\08503-11\SUPP_RFI\FIG_5-1\DMF\960111

Table 4-9
Ranges of Concentrations and Frequency of Inorganic Analytes Detected in Subsurface Soil Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Background		Characterization	
	Concentration Range (mg/kg)	Frequency	Concentration Range (mg/kg)	Frequency
Aluminum	1,600 to 5,040	10/10	896 to 3,620	13/13
Antimony	none	0/10	none	0/21
Arsenic	ND to 0.89 J	8/10	ND to 4.4	11/21
Barium	2.5 J to 4 J	10/10	ND to 17.1 J	20/21
Beryllium	none	0/10	ND to 0.14 J	7/21
Cadmium	ND to 0.78 J	2/10	ND to 0.81 J	1/21
Calcium	18.7 J to 69.3 J	10/10	22.8 J to 32,600	13/13
Chromium	2 to 3.5	10/10	ND to 4.7	14/21
Cobalt	ND to 0.95 J	9/10	ND to 2.3 J	3/21
Copper	ND to 1 J	7/10	ND to 1.2 J	5/21
Cyanide	ND to 0.15 J	1/10	ND to 0.42 J	4/21
Iron	540 to 1,300	10/10	236 J to 2,590 J	21/21
Lead	1.9 to 3.3	10/10	ND to 2.3	18/21
Magnesium	44.1 J to 94.7 J	10/10	33.9 J to 3,340	13/13
Manganese	3 J to 9.1	10/10	1.5 J to 35.5 J	13/13
Mercury	ND to 0.02 J	6/10	ND to 1.3	2/21
Nickel	ND to 4.5 J	2/10	ND to 4 J	5/21
Potassium	ND to 185	1/10	ND to 200 J	3/13
Selenium	none	0/10	ND to 0.73 J	3/21
Silver	none	0/10	none	0/21
Sodium	none	0/10	ND to 140 J	6/13
Sulfide	23.2 J to 90.2 J	10/10	ND to 180	13/21
Thallium	none	0/10	ND to 0.44 J	2/21
Vanadium	0.9 J to 3.5 J	10/10	ND to 4.4 J	18/21
Zinc	0.94 J to 1.6 J	10/10	ND to 7.2	13/21
Tin	Not analyzed	0/0	none	0/8

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
mg/kg = milligrams per kilogram.
ND = not detected.
J = estimated value.

Table 4-10
Subsurface Soil Statistical Comparisons Summary Table and Results

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Percent Nondetected Values	Statistical Test Used	Critical Value	Calculated Value	Result of Statistical Test
Aluminum	0	Student's t	1.721	-2.351	Do not reject H_o
Antimony	100	None	N/A	N/A	N/A
Arsenic	39	U test	-1.645	0.317	Do not reject H_o
Barium	3	Student's t	1.716	0.562	Do not reject H_o
Beryllium	77	Proportions	1.645	2.07	Reject H_o. Characterization samples have more detected values.
Cadmium	90	Proportions	Cannot perform test (nP < 5).		
Chromium	19	U test	-1.645	0.275	Do not reject H_o
Cobalt	61	Proportions	1.645	4.05	Reject H_o. Background has more detected values.
Copper	61	Proportions	1.645	2.47	Reject H_o. Background has more detected values.
Cyanide	87	Proportions	Cannot perform test (nP < 5).		
Iron	0	Student's t	1.740	0.070	Do not reject H_o
Lead	10	Student's t	1.701	-6.135	Do not reject H_o
Manganese	0	Student's t	1.762	1.383	Do not reject H_o
Mercury	77	Proportions	1.645	2.52	Reject H_o. Background has more detected values.
Nickel	80	Proportions	1.645	0.80	Do not reject H_o
Selenium	90	Proportions	Cannot perform test (nP < 5).		
Silver	97	None	N/A	N/A	N/A
Sulfide	0	Student's t	1.721	1.162	Do not reject H_o
Thallium	94	None	N/A	N/A	N/A
Vanadium	10	Student's t	1.699	-1.509	Do not reject H_o
Zinc	26	U test	-1.645	-0.803	Do not reject H_o

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
H_o = null hypothesis (refer to Table 4-1 for description of null hypothesis).
N/A = not applicable.
< = less than.

Beryllium is the only analyte that was found to have significant differences that may be suggestive of contamination. For beryllium, the site data contain significantly more detected values (33 percent) than the background data set. The background data set did not contain any detected values. Seven characterization samples contained detectable concentrations of beryllium that range from 0.05 J to 0.14 J mg/kg.

Three other analytes, cobalt, copper, and mercury, evaluated using the test for proportions, had significant differences, but the background data were the cause of the difference because the background data set had more detected values than the site data set (Table 4-9).

4.4 CHARACTERIZATION OF MEDIA WITHIN THE DISPOSAL AREA. The soil and liquid samples from the trenches excavated into the waste in the landfill were primarily collected for purposes of identifying the location(s) of the source of the organic contaminants that are in the groundwater. Inorganic analyses were also performed as part of the routine contract laboratory program (CLP) analytical services. The inorganic data from the soil and liquid samples were evaluated using a qualitative approach. A quantitative, statistical approach was not used because of differences in sampling procedures associated with the data sets that would be compared if the trench media were compared to background groundwater and subsurface soil media. The results of any statistical comparisons could be more representative of differences in the two sampling techniques than differences in the sample matrices.

The trench soil and liquid inorganic data, summarized in Table 4-11, were evaluated by qualitatively comparing the inorganic concentrations to those associated with the soil and groundwater samples collected from locations between the disposal cells and at a depth interval near the bottom of the waste. Specifically of interest are those analytes in groundwater and subsurface soil that had significant differences when compared to background because those are the ones potentially released from the site. The analytes are iron, aluminum, barium, arsenic, manganese, nickel, chromium, cobalt, copper, antimony, lead, and vanadium in groundwater and beryllium in soil.

Beryllium was not detected in the trench soil samples, nor was it detected in subsurface soil samples SB11512 and SB11412 that were collected from locations between two disposal cells. If the absence of beryllium in the soil samples from the onsite borings and trenches is representative of the landfill in general, then it is not likely that the site is the cause of statistical differences between the subsurface soil and background data sets.

Eight inorganic constituents were found to have significant differences when the data set for the onsite characterization wells were compared to the corresponding background data sets. With the exception of vanadium, concentrations were much higher in the trench liquid samples than in the groundwater samples from shallow wells KBA-11-10A and KBA-11-22A.

A total of 12 inorganic analytes have significant differences in groundwater relative to background. The 12 analytes are arsenic, chromium, cobalt, copper, nickel, barium, aluminum, iron, manganese, vanadium, antimony, and lead. Six of

Table 4-11
Ranges of Concentrations and Frequency of Inorganic Analytes Detected in Trench Soil and Liquid Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Trench Soil		Trench Liquid	
	Concentration Range (mg/kg)	Frequency	Concentration Range (µg/ℓ)	Frequency
Aluminum	1,160 to 2,780 J	5/5	ND to 29,800	3/4
Antimony	none	0/6	ND to 18.4 J	2/5
Arsenic	none	0/6	ND to 13	4/5
Barium	2.3 J to 7.1 J	5/6	120 to 292	5/5
Beryllium	none	0/6	none	0/5
Cadmium	none	0/6	ND to 10.5	3/5
Calcium	ND to 2,580	4/5	117,000 to 165,000	4/4
Chromium	ND to 3.6	4/6	ND to 39.5	2/5
Cobalt	ND to 0.87 J	3/6	ND to 12.1 J	1/5
Copper	ND to 2.6	3/6	2 J to 309	5/5
Cyanide	none	0/6	ND to 32.1 J	2/5
Iron	550 to 1,140	5/5	43,700 to 72,300	4/4
Lead	1.8 to 7.9	6/6	ND to 219	4/5
Magnesium	41.8 J to 305 J	5/5	7,910 to 13,700	4/4
Manganese	3.4 to 14.6 J	5/5	335 to 1,250	4/4
Mercury	none	0/6	ND to 1.1	3/5
Nickel	ND to 1.1 J	5/6	ND to 64.6	3/5
Potassium	ND to 55.7 J	4/5	2,810 J to 8,600 J	4/4
Selenium	none	0/6	ND to 4.5 J	1/5
Silver	none	0/6	ND to 3.4 J	2/5
Sodium	ND to 211 J	4/5	6,200 to 12,900	4/4
Sulfide	ND to 64 J	1/6	ND to 15,000	2/5
Thallium	none	0/6	none	0/5
Vanadium	ND to 4.8 J	5/6	ND to 30.3 J	3/5
Zinc	ND to 15.7	3/6	ND to 2,180	4/5
Tin	none	0/1	none	0/1

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
mg/kg = milligrams per kilogram.
µg/ℓ = micrograms per liter.
J = estimated value.
ND = not detected.

the 12 analytes (aluminum, arsenic, chromium, cobalt, nickel, and vanadium) were detected in a groundwater sample from well KBA-11-10B (April 1994) at concentrations that were above the maximum value in trench liquids. Well KBA-11-10B is screened in the middle zone of the aquifer.

4.5 CHARACTERIZATION OF PORCUPINE LAKE. Porcupine Lake is a manmade surface water body. The bottom of the lake is below the water table and the lake surface is an expression of the water table. Sediment and surface water samples were collected from five locations in Porcupine Lake. There are no background sediment and surface water samples for the site because there were no background surface water bodies to sample. The primary objective for sampling the lake was to evaluate for organic contamination potentially associated with the plume of groundwater contaminated with organic chemicals. Inorganic analyses were also conducted as part of the routine CLP analytical services. Table 4-12 summarizes results of the inorganic analyses performed.

If site-related inorganic contaminants are present in the lake sediment and/or surface water, they would have migrated in groundwater from the landfill to the lake. Therefore, the potential inorganic contaminants identified in the groundwater are the candidate contaminants of concern in the lake media. Twelve inorganic analytes were identified as potential contaminants in groundwater. The 12 analytes are iron, aluminum, cobalt, chromium, barium, arsenic, manganese, copper, nickel, lead, antimony, and vanadium. These analytes were evaluated in the surface water and sediment using a qualitative comparison to background groundwater and subsurface soil, respectively.

Most of the inorganic concentrations in surface water samples are below the corresponding concentrations in background groundwater samples. This is most likely caused by precipitation of dissolved constituents in the oxygenated water of the lake. The oxygen rich surface water provides an oxidizing environment that promotes precipitation of dissolved inorganic constituents compared to the oxygen deficient groundwater where inorganic constituents generally tend to be more soluble.

Of the 12 inorganic constituents in groundwater above background levels, only iron was present in surface water at a concentration that exceeded the background groundwater maximum value. The maximum concentration of iron in surface water samples is 7,560 $\mu g/\ell$ and the maximum background groundwater value is 6,040 $\mu g/\ell$. These two values are similar in magnitude, the larger value being approximately 25 percent greater than the smaller value.

Eight of the twelve constituents in groundwater that were found to have significant differences are also present in sediment at concentrations above the maximum background subsurface soil value. Six constituents, including iron, aluminum, copper, chromium, manganese, and vanadium, were present in sediment at concentrations less than two times the background subsurface soil maximum value. Barium was detected in sediment at a concentration five times the background subsurface soil maximum value. Lead was detected in sediment at a concentration slightly more than two times the background subsurface soil maximum value.

In conclusion, there is no apparent inorganic contamination of surface water in Porcupine Lake. As for sediment in the lake, only barium was present at concentrations substantially greater than two times the corresponding maximum value for background subsurface soil.

Table 4-12
Ranges of Concentrations and Frequency of Inorganic Analytes Detected in Sediment and Surface Water Samples

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Analyte	Sediment		Surface Water	
	Concentration Range (mg/kg)	Frequency	Concentration Range (µg/ℓ)	Frequency
Aluminum	2,220 to 7,390	4/4	ND to 64.9 J	1/4
Antimony	none	0/5	none	0/5
Arsenic	none	0/5	ND to 4.7 J	2/5
Barium	3.2 to 22.5 J	5/5	18.2 J to 19.5 J	5/5
Beryllium	none	0/5	none	0/5
Cadmium	none	0/5	none	0/5
Calcium	302 J to 2,400 J	4/4	29,200 to 30,700	4/4
Chromium	2.6 J to 5.9	5/5	none	0/5
Cobalt	ND to 0.82 J	1/5	none	0/5
Copper	ND to 1.4	1/5	none	0/5
Cyanide	none	0/5	none	0/5
Iron	499 to 1,400	4/4	100 to 7,560	4/4
Lead	2.6 to 7.3	5/5	none	0/5
Magnesium	94 J to 472 J	4/4	12,400 to 13,000	4/4
Manganese	4.2 to 14.9	4/4	3.4 J to 43.5	4/4
Mercury	none	0/5	none	0/5
Nickel	ND to 1.9 J	1/5	none	0/5
Potassium	40.8 J to 105 J	4/4	1,920 J to 1,980 J	4/4
Selenium	none	0/5	none	0/5
Silver	none	0/5	none	0/5
Sodium	none	0/4	11,000 to 11,700	4/4
Sulfide	ND to 320	4/5	ND to 4,000 J	1/5
Thallium	none	0/5	none	0/5
Vanadium	ND to 4.5 J	4/5	none	0/5
Zinc	none	0/5	ND to 66	1/5
Tin	none	0/1	none	0/1

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
mg/kg = milligrams per kilogram.
µg/ℓ = micrograms per liter.
ND = not detected.
J = estimated value.

5.0 CONCEPTUAL MODEL OF CONTAMINANT TRANSPORT

The distribution and extent of contamination is based on the physical characteristics of individual contaminants, or contaminant groups, and the physiochemical properties of environmental media at the site. Organic chemicals and inorganic elements have different physical properties that govern their behavior in the environment. Therefore, this chapter is divided into two sections to address organic chemicals and inorganic elements.

5.1 ORGANIC CHEMICALS IN ENVIRONMENTAL MEDIA. Physical characteristics which govern the behavior of contaminants include solubility, vapor pressure, air-water partition (Henry's law constant) and soil-sediment partition (sorption) coefficients, and transformation or degradation processes. Table 5-1 summarizes physical and chemical characteristics for organic compounds of concern at Site 11. Physiochemical properties of environmental media which influence or control contaminant behavior include carbon content of soils, porosity of the aquifer matrix, aquifer permeability, and the direction and velocity of groundwater flow.

The distribution of contaminants in environmental media at Site 11 indicates that releases from the waste are relatively old and the majority of contamination is concentrated in a groundwater hot spot on the western edge of the landfill.

Table 5-2 lists the contaminants that have been identified in various media sampled during the supplemental RFI and that are attributable to waste disposal at the site. The media in which the contaminants have been detected is also shown in Table 5-2. The media are first divided into solid or liquid, because chemicals partition themselves between the solid phase and liquid phase based on their chemical characteristics. Within the categories of solid and liquid on Table 5-2, media are divided based on proximity to the waste. The samples from the trenches are nearest to the waste. These media would be effected by releases first. A new or continuing release would manifest itself in trench soils and liquids. A comparison of the number of chemicals detected in the trench samples to samples of subsurface soil and groundwater shows that there are fewer chemicals detected in the samples from the disposal trenches. This may mean that the release occurred some time ago and has migrated out of the trenches into adjacent areas. The chemicals travel in the groundwater and partition themselves between the groundwater and subsurface soil. The contaminated groundwater becomes the source of contamination for subsurface soil.

The solubility of a chemical and its tendency to sorb to soil are the primary factors that predict the chemical's fate in the environment. The water solubility (S_w) of a compound is defined as the saturated concentration of the compound in water at a given temperature and pressure. Water solubility varies with temperature, pH, and the presence of other dissolved constituents. Compounds with high solubilities dissolve more readily in water than those with lower solubilities.

Sorption coefficients (K_{oc}) provide an indication of the tendency of a contaminant to partition between liquids and particles containing organic carbon. Contaminants that sorb onto organic materials in an aquifer are retarded in their movement in groundwater so that the sorbing solute travels at a linear velocity less than the groundwater flow velocity. The degree of retardation is based on

Table 5-1
Physical and Chemical Characteristics of Organic Compounds of Concern

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Chemical	Physical Form	Chemical Class	Molecular Weight	Specific Density	Boiling Point (°F)	Solubility in Water	Vapor Pressure	Flash Point°F	Sorption Coefficient (log K_{oc})
Ketones									
Acetone	Liquid	Ke	58.1	0.7899 @ 20/4°C	133.16	Miscible	180 mm/20°C	27.24	-0.43
2-Butanone	Liquid	Ke	72.1	0.8054 @ 20/4°C	175.28	27.33 wt% @ 20°C	77.5 mm	15.80	0.09
4-Methyl-2-pentanone	Liquid	Ke	100.2	0.7978 @ 20/4°C	242.24	17,000 mg/ℓ	15 mm	73.04	0.79
2-Hexanone	Liquid	Ke	100.2	0.8113 @ 20/4°C	262.40	35,000 mg/ℓ	2 mm	15.80	2.13
Chlorinated hydrocarbons									
Chloroethane	Liquid	Ca	64.52	0.8978 @ 20/°C	54.14	5,740 mg/ℓ	1,011 mm	-58.00	0.51
Chloromethane	Liquid	Ca	vapor density 2.06 g/ℓ	0.9159 @ 20/°C	-11.56	7,250 mg/ℓ	3,789 mm	-58.00	1.40
1,1-Dichloroethane	Liquid	ca	99.0	1.1757 @ 20/4°C	135	5,500 mg/ℓ	182.1 mm	21	1.48
1,1-Dichloroethene	Liquid	ce	96.95	1.219 @ 20/4 °C	98.6	400 mg/ℓ	495 mm	5	1.81
cis-1,2-Dichloroethene	Liquid	ce	96.9	1.257 @ 20/4°C	140	No data	No data	36	1.69
trans-1,2-Dichlorethene	Liquid	ce	96.9	1.257 @ 20/4°C	117	600 mg/ℓ	265	36	1.56
Methylene chloride	Liquid	ca	84.94	d20/4 1.3255	104.36	20,000 mg/ℓ	348.9 mm	None	0.94
Tetrachloroethene	Liquid	ce	165.8	1.6227 @ 20/4°C	250.16	150 mg/ℓ	14 mm	not flammable	2.42
Trichloroethene	Liquid	ce	131.4	1.4642 @ 20/4°C	189	1,100 mg/ℓ	56.8 mm	90	2.03
Vinyl chloride	Gas	ce	62.5	0.9106 @ 20/4°C	-7.88	0.915 Wt% at 20.5°C	2,320 mm	-108.4	0.39
Aromatic hydrocarbons									
Benzene	Liquid	ma	78.11	0.8765 @ 20/4°C	176	1,780 mg/ℓ	76 mm	12	1.92
Ethylbenzene	Liquid	ma	106.2	0.8670 @ 20/4°C	277	152 mg/ℓ	7.08 mm	59	1.98
Toluene	Liquid	ma	92.1	0.8669 @ 20/4°C	231	515 mg/ℓ	22 mm	40	2.06

See notes at end of table.

Table 5-1 (Continued)
Physical and Chemical Characteristics of Organic Compounds of Concern

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Chemical	Physical Form	Chemical Class	Molecular Weight	Specific Density	Boiling Point (°F)	Solubility in Water	Vapor Pressure	Flash Point°F	Sorption Coefficient (log K_{oc})
o-Xylene	Liquid	ma	106.17	0.8802 @ 20/4°C	291.92	152 mg/ℓ @ 20°C	1 mm @ -9.8°C	62.6	2.11
m-Xylene	Liquid	ma	106.17	0.8642 @ 20/4°C	282.38	158 mg/ℓ	8.287 @ 25°C	77	3.20
p-Xylene	Liquid	ma	106.17	0.8811 @ 20/4°C	280.94	200 mg/ℓ @ 25°C	8.763 mm @ 25°C	80.96	2.31
Chlorinated benzenes									
Chlorobenzene	Liquid	ma	112.6	1.1058 @ 20/4°C	270	500 mg/ℓ	9 mm	82.4	1.68
1,4-Dichlorobenzene	Liquid	ma	147.0	1.3048 @ 20/4°C	357	100 mg/ℓ	1 mm	151	2.27
Phenols									
2,4-Dimethylphenol	Solid	ph	122.2	0.965 @ 20/4°C	410	4,200 mg/ℓ	0.062 mm	230	2.07
2-Methylphenol	Solid/liquid	ph	108.14	1.0273 @ 20/4°C	177.8	24,500 mg/ℓ	0.24 mm @ 25°C	178	1.34
4-Methylphenol	Liquid	ph	108.1	1.018 @ 20/4°C	395	19,400 mg/ℓ	0.04 mm	187	1.69
Phenol	Solid/liquid	ph	94.11	1.0576 @ 20/4°C	359	8.4 wt% @ mg/ℓ	0.2 mm	174.2	1.43
Polycyclic aromatic hydrocarbons									
Acenaphthene	Solid	pa	154.2	1.0242 @ 40/4°C	534.2	3.47 mg/ℓ @ 25°C	0.00155 mm @ 25°C	No data	1.25
Anthracene	Solid	pa	178.24	1.24 @ 20/4°C	343.82	0.041 mg/ℓ @ 20°C	1.95×10^{-4} mm @ 20°C	249.98	4.27
Benzo(b)fluoranthene	Solid	pa	252.32	No data	No data	0.014	5×10^{-7} mm @ 20°C	No data	5.74
Benzo(k)fluoranthene	Solid	pa	252.32	No data	896	0.00055 mg/ℓ	9.59×10^{-11} mm @ 25°C	No data	6.64

See notes at end of table.

Table 5-1 (Continued)
Physical and Chemical Characteristics of Organic Compounds of Concern

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Chemical	Physical Form	Chemical Class	Molecular Weight	Specific Density	Boiling Point (°F)	Solubility in Water	Vapor Pressure	Flash Point°F	Sorption Coefficient (log K_{oc})
Benzo(g,h,i)perylene	Solid	pa	276.34	No data	932	0.00026 mg/ℓ @ 25°C	1.01×10^{-10} mm @ 25°C	No data	6.89
Benzo(a)pyrene	Solid	pa	252.32	1.351	923	0.003 mg/ℓ	5.0×10^{-7} mm @ 20°C	No data	5.60 - 6.29
Fluorene	Solid	pa	166.22	1.203 @ 0/4°C	568.4	0.8 ppm	10 mm @ 146°C	No data	3.70
Fluoranthene	Solid	pa	202.26	1.252 @ 0/4°C	707	0.166 mg/ℓ at 20°C	0.01 mm @ 20°C	No data	4.62
Indeno(1,2,3-cd)pyrene	Solid	pa	276.34	No data	No data	0.062 mg/ℓ	10^{-10} mm @ 25°C	No data	7.49
Naphthalene	Solid	pa	128.18	1.162 @ 20/4°C	424.3	30 mg/ℓ @ 25°C	0.054 mm @ 20°C	174.2	2.74
Phenanthrene	Solid	pa	178.24	1.179 @ 25/4°C	644	1.6 mg/ℓ @ 15°C	2.1×10^{-4} mm @ 20°C	339.8	3.72
Pyrene	Solid	pa	202.26	1.271 @ 23/4°C	739.4	0.013 mg/ℓ @ 25°C	6.85×10^{-7} mm @ 25°C	No data	4.66
2-Methylnaphthalene	Solid	pa	142.2	1.0058 @ 20/4°C	465.89	24.6 mg/ℓ @ 25°C	No data	206.6	3.93
Chlorinated propane									
1,2-Dichloropropane	Liquid	ca	112.99	1.56 @ 20/4°C	205.52	2,700 mg/ℓ @ 20°C	42 mm @ 20°C	60	1.71

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
°F = degrees Fahrenheit.
°C = degrees Celsius.
wt% = weight percent.
Ca = chlorinated alkane.
ph = phenolic.
K_{oc} = octanol/carbon partition coefficient.
mm = millimeters.
mg/ℓ = milligrams per liter.
Ce = chlorinated alkene.
pa = polycyclic aromatic.
@ = at.
Ke = ketone.
g/ℓ = grams per liter.
ma = monocyclic aromatic.

Table 5-2
Summary of Potential Site Related Contaminants Detected in Samples Collected During Supplemental RFI

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

	Solid Trench Soil	Subsurface Soil	Sediment	Liquid Trench Liquid	Groundwater	Surface Water
Volatile Organic Compounds						
Acetone		X			X	
Benzene					X	
2-Butanone	X	X		X	X	
Chlorobenzene				X	X	
Chloroethane					X	
Dichlorodifluoromethane				X		
1,1-Dichloroethane		X			X	
1,1-Dichloroethene					X	
1,2-Dichloroethene (cis & trans)		X			X	
1,2-Dichloropropane					X	
Ethylbenzene		X		X	X	
2-Hexanone		X		X	X	
4-Methyl-2-pentanone		X		X	X	
Methylene chloride				X	X	
Toluene		X		X	X	
Tetrachloroethene					X	
Trichlorofluoromethane				X		
Trichloroethene					X	
Vinyl Chloride					X	
o-Xylene		X		X	X	
m-Xylene		X		X	X	
p-Xylene		X		X	X	
Semivolatile Organic Compounds						
Acenaphthene	X					
Anthracene	X		X			
Benzo(b)fluoranthene	X					
Benzo(k)fluoranthene	X					
Benzo(ghi)perylene	X					
Benzo(a)pyrene	X					

See notes at end of table.

Table 5-2 (Continued)
Summary of Potential Site Related Contaminants Detected in Samples Collected During Supplemental RFI

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

	Solid Trench Soil	Subsurface Soil	Sediment	Liquid Trench Liquid	Groundwater	Surface Water
1,4-Dichlorobenzene			X	X	X	
2,4-Dimethylphenol				X	X	
Fluoranthene	X					
Fluorene	X					
Indeno(1,2,3-cd)pyrene	X					
Isophorone				X		
2-Methylnaphthalene				X	X	
2-Methylphenol					X	
3-Methylphenol				X	X	
4-Methylphenol		X		X	X	
Naphthalene	X			X	X	
3-Nitroaniline					X	
Phenanthrene	X		X			
Phenol			X	X	X	
Pyrene	X					
0,0,0-Triethylphosphorothioate				X		
Pesticides						
Alpha - BHC				X		
Chlordane (total)				X		
Endosulfan II				X		
Endrin Ketone	X			X		
4,4-Dichlorodiphenyl dichloroethane	X			X		
4,4-Dichlorodiphenyl dichloroethylene	X		X			
4,4-Dichlorodiphenyl trichloroethane	X					
Gamma-BHC (Lindane)				X		
Methoxychlor				X		

Notes: RFI = Resource Conservation and Recovery Act (RCRA) Facility Investigation.
X = compound detected in at least one sample of media indicated.
BHC = benzene hexachloride.

the average soil bulk density, effective porosity of the aquifer, and the distribution coefficient (K_d) of individual contaminants. The higher the distribution coefficient, the greater the retardation. K_d values are calculated based on K_{oc} coefficients and the fraction of organic carbon in soil. K_d values for organic compounds of concern at Site 11 are summarized in Table 5-3.

Transport velocities and estimates of maximum distance of travel for the chemicals detected in trench liquid and groundwater samples are also listed in Table 5-3. Chemicals that were only detected in trench soil samples are not listed because these chemicals have not partitioned to groundwater and are not migrating (refer to Table 5-2). Attachment A of the letter report contained in Appendix D presents equations used to calculate the contaminant flow velocities. The velocities were calculated relative to groundwater flow velocity of 82 feet per year (ft/yr). This groundwater flow velocity is slower than the 95 ft/yr value used in the evaluations presented in the letter report in Appendix D. The new value of 82 ft/yr for groundwater flow velocity is based on a permeability of 14.8 ft/day, rather than 17.2 ft/day. The lower permeability value was derived from a recent reevaluation of groundwater data collected during the IM Phase I operations. Estimated maximum distances of migration are based on a travel time of 17 years, the period between 1978 when operation of the landfill began to 1995.

Based on the conceptual model of contaminant transport, the only organic compounds that should be present in groundwater in the subdivision are VOCs. However, phenol, 4-methylphenol, and 2-methylphenol have been detected in groundwater samples in the subdivision. The apparent increased mobility of the phenols can be caused by several factors. The presence of solvents can cause the mobility of compounds to increase. Also, K_d values may over estimate the capacity of the soil to sorb contaminants. The linear conceptual model does not take into account the presence of numerous compounds competing for sorption sites. If available sorption sites are occupied, contaminant migration will not be retarded to the degree expected. Most likely these factors are affecting migration of contaminants from the site.

In general, the organic compounds are behaving as predicted with the more mobile ketones on the leading edge of the plume and the immobile polycyclic aromatic compounds limited to source area soil. With the exception of 2-butanone, VOCs are absent in source area soils, being found primarily in groundwater with little sorption to subsurface soil.

5.2 INORGANICS IN ENVIRONMENTAL MEDIA. Mobility of inorganic species varies depending on the charge of the ion, formation of complexes, and aquifer characteristics. The ionic charge of the inorganic species is dictated by environmental factors such as oxidation/reduction potential (Eh), pH of the system. Aquifer properties that affect mobility of inorganics, other than those previously listed in Section 5.2, include the presence of clay and silt. Mobility is generally increased in reducing environments and when pH is acidic (less than 7). The presence of clay and silt tends to slow migration of inorganic constituents.

During April 1995, field measurements of Eh, pH, and dissolved oxygen were performed at many of the monitoring well, piezometer, and recovery well locations (Table 5-4). Eh measurements indicate that conditions in the aquifer are mostly

Table 5-3
Estimated Transport Parameters for Potential Organic Contaminants

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

	Log K_{oc} Unitless[1]	K_{oc} (mℓ/g)	K_d (mℓ/g)[2]	V_c (ft/yr)[3]	Max Distance (ft)[4]
Volatile Organic Compounds					
Acetone	-0.43	0.37	0.0005	94.65	1,609.00
2-Butanone	0.09	1.23	0.0016	93.84	1,595.30
Vinyl chloride	0.39	2.45	0.0032	92.72	1,576.17
Chloroethane	0.51	3.24	0.0042	92.01	1,564.20
4-Methyl-2-pentanone	0.79	6.17	0.0080	89.46	1,520.89
Methylene chloride	0.94	8.71	0.0113	87.36	1,485.18
1,1-Dichloroethane	1.48	30.20	0.0393	72.90	1,239.37
trans-1,2-Dichloroethene	1.56	36.31	0.0472	69.63	1,183.68
cis-1,2-Dichloroethene	1.69	48.98	0.0637	63.69	1,082.77
1,2-Dichloropropane	1.71	51.29	0.0667	62.72	1,066.21
1,1-Dichloroethene	1.81	64.57	0.0839	57.65	979.99
Benzene	1.92	83.18	0.1081	51.78	880.23
Trichloroethene	2.025	105.93	0.1377	46.05	782.82
o-Xylene	2.11	128.82	0.1675	41.43	704.35
2-Hexanone	2.13	134.90	0.1754	40.36	686.12
Toluene	2.06	151.36	0.1968	37.71	641.12
Trichlorofluoromethane	2.2	158.49	0.2060	36.67	623.41
p-Xylene	2.31	204.17	0.2654	31.16	529.67
Ethylbenzene	1.98	257.04	0.3342	26.54	451.16
Tetrachloroethene	2.42	263.03	0.3419	26.10	443.71
Chlorobenzene	1.68	331.13	0.4305	21.97	373.56
Dichlorodifluoromethane	2.56	363.08	0.4720	20.46	347.77
m-Xylene	3.2	1,584.89	2.0604	5.62	95.53
Semivolatile Organic Compounds					
0,0,0-Triethylphosphorothioate	No Data	No Data	No Data	No Data	No Data
3-Methylphenol	1.26	18.20	2.37	3.98	67.58
3-Nitroaniline	1.26	18.20	2.37	3.98	67.58
2-Methylphenol	1.34	21.88	2.84	3.31	56.21

See notes at end of table.

Table 5-3 (Continued)
Estimated Transport Parameters for Potential Organic Contaminants

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

	Log K_{oc} Unitless[1]	K_{oc} (mℓ/g)	K_d (mℓ/g)[2]	V_c (ft/yr)[3]	Max Distance (ft)[4]
Phenol	1.43	26.92	3.50	2.69	45.69
Isophorone	1.49	30.90	4.02	2.34	39.79
4-Methylphenol	1.69	48.98	6.37	1.48	25.11
2,4-Dimethylphenol	2.07	117.49	15.27	0.62	10.47
1,4-Dichlorobenzene	2.27	186.21	24.21	0.39	6.60
Naphthalene	2.74	549.54	71.44	0.13	2.24
2-Methylnaphthalene	3.93	8511.38	1,106.48	0.00	0.14
Pesticides					
Endrin ketone	No Data	No Data	No Data	No Data	No Data
alpha-BHC	3.28	1905.46	247.71	0.0380	0.65
gamma-BHC (Lindane)	3.28	1905.46	247.71	0.0380	0.65
Endosulfan II	3.37	2344.23	304.75	0.0309	0.52
Chlordane (total)	4.58	38018.94	4,942.46	0.0019	0.03
Methoxychlor	4.9	79432.82	10,326.27	0.0009	0.02
4,4-Dichlorodiphenyl dichloroethane	5.38	2.40E+06	31,184.83	0.0003	0.00

[1] Sources for log K_{oc} values include Montgomery and Welkom, 1989; Howard, 1990; and Montgomery, 1993.
[2] Calculated using the reported K_{oc} values and total organic carbon content (f_{oc}) of 0.13 percent that is based on measurements on soil samples from the site.
[3] Contaminant velocity based on groundwater velocity calculated using gradient between KBA-11-11B and KBA-11-18. Groundwater velocity calculated to be 82 feet per year (ft/yr) using equation for contaminant transport velocity presented in Appendix D.
[4] Estimated maximum travel distance based on travel time of 17 years.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
K_{oc} = octanol water partition coefficient in milliliters per gram.
mℓ/g = milligrams per gram.
ft/yr = feet per year.
ft = feet.
K_d = sorption coefficient in milliliters per gram.
V_c = velocity in feet per year.
BHC = benzene hexachloride.

Table 5-4
April 1995 Groundwater Field Analytical Data

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Location	Dissolved Oxygen (mg/ℓ)	Oxidation Reduction Potential (mV)	pH
KBA-11-2	2.2	-46.2	6.32
KBA-11-3A	1.2	-75.5	6.46
KBA-11-3B	0.9	-284.7	5.08
KBA-11-3C	1.1	132.3	9.15
KBA-11-10B	1	-220.4	5.36
KBA-11-13A	0.9	42.4	5.36
KBA-11-16	1	-254.7	4.61
KBA-11-17B	0.8	82.9	4.33
KBA-11-18	1.4	432	5.16
KBA-11-19B	1.2	108.8	5.3
KBA-11-20	1.5	-67.9	5.17
KBA-11-21	2.7	94.5	5.13
KBA-11-22B	1	-79.5	5.31
PS-3	2	-249.4	7.56
PS-5	1.5	-227.6	5.92
PD-6	0.9	-116.9	5.03
PS-7	0.8	-294.6	5.06
PD-8	0.9	453.6	4.5
PS-9	0.9	-204.7	4.82
PS-10	0.8	would not stabilize	5.11
PS-4	1.8	-143.3	NA
KBA-11-1	2.4	284.9	NA
KBA-11-4	2	200.8	NA
KBA-11-6	2.3	50.8	NA
KBA-11-7	1.4	107.5	NA
KBA-11-8B	1.6	would not stabilize	NA
KBA-11-10A	1.7	-131.7	NA
KBA-11-11B	2	556.8	NA
KBA-11-12	1.7	-30.5	NA

See notes at end of table.

Table 5-4 (Continued)
April 1995 Groundwater Field Analytical Data

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Location	Dissolved Oxygen (mg/ℓ)	Oxidation Reduction Potential (mV)	pH
KBA-11-17A	1.8	-37.5	NA
RW-1	2.2	-179.4	NA
RW-2	1.9	-171.9	NA
RW-3	1.4	-150.2	NA
RW-4	1.2	-149.7	NA
RW-5	1.5	17	NA

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
mg/ℓ = milligrams per liter.
mV = millivolts.
NA = not analyzed.

reducing (100 to -100 millivolts). Values of pH were below seven, as is typical based on other monitoring events where pH is routinely measured during purging of wells. Dissolved oxygen levels are low, consistent with the reducing conditions indicated by Eh readings.

In general, conditions in the surficial aquifer at Site 11 favor mobility for inorganic elements (reducing conditions, low pH, no or little clay, or silt). Similar to organic chemicals in groundwater, inorganic constituents also travel at a rate that is retarded by interactions with soil particles. The reactions between soil particles and inorganic constituents are generally electrochemical. Electrical attractions between the inorganic solute and charged surfaces of soil particles promote sorption of the inorganic solute onto solid surfaces, slowing the migration of inorganics. Retardation of inorganic solutes can be described using a sorption coefficient, just as is true for organic chemicals. Table 5-5 summarizes K_d values for the inorganics that had statistical differences when soil and groundwater data were compared to background data. Estimates of flow velocity and maximum travel distance are also listed in Table 5-5. Where a range of K_d values is given for an analyte, the lower value was used to calculate the higher of possible transport velocities.

Table 5-5
Estimated Transport Parameters for Potential Inorganic Contaminants

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

Inorganic Analyte	[1]K_d (mℓ/g)	[2]K_d (mℓ/g)	[3]K_d (mℓ/g)	K_d Minimum	[4]Vc Maximum (ft/yr)	[5]Maximum Distance (feet)
Aluminum		1,500		1,500	0.01	0.12
Vanadium		1,000		1,000	0.01	0.18
Beryllium		650		650	0.02	0.28
Chromium	470 to 150,000	850	470 to 150,000	470	0.02	0.38
Nickel		150		150	0.07	1.20
Barium		60		60	0.18	3.00
Antimony		45		45	0.24	4.00
Lead	4.5 to 7,640	900	4.5 to 7,640	4.5	2.29	39
Iron	1.4 to 1,000	1.4 to 1,000	1.4 to 1,000	1.4	6.94	118
Copper	1.4 to 333	35	1.4 to 333	1.4	6.94	118
Arsenic	1.0 to 8.3	200	1.0 to 8.3	1	9.40	160
Manganese	0.2 to 10,000	0.2 to 10,000	0.2 to 10,000	0.2	32.23	548
Cobalt	0.2 to 3,800	45	0.2 to 3,800	0.2	32.23	548

[1] Dragun, James, 1988, The Soil Chemistry of Hazardous Materials.
[2] Baes, C.F., and others, 1984, A Review and Analysis of Parameters for Assessing Transport of Environmentally Released Radionuclides through Agriculture: Oak Ridge National Laboratory, ORNL-5786, September.
[3] Baes, C.F. and R.D. Sharp, 1983, A Proposal for Estimation of Soil Leaching Constants for use in Assessment Models: Journal of Environmental Quality, Vol. 12, no. 1.
[4] Contaminant velocity (V_c) based on groundwater flow velocity of 82 feet per year.
[5] Estimated maximum travel distance based on travel time of 17 years.

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
K_d = sorption coefficient. mℓ/g = milliliters per gram.
V_c contaminant velocity. ft/yr = feet per year.

The conceptual model for inorganic transport compares well to some of the analytes that were found to have significant differences relative to background. Aluminum, vanadium, antimony, and lead have estimated maximum travel distances of 39 feet or less. This corresponds well to the statistical findings where these analytes were elevated relative to background in only wells onsite and/or adjacent to the landfill. Similarly, cobalt has an estimated travel distance of 548 feet, which corresponds to significant differences found for the subdivision wells.

Conversely, some of the analytes, such as chromium and nickel, have low estimated travel distances that do not compare well to differences associated with data from the subdivision. The interactions of the inorganic elements with the aquifer matrix are more complex than the linear conceptual model takes into account and may affect how well the data in Table 5-5 match observations. Also, the statistical differences may not be associated with releases from the site, in which case, transport assumptions are not valid.

6.0 RECOMMENDATIONS

This chapter presents recommendations associated with corrective action at Site 11. The recommendations were developed considering that GEPD does not currently use risk management for corrective action decisions. However, the Navy will proceed with preparation of a human health and ecological risk assessment so that they can keep the public informed about any risk associated with the site and can take appropriate steps to protect the public, if necessary.

6.1 GROUNDWATER. The Navy has already taken an aggressive approach to groundwater cleanup at the site. The groundwater contamination is characterized by a hot spot located along the western perimeter of the landfill and extending west to the western ROW of Spur 40. Outside of this hot spot, concentrations of contaminants are low and there are fewer chemicals present. The IM groundwater extraction and treatment system has stopped or slowed the migration of chemicals towards the subdivision. Upgrades to the system are being planned that will increase the effectiveness of the IM system. Details for the upgrades will be presented in the Phase II CAP for Site 11 (ABB-ES, 1996).

Because groundwater cleanup is underway, no additional corrective action recommendations are made for groundwater. Cleanup goals for groundwater are Safe Drinking Water Act MCLs (USEPA, 1992). MCLs have been promulgated for the more toxic compounds. Organic compounds that are site-related contaminants are listed in Table 6-1. MCLs are listed for those contaminants that have MCLs under the Safe Drinking Water Act. Long-term operation of the IM system will cause concentrations of all contaminants (those having MCLs and those without MCLs) to decline. In the subdivision, the source of contaminants detected in groundwater is being cut off by the IM system, so the concentrations of contaminants will decline in the subdivision as well. Methylene chloride was detected in a sample from April 1994 from well KBA-11-16 in the subdivision at 11 $\mu g/\ell$, that exceeds the MCL of 5 $\mu g/\ell$. None of the samples from the subdivision contained concentrations above an MCL in January or September 1994. Annual monitoring is recommended for groundwater so that the decline of contaminant concentrations can be observed.

The current administration at GEPD has indicated that cleanup levels for organic compounds not having MCLs are zero. However, they have also indicated that the need is for Navy to address cleanup of the most toxic compounds (those having MCLs) and that a monitoring only approach may suffice for the less toxic compounds that already exist at low levels (e.g., the compounds in the subdivision). Active remediation is underway for the more toxic, highly concentrated compounds. As these compounds are being remediate, changes in distribution and concentration of the less toxic compounds without MCLs will be observed. Future decisions can then be made concerning these compounds as remedial efforts on the toxic compounds begin to be reduced. If, in the future, GEPD decides to implement risk management in corrective action decisions, the Navy will re-evaluate the groundwater cleanup levels based on a site-specific risk assessment.

Table 6-1
Summary of Potential Site Related Contaminants In Groundwater

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

	MCL (μg/ℓ)	MCL Exceeded?		
		Onsite	Western Perimeter	Subdivision
Volatile Organic Compounds				
Acetone	none			
Benzene	5	yes	yes	no
2-Butanone	none			
Chlorobenzene	100	no	no	no
Chloroethane	none			
1,1-Dichloroethane	none			
1,1-Dichloroethene	7	no	no	no
cis-1,2-Dichloroethene	70	no	yes	no
1,2-Dichloropropane	5	no	no	no
Ethylbenzene	700	no	no	no
2-Hexanone	none			
4-Methyl-2-pentanone	none			
Methylene chloride	5	no	no	yes
Toluene	1,000	no	no	no
Tetrachloroethene	5	no	yes	no
Trichloroethene	5	no	yes	no
Vinyl Chloride	2	no	yes	no
Xylenes (total)	10,000	no	no	no
Semivolatile Organic Compounds				
1,4-Dichlorobenzene	75	no	no	no
2,4-Dimethylphenol	none			
2-Methylnaphthalene	none			
2-Methylphenol	none			
3-Methylphenol	none			
4-Methylphenol	none			
Naphthalene	none			
3-Nitroaniline	none			
Phenol	none			
Inorganics				
Arsenic	50	no	no	no
Antimony	6	yes	yes	no
Barium	2,000	no	no	no

See notes at end of table.

Table 6-1 (Continued)
Summary of Potential Site Related Contaminants In Groundwater

Supplemental RFI Report
Site 11, Old Camden County Landfill
Naval Submarine Base
Kings Bay, Georgia

	MCL (μg/ℓ)	MCL Exceeded?		
		Onsite	Western Perimeter	Subdivision
Beryllium	4	no	no	no
Nickel	remanded			
Vanadium	none			
Lead	15	yes	yes	yes
Iron	none			
Aluminum	none			
Manganese	none			
Chromium	100	yes	no	no
Cobalt	none			
Copper	1,300	no	no	no

Notes: RFI = Resource Conservation and Recovery Act (RCRA) facility investigation.
MCL = maximum contaminant level.
μg/ℓ = micrograms per liter.

Inorganic constituents that are potentially site related contaminants in groundwater are arsenic, barium, beryllium, chromium, cobalt, and copper, nickel, vanadium, antimony, lead, iron, aluminum, and manganese. Table 6-1 lists these analytes and corresponding MCLs, where available, and indicates instances where a groundwater sample exceeded an MCL in a characterization data set. As shown on Table 6-1, there are three occurrences where an MCL was exceeded for an analyte. One sample contained a concentration of chromium that exceeded the MCL of 100 $\mu g/\ell$. The sample was from well KBA-11-10B (April 1994), located inside the landfill. The MCL of 6 $\mu g/\ell$ for antimony was exceeded in samples from two wells located adjacent to the landfill, KBA-11-3A and KBA-11-5, and associated with the September 1994 sampling event. Samples from these wells did not contain detectable concentrations of antimony during January or April. Lead was detected at concentrations above its MCL of 15 $\mu g/\ell$ in samples from wells KBA-11-10A (September 1994), KBA-11-2 (April 1994), KBA-11-5 (April and September 1994), and KBA-11-17A (April 1994). The duplicate sample for well KBA-11-17A in April 1994 did not exceed the MCL for lead, and the average value for the duplicate samples was 11.12 $\mu g/\ell$. Both antimony and lead have been detected in background groundwater at concentrations above their MCLs, but chromium has not. Because groundwater corrective action is already in process, the only recommendation for inorganics in groundwater is to monitor annually.

6.2 SUBSURFACE SOIL. Partitioning of contaminants from the groundwater to the soil has resulted in minor contamination of subsurface soil in the surficial aquifer. The subsurface soil is not a source for groundwater contamination. Groundwater remedial actions will also affect a cleanup of subsurface soil. No remedial actions should be implemented to address subsurface soil contamination.

6.3 SOURCE AREA. The information obtained from the supplemental RFI activities indicates that contamination is generally limited to a hot spot of groundwater contamination on the western, downgradient, side of the site. Concentrations of contaminants are lower in the source area, with the exception of trench liquids where a high concentration of ketones was detected. No VOC contaminants were detected in the trench soils. Because groundwater remediation has already been implemented, no further recommendations are made for the source area.

6.4 PORCUPINE LAKE. The only organic analytes detected in media from the lake that are potentially related to the site are 1,4-dichlorobenzene and phenol, detected in one or two sediment samples at low concentrations of 33 J $\mu g/kg$ and 130 J $\mu g/kg$, respectively. The groundwater corrective measures that are being conducted at the site will cut off the source of these compounds, if they are related to the site. No remedial action is recommended for the lake.

6.5 AIR. Results of the air quality investigation indicated that ethylbenzene and dichlorofluormethane concentrations may have increased relative to background in downwind samples collected during the trenching program. Prior sampling conducted before the trenching program contained two analytes, vinyl chloride and methylene chloride, that were not represented in background samples. However, replicate samples did not confirm these analytes. The air quality data do not

indicate that remedial measures are needed to mitigate air emissions from the landfill. Trenching is not an ongoing activity, so any releases associated with open excavations are discontinued. The pre-trenching data are more representative of potential routine emissions. The sporadic occurrence and low concentrations of vinyl chloride (0.01 ppbv) and methylene chloride (1.26 ppbv or less) do not warrant implementation of corrective measures for air.

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APPENDIX A

DATA QUALITY ASSESSMENT

APPENDIX A
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ATTACHMENT
Attachment A: Analytical Tables

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GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
BHC	benzene hexachloride
CLEAN	Comprehensive Long-Term Environmental Action, Navy
CLP	contract laboratory program
CRDL	contract-required detection limit
CRQL	contract-required quantitation limit
2,4-D	2,4-dichlorophenoxy acetic acid
DDT	dichlorodiphenyltrichloroethane
D/F	dioxin and furan
DCB	decachlorobiphenyl
DI	deionized
DQO	data quality objective
GC/MS	gas chromatography and mass spectroscopy
J	estimated
L.C. VOC	low concentration volatile organic compound
µg/kg	micrograms per kilogram
µg/ℓ	micrograms per liter
MCL	maximum contaminant level
MD	matrix duplicate
MS/MSD	matrix spike and matrix spike duplicated
MSA	method of standard additions
NA	no action
NEESA	Naval Energy and Environmental Support Activity
NSB	Naval Submarine Base
%D	percent difference
%R	percent recovery
PARCC	precision, accuracy, representativeness, completeness and comparison
PCB	polychlorinated biphenyl
QAPP	Quality Assurance Project Plan
QC	quality control
R	rejected
RCRA	Resource Conservation and Recovery Act
RFI	RCRA facility investigation
RPD	relative percent difference
RRF	relative response factor
RSD	relative standard deviation
SDG	sample delivery group
SVOC	semivolatile organic compound

TCMX	2,4,5,6-tetrachloro-m-xylene
USEPA	U.S. Environmental Protection Agency
VOC	volatile organic compound

1.0 INVESTIGATIVE ANALYSES

A supplemental Resource Conservation and Recovery Act (RCRA) facility investigation was conducted by ABB Environmental Services, Inc. (ABB-ES), and Comprehensive Long-Term Environmental Action, Navy (CLEAN) personnel at the Naval Submarine Base (NSB) located in Kings Bay, Georgia. The supplemental RCRA facility investigation (RFI) was initiated in October 1993 and extended through September 1995. The investigation consisted of six sampling events listed below. The following sections address the analytical program and the quality of the data collected at the Old Camden County Landfill located at NSB Kings Bay.

1. October 1993 Field Program
2. April 1994 Groundwater Sampling Event
3. January 1994 Groundwater Sampling Event
4. September 1994 Groundwater Sampling Event
5. November 1994 Field Program
6. September 1995 Field Program

1.1 ANALYTICAL PROGRAM. Sampling activities during the supplemental RFI included collection and analysis of subsurface soil, groundwater, surface water, sediment, surface soil, air, and trench samples. All environmental samples and associated quality control (QC) samples (including source water blanks, rinsate blanks, field duplicates, and matrix spike [MS] and matrix spike duplicated [MSD] [MS/MSD] samples) were collected in accordance with procedures, outlined in the Quality Assurance Project Plan (QAPP), Chapter 3.0 of the Supplemental RFI SAP for Site 11 (ABB-ES, 1994b), and the June 1988 Naval Energy and Environmental Support Activity (NEESA) *Sampling and Chemical Analysis Quality Assurance Requirements for the Navy installation restoration program* (NEESA, 1988).

Samples analyzed in conformance with contract Laboratory program (CLP) protocols (U.S. Environmental Protection Agency [USEPA], 1990a, 1991a, and 1992a) were validated according to USEPA Level IV DQO. In accordance with Level IV DQOs, the USEPA *National Functional Guidelines for Organic Data Review* (USEPA, 1990b), *Laboratory Data Validation: Functional Guidelines For Evaluating Inorganic Analysis* (USEPA, 1988b), and USEPA *Draft Pesticide/Aroclor Data Review Guidelines'* (USEPA, 1991b) were used to validate the laboratory data. Samples collected for Appendix IX analyses and sulfide analyses were analyzed according to SW-846 methodology (USEPA, 1986) and validated according to USEPA Level III DQOs.

Level III data validation was performed by evaluating conformance to QC criteria established for each analytical method. The USEPA *National functional Guidelines for Organic Data Review* (USEPA-1990b), *Laboratory Data Validation: Functional Guidelines for Evaluating Inorganic Analyses* (USEPA, 1988b), and USEPA *Draft Pesticide/Aroclor Data Review Guidelines* (USEPA 1991b) were also used, where applicable, to validate Level III data. Level III and Level IV data validation was performed under a subcontract. Tables 1-1 through 1-4 list sample identifications and analyses for the various media sampled during the supplemental RFI field programs.

Table 1-1
Groundwater Samples Collected During Supplemental Resource Conservation and Recovery Act Facility Investigation

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

Analyses	January 1994			April 1994			September 1994		
CLP low conc. Volatile organics	01GW01	09GW01	16GW01	01GW02	09GW02	17GW02			
CLP TAL metals with cyanide	02GW01	10AGW01	17AGW01	02GW02	10AGW02	17AGW02D			
CLP TCL pesticides and PCBs	03AGW01	10BGW01	17BGW01	03AGW02	10AGW02D	17BGW02			
CLP TCL semivolatile organics	03BGW01	10CGW01	17BGW01D	03BGW02	10BGW02	17CGW02			
SW-846, 9030 sulfide	03CGW01	11AGW01	17CGW01	03CGW02	10CGW02	18GW02			
	04GW01	11AGW01D	18GW01	04GW02	11AGW02	19AGW02			
	05GW01	11CGW01	19BGW01	05GW02	11CGW02	19BGW02			
	06GW01	12GW01	20GW01	06GW02	12GW02	20GW02			
	07GW01	12GW01D	21GW01	07GW02	12GW02D	21GW02			
	08AGW01	13BGW01	22AGW01	08AGW02	13BGW02	22AGW02			
	08BGW01	14GW01	22BGW01	08BGW02	14GW02	22BGW02			
	08CGW01	15GW01	22BGW01D	08CGW02	15GW02	22BGW02D			
CLP low conc. volatile organics							01GW03	10BGW03	16GW03D
CLP TAL metals with cyanide							02GW03	10CGW03	17AGW03
CLP TCL semivolatile organics							03AGW03	11AGW03	17BGW03
SW-846, 9030 sulfide							03BGW03	11AGW03D	17CGW03
							03CGW03	11BGW03	18GW03
							04GW03	11CGW03	19AGW03
							06GW03	12GW03	19BGW03
							07GW03	12GW03D	20GW03
							08AGW03	13AGW03	21GW03
							08BGW03	13BGW03	22AGW03
							08CGW03	14GW03	22BGW03
							09GW03	15GW03	22BGW03D
							10AGW03	16GW03	
CLP TCL pesticides and PCBs							09GW03	11CGW03	22BGW03
							10BGW03	14GW03	22BGW03D

See notes at end of table.

Table 1-1 (Continued)
Groundwater Samples Collected During Supplemental Resource Conservation and Recovery Act Facility Investigation

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

Analyses	January 1994	April 1994	September 1994
SW-846, 7000 series total metals	11BGW01	11BGW02	
SW-846, 8080 chlorinated pesticides/pcbs	13AGW01	13AGW02	
SW-846, 8141 organophosphorus pesticides	19AGW01	16GW02	
SW-846, 8150 chlorinated herbicides			
SW-846, 8240 volatile organics			
SW-846, 8270 semivolatile organics			
SW-846, 8280 dioxin and furans			
SW-846, 9030 sulfide			
SW-846, 8141 organophosphorus pesticides	11BGW01D	11BGW02D	
SW-846, 8150 chlorinated herbicides			
SW-846, 8280 dioxin and furans			

Notes: CLP = Contract Laboratory Program.
Conc. =
TAL = target analyte list.
TCL = target compound list.
PCB = polychlorinated biphenyl.

Table 1-2
Soil Samples Collected During Supplemental Resource Conservation and Recovery Act Facility Investigation

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

Analyses	November 1993			September 1995		
CLP TAL metals with cyanide	SB10125	SB10425	SB11220			
CLP TCL pesticides and PCBs	SB10125D	SB10425D	SB11412			
CLP TCL semivolatile organics	SB10145	SB10440	SB11512			
CLP TCL volatile organics	SB10175	SB10840	SBPS1015			
SW-846 9030 sulfide		SBPS1025				
CLP TAL metals with cyanide		SBPS915				
CLP TCL semivolatile organics		SBPS925				
CLP TCL volatile organics						
SW-846 9030 sulfide						
CLP TCL volatile organics				11SB20103	11SB20403	11SB20803
				11SB20103D	11SB20503	11SB20903
				11SB20203	11SB20603	11SB21003
				11SB20303	11SB20703	
CLP TCL semivolatile organics				11SB20103	11SB20403	11SB20803
CLP TAL metals with cyanide				11SB20103D	11SB20503	11SB20903
CLP TCL pesticides and PCBs				11SB20203	11SB20603	11SB21003
SW-846 9030 sulfide				11SB20303	11SB20703	

Notes: CLP = Contract Laboratory Program.
TAL = target analyte list.
TCL = target compound list.
PCB = polychlorinated biphenyl.

Table 1-3
Surface Water and Sediment Samples Collected During Supplemental Resource Conservation and Recovery Act Facility Investigation

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

Analyses	November 1994					
CLP low conc. Volatile organics	11SW201	11TL02	11SW202	11TL04	11SW202D	11TL07
	11SW203	11TL07D	11SW204	11TL11	11TB02	
CLP TCL volatile organics	11SD201	11SS006	11TS04	11SD202	11SS006D	11TS07
	11SD202D	11SS012	11TS07D	11SD203	11SS014	11TS11
	11SD204	11SSBG1	11TS12	11SS004	11TS02	
CLP TAL metals with cyanide	11SD201	11SS006	11SW202	11TL07	11TS07D	11SD202
CLP TCL pesticides and PCBs	11SS006D	11SW202D	11TL07D	11TS11	11SD202D	11SS012
CLP TCL semivolatile organics	11SW203	11TL11	11TS12	11SD203	11SS014	11SW204
	11TS02	11SD204	11SSBG1	11TL02	11TS04	11SS004
	11SW201	11TL04	11TS07			
SW-846, 6000 and 7000 series metals	11SD205	11SS021	11SSBG2			
SW-846, 8080 pesticides and PCBs	11SW205	11TL08	11TS08			
SW-846, 8240 volatile organics						
SW-846, 8270 semivolatile organics						
SW-846, 9060 total organic carbon						
SW-846, 8140 organophosphorus pesticides	11SD205	11SW205D	11SD205D	11TL08		
SW-846, 8150 chlorinated herbicides	11SS021	11TL08D	11SS021D	11TS08		
	11SSBG2	11TS08D	11SW205			
EPA 376.1 sulfide	11SD201	11SS004	11SSBG1	11SW204	11TL08	11TS08
	11SD202	11SS006	11SSBG2	11SW205	11TL11	11TS11
	11SD202D	11SS006D	11SW201	11TL02	11TS02	11TS12
	11SD203	11SS012	11SW202	11TL04	11TS04	
	11SD204	11SS014	11SW202D	11TL07	11TS07	
	11SD205	11SS021	11SW203	11TL07D	11TS07D	
SW-846, 9060 total organic carbon	11SD201	11SD202	11SD202D			
	11SD203	11SD204				

Notes: CLP = Contract Laboratory Program.
Conc. =
TCL = target compound list.
TAL = target analyte list.
PCB = polychlorinated biphenyl.

Table 1-4
Air Samples Collected During Supplemental Resource Conservation and Recovery Act Facility Investigation

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

Analyses	April 1995				
CLP SOW TO-14	11AIR101	11AIR106	11AIR111	11AIR115	11AIR119
	11AIR102	11AIR107	11AIR111D	11AIR115	11AIR120
	11AIR102D	11AIR108	11AIR112	11AIR116	11AIR121
	11AIR103	11AIR108D	11AIR113	11AIR117	
	11AIR104	11AIR109	11AIR114	11AIR117D	
	11AIR105	11AIR110	11AIR114D	11AIR118	

Notes: CLP = Contract Laboratory Program.
SOW = statement of work.

1.2 DATA QUALITY ASSESSMENT. The following subsections will contain a summary of precision, accuracy, representativeness, completeness and comparison (PARCC) for data generated during the supplemental RFI at the NSB. Subsections will address PARCC for each sampling event.

Upon completion of analyses, the laboratory compiled the data into packages meeting CLP protocol. The Level C or D data packages were then reviewed by Heartland Environmental Services, Inc., Missouri (Heartland). Data validation consisted of a technical review of the data package using criteria established in the data quality objectives, the QAPP and guidance documents prepared by the USEPA for the validation of organic and inorganic analytical data (USEPA 1990a and 1990b) as specified by NEESA document 20.2-047b.

Sample results that did not meet certain acceptance criteria were qualified with a single letter qualifier. Data qualifiers used by the validators when amending the data include the following.

U = The analyte was analyzed for, but was not detected above the reported sample quantitation limit.

J = The analyte was positively identified: the associated numerical value is the approximate concentration of the analyte in the sample.

R = The sample results are rejected due to serious deficiencies in the ability to analyze the sample and meet quality control criteria. The presence or absence of the analyte cannot be verified.

Once the data were reviewed and validated according to the guidance presented in NEESA document 20.2-047B, the data were evaluated by Heartland using the PARCCs criteria included in the DQOs of the workplan for NSB Kings Bay, Georgia. The following sections present a description of PARCC criteria.

PRECISION. Precision is a quantitative evaluation of the repeatability of a measurement. Precision of analytical measurements is determined by calculating the relative percent difference (RPD) between two analytical values. The values are results that are reported for a compound detected in the field duplicate sample pair that are collected from the same location and depth interval. Precision is also assessed for organic analyses by calculating the RPD between results for MS/MSD. Inorganic analyses use matrix duplicate (MD) results to evaluate precision in addition to field duplicate samples. The relative percent difference equation is provided below.

$$RPD = (V1-V2) / (\tfrac{1}{2}(V1+V2)) \times 100 \qquad (1)$$

Where

V1 = reported value of a compound detected in the environmental sample, and
V2 = reported value of the same compound detected in the duplicate sample.

Precision for environmental samples and their duplicates was assessed using a maximum RPD of 20 for water matrices and 35 for soil matrices. Duplicate samples are evaluated for precision only when contaminants are detected in both the environmental sample and the sample's duplicate. Precision for MS/MSD/MD samples was assessed by using the target analyte specific RPD criteria for the spiked compounds.

Duplicates with RPDs within control limits indicate adequate sampling practices and good analytical precision. When duplicate RPDs exceed the control limits it could indicate the matrix is causing interferences or that the sample was not homogenous. Poor precision can also be attributed to deviations from the analytical methodology or to poor reproducibility of target analyte concentrations at or near the required quantitation or detection limit.

ACCURACY. Accuracy is a quantitative measurement of the agreement between an experimentally determined value and the true value of the parameter being measured. It is assessed by (comparing) the percent recovery (%R) of a spiked analyte to the recovery acceptance criteria for the respected analytical method. Accuracy is used to identify the bias in a given measurement system (i.e., laboratory conditions, sample matrix, and sampling conditions). Percent recovery is calculated using the equation:

$$\%R = ((A-B)/C) \times 100 \qquad (2)$$

Where

A = measured concentration of the spiked analyte.
B = measured concentration of the spiked compound in the unspiked sample.
C = true concentration of the spiked analyte.

For organic analyses, each sample was spiked with surrogate compounds prior to extraction. Samples chosen as MS/MSD were spiked with additional analytes. For inorganic analyses, samples chosen for matrix spikes were spiked prior to sample digestion. Surrogate and matrix spike recoveries evaluate accuracy and provide an indication of whether the reported data may be biased high or low to the actual concentration of the analyte in the sample. Recoveries outside analytical method acceptance criteria may be caused by factors such as matrix interference, poor analytical precision, or instrument calibration.

REPRESENTATIVENESS. Representativeness is a qualitative measurement of the degree to which analytical results reflect the true concentrations of analytes which may or may not be present in a sample. It is a subjective parameter which gives an indication of how accurate and precise an environmental condition is characterized. Representativeness was evaluated using the field and laboratory QC blank sample results, such as, equipment rinsate blanks, field blanks, trip blanks and laboratory method blanks for organic analysis and laboratory preparation blanks for inorganic analysis. Target organic compounds and target inorganic analytes detected in QC samples may represent contamination during sampling, transportation of samples to the laboratory (for volatile organic compounds [VOCs]), or contamination in the laboratory. Compliance with holding time and extraction criteria also assures representativeness of results.

If contaminants were detected in a blank, corrective actions were made for the chemical analytical data during data validation by Heartland. The corrective action consisted of amending the laboratory reported results for organic and inorganic target analytes by the criteria. The following describes the validation qualifier code in the blank summary tables found in Attachment A.

Organic Target Analytes.

Contract Required Quantitation Limit (CRQL) Validation Qualifier. If a sample result for the blank contaminant was less than the CRQL and less than 10 times (for common contaminants) or 5 times (for all other contaminants) the blank value, the sample result was rejected and amended as estimated nondetected at the CRQL for the target compound.

U Validation Qualifier. If a sample result for the blank contaminant was greater than the sample CRQL and less than 10 times (for common contaminants) or 5 times (for all other contaminants) the blank value, the sample result for the blank contaminant was amended as non detect at the concentration reported in the sample results.

No Action (NA). If a sample result for the blank contaminant was greater than the CRQL and 10 times (for common contaminants) or 5 times (for all other contaminants) the blank value, the result was not amended.

Inorganic Target Analytes.

U Validation Qualifier. If a sample result for the blank contaminant was less than the contract-required detection limit (CRDL), but less than five times the blank value, the sample result was amended as nondetected.

or

If a sample result for the blank contaminant was less than the sample CRDL when the absolute value of the negative blank value was greater than the CRDL, the sample result for the blank contaminant was amended as estimated nondetected.

J Validation Qualifier. If a sample result for the blank contaminant was greater than the CRDL and less than 10 times the blank value, when the absolute of the negative blank value is greater than the CRDL the result was amended as estimated at the laboratory value.

Trip Blanks. Trip blanks contained organic free deionized water from the laboratory and consisted of sample bottles which were similar to the sample containers. The trip blanks were prepared and packaged at the laboratory prior to the sampling event and travel with the sample bottles to the site. The trip blank bottles were not opened at the site or anytime prior to laboratory analysis. The trip blanks were analyzed for volatile organic target analytes only.

Equipment Rinsate Blanks. The equipment rinsate blank was collected by rinsing a piece of sampling equipment with organic free deionized water. A sample of this water was collected and placed in sample containers similar to those used for the environmental samples

Field Blanks. The field blank is a sample of deionized water and/or potable water used during equipment decontamination. The field blank was opened to ambient field conditions.

Method Blanks. The method blank is a sample of deionized water that is prepared by the laboratory at the time of analysis. Method blanks undergo the same analytical process as the corresponding environmental samples and associated field blanks. The purpose of the method blank is to assess the potential for target analytes to "contaminate" the sample during analysis.

Holding Times. Holding times requirements are utilized in an effort to minimize the degradation or concentration of constituents in a particular matrix over time. The stability of the constituents is determined to the best extent by the regulatory agencies. A reasonable time limit is imposed under which the samples must be extracted or prepared and then analyzed. The holding times regulations assume that the samples have been properly preserved according to the guidelines, either at the laboratory or in the field. Analytical results from samples with holding time violations are qualified as estimated, J/UJ, because of the potential of compromising the sample. If the holding time is grossly violated (greater than 15 days), the results are qualified/rejected, J/R (Heartland).

COMPARABILITY. Comparability is qualitative measurement designed to express the confidence with which one data set may be compared to another. Factors that affect comparability are sample collection and handling techniques, sample matrix type, and analytical methodology. Standardization of sampling protocols and analytical methods assures comparability as long as precision and accuracy criteria are satisfied for each data set

COMPLETENESS. Completeness is a quantitative measurement of the useability of a data set. It is defined as the percentage of data which satisfy validation criteria. Rejected data are not useable. Data qualified as estimated, however, are useable. Completeness equals the total number of analytes for each matrix minus the total number of rejected analytes divided by the total number of analytes multiplied by 100. A goal of 85 percent useable data was established in the workplan for NSB Kings Bay.

1.2.1 October 1993 Field Program This subsection summarizes data quality and useability for subsurface soil samples and QC water samples collected during supplemental RFI field activities at NSB Kings Bay, Georgia, during October 1993. Listed below are the analytical fractions that soil and QC water matrices were evaluated for data quality and useability.

- VOCs;
- semivolatile organic compounds (SVOCs);
- pesticides and polychlorinated biphenyls (PCBs);
- metals and cyanide; and
- sulfide.

PRECISION. The following section describes the evaluation of precision for the soil and QC water matrices. The RPD limit for the soil matrix field duplicates was 35. The RPD limit for the QC water matrix was 20.

Ten percent of samples collected were taken in duplicate. Duplicate precision was assessed using both sample and associated duplicates along with MS/MSDs.

Soil duplicate precision and duplicate frequency for volatiles, semivolatiles, pesticide/PCBs, metals/cyanide, and sulfide fractions are presented in Attachment A, Tables A-1 through A-5, respectively. Precision of the reproducibility of

soil MS/MSDs for the volatiles, semivolatiles, pesticide, PCBs, metals, and cyanide fractions are presented in Attachment A, Tables A-6 through A-9, respectively. The QC water matrix precision for metals/cyanide is listed in Table A-10.

Soil Matrix. Sample SB10125 and its associated duplicate exhibited positive results for four volatile compounds. Three of the four compounds, toluene, 2-butanone, and xylene (total), exhibited acceptable RPDs while carbon disulfide exhibited a noncompliant RPD (Table A-1, sample delivery group [SDG] 90184). The compound was detected in both the field sample and the duplicate at concentrations below the compound CRQL. The noncompliant RPD for carbon disulfide was attributed to the low concentrations that were detected. Initial and continuing calibrations were evaluated and indicated that the system was "in control" (Heartland).

Sample SB10425 and its associated duplicate exhibited positive results for four compounds. Three of the four compounds, toluene, ethylbenzene, and xylene (total), exhibited noncompliant RPDs (Table A-1, SDG 90248). The compounds toluene and ethylbenzene were detected below the compound CRQL in both the original sample and the field duplicate. The noncompliant RPDs for toluene and ethylbenzene can be attributed to the low concentrations that were detected. The noncompliant RPD for the compound xylene (total) could be attributed to laboratory and/or field inconsistencies. The initial and continuing calibration associated with the samples were assessed and proved to be in compliance for all the compounds that exhibited noncompliant RPDs (Heartland).

Sample SB10125 and associated duplicate sample did not exhibited positive results for any target compound (Table A-2). Sample SB10425 and associated duplicate sample exhibited a noncompliant RPD for bis(2-ethylhexyl)phthalate, the only compound detected. Bis(2-ethylhexyl)phthalate was detected in the duplicate sample at a concentration of 630 micrograms per kilogram (μg/kg), but was not detected in the original sample. The noncompliance could be attributed to laboratory and/or field inconsistencies. The compound was detected at a low concentration in one of the two field blanks associated with the field duplicate pair. The compound is a common laboratory contaminant. Although bis(2-ethylhexyl)phthalate was not detected in the method blank associated with the samples, its presence in the samples could be affected by its common presence as a laboratory artifact. Assessment of the initial and continuing calibration criteria for bis(2-ethylhexyl)phthalate indicates that the system was in-control (Heartland).

No target compounds were detected in either the soil samples or associated duplicates for the pesticides and PCBs fraction (Table A-3). Therefore, no precision assessment based on field duplicate reproducibility was possible for this parameter.

All of the analytes detected in the metals analysis of the field duplicate pair of sample SB10125 exhibited compliant RPDs (Table A-4). Three of the 17 metals detected in the sample SB10425 and its duplicate exhibited noncompliant RPDs. The noncompliant analytes were cobalt, copper, and mercury. The analyte cobalt was detected in both the original sample and the field duplicate at concentrations below the CRDL. The analyte copper was detected in the original sample at a concentration below the CRDL, and was not detected in the duplicate. The noncompliance for the analytes cobalt and copper can be attributed to the low

concentrations detected. The analyte mercury was detected in the original sample at a concentration above the CRDL, and was not detected in the field duplicate sample. The noncompliance for the analyte mercury could be attributed to laboratory and/or field inconsistencies.

The MS/MSD sample pairs analyzed for volatiles, semivolatiles, pesticide, and PCBs were "in-compliance" with RPD precision criteria (Tables A-6 through A-8, respectively). The assessment of precision based on the reproducibility of results between MS/MSD (organic fractions), or MD (metals fraction) pairs are provided in Tables A-6 through A-9.

The three matrix duplicate pairs analyzed for the total metals fraction exhibited noncompliant RPDs for the analyte iron (Table A-9). Iron results in all soil samples in all SDGs were appropriately qualified as estimated, J/UJ. Two of the MD pairs exhibited noncompliant RPDs for the analyte manganese. Manganese results in soil samples from SDGs 90184, 90202, and 90206 were appropriately qualified as estimated, J/UJ. The noncompliance of the RPDs for the analytes indicates that the results for the soil samples for these analytes may be over or underestimated.

The sulfide analysis of the field duplicate pair of sample SB10125 did not exhibit positive results. The sulfide analysis of the field duplicate pair of sample SB10425 exhibited a compliant RPD (Table A-5). Based on assessment of duplicate precision evaluation criteria, the soil sample matrix analytical data was acceptable for precision for each SDG, with the noted potential for bias for the metals analytes iron and manganese.

QC Water Matrix. Based on assessment of duplicate precision evaluation criteria, the QC water sample matrix analytical data was acceptable for precision for each SDG. The total metals analysis of the MS/MD pairs of samples BS202FB and BS201FB exhibited acceptable RPD results (Table A-10).

ACCURACY. Accuracy of the organic analyses was assessed using MS and MSD samples, as well as, surrogate compound recoveries for those analytical fractions which utilize them.. Accuracy for the inorganic analyses was assessed using MS. Accuracy results for the MS/MSD samples are provided in Tables A-6 through A-9 for the soil matrix, and Table A-10 for the QC water matrix. Accuracy results for the surrogates in the soil matrix in the volatiles, semivolatiles, pesticide/ PCBs fractions are provided in Tables A-11 through A-13, respectively. Accuracy results for the surrogates in the QC water matrix for the volatiles, semivolatiles, pesticide/PCBs fractions , can be found in Tables A-14 through A-16, respectively.

Soil Matrix. The MS/MSD sample pairs analyzed for volatiles (Table A-6), semivolatiles (Table A-7), pesticides, PCBs (Table A-8), metals, and cyanide (Table A-9) exhibited "in-control" recovery results. The surrogate recoveries for the volatile fraction (Table A-11), the semivolatile fraction (Table A-12), and the pesticide/PCBs fraction (Table A-13) exhibited acceptable recoveries for all samples.

For the volatiles, semivolatiles, pesticide, PCBs, and metals analytical fractions, none of the compounds or analytes were qualified or rejected. Therefore, based on an overall assessment of MS/MSD and surrogate sample accuracy evaluation criteria, the soil matrix analytical data was acceptable for each SDG.

QC Water Matrix. The MS/MD sample pairs analyzed for metals/cyanide exhibited one noncompliant recovery (Table A-10). The analyte lead was recovered below the acceptable limit for accuracy in the MS of sample SB201FB associated with SDG 90192. This indicates that positive and nondetect results reported for lead in associated samples may be underestimated. Positive and nondetect results for lead in water samples in SDG 90192 were qualified as estimated, J/UJ.

The semivolatile surrogate recoveries for sample BS203FB exhibited a zero percent recovery for the surrogate compound phenol-d_5 (Table A-15, SDG 90215). The sample was re-extracted and reanalyzed. All recoveries in the reanalysis were within QC criteria. The results from the original analysis were "rejected" in favor of the reanalysis results. This action does not constitute a true rejection since viable results were obtained for all data points from the reanalyzed sample. Therefore, the completion goal was not affected. Ninety-nine point zero percent (99.0 percent) of the surrogate recoveries were within criteria.

Surrogate results for the volatile fraction (Table A-14) and the pesticide and PCBs fraction (Table A-16) exhibited acceptable percent recoveries.

Based on an overall assessment of MS/MSD and surrogate sample accuracy evaluation criteria, the QC water matrix analytical data was acceptable for each SDG with the noted potential for bias for the metals compound lead.

REPRESENTATIVENESS. Representativeness of the analytical data was assessed using trip blanks, equipment rinsate blanks, field blanks, laboratory method blanks, and holding time requirements. Field blanks, equipment rinsate blanks, and laboratory method blanks were analyzed for all analytical target analytes in each listed category. The assessment of representativeness is summarized in tabular form for each type of blank. Trip blank results for the volatiles fraction are summarized in Table A-17. Equipment rinsate blank results for the volatiles, semivolatiles, pesticide, PCBs, metals, and cyanide fractions are summarized in Tables A-18 through A-22, respectively. Field blank results for the volatiles, semivolatiles, pesticide, PCBs, metals, and cyanide fractions are summarized in Tables A-24 through A-28, respectfully. Method blank results for the volatiles, semivolatiles, pesticide, PCBs, metals, and cyanide fractions are summarized in Tables A-29 through A-32, respectively.

If contaminants were detected in a blank, corrective actions were made for the chemical analytical data during data validation by Heartland. The corrective action consisted of amending the laboratory reported results for organic and inorganic target analytes by the criteria listed in Section 1.2.

Trip Blanks. The VOCs which were detected in the trip blank samples were methylene chloride, chloromethane, acetone, and chloroform (Table A-17). The methylene chloride and acetone could be attributed to laboratory contamination. Chloromethane may be attributed to instrument contamination. Chloroform, a trihalomethane, can be formed when "free" chloride ions are present and may be an artifact from the water source of the laboratory. The presence of these compounds in the trip blanks did not result in qualification of the field sample results since these contaminants were either not detected in associated environmental samples, or were detected in associated environmental samples, but attributed to method blank contamination and qualified accordingly. Based on the

assessment of the trip blanks for representativeness, the analytical data was acceptable for each SDG (Heartland).

Equipment Rinsate Blanks. Volatile organic target analytes detected in the equipment rinsate blank samples included acetone and 2-butanone (Table A-18). These two volatile organic target analytes were also detected in the source water used to collect the rinsate blank samples. The volatile compounds acetone and 2-butanone detected in the equipment rinsate blanks could be attributed to laboratory contamination. Both compounds are considered common laboratory contaminants and were also detected in method blanks associated with this project.

Metal analytes detected in the equipment rinsate blanks consisted of calcium, iron, magnesium, manganese, sodium, zinc, aluminum, mercury, cadmium, copper, and cyanide (Table A-21). Sulfide was also detected in the equipment rinsate blank (Table A-22). There was no impact on the data due to the presence of iron in the rinsate blanks because the iron concentrations detected in the samples were above the action level noted in the rinsate blank. The inorganic analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts. The majority of the analytes detected were at concentrations below the analyte CRDLs. The analytes iron, mercury, and zinc were detected at concentrations above the CRDLs. Mercury detected in the rinsate blank BS206ER (Table A-21) did not impact the data because the compound was not detected in associated samples. Based on assessment of equipment rinsate blanks for representativeness, the analytical data was acceptable for each SDG (Heartland).

Semivolatiles, pesticides, and PCBs were not detected in equipment rinsate blank samples (Tables A-19 and A-20).

Field Blanks. Volatile target analytes detected in the field blank samples consisted of acetone, 2-butanone, chloroform, bromodichloromethane, dibromochloromethane, dibromochloromethane, bromoform, and toluene (Table A-23). The compounds chloroform, bromodichloromethane, dibromochloromethane, and bromoform were detected only in the potable water field blanks, not in the deionized (DI) source water used to decontaminate the sampling equipment. Acetone, 2-butanone, and methylene chloride were the only volatiles detected in the DI source water blank (the water used to decontaminate sampling equipment). Of the three volatiles, acetone and 2-butanone were also present in the rinsate blanks (Table A-18). However, their presence in the rinsate blanks did not require qualification of the associated environmental samples. Therefore, the field blank volatile contamination does not impact the data.

Semivolatile target compounds detected in the field blank consisted of di-n-butylphthalate and bis(2-ethylhexyl)phthalate. The semivolatile compounds di-n-butylphthalate and bis(2-ethylhexyl)phthalate are common laboratory contaminants. The two compounds were not detected in the DI source water (Table A-24) or the equipment rinsate blanks (Table A-19) and their presence in the field blanks does not impact the analytical data. In addition, the compounds (di-n-butylphthalate and bis(2-ethylhexyl)phthalate) were detected in method blanks associated with this project.

Metal analytes detected consisted of arsenic, barium, calcium, copper, iron, lead, magnesium and potassium, sodium, and zinc (Table A-26). Sulfide was also

detected in the field blank (Table A-27). The inorganic analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts. Many of the analytes detected in the field blanks were above the analyte CRDLs. However, these analytes were detected in the potable water field blanks only and the detected concentrations were less than Federal Primary Drinking Water maximum contaminant levels (MCLs). The analytes detected in the DI field blanks were less than the analyte CRDLs. No parallel can be drawn between the positive inorganic results detected in the field samples and those noted in the field blanks. The rinsate blanks give a more accurate evaluation of equipment contamination. Therefore, the inorganic analytes detected in the field blanks did not impact the environmental data.

No pesticide or PCBs target compounds were detected in the field blank samples (Tables A-25).

Although target compounds and analytes were detected in the field blanks none of the sample data required qualification. Based on assessment of field blanks for representativeness, the analytical data was acceptable for each SDG.

Method Blanks. Target analytes detected in the volatile method blank samples consisted of acetone, methylene chloride, and 2-butanone (Table A-28). Semivolatile target compounds detected in the method blank consisted of di-n-butylphthalate, bis(2-ethylhexyl)phthalate, and butylbenzylphthalate (Table A-29). Acetone, methylene chloride, 2-butanone, bis(2-ethylhexyl)phthalate, butylbenzylphthalate, and di-n-butylphthalate results are common laboratory contaminants and are attributed to laboratory contamination.

Metal analytes detected included arsenic, beryllium, calcium, lead, manganese, nickel, selenium, sodium, vanadium, and zinc (Table A-31). The inorganic analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts.

Pesticides target compounds were not detected in method blank samples (Table A-30).

Because target analytes were detected in some of the method blanks, some of the analytical results were qualified. However, based on assessment of method blanks for representativeness the analytical data was acceptable for each SDG.

Holding Times. All holding time requirements, both extraction and analytical, were met by the laboratory for all fractions, with the exception of three samples for the semivolatile fraction. The samples were re-extracted and reanalyzed because of deficiencies noted in the initial analysis. Two samples, SBPS915 and SBPS925, were "rejected" in favor of the results from the re-extraction and reanalysis due to phthalate contamination noted in the original analysis. Sample SB203FB was rejected in favor of the re-extraction and reanalysis, due to a zero percent surrogate recovery. The three samples were re-extracted outside hold time and positive and nondetect results were qualified, J/UJ.

COMPARABILITY. The analytical samples were collected and transported to the chemical analytical laboratory in accordance with standard procedures and were analyzed in conformance with acceptable USEPA procedures (refer to Tables A-1, A-2, and A-3). The methods used to collect the environmental samples and the

methods used to analyze the samples should assure comparability of the analytical data.

COMPLETENESS. Overall, the chemical analytical data exceeded the 85 percent completion goal with a completeness of 96 percent.

1.2.2 January 1994 Groundwater Sampling Event This subsection summarizes data quality and useability for subsurface soil samples and QC water samples collected during Supplemental RFI field activities at NSB Kings Bay, Georgia during January 1994. Listed below are the analytical fractions that groundwater and QC water matrices were evaluated for data quality and useability.

- low concentration volatile organic compounds (L.C. VOCs)
- SVOCs
- pesticides and PCBs
- organophosphorus pesticides
- herbicides
- dioxin and furans (D/Fs)
- metals and cyanide
- sulfide

PRECISION. The RPD limit for the groundwater matrix is 20. Ten percent of samples collected were taken in duplicate. Duplicate precision was assessed using both environmental sample and associated duplicates and MS/MSD/MDs.

Tabulation of the results of assessing duplicate precision and duplicate frequency for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furans, metals, cyanide, and sulfide fractions are presented in Attachment A, Tables A-32 through A-39, respectively. Tabulation of the results assessing precision based on the reproducibility between spike sample and duplicate sample pairs for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furans, metals, cyanide, and sulfide fractions are presented in Attachment A, Tables A-40 through A-47, respectively.

Groundwater Matrix. The low concentration volatile analyses of the groundwater samples 11AGW01 and 12GW01 and their field duplicates exhibited no positive results (Table A-32). The low concentration volatile analyses of sample 17BGW01 and corresponding field duplicate exhibited positive results in the original sample and/or the field duplicate for six compounds. Three of the six compounds, 1,1-dichloroethane, 2-butanone, and 4-methyl-2-pentanone, exceeded the precision criteria of 20 percent. 1,1-Dichloroethane and 2-butanone were detected in the original sample but not in the field duplicate sample. The noncompliance for 1,1-dichloroethane is attributed to the analyte being detected at the CRQL of 1.0 micrograms per liter ($\mu g/\ell$) in the original sample and not being detected in the field duplicate sample. The noncompliant duplicate precision for 2-butanone is attributed to continuing calibration noncompliance associated with both the original sample and the field duplicate (Heartland). The compound did not meet average relative response factor (RRF) criteria (RRF <0.05). Due to the very low RRFs reported, nondetect results associated with this calibration were rejected (R) and positive results were qualified as estimated (J) and must be considered biased high. The noncompliance for the compound 4-methyl-2-pentanone could be attributed to laboratory and/or field inconsistencies. Assessment of the

calibration criteria for the compound indicates that the system was in-control for 4-methyl-2-pentanone.

The low concentration volatile analysis of the field sample 22BGW01 and its associated duplicate exhibited positive results for nine compounds. One of the nine compounds, carbon disulfide, exhibited a noncompliant RPD (Table A-32). The analysis of VOCs down to 1.0 $\mu g/\ell$ for the low level method increases the potential for poor precision. Assessment of the initial and continuing calibration criteria indicates that all calibration criteria was met in all calibration standards associated with the samples.

The semivolatile analysis of the field duplicate pair of samples 11AGW01 and 12GW01 exhibited no positive results (Table A-33). The semivolatile analysis of the field duplicate pair of sample 17BGW01 exhibited noncompliant RPDs for the two compounds detected, 4-methylphenol and bis(2-ethylhexyl)phthalate. 4-Methylphenol was detected at concentrations below the CRQLs in both the original sample and the field duplicate sample. The noncompliance for 4-methylphenol is attributed to the low concentrations detected. Upon review of the sample results, ABB-ES noted that positive phthalate results were detected in the deep well samples. ABB-ES determined that the positive phthalate results were most likely a result of the sampling apparatus tubing used in the submersible pumps. Thus, the noncompliance for bis(2-ethylhexyl)phthalate may be attributed to phthalate contamination in the field. It should be noted that bis(2-ethylhexyl)phthalate is a common laboratory contaminant and although the compounds was not detected in the method blank associated with the samples, its presence in the samples could be affected by its common presence as a laboratory artifact. Assessment of the initial and continuing calibration criteria for the noncompliant compounds indicates that the system was in-control.

The semivolatile analysis of the field duplicate pair of sample 22BGW01 exhibited noncompliant RPDs for two of the four compounds detected (Table A-33). The noncompliant compounds were dimethylphthalate and bis(2-ethylhexyl)phthalate. Bis(2-ethylhexyl)phthalate was detected at a concentration equal to the CRQL in the original sample and less than the CRQL in the field duplicate sample. Dimethylphthalate was detected above the CRQL in both samples and its noncompliance was slight. Assessment of the initial and continuing calibration criteria for the noncompliant compounds indicates that the system was in-control.

No precision assessment based on field duplicate reproducibility was possible for the, pesticides, PCBs, organophosphorus pesticides, herbicides, dioxin, and furans fractions (Tables A-34, A-35, A-36, and A-37) due to groundwater resulting in nondetects for the respective fractions.

All of the analytes detected in the metals analysis of the field duplicate pair of samples 22BGW01 and 17BGW01 exhibited compliant RPDs (Table A-38). Three of the thirteen analytes (chromium, cobalt, and vanadium) detected in the metals analysis of the field duplicate pair of sample 12GW01 exhibited noncompliant RPDs. Chromium, cobalt, and vanadium were detected at concentrations below the CRDL in both the original sample and the field duplicate. The noncompliance for the analytes chromium, cobalt, and vanadium can be attributed to the low concentrations detected. Assessment of the serial dilution criteria for the noncompliant compounds indicates that they were in-control.

The metals analysis of the field duplicate pair of sample 11AGW01 exhibited noncompliant RPDs for five of the thirteen analytes detected. The noncompliant analytes were beryllium, chromium, lead, nickel, and zinc. The analytes beryllium, chromium, and nickel were detected in both the original sample and the field duplicate sample at concentrations below the CRDL. The noncompliance is attributed to the low concentrations detected.

The analytes lead and zinc were noncompliant in the MD analysis of sample 11AGW01. The noncompliance for the analyte lead is attributed to laboratory inconsistencies (i.e., an inhomogeneous sample split). The analyte zinc was also detected in the preparation blank associated with the field duplicate pair. The concentration of zinc in the field duplicate sample was within the action level of five times the concentration detected in the preparation blank (34 $\mu g/\ell$) for qualification to nondetect. However, the concentration in the original sample was above this action limit. The noncompliance for the analyte zinc is attributed to laboratory contamination. Further, the blank contamination is likely responsible for the noncompliant matrix duplicate result as well. All positive and nondetect lead and zinc results were appropriately qualified as estimated, J/UJ. Assessment of the serial dilution criteria for the noncompliant compounds indicates that they were in-control.

The sulfide analysis of the field duplicate pairs of sample 11AGW01, 17BGW01, and 22BGW01 exhibited compliant RPDs (Table A-39). The sulfide analysis of the field duplicate pair of sample 12GW01 exhibited a noncompliant RPD (Table A-39). The concentrations of sulfide in the field duplicate pair were close to the detection limit of 0.1 milligrams per liter (mg/ℓ). The concentration of sulfide in the original sample was 0.4 mg/ℓ, and the concentration of sulfide in the field duplicate sample was 0.2 mg/ℓ. Sulfide losses can occur because the sulfide can be volatilized or can react with oxygen if the sample is taken with too much aeration. Further, at such low concentrations small inconsistencies can greatly affect precision results. The noncompliance for the sulfide may be attributed to laboratory or field inconsistencies (Heartland).

The MS/MSD sample pairs analyzed for low concentration volatiles (Table A-40), semivolatiles (Table A-41), pesticide, PCBs (Table A-42), and organophosphorus pesticides (Table A-43), were "in-compliance" with RPD precision criteria for both MS/MSD pairs analyzed.

The herbicide analysis of the MS/MSD pair of sample 11AGW01 exhibited noncompliant precision for the compound dinoseb (Table A-44). The recovery of dinoseb in the MS and MSD were below the QC limits. The noncompliance for dinoseb could be attributed to laboratory inconsistency (i.e., spike solution error) or matrix interference which is masking or suppressing the dinoseb. The reported nondetect results for dinoseb in the samples 11AGW01, 11AGW01D, 19AGW01, and 13AGW01 were appropriately qualified as estimated, UJ (Heartland).

Dioxin and furans were "in-compliance" with RPD precision criteria for both MS/MSD pairs analyzed Table A-45.

Four of the MD pairs analyzed for the total metals fraction exhibited compliant RPDs for all analytes that were detected Table A-46. The matrix duplicate pair of sample 17BGW01 exhibited two compounds, barium and iron, with noncompliant RPDs. The positive and nondetect results for barium and iron in samples

associated with SDG 90237 were appropriately qualified as estimated, J/UJ respectively.

Sulfide analyses were "in-compliance" with RPD precision criteria for both MS/MSD pairs analyzed Table A-45.

Based on assessment of duplicate precision evaluation criteria, the water sample matrix analytical data was acceptable for precision for each SDG, with the noted potential for bias for the metals analytes barium, lead, and zinc.

ACCURACY. Accuracy was assessed using MS/MSD samples for organic analyses, and MS samples for metals, cyanide, and sulfide analyses for the water matrix, as well as surrogate compound recoveries for those analytical fractions which utilize them. Internal standard recoveries were utilized to assess accuracy for the dioxin and furan fraction. The results of the evaluation of accuracy for the MS/MSD samples for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furans, metals, cyanide, and sulfide fractions are presented in Attachment A, Tables A-40 through A-47, respectively. The results of the evaluation of accuracy for the surrogates in the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, kepone, herbicides fraction, and internal standards for the dioxin and furan fraction are provided in Tables A-48 through A-54, respectively.

Groundwater Matrix. The two MS/MSD pairs analyzed for the semivolatile fraction of samples 11AGW01 and 17BGW01 exhibited one compound with noncompliant recoveries (Table A-41). The compound 4-nitrophenol was recovered above the upper control limit in the MS/MSD of both spike pairs. However, based on the assessment of additional QC criteria, the data validator determined that qualifications were not required.

The MS/MSD pair of sample 11AGW01 which was analyzed for herbicides exhibited one compound, dinoseb, which was recovered below the lower control limit (Table A-44). The noncompliance for dinoseb could be attributed to laboratory inconsistency (i.e., spike solution error) or matrix interference which is masking or suppressing the dinoseb. The reported nondetect results for dinoseb in the samples 11AGW01, 11AGW01D, 19AGW01, and 13AGW01 were appropriately qualified as estimated, UJ.

The MS/MSD sample pairs analyzed for low concentration volatiles (Table A-40), pesticides, PCBs (Table A-42), organophosphorus pesticides (Table A-43), dioxin, and furans (Table A-45) fractions exhibited "in-control" recovery results.

The analyte zinc was recovered below the acceptable limit for the MS analyzed for metals and cyanide for sample 11AGW01 (Table A-46). This indicates that positive and nondetect results reported for zinc in associated samples may be underestimated. Positive and nondetect results for zinc in samples in SDG 92024 were appropriately qualified as estimated, J/UJ.

Iron was recovered above the QC limit, and silver was not recovered for the MS analyzed for metals and cyanide for sample 17BGW01 (Table A-46). This indicates that reported positive results for iron in samples in SDG 92037 may be overestimated. Positive results for iron in these samples were appropriately qualified as estimated, J. The 0 percent silver recovery indicates that positive results for silver in these samples may be underestimated and that nondetect results are

unusable. Therefore, positive results for silver in samples associated with SDG 92037 were appropriately qualified as estimated, J, and nondetect results were rejected, R. This constituted a rejection of nine field sample data points and one QC sample data point.

The MS analyzed for metals and cyanide for samples 08BGW01 and 15GW01 exhibited three analytes which were noncompliant (Table A-46). The analyte aluminum was recovered above the upper control limit. This indicates that reported positive results for aluminum in associated samples may be overestimated. Positive aluminum results for samples from SDG 92028 were qualified, J. The analytes silver and thallium were recovered below the lower control limit indicating that the results for silver and thallium may be underestimated. Positive and nondetect results for silver and thallium in samples from SDG 92028 were appropriately qualified as estimated, J/UJ.

The MS analyzed for metals and cyanide for sample 11BGW01 exhibited acceptable recoveries for all spiked compounds (Table A-46). The analyte silver was recovered below the lower control limit in the MS of sample 19AGW01. Silver results, positive and nondetect for samples from SDG 92032 were appropriately qualified as estimated, J/UJ. The analyte thallium was recovered below the lower control limit in the MS of sample 13AGW01. Reported positive and nondetect results for the analyte thallium in samples associated with SDG 92035 were qualified as estimated, J/UJ.

The two MS samples analyzed for sulfide exhibited low recoveries (Table A-47). This indicates that positive and nondetect results for sulfide in associated samples may be underestimated. All positive and nondetect results for sulfide in SDGs 92023, 92026, 92029, and 92036 were appropriately qualified as estimated, J/UJ.

Ten semivolatile samples exhibited a noncompliant recovery for one surrogate compound (Table A-49). One sample exhibited a high recovery for the surrogate compound 2,4,6-tribromophenol, and nine samples exhibited low recovery of the surrogate compound 2-fluorobiphenyl. The functional guidelines allow one surrogate for each fraction to be outside the control limits, provided the recovery is above 10 percent. Therefore, the analytical data did not require qualification. Ninety-seven point 4 percent of the surrogate recoveries were within criteria.

Twenty-one samples analyzed for the pesticide and PCBs fraction exhibited low recoveries for the surrogate compound decachlorobiphenyl (DCB) (Table A-50). Five samples exhibited low recoveries for the compound tetrachloro-m-xylene. This indicates that positive and nondetect results for target compounds may be underestimated. Positive and nondetect results in samples exhibiting low, but greater than 10 percent, surrogate recoveries were appropriately qualified as estimated, J/UJ. Two of the twenty-one samples with low DCB recovery exhibited recoveries below 10 percent. Surrogate recoveries this low may be indicative of matrix interferences which inhibited the recovery of the surrogate compound. This indicates that positive results are underestimated and nondetect results may be unreliable. In samples 19BGW01 and 19BGW01RE, positive results were qualified as estimated, J, and nondetect results were rejected, R. Seventy-five point four percent of the pesticide and PCBs surrogate recoveries were acceptable.

Two samples, BS302ER and 13AGW01, analyzed for organophosphorus pesticides exhibited surrogate recoveries which were above the laboratory upper control limit (52 to 97 percent) (Table A-51). However, the recoveries were 104 percent and 98 percent, respectively. The data validator determined that the analytical data did not require qualification because positive results were not detected in the samples.

The surrogate recoveries for the low concentration volatiles fraction (Table A-48), the kepone fraction (Table A-52), the herbicides fraction (Table A-53), and the dioxin and furan fraction internal standard recoveries (Table A-54) were acceptable.

Based on an assessment of MS/MSD and surrogate sample accuracy evaluation criteria, the groundwater matrix analytical data was acceptable for each SDG with the noted potential for bias for the metals compounds lead, silver, aluminum, and thallium, the rejection of 10 silver data points in the metals fraction due to MS recovery below 30 percent, and the rejection of 28 data points in the pesticide and PCBs fraction due to DCB recovery of less than 10 percent.

REPRESENTATIVENESS. Representativeness of the environmental sample analytical data was assessed using trip blanks, equipment rinsate blanks, field blanks, laboratory method blanks, and holding time requirements.

The trip blank samples were analyzed for only low concentration volatile organic target analytes. Field blanks, equipment rinsate blanks, and laboratory method blanks were analyzed for target analytes in each listed category. The assessment of representativeness is summarized in tabular form for each type of blank, equipment rinsate blank results for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furan, metals, cyanide, and sulfide are summarized in Tables A-55 through A-62, respectively. Field blank results for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furan, metals, cyanide, and sulfide are summarized in Tables A-63 through A-70, respectively. Method blank results for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, kepone, herbicides, dioxin, furan, metals, and cyanide fractions are summarized in Tables A-71 through A-78, respectively.

If contaminants were detected in a blank, corrective actions were made for the chemical analytical data during data validation by Heartland. The corrective action consisted of amending the laboratory reported results for organic and inorganic target analytes by the criteria.

Trip Blanks. Methylene chloride and acetone were detected in the low concentration volatile trip blank samples. Methylene chloride and acetone are common laboratory contaminants. Both compounds were reported in method blanks associated with this project. The methylene chloride and acetone can be attributed to laboratory contamination. The presence of these compounds in the trip blanks resulted in qualification of some of the field sample results. However, based on the assessment of the trip blanks for representativeness, the analytical data was acceptable for each SDG.

Equipment Rinsate Blanks. Two VOCs, acetone and methylene chloride, were detected in the equipment rinsate blanks Table A-55. Methylene chloride was

reported below the CRQL in the rinsate blank BS302ER. Acetone was detected at concentrations above the CRQL in the rinsate blanks BS301ER and BS302ER. Both compounds were also detected in method blanks and the field blank sample associated with this project contamination can be attributed to laboratory contamination. Some of the analytical data required qualifications due to the rinsate blank contamination.

The 4,4-dichlorodiphenyltrichloroethane (DDT) detected in the rinsate blank BS303ER was well below the compound CRQL (Table A-57). The contamination is likely due to random instrument carry-over from standards analysis since the compound was not detected in the field samples or the other blanks associated with the project. The compound was not noted in the field samples, so no qualification of the data was required.

The inorganic analytes detected can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts (Table A-61). All of the analytes detected were at concentrations below the analyte CRDLs. Analytical results which were reported at or below the concentrations noted in the rinsate blanks were qualified as nondetect, U, at the concentration reported.

No target compounds were detected in the rinsate blanks for the semivolatiles (Tables A-56), organophosphorus pesticides (Tables A-58), herbicides (Table A-59), dioxin and furans (Table A-60), or sulfide fractions (Table A-62).

Target compounds were detected in the equipment rinsate blank samples and some of the analytical data required qualification. However, based on assessment of equipment rinsate blanks for representativeness, the analytical data was acceptable for each SDG.

Field Blanks. Two volatile analytes were detected in field blanks Table A-63. The acetone and methylene chloride detected in the field blank are likely due to laboratory contamination. As noted previously, acetone was detected in two of the three rinsate blanks and methylene chloride was detected in one of the three rinsate blanks. The presence of these common laboratory contaminants, acetone and methylene chloride, in the QC blanks could have been affected by their common presence as laboratory artifacts. None of the field samples required qualification due to the methylene chloride or the acetone in the field blank (Heartland).

The inorganic analyte barium can be attributed to the water source, the water treatment system that. The analyte was reported at a concentration well below the CRDL. The barium result in one sample, BS302ER, was qualified as nondetect, U, due to the barium concentration in the field blank. All other positive concentrations of barium in field samples were above the action limit (five times the concentration reported in the field blank) for qualification.

No semivolatile, pesticide/PCBs, organophosphorus pesticides, herbicides, or dioxin/furan target compounds were detected in the field blank samples (Tables A-64, A-65, A-66, A-67, and A-68).

Sulfide was not detected in any of the field blank samples (Table A-69).

Target compounds and target analytes were detected in the field blanks and some of the sample data required qualification. However, based on assessment of field blanks for representativeness, the analytical data was acceptable for each SDG.

Method Blanks. Target analytes detected in the method blank samples consisted of acetone and methylene chloride for the volatile fraction (Table A-71), di-n-butylphthalate and bis(2-ethylhexyl)phthalate for the semivolatile fraction (Table A-72). The detectable acetone, methylene chloride, bis(2-ethylhexyl)phthalate, and di-n-butylphthalate results are common laboratory contaminants and are attributed to laboratory contamination. The inorganic analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts.

Pesticide, PCBs, organophosphorus pesticides, kepone, herbicides, dioxin, and furan target compounds were not detected in method blank samples (Tables A-73 through A-77).

Metal analytes detected in method blanks associated with these samples consisted of antimony, copper, aluminum, arsenic, calcium, zinc, manganese, potassium, and sodium for the metals fraction (Table A-78).

Because target analytes were detected in some of the method blanks, some of the analytical results were qualified. However, based on assessment of method blanks for representativeness the analytical data was acceptable for each SDG.

Holding Times. All holding time requirements, both extraction and analytical, were met by the laboratory for all fractions, with the exception of eight samples for the pesticides and PCBs fraction. The samples were re-extracted outside of the recommended extraction holding time. Viable results were obtained for all re-extracted samples from the original analysis, with the exception of samples 19BGW01 and 19BGW01RE, which were rejected for surrogate recovery deficiencies. All results from the re-extracted samples were qualified as estimated, J/UJ, due to exceeded extraction hold times.

COMPARABILITY. The analytical samples were collected and transported to the chemical analytical laboratory in accordance with standard procedures and were analyzed in conformance with acceptable USEPA procedures. The methods used to collect the environmental samples and the methods used to analyze the samples should assure comparability of the analytical data.

COMPLETENESS. None of the analytical data in this project was rejected. A completion goal of 85 percent was met for each fraction analyzed. A detailed narrative on fractions containing rejected or qualified data which was not previously addressed follows.

Volatiles, Noncompliant RRFs. Three volatiles compounds, acetone, 2-butanone, and 2-hexanone, did not always meet the initial and/or continuing calibration criteria for RRF. The RRF values fell below 0.05 in analyses affecting all SDGs associated with this project. All nondetect sample results associated with the initial and continuing calibrations that exhibited any of the three compounds with noncompliant RRFs are rejected, R. The noncompliant calibrations resulted in the rejection of 36 field QC sample data points and 96 field sample data points. The completeness goal for this fraction was 93.2 percent, met.

Nondetect results that were rejected for the compounds may be evaluated by adjusting the CRQL to the concentration of the continuing calibration standard and qualifying the results as not detected at an estimated concentration, UJ. The nondetect qualification at the concentration of the continuing calibration standard insures that the instrumentation is capable of detecting the compound at a known concentration.

Volatiles, Storage Blanks. The laboratory analyzed a storage blank with each SDG for this project. Three of these storage blanks exhibited positive concentrations of one target analyte. Three field samples, 10CGW01, 03BGW01, and 17BGW01D, required qualification of the reported acetone result to nondetect, U, due to storage blank contamination. Three field samples, 17AGW01, 17CGW01, and 03CGW01, required qualification of reported 2-butanone results to nondetect, U, due to storage blank contamination.

Volatiles and Semivolatiles, Noncompliant %RSDs and %Ds. Target compounds for both the volatile and semivolatile fractions were qualified because of noncompliant calibrations in some SDGs. Several volatile and semivolatile compounds did not always meet the initial and/or continuing calibration criteria for RRF, relative standard deviation (RSD), and percent difference (%D). All results qualified for calibration %RSD and %D deficiencies (J/U) are considered to be useable. For the compounds in the Low Concentration volatile and semivolatile analyses that did not meet calibration criteria, all positive results are qualified as estimated (J) (%Ds greater than 25 percent) and all nondetect results are qualified as estimated (U) (>50 %D less than 90 percent) due to calibration deficiencies.

Volatiles and Semivolatiles, Dilution Results. The positive results reported for compounds which exceeded the linear range of the instrument, E-flagged results, in the volatile analysis of samples 02GW01, 16GW01, and 22BGW01 and the semivolatile analysis of sample 16GW01 were "rejected" in favor of the D-flagged results reported from a dilution analysis of the samples. This action does not constitute a true rejection since viable results were obtained from the dilution analyses.

Metals, Noncompliant Method of Standard Additions (MSA). Target analytes arsenic, selenium, and thallium were qualified as estimated, J/U, due to unacceptable graphite furnace MSA results in samples from each of the CLP SDGs and the Appendix IX SDG 92035. All results qualified for noncompliant MSA recoveries are considered to be useable. If the recovery was above the QC limits, only the positive results for the analyte were qualified. If the recovery was below the QC limits, or the correlation coefficient of an MSA curve was below the QC limits, positive and nondetect results were qualified as estimated, J/U.

Metals, Noncompliant Serial Dilutions. Positive results for target analytes aluminum, sodium, barium, and calcium were qualified as estimated, J, due to unacceptable serial dilution results in samples from each of the CLP SDGs. All results qualified for noncompliant serial dilution %Ds are considered to be useable.

SUMMARY. Overall, the chemical analytical data are acceptable and exceeded the completion goal of 96 percent for all fractions except the low concentration volatile fraction.

Groundwater Samples. Ninety-six field sample data points were rejected in the low concentration volatile analysis due to noncompliant initial and/or continuing calibration RRF values. The completion goal was met. Twenty-eight field sample data points were rejected in the pesticide and PCBs analysis of one field sample and the re-extracted analysis of the sample. The completion goal was met. Fourteen field sample data points were rejected in the metals analysis due to recovery of silver below 30 percent in the associated MS. The completion goal was met.

QC Water Samples. Thirty-six QC sample data points were rejected in the Low Concentration volatile analysis due to noncompliant initial and/or continuing calibration RRF values. The completion goal was met. Three field sample data points were rejected in the metals analysis due to recovery of silver below 30 percent in the associated MS.

1.2.3 April 1994 Groundwater Sampling Event This section summarizes data quality and useability for subsurface soil samples and QC water samples collected during supplemental RFI field activities at NSB Kings Bay, Georgia, during April 1994. Listed below are the analytical fractions that groundwater and QC water matrices were evaluated for data quality and useability.

- L.C. VOCs
- SVOCs
- pesticides and PCBs
- organophosphorus pesticides
- herbicides
- D/Fs
- metals and cyanide
- sulfide

PRECISION. The RPD limit for the groundwater matrix is 20. The percentage of duplicate samples collected for this project was greater than 10 percent. Duplicate precision was assessed using both the sample and the associated duplicates along with MS/MSD/MDs.

Tabulation of the results of assessing duplicate precision and duplicate frequency for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furans, metals, cyanide, and sulfide fractions are presented in Appendix A, Tables A-79 through A-86, respectively. Tabulation of the results assessing precision based on the reproducibility between spike sample and duplicate sample pairs for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furans, metals, cyanide, and sulfide fractions are presented in Attachment A, Tables A-87 through A-94, respectively. The metals analyte antimony was reanalyzed separately due to a discrepancy in the CRDL utilized in the initial analysis. The antimony analysis was acceptable for all QC requirements.

Groundwater Matrix. The low concentration volatile analysis of the field samples and duplicates of 12GW02 and 17AGW01 exhibited no positive results (Table A-79). The low concentration volatile analysis of the field duplicate pair of sample 10AGW02 exhibited noncompliant RPDs for two of the three target compounds detected. The noncompliant compounds were benzene and chlorobenzene. The compound benzene was detected at concentrations below the CRQL in both the

original sample and the field duplicate sample. The compound chlorobenzene was detected at a concentration equal to the CRQL in the original sample and above the CRQL in the field duplicate sample. The noncompliance for benzene and chlorobenzene is attributed to the low concentrations detected. Assessment of the calibration criteria for the compound indicates that the system was in-control for the noncompliant compounds.

The Low Concentration volatile analysis of the field sample 22BGW02 and its associated duplicate exhibited positive results for six compounds. Two of the compounds, toluene and xylene (total), exhibited noncompliant RPDs (Table A-79). The noncompliance for the compound toluene was slight and is attributed to the low concentrations detected. The compound xylene (total) was not detected in the original sample, but was detected above the CRQL in the field duplicate sample. The low level volatile method utilizes CRQLs of 1 $\mu g/\ell$. The analysis of trace levels of volatile organic target compounds increases the potential for poor precision. The noncompliance for xylene (total) may be attributed to the low concentrations detected. Assessment of the initial and continuing calibration criteria for the compounds exhibiting noncompliant RPDs indicates that all calibration criteria was met.

The semivolatile analysis of the field samples and duplicates of 12GW02 and 17AGW01 exhibited no positive results (Table A-80). The semivolatile analysis of the field duplicate pair of samples 10AGW02 exhibited acceptable duplicate precision for the four target compounds detected. The semivolatile analysis of the field duplicate pair of sample 22BGW02 exhibited a noncompliant RPD for one of the three compounds detected, bis(2-ethylhexyl)phthalate. The compound bis(2-ethylhexyl)phthalate was detected in the original sample, but was not detected in the field duplicate sample. Bis(2-ethylhexyl)phthalate is a common laboratory contaminant, but the compound was not detected in the method blank associated with the samples. However, its presence in the samples could be affected by its common presence as a laboratory artifact. Assessment of the initial and continuing calibration criteria for the noncompliant compounds indicates that the system was in-control (Heartland).

The semivolatile analysis of the MS/MSD pair of sample 13BGW02 exhibited noncompliant RPDs for all but one compound (Table A-80). The RPD values were affected by the recoveries, which were lower overall in the MSD than in the MS. However, based on the assessment of additional QC criteria the analytical data did not require qualification.

The pesticide and PCBs analysis of the field duplicate pairs of samples 12GW02, 17AGW02, and 10AGW02 did not exhibit positive results (Table A-81). The pesticide and PCBs analysis of the field duplicate pair of sample 22BGW02 exhibited noncompliant RPDs for three of the four target compounds requiring RPD calculation. The noncompliant compounds were gamma-benzene hexachloride (BHC) (lindane), alpha-chlordane, and gamma-chlordane. Gamma-BHC (lindane) was detected at a concentration slightly above the CRQL in the original sample, but was not detected in the field duplicate sample. Alpha-chlordane and gamma-chlordane were detected at concentrations below the CRQLs. The noncompliance for gamma-BHC (lindane), alpha-chlordane, and gamma-chlordane can be attributed to the low concentrations detected. Assessment of the initial and continuing calibration criteria for the noncompliant compounds indicates that the system was in-control.

The pesticide/PCBs analysis of the MS/MSD pair of sample 11AGW01 exhibited noncompliant RPDs for two compounds (Table A-81). The noncompliant compounds were gamma-BHC (lindane) and heptachlor. Overall, the recoveries were lower in the MS than in the MSD. However, based on the assessment of additional QC criteria, the analytical data did not require qualification.

No target compounds were detected in either the water samples or associated duplicates for the, organophosphorus pesticides, herbicides, and dioxin/furan fractions (Tables A-82, A-83, and A-84). Therefore, no precision assessment based on field duplicate reproducibility was possible for these parameters.

Two of the thirteen analytes detected in the metals analysis of the field duplicate pair of sample 12GW01 exhibited noncompliant RPDs (Table A-85). The noncompliant analytes were calcium and potassium. The noncompliance for the two analytes was slight and may be attributed to laboratory and/or field inconsistencies. Assessment of the serial dilution criteria for the noncompliant compounds indicates that they were in-control.

The metals analysis of the field duplicate pair of sample 10AGW02 exhibited noncompliant RPDs for eight of the sixteen analytes detected (Table A-85). The noncompliant analytes were aluminum, arsenic, barium, chromium, lead, mercury, vanadium, and zinc. The analyte arsenic was detected at concentrations below the CRDL in both the original sample and the field duplicate sample. The analyte mercury was detected above the CRQL in the original sample but was not detected in the field duplicate sample. The analyte lead was detected below the CRDL in the field duplicate sample and above the CRDL in the original sample. The noncompliance for arsenic, lead, and mercury is attributed to the low concentrations detected. The analyte vanadium was detected at a negative concentration in the preparation blank associated with the field duplicate pair. The noncompliance for vanadium can be attributed to instrument anomalies. The analyte chromium exhibited slight noncompliance which could be attributed to laboratory and/or field inconsistencies. The analytes aluminum, barium, and zinc were detected in the preparation blank associated with the field duplicate pair. However, the concentration of the analytes in the field duplicate pair were above the action level (five times the blank contamination level) for qualification to nondetect. The noncompliance for aluminum, barium, and zinc can be attributed to laboratory contamination. Assessment of the serial dilution criteria for the noncompliant compounds indicates that they were in-control (Heartland).

The metals analysis of the field duplicate pair of sample 17AGW02 exhibited noncompliant RPDs for four of the eighteen analytes detected (Table A-85). The noncompliant analytes were arsenic, lead, nickel, and cobalt. The analytes arsenic, nickel, and cobalt were detected at concentrations below the CRDL in both the original sample and the field duplicate sample. The noncompliance for arsenic, nickel, and cobalt is attributed to the low concentrations detected. The noncompliance for the analyte lead was slight and may be attributed to field and/or laboratory inconsistencies. Assessment of the serial dilution criteria for the noncompliant compounds indicates that they were in-control.

The metals analysis of the field duplicate pair of sample 22BGW02 exhibited noncompliant RPDs for three of the fourteen analytes detected (Table A-85). The noncompliant analytes were calcium, copper, and lead. The three analytes were detected at concentrations below the CRDL in both the original sample and the field duplicate sample. The noncompliance for calcium, copper, and lead is

attributed to the low concentrations detected. Assessment of the serial dilution criteria for the noncompliant compounds indicates that they were in-control.

The analyte zinc was noncompliant for precision in the MD analysis of sample 13BGW02. All positive and nondetect zinc results were appropriately qualified as estimated, J/UJ. Assessment of the serial dilution criteria for the noncompliant compounds indicates that they were in-control.

No sulfides were detected in either the water samples or associated duplicates Table A-86.

The assessment of precision based on the reproducibility of results between MS/MSD (organic fractions), or MD (metals fraction) pairs are provided in Tables A-87 through A-94.

The MS/MSD sample pairs analyzed for low concentration volatiles, semivolatile, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furan, and sulfide fractions were "in-compliance" with RPD precision criteria for both MS/MSD pairs analyzed (Tables A-87, A-88, A-89, A-90, A-91, A-92, and A-94), respectively. Metals and cyanide precision is listed in Table A-93.

Based on assessment of duplicate precision evaluation criteria, the water sample matrix analytical data was acceptable for precision for each SDG, with the noted potential for bias for the metals analyte zinc.

ACCURACY. The following sections summarize the evaluation of analytical accuracy for the groundwater samples for the following analytical groups. Refer to Tables A-1, A-2, and A-3.

Accuracy was assessed using MS/MSD samples for organic analyses, and MS samples for metals, cyanide and sulfide analyses for the water matrix, as well as surrogate compound recoveries for those analytical fractions which utilize them. Internal standard recoveries were utilized to assess accuracy for the dioxin and furan fraction. The results of the evaluation of accuracy for the MS/MSD for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furans, metals, cyanide, and sulfide fractions are presented in Attachment A, Tables A-87 through A-94, respectively. The metals analyte antimony was reanalyzed separately due to a discrepancy in the CRDL utilized in the initial analysis. The antimony analysis was acceptable for all QC requirements and the results are included in the PARCC tables contained in this report. The results of the evaluation of accuracy for the surrogates and internal standards in the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, and furan fractions are provided in Tables A-95 through A-100, respectively.

Groundwater Matrix. The semivolatile analysis of the MS/MSD pair of sample 17AGW02 exhibited noncompliant recoveries for two compounds (Table A-88). The compounds 4-nitrophenol and 2,4-dinitrotoluene exhibited recoveries above the QC limit for accuracy. Positive results for the noncompliant compounds were not noted in the original sample. Qualification of the analytical data was not required. The semivolatile analysis of the MS/MSD pair of sample 11AGW01 exhibited high recovery of the compound pentachlorophenol. Positive results for the noncompliant compound were not noted in the original sample. Qualification of the analytical data was not required. The semivolatile analysis of the MS/MSD

pair of sample 13BGW02 exhibited one noncompliant recovery above the QC limit in the MS and four noncompliant recoveries below the QC limit in the MSD. The compounds exhibiting noncompliant recoveries were 2,4-dinitrotoluene in the MS and 1,4-dichlorobenzene, n-nitroso-di-n-propylene, 1,2,4-trichlorobenzene, and acenaphthene in the MSD. However, based on the assessment of additional QC criteria, the analytical data did not require qualification.

The MS/MSD pair of sample 13BGW02 which was analyzed for pesticides exhibited two compounds which were recovered below the QC limit (Table A-89). The noncompliant compounds were aldrin, recovered below the QC limit in the MSD, and 4,4'-DDT, recovered below the QC limit in both the MS and MSD. However, based on the assessment of additional QC criteria, the analytical data did not require qualification.

The MS analyzed for metals and cyanide for sample 17AGW02 exhibited three recoveries which were noncompliant (Table A-93). The analytes lead and thallium were recovered below the acceptable limit. This indicates that positive and nondetect results reported for zinc in associated samples may be underestimated. Positive and nondetect results for lead and thallium in samples in SDG 92024 were appropriately qualified as estimated, J/UJ. The analyte selenium was recovered above the acceptable limit. This indicates that positive results in associated samples may be overestimated. Positive results for selenium in associated samples were appropriately qualified as estimated, J.

The MS/MSD sample pairs analyzed for the low concentration volatiles (Table A-87), organophosphorus pesticides (Table A-90), herbicides (Table A-91), dioxin, furans (Table A-92), and sulfide (Table A-94) exhibited "in-control" recovery results.

Two semivolatile samples exhibited noncompliant recovery for the surrogate compound terphenyl-d14 (Table A-96). Both noncompliant recoveries were below the QC limits. The functional guidelines allow one surrogate for each fraction to be outside QC limits, provided the recovery is above 10 percent. Therefore, the analytical data did not require qualification. Ninety-nine point five percent (99.5 percent) of the surrogate recoveries were within criteria.

Forty-three samples analyzed for the pesticide and PCBs fraction exhibited low recoveries for the surrogate compound DCB (Table A-97). Eleven samples exhibited low recoveries for the compound tetrachloro-m-xylene. This indicates that positive and nondetect results for target compounds may be underestimated. Positive and nondetect results in samples exhibiting low, but greater than 10 percent, surrogate recoveries were appropriately qualified as estimated, J/UJ. One of the forty-three samples with low DCB recovery exhibited recoveries below 10 percent. Surrogate recoveries this low may be indicative of matrix interferences which inhibited the recovery of the surrogate compound, or a poor analytical extraction. This indicates that positive results are underestimated and nondetect results may be unreliable. In sample 08CGW02, positive results were qualified as estimated, J, and nondetect results were rejected, R. The rejected data points were not counted in the rejected data because the sample was re-extracted and reanalyzed with acceptable surrogate recoveries. Fifty-one point five percent of the pesticide and PCBs surrogate recoveries were acceptable.

One sample, 11BGW02D, analyzed for organophosphorus pesticides exhibited a surrogate recovery which was below the laboratory QC limits (38 to 146 percent) (Table A-98). This indicates that positive and nondetect results for target compounds may be underestimated. Positive and nondetect results in samples exhibiting low, but greater than 10 percent, surrogate recoveries were appropriately qualified as estimated, J/UJ. This indicates that positive and nondetect results may be underestimated. Positive and nondetect results reported in sample 11BGW02D were appropriately qualified as estimated, J/UJ.

Two samples analyzed for herbicides exhibited noncompliant surrogate recoveries (Table A-99). Sample 13AGW02 exhibited recoveries below 10 percent for the surrogate compound 2,4-dichlorophenoxy acetic acid (2,4-D) and low recoveries for the surrogate compound 2,4-dichlorophenylacetic acid. This indicates that positive results reported in the sample may be underestimated and that nondetect results are unreliable. Positive results in sample 13AGW02 were qualified as estimated, J, and nondetect results were rejected, R. Sample 16GW02 exhibited low recoveries of the surrogate compound 2,4-D. This indicates that positive and nondetect results in the sample may be underestimated. Positive and nondetect results in sample 16GW02 were appropriately qualified as estimated, J/UJ.

The surrogate recoveries for the low concentration volatiles fraction (Table A-95) and the dioxin/furan internal standards recoveries were acceptable (Table A-100).

Based on an overall assessment of MS/MSD and surrogate sample accuracy evaluation criteria, the water matrix analytical data was acceptable for each SDG with the noted potential for bias for the metals compounds lead and thallium, the pesticide and PCBs compounds, and the herbicide compounds.

REPRESENTATIVENESS. Representativeness of the environmental sample analytical data was assessed using trip blanks, equipment rinsate blanks, field blanks, laboratory method blanks, and holding time requirements.

The trip blank samples were analyzed for only low concentration volatile organic target analytes. Field blanks, equipment rinsate blanks, and laboratory method blanks were analyzed for target analytes in each listed category. The assessment of representativeness is summarized in tabular form for each type of blank, trip blank results for the low concentration volatile are summarized in Table A-101 equipment rinsate blank results for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furan, metals, cyanide, and sulfide are summarized in Tables A-102 through A-109, respectively. Field blank results for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furan, metals, cyanide, and sulfide are summarized in Tables A-110 through A-117, respectively. Method blank results for the low concentration volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, kepone, herbicides, dioxin, furan, metals, and cyanide fractions are summarized in Tables A-118 through A-124, respectively.

If contaminants were detected in a blank, corrective actions were made for the chemical analytical data during data validation by Heartland. The corrective action consisted of amending the laboratory reported results with qualifiers.

Trip Blanks. Methylene chloride was detected in the trip blank samples Table A-101. Methylene chloride is a common laboratory contaminant. Although the compound was not detected in the method blanks associated with the field samples, its presence in the laboratory could affect trip blank contamination. The concentration of methylene chloride in the trip blanks was below the CRQL in all cases. The methylene chloride in the trip blanks resulted in qualification of some of the field sample results. However, based on the assessment of the trip blanks for representativeness, the analytical data was acceptable for each SDG.

Equipment Rinsate Blanks. The volatile compounds acetone and the semivolatile compounds bis(2-ethylhexyl)phthalate and di-n-butylphthalate detected in the equipment rinsate blanks can be attributed to laboratory and/or field contamination Tables A-102 and A-103, respectively. Acetone was detected at concentrations above the CRQL in the rinsate blanks BS301ER and BS302ER. The semivolatile compounds were below the CRQLs in all cases. The volatile compound acetone and the semivolatile compounds bis(2-ethylhexyl)phthalate and di-n-butyl are considered common laboratory contaminants. Bis(2-ethylhexyl)phthalate was detected in the method blanks associated with the project. Although acetone and di-n-butylphthalate were not detected in the method blanks, their presence in the laboratory could affect rinsate blank contamination. Some of the analytical data required qualifications due to the rinsate blank contamination.

The inorganic analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts. All of the analytes detected with the exception of zinc in BS401ER, were at concentrations below the analyte CRDLs Table A-108. Some analytical results which were reported at or below the concentrations noted in the rinsate blanks were qualified as nondetect, U, at the concentration reported.

Pesticide, PCBs, organophosphorus pesticides, herbicides, dioxin, furans, and sulfide were not detected in equipment rinsate blank samples (Tables A-104, A-105, A-106, A-107, and A-109).

Target compounds were detected in the equipment rinsate blank samples and some of the analytical data required qualification. However, based on assessment of equipment rinsate blanks for representativeness, the analytical data was acceptable for each SDG.

Field Blanks. No target compounds were detected in the field blank samples (Tables A-110 through A-117). Based on assessment of field blanks for representativeness, the analytical data was acceptable for each SDG.

Method Blanks. The detectable bis(2-ethylhexyl)phthalate is a common laboratory contaminant and is attributed to laboratory contamination Table A-119. The benzyl alcohol is not a laboratory contaminant and may be the result of instrument carryover of a standard.

Low concentration volatile, pesticide, PCBs, organophosphorus pesticide, herbicide, dioxin, furan and target compounds were not detected in method blank samples (Tables A-118, A-120, A-121, A-122, and A-123).

The inorganic analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts Table A-124.

The wet chemistry parameter sulfide was not detected in the method blanks associated with the field sample analysis.

Because target analytes were detected in some of the method blanks, some of the analytical results were qualified. However, based on assessment of method blanks for representativeness the analytical data was acceptable for each SDG.

Holding Times. All holding time requirements, both extraction and analytical, were met by the laboratory for all fractions, with the exception of two samples for the pesticides and PCBs fraction and one sample for the herbicides fraction. The samples were re-extracted outside of the recommended extraction holding time. Positive results from the re-extracted samples were qualified as estimated, J, due to extraction hold times exceeded by less than 5 days. Analytical results from samples with holding time violations are qualified as estimated, J/UJ, because of the potential of compromising the sample.

COMPARABILITY. The methods used to collect the environmental samples and the methods used to analyze the samples should assure comparability of the analytical data are listed in Tables 1-1, 1-2, and 1-3.

COMPLETENESS. The completeness goal for laboratory analysis for this project was 85 percent useable data. Unusable analytical data are those results reported by the laboratory but rejected during the data validation process. The completeness goal of 85 percent for each fraction of analytical data for each matrix was met. A detailed narrative on fractions containing rejected or qualified data which was not previously addressed follows.

Volatiles, Noncompliant RRFs. Seven volatiles compounds, acetone, 2-butanone, 1,2-dibromo-3-chloropropane, acrolein, isobutanol, 1,4-dioxane, and vinyl acetate, did not always meet the initial and/or continuing calibration criteria for RRF. The RRF values fell below 0.05 in analyses affecting all SDGs associated with this project. All nondetect sample results associated with the initial and continuing calibrations that exhibited any of the seven compounds with noncompliant RRFs are rejected, R. All positive results associated with the initial and continuing calibrations that exhibited any of the seven compounds with noncompliant RRFs are qualified as estimated, J. The noncompliant calibrations resulted in the rejection of 29 field QC sample data points and 92 field sample data points. The percent completeness for this fraction was 93.5 percent.

Nondetect results that were rejected for the compounds may be evaluated by adjusting the CRQL to the concentration of the continuing calibration standard and qualifying the results as not detected at an estimated concentration, UJ. The nondetect qualification at the concentration of the continuing calibration standard insures that the instrumentation is capable of detecting the compound at a known concentration.

Semivolatiles, Noncompliant RRFs and/or %Ds. Three semivolatiles compounds, 3,3'-dimethylbenzidine, aramite, and 1,3,5-trinitrobenzene, did not always meet the initial and/or continuing calibration criteria for RRF or %D. The RRF values fell below 0.05, or %D values were above 90 percent in analyses affecting the three SDGs analyzed for Appendix IX list. All nondetect sample results for target compounds associated with the initial and continuing calibrations that exhibited any of the target compounds with noncompliant RRFs or %Ds were

rejected, R. All positive sample results for target compounds associated with the initial and continuing calibrations that exhibited any of the target compounds with noncompliant RRFs or %Ds were qualified as estimated, J. The noncompliant calibrations resulted in the rejection of three field sample target data points. The percent completeness for this fraction was 99.9 percent.

Nondetect results that were rejected for the compounds may be evaluated by adjusting the CRQL to the concentration of the continuing calibration standard and qualifying the results as not detected at an estimated concentration, UJ. The nondetect qualification at the concentration of the continuing calibration standard insures that the instrumentation is capable of detecting the compound at a known concentration.

Volatiles and Semivolatiles, Noncompliant %RSDs and %Ds. Target compounds for both the volatile and semivolatile fractions were qualified because of noncompliant calibrations in some SDGs. Several volatile and semivolatile compounds did not always meet the initial and/or continuing calibration criteria for RRF, RSD, and %D. All results qualified for calibration %RSD and %D deficiencies (J/UJ) are considered to be useable. For the compounds in the Low Concentration volatile and semivolatile analyses that did not meet calibration criteria, all positive results are qualified as estimated (J) (%Ds greater than 25 percent) and all nondetect results are qualified as estimated (UJ) (>50 %D less than 90 percent) due to calibration deficiencies.

Metals, Noncompliant MSA. Target analytes arsenic, selenium, lead, and thallium were qualified as estimated, J/UJ, due to unacceptable graphite furnace MSA results in samples from each of the CLP SDGs and the Appendix IX SDG D0836. All results qualified for noncompliant MSA recoveries are considered to be useable. If the recovery was above the QC limits, only the positive results for the analyte were qualified. If the recovery was below the QC limits, or the correlation coefficient of an MSA curve was below the QC limits, positive and nondetect results were qualified as estimated, J/UJ.

Metals, Noncompliant Serial Dilutions. Positive results for the target analyte aluminum was qualified as estimated, J, due to unacceptable serial dilution results in samples from the CLP SDG BS401. All results qualified for noncompliant serial dilution %Ds are considered to be useable.

SUMMARY. Overall, the chemical analytical data are acceptable and exceeded the completion goal of 85 percent for all fractions except the low concentration volatile fraction.

Groundwater Samples. Ninety-two field sample data points were rejected in the Low Concentration volatile analysis due to noncompliant initial and/or continuing calibration RRF values. The completion goal was met. Three field sample data points were rejected in the semivolatile analysis due to noncompliant initial and/or continuing calibration RRF or %D values. The completion goal was met.

QC Water Samples. Twenty-nine QC sample data points were rejected in the Low Concentration volatile analysis due to noncompliant initial and/or continuing calibration RRF values. The completion goal was met.

1.2.4 September 1994 Groundwater Sampling Event This subsection summarizes data quality and useability for subsurface soil samples and QC water samples collected

during Supplemental RFI field activities at NSB Kings Bay, Georgia during September 1994. Listed below are the analytical fractions that groundwater and QC water matrices were evaluated for data quality and useability.

- L.C. VOCs
- SVOCs
- pesticides and PCBs
- metals and cyanide
- sulfide

PRECISION. The acceptance criteria for evaluating precision of field duplicate analytical results is a RPD of 20 for the water matrix. The percentage of duplicate samples collected for this project was greater than 10 percent. Duplicate precision was assessed using both environmental sample and associated duplicates and MS/MSD/MDs.

Tabulation of the results of assessing duplicate precision and duplicate frequency for the low concentration volatiles, semivolatiles, pesticide, PCBs, metals, cyanide, and sulfide fractions are presented in Attachment A, Tables A-125 through A-129, respectively. Tabulation of the results assessing precision based on the reproducibility between spike sample and duplicate sample pairs for the low concentration volatiles, semivolatiles, pesticide, PCBs, metals, cyanide, and sulfide fractions are presented in Attachment A, Tables A-130 through A-134, respectively.

Groundwater Matrix. The Low Concentration volatile analysis of the field duplicate pair of sample 12GW03 exhibited no positive results (Table A-125). The low concentration volatile analysis of the field duplicate pair of sample 11AGW03 exhibited a noncompliant RPD for the only compound detected. The compound carbon disulfide exhibited a noncompliant RPD for precision. The compound was detected in the associated trip blank and the associated equipment rinsate blank. The concentrations in the field duplicate pair were above the five times action level required for qualification of the data. However, the presence of the compound in the QC blanks would have affected the precision results. The noncompliance for the compound carbon disulfide is attributed to field contamination. Assessment of the calibration criteria for the compound indicates that the system was in-control for the noncompliant compounds.

The low concentration volatile analysis of the field sample 22BGW03 and its associated duplicate exhibited positive results for six compounds. Precision results for all of the reported compounds were acceptable (Table A-125).

The low concentration volatile analysis of the field duplicate pair of sample 16GW03 exhibited a noncompliant RPDs for three of the four compounds detected (Table A-125). The noncompliant compounds were carbon disulfide, 1,1-dichloroethane, and 4-methyl-2-pentanone. The noncompliance for the compound carbon disulfide was slight (24 percent) and may be attributed to field and/or laboratory inconsistencies or the low levels detected. The compound 1,1-dichloroethane was detected in the original sample and in the field duplicate sample at concentrations slightly above the CRQL for the low concentration method. At such low levels precision assessment is difficult. The compound 4-methyl-2-pentanone was detected in the original sample at a concentration slightly above the CRQL, but was not detected in the field duplicate sample. The noncompliance for the compounds 1,1-dichloroethane and 4-methyl-2-pentanone can

be attributed to the low concentrations detected. Assessment of the calibration criteria for the compound indicates that the system was in-control for the noncompliant compounds (Heartland).

The semivolatile analysis of the field duplicate pair of sample 12GW03 exhibited a noncompliant RPD for the only compound detected, bis(2-ethylhexyl)phthalate (Table A-126). Bis(2-ethylhexyl)phthalate is a common laboratory contaminant, but the compound was not detected in the method blank associated with the samples. However, its presence in the samples could be affected by its common presence as a laboratory artifact. Assessment of the initial and continuing calibration criteria for the noncompliant compounds indicates that the system was in-control for the noncompliant compound.

The semivolatile analysis of the field duplicate pair of sample 22BGW03 exhibited a noncompliant RPD for one of the three compounds detected (Table A-126). The compound 4-methylphenol exhibited a noncompliant RPD. The compound was detected at concentrations below the CRQL in both the original sample and the field duplicate sample. The noncompliance for the compound 4-methylphenol is attributed to the low concentrations detected. Assessment of the initial and continuing calibration criteria for the noncompliant compounds indicates that the system was in-control for the noncompliant compound.

The semivolatile analysis of the field duplicate pair of sample 16GW03 exhibited a noncompliant RPD for the one compound detected which required a RPD calculation (Table A-126). The compound bis(2-ethylhexyl)phthalate exhibited a noncompliant RPD. Bis(2-ethylhexyl)phthalate is a common laboratory contaminant, but the compound was not detected in the method blank associated with the samples. However, its presence in the samples could be affected by its common presence as a laboratory artifact. Assessment of the initial and continuing calibration criteria for the noncompliant compounds indicates that the system was in-control for the noncompliant compound.

No target compounds requiring RPD calculation were detected in either the water samples or associated duplicates for the pesticide and PCBs fraction (Tables A-127). Therefore, no precision assessment based on field duplicate reproducibility was possible for this parameter.

The metals analysis of the field duplicate pair of sample 11AGW03 exhibited acceptable precision results for all of the 10 compounds detected (Table A-128).

The metals analysis of the field duplicate pair of sample 12GW03 exhibited noncompliant RPDs for four of the twelve analytes detected (Table A-128). The noncompliant analytes were copper, iron, nickel, and zinc. The analytes copper and nickel were detected at concentrations below the CRDLs in both the original sample and the field duplicate sample. The noncompliance for the analytes copper and nickel are attributed to the low concentrations detected. The noncompliance for the analyte iron was slight (22 percent) and could be attributed to field and/or laboratory inconsistencies. The analyte zinc was detected in the equipment rinsate blank associated with the field duplicate pair. The concentration of zinc in the field duplicate pair was above the five time action limit required for qualification. However, the presence of zinc in the rinsate blank indicates contamination which could affect the precision results. The noncompliance for the analyte zinc is attributed to field contamination. Assessment of the serial

dilution criteria for the noncompliant analytes indicates that they were in-control (Heartland).

The metals analysis of the field duplicate pair of sample 22BGW03 exhibited noncompliant RPDs for six of the fifteen analytes detected (Table A-128). The noncompliant analytes were aluminum, cadmium, chromium, copper, iron, manganese, and zinc. The analytes copper and manganese were detected at concentrations below the CRDL in both the original sample and the field duplicate sample. The analyte chromium was detected at a concentration above the CRDL in the original sample and at a concentration below the CRDL in the field duplicate sample. The noncompliance for the analytes copper, manganese, and chromium are attributed to the low concentrations detected. The analyte aluminum was detected in both the original sample and the field duplicate sample. However, the preparation blank associated with the field duplicate pair exhibited contamination for aluminum. The concentration of aluminum in the field duplicate pair was within the action level for qualification to nondetect, but the concentration in the original sample was above the action level. This caused the noncompliant precision results. The noncompliance for aluminum is attributed to laboratory contamination. The analyte zinc was detected in the equipment rinsate blank associated with the field duplicate pair. The concentration of zinc in the field duplicate pair was above the five time action limit required for qualification. However, the presence of zinc in the rinsate blank indicates contamination which could affect the precision results. The noncompliance for the analyte zinc is attributed to field contamination. The noncompliance for the analyte cadmium was slight (32 percent) and may be attributed to laboratory and/or field inconsistencies. Assessment of the serial dilution criteria for the noncompliant analytes indicates that they were in-control.

The metals analysis of the field duplicate pair of sample 16GW03 exhibited a noncompliant RPD for one of the thirteen analytes detected (Table A-128). The analyte chromium exhibited a noncompliant RPD. The noncompliance for the analyte chromium may be attributed to laboratory inconsistencies. Assessment of the serial dilution criteria for the noncompliant analyte indicates that it was in-control.

The assessment of precision based on the reproducibility of results between MS/MSD (organic fractions), or MD (metals fraction) pairs are provided in Tables A-130 through A-134. The MS/MSD sample pairs analyzed for low concentration volatiles and semivolatiles were "in-compliance" with RPD precision criteria for both MS/MSD pairs analyzed (Tables A-130 and A-131, respectively).

The pesticide and PCBs analysis of the MS/MSD pair of sample 11CGW03 exhibited a noncompliant RPD for the compound gamma-BHC (Table A-132). However, based on the assessment of additional QC criteria, the analytical data did not require qualification.

The MS/MSD sample pairs analyzed for metals/cyanide and sulfide were "in-compliance" with RPD precision criteria for both MS/MSD pairs analyzed (Tables A-133 and A-134, respectively).

Based on assessment of duplicate precision evaluation criteria, the water sample matrix analytical data was acceptable for precision for each SDG.

ACCURACY. Accuracy was assessed using MS and MSD samples for organic analyses, and MS samples for metals, cyanide and sulfide analyses for the water matrix, as well as surrogate compound recoveries for those analytical fractions which utilize them. The results of the evaluation of accuracy for the MS/MSD samples for the low concentration volatiles, semivolatiles, pesticide, PCBs, metals, cyanide, and sulfide fractions are presented in Attachment A, Tables A-130 through A-134, respectively. The results of the evaluation of accuracy for the surrogates in the low concentration volatile, semivolatile, pesticide, PCBs fractions are provided in Tables A-135 through A-137, respectively.

Groundwater Matrix. The MS/MSD sample pairs analyzed for low concentration volatiles (Table A-130) exhibited "in-control" recovery results.

The semivolatile analysis of the MS/MSD pair of sample 11AGW03 exhibited noncompliant recoveries for two compounds (Table A-131). The compound 4-nitrophenol exhibited a recovery above the QC limit for accuracy in the MS. The compound pentachlorophenol exhibited recoveries above the QC limits for accuracy in the MS and the MSD. Positive results for the noncompliant compounds were not noted in the original sample. Qualification of the analytical data was not required.

The MS/MSD pair of sample 01GW03 which was analyzed for pesticides exhibited one compound which was recovered above the QC limit in the MSD sample Table A-132. Positive results for the noncompliant compound, gamma-BHC, were not noted in the samples. Qualification of the analytical data was not required.

The MS/MSD sample pairs analyzed for metals/cyanide (Table A-133) and sulfide (Table A-134) exhibited "in-control" recovery results. Cyanide recovery was below the QC limits for accuracy. Positive and nondetect results for cyanide in samples in SDG 10BGW03 were appropriately qualified as estimated, J/UJ.

Two Low Concentration volatile samples exhibited noncompliant surrogate recoveries (Table A-135). The QC spike samples 22BGW03DMS and 22BGW03DMSD exhibited recoveries below the QC limits. The positive and nondetect results in the MS and MSD sample were appropriately qualified as estimated, J/UJ. All recoveries of the surrogate in the field samples were acceptable. Ninety-six point two percent (96.2 percent) of the volatile surrogate recoveries were within the QC limits.

Seven semivolatile samples exhibited noncompliant recoveries for the surrogate compound terphenyl-d14 (Table A-136). The noncompliant recoveries were below the QC limits. The functional guidelines allow one surrogate for each fraction to be outside QC limits, provided the recovery is above 10 percent. Therefore, the analytical data did not require qualification. Ninety-eight point three percent (98.3 percent) of the surrogate recoveries were within criteria.

Four field samples and one QC spike analyzed for the pesticide and PCBs fraction exhibited low recoveries for the surrogate compound DCB (Table A-137). This indicates that positive and nondetect results for target compounds may be underestimated. Positive and nondetect results in samples exhibiting low, but greater than 10 percent, surrogate recoveries were appropriately qualified as estimated, J/UJ. Seventy-nine point five percent of the pesticide and PCBs surrogate recoveries were within advisory limits.

Based on an overall assessment of MS/MSD and surrogate sample accuracy evaluation criteria, the water matrix analytical data was acceptable for each SDG with the noted potential for bias for the metals compound cyanide and the pesticide and PCBs compounds.

REPRESENTATIVENESS. The assessment of representativeness is summarized in tabular form for each type of blank, trip blank results for the low concentration volatile fraction are summarized in Table A-138. Equipment rinsate blank results for the low concentration volatile, semivolatile, pesticide, PCBs, metals, cyanide, and sulfide fractions are summarized in Tables A-139 through 143, respectively. Field blank results for the low concentration volatile, semivolatile, pesticide, PCBs, metals, cyanide, and sulfide fractions are summarized in Tables A-144 through A-148, respectively. Method blank results for the low concentration volatile, semivolatile, pesticide, PCBs, metals, and cyanide fractions are summarized in Tables A-149 through A-152.

Trip Blanks. Methylene chloride, carbon disulfide, and acetone were detected in the trip blank Table A-138. Methylene chloride and acetone both are common laboratory contaminants. Methylene chloride was detected in the method blanks associated with the field samples but acetone was not. Although acetone was not detected in the method blanks associated with the field samples, its presence in the laboratory could affect trip blank contamination. Carbon disulfide is not a common laboratory contaminant. However, its presence may be attributed to field or laboratory contamination. Some of the analytical data required qualification based on the acetone and carbon disulfide contamination. However, based on the assessment of the trip blanks for representativeness, the analytical data was acceptable for each SDG.

Equipment Rinsate Blanks. Two volatile analytes, acetone and carbon disulfide, were detected in equipment rinsate blanks Table A-139. However, positive results were qualified as undetected and flagged with a "U" qualifier due to trip blank contamination.

Target analytes detected in the equipment rinsate blank samples consisted of nickel and zinc Table A-142. They can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts. All of the analytes detected were at concentrations below the analyte CRDLs. Some analytical results which were reported at or below the concentrations noted in the rinsate blanks were qualified as nondetect, U, at the concentration reported.

Semivolatiles, pesticide, PCBs, and sulfide were not detected in equipment rinsate blank samples (Tables A-140, A-141, and A-143).

Target compounds were detected in the equipment rinsate blank samples and some of the analytical data required qualification. However, based on assessment of equipment rinsate blanks for representativeness, the analytical data was acceptable for each SDG.

Field Blanks. One volatile analyte, acetone, was detected in equipment rinsate blanks Table A-144. However, the positive result was qualified as undetected and flagged with a "U" qualifier due to trip blank contamination.

Target analytes detected in the field blank samples consisted of copper and sodium Table A-147. The inorganic analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts. Some analytical results which were reported at or below the concentrations noted in the field blanks were qualified as nondetect, U, at the concentration reported. Based on assessment of field blanks for representativeness, the analytical data was acceptable for each SDG.

No target compounds were detected in the field blank samples for the semivolatiles, pesticides, PCBs, or sulfide fractions (Tables A-145, A-146, and A-148).

Method Blanks. Target analyte detected in the method blank samples for the low concentration volatiles analyses was methylene chloride Table A-149.

Target analytes detected in the inorganic method blanks consisted of aluminum, arsenic, calcium, sodium, iron, thallium, magnesium, and lead Table A-152. The inorganic analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts. The inorganic analytes arsenic and lead were detected in one preparation blank at negative concentrations. This contamination is attributed to instrumentation anomalies. The wet chemistry parameter sulfide was not detected in the method blanks associated with the field sample analysis.

Semivolatiles, pesticides, and PCBs target compounds were not detected in method blank samples (Tables A-150 and A-151).

Because target analytes were detected in some of the method blanks, some of the analytical results were qualified. However, based on assessment of method blanks for representativeness the analytical data was acceptable for each SDG.

Holding Times. All holding time requirements, both extraction and analytical, were met by the laboratory for all fractions.

COMPARABILITY. The methods used to collect the environmental samples and the methods used to analyze the samples can be found in Tables A-1, A-2, and A-3.

COMPLETENESS. The completeness goal of 85 percent for each fraction of analytical data for each matrix was met. A detailed narrative on fractions containing rejected or qualified data which was not previously addressed follows.

Volatiles, Noncompliant RRFs. Two volatiles compounds, acetone and 2-butanone, did not always meet the initial and/or continuing calibration criteria for RRF. The RRF values fell below 0.05 in analyses affecting all SDGs associated with this project. All nondetect sample results associated with the initial and continuing calibrations that exhibited any of the two compounds with noncompliant RRFs are rejected, R. All positive results associated with the initial and continuing calibrations that exhibited any of the two compounds with noncompliant RRFs are qualified as estimated, J. The noncompliant calibrations resulted in the rejection of 14 field QC sample data points and 53 field sample data points. The percent completeness for this fraction was 96.4 percent.

Nondetect results that were rejected for the compounds may be evaluated by adjusting the CRQL to the concentration of the continuing calibration standard and qualifying the results as not detected at an estimated concentration, UJ.

The nondetect qualification at the concentration of the continuing calibration standard insures that the instrumentation is capable of detecting the compound at a known concentration.

Volatiles and Semivolatiles, Noncompliant %RSDs and %Ds. Target compounds for both the volatile and semivolatile fractions were qualified because of noncompliant calibrations in some SDGs. Several volatile and semivolatile compounds did not always meet the initial and/or continuing calibration criteria for RRF, RSD, and %D. All results qualified for calibration %RSD and %D deficiencies (J/UJ) are considered to be useable. For the compounds in the Low Concentration volatile and semivolatile analyses that did not meet calibration criteria, all positive results are qualified as estimated (J) (%Ds greater than 25 percent) and all nondetect results are qualified as estimated (UJ) (>50 %D less than 90 percent) due to calibration deficiencies.

Semivolatiles. The positive results reported in sample 19BGW03 which were flagged with the E qualifier were "rejected" in favor of the acetone results reported from a dilution analysis of the samples because the results from the undiluted analysis were outside the linear range of the calibration curves. This action does not constitute a true rejection since viable results were obtained from the dilution analyses. Three field samples, 1AGW03DL, 10CGW03DL, and 15GW03DL, which were analyzed and reported at a dilution were "rejected" because the dilution analyses were not required. The undiluted analyses of the three samples was also present. All results should be reported from the undiluted analyses. This action does not constitute a true rejection since viable results were obtained from the undiluted analyses.

Pesticides and PCBs, Noncompliant %RSDs. Target compounds for the pesticides and PCBs fraction were qualified because of noncompliant calibrations in some SDGs. Two pesticides compounds did not always meet the initial calibration criteria for %RSD. All results qualified for calibration %RSD deficiencies (J/UJ) are considered to be useable. For the compounds in the pesticides/PCBs analyses that did not meet calibration criteria, all positive results are qualified as estimated (J) and all non detect results are qualified as estimated (UJ) (%RSD greater than 20 percent) due to calibration deficiencies.

Metals, Noncompliant Serial Dilutions. Positive results for the target analyte aluminum was qualified as estimated, J, due to unacceptable serial dilution results in samples from the CLP SDG 03CGW03. All results qualified for noncompliant serial dilution %Ds are considered to be useable.

PARCC SUMMARY. Overall, the chemical analytical data are acceptable and exceeded the completion goal of 85 percent for all fractions except the low concentration volatile fraction.

Groundwater Samples. Fifty-three field sample data points were rejected in the low concentration volatile analysis due to noncompliant initial and/or continuing calibration RRF values. The completion goal was met.

QC Water Samples. Fourteen QC sample data points were rejected in the Low Concentration volatile analysis due to noncompliant initial and/or continuing calibration RRF values. The completion goal was met.

1.2.5 November 1994 Field Program This subsection summarizes data quality and useability for subsurface soil samples and QC water samples collected during supplemental RFI field activities at NSB Kings Bay, Georgia, during November 1994. Listed below are the analytical fractions that groundwater, sediment, soil, surface soil, surface water, trench liquids, trench solid, and air matrices were evaluated for data quality and useability.

- L.C. VOCs
- gas chromatography and mass spectroscopy (GC/MS) VOCs
- GC/MS SVOCs
- pesticides and PCBs
- organophosphorus pesticides
- chlorinated herbicides
- total metals
- cyanide
- sulfide
- total organic carbon
- TO-14 air toxics

PRECISION. The acceptance criteria for evaluating precision of field duplicate analytical results is a RPD of 20 for the water matrices and 35 for the soil matrices. The percentage of duplicate samples collected for this project was greater than 10 percent. Duplicate precision was assessed using both environmental sample and associated duplicates and MS/MSD/MDs.

Tabulation of the results of assessing duplicate precision and duplicate frequency are presented in Tables A-153 through A-193. Tabulation of the results assessing precision based on the reproducibility between MS/MSD/MD sample pairs are presented in Tables A-194 through A-230.

Surface Water Matrix. The assessment of precision for the surface water matrix environmental samples and associated duplicates for low concentration volatiles, volatiles, semivolatiles, pesticide, PCBs, organophosphorus pesticides, herbicides, metals, cyanide, and sulfide fractions are provided in Tables A-153 through A-160, respectively.

The low concentration volatile analysis of the field sample 11SW202 and its associated duplicate exhibited positive results for one compound (Table A-153). The compound, chloroform, exhibited acceptable duplicate precision.

No target compounds were detected in neither the surface water samples nor associated duplicates for the semivolatile fraction (Table A-154), the pesticides and PCBs fraction (Table A-155), the organophosphorus pesticide fraction (Table A-156), or the chlorinated herbicide fraction (Table A-157). Therefore, no precision assessment based on field duplicate reproducibility was possible for these parameters.

All of the analytes requiring RPD calculation in the metals analysis of the field duplicate pair of sample 11SW202 exhibited compliant RPDs (Table A-158).

Cyanide and sulfide were not detected in the surface water samples or associated duplicates (Tables A-159 and A-160, respectively). Therefore, no precision assessment based on field duplicate reproducibility was possible for these parameters.

The assessment of precision for surface water based on the reproducibility of results between matrix spike and matrix spike duplicate (organic fractions), or matrix duplicate (metals fraction) pairs are provided in Tables A-161 through A-167. The MS/MSD/MD sample pairs analyzed for all fractions were "in-compliance" with RPD precision criteria for the MS/MSD/MD pairs. Therefore, no discussion of those results was necessary.

Based on assessment of duplicate precision evaluation criteria, the surface water sample matrix analytical data was acceptable for precision for each SDG.

Sediment Matrix. The assessment of sediment matrix environmental samples and associated duplicates for precision is provided in Tables A-168 through A-176. No target compounds were detected in either the water samples or associated duplicates for the volatile fraction (Table A-168). Therefore, no precision assessment based on field duplicate reproducibility was possible for this parameter.

The semivolatile analysis of the field sample 11SD202 and its associated duplicate exhibited acceptable duplicate precision for phenol the only compound detected (Table A-169).

No target compounds were detected in either the water samples or associated duplicates for the pesticides/PCBs fraction (Table A-170), the organophosphorus pesticide fraction (Table A-171), or the chlorinated herbicide fraction (Table A-172).

All of the analytes detected in the metals analysis of the field duplicate pair of sample 11SD202 exhibited compliant RPDs (Table A-173).

Cyanide was not detected in the water samples or associated duplicates (Table A-174).

The sulfide analysis of the field sample 11SD202 and its associated duplicate exhibited a noncompliant RPD (Table A-175). Sulfide was detected in the original sample but was not detected In the field duplicate sample. The sediment sample had a moisture level near 50 percent. The noncompliance for the sulfide analysis may be attributed to the high moisture level effecting the homogeneity of the sample.

The total organic carbon analysis of the field duplicate pair of sample 11SD202 exhibited acceptable duplicate precision (Table A-176).

The assessment of precision based on the reproducibility of results between MS/MSD (organic fractions) or MD (metals fraction) pairs are provided in Tables A-177 through A-184.

The MS/MSD sample pairs analyzed for the volatile fraction (Table A-177), the semivolatile fraction (Table A-178) were "in-compliance" with RPD criteria for the MS/MSD/MD pairs analyzed. Therefore, no discussion of the results for the noted fractions was necessary.

The MS/MSD pair of sample 11SD203 analyzed for pesticides/PCBs exhibited a noncompliant RPD result for the spike compound aldrin (Table A-179). The compound was recovered below the QC limit in the MS sample which affected the

precision result. Based on the assessment of additional QC criteria, qualification of the analytical data was not required. The laboratory re-extracted the sample and MS/MSD pair outside the holding time. The re-extract results exhibited acceptable precision measurements.

The MS/MSD sample pairs analyzed for the organophosphorus pesticide fraction (Table A-180) and the chlorinated herbicide fraction (Table A-181) were "in-compliance" with RPD criteria for the MS/MSD pairs analyzed. Therefore, no discussion of the results was necessary.

The metals analysis of the MS/MD pair of sample 11SD203 exhibited noncompliant RPD results for manganese and iron (Table A-182). The results did not require qualification based on the noncompliant iron RPD because the result was within less than 35 percent. The manganese results did not require qualification because the concentration of manganese detected was below the action level for application of the QC criteria.

The MS/MD sample pairs analyzed for the sulfide fraction (Table A-183), and the total organic carbon fraction (Table A-184) were "in-compliance" with RPD criteria for the MS/MSD/MD pairs analyzed. Therefore, no discussion of the results for the noted fractions was necessary.

Based on assessment of duplicate precision evaluation criteria, the sediment sample matrix analytical data was acceptable for precision for each SDG.

Surface Soil Matrix. The assessment of surface soil matrix samples and associated duplicates for precision is provided in Tables A-185 through A-192.

The volatile analysis of the field sample 11SS006 and its associated duplicate exhibited acceptable duplicate precision for the toluene (Table A-185).

No target compounds were detected in either the soil samples or associated duplicates for the semivolatile fraction (Table A-186). Therefore, no precision assessment based on field duplicate reproducibility was possible for this parameter.

The pesticide/PCBs analysis of the field sample 11SS006 and its associated duplicate exhibited noncompliant RPDs for 4,4'-DDT and dieldrin (Table A-187). Both of the noncompliant compounds were detected in the associated method blank. The concentrations of 4,4'-DDT and dieldrin in the field duplicate sample 11SS006D were above the action limit of five times the contamination level in the method blank for qualification to nondetect. The noncompliance for the compounds 4,4'-DDT and dieldrin is attributed to laboratory contamination. Assessment of the calibration data for the noncompliant compounds indicates that they were "in-control" (Heartland).

No target compounds were detected in either the soil samples or associated duplicates for the organophosphorus pesticide fraction (Table A-188), the chlorinated herbicide fraction (Table A-189). Therefore, no precision assessment based on field duplicate reproducibility was possible for these parameters.

The inorganic analyses of sample 11SS006 and its duplicate exhibited noncompliant RPDs for iron and manganese (Table A-190). Both analytes were detected in the associated preparation blank, but the results detected in the field duplicate

pair were above the action limit for qualification to nondetect. The noncompliance for both analytes can be attributed to laboratory contamination. Assessment of the serial dilution results for the noncompliant analytes indicates that they were "in-control."

The sulfide analysis of the field sample 11SS006 and its associated duplicate exhibited a noncompliant RPD (Table A-192). Sulfide was detected in the field duplicate sample but was not detected in the original sample. The noncompliance for the sulfide analysis may be attributed to potential field and/or laboratory inconsistencies.

The assessment of precision based on the reproducibility of results between MS/MSD (organic fractions) or MD (metals fraction) pairs are provided in Tables A-193 through A-199.

The MS/MSD sample pairs analyzed for the volatile fraction (Table A-193) and the semivolatile fraction (Table A-194) were "in-compliance" with RPD criteria for the MS/MSD pairs analyzed. Therefore, no discussion of the results for the noted fractions was necessary.

The MS/MSD pair of sample 11SSBG1 (pesticide/PCBs fraction) exhibited compliant RPDs for all spike compounds (Table A-195). The laboratory re-extracted the sample and MS/MSD pair outside the holding time because of the failure of other QC criteria. The re-extracted samples were rejected in favor of the original results. Therefore, the noncompliant precision result for 4,4'-DDT in the re-extracted MS/MSD pair did not impact the data.

The MS/MSD/MD sample pairs analyzed for the organophosphorus pesticide fraction (Table A-196), the chlorinated herbicide fraction (Table A-197), the metals and cyanide fractions (Table A-198), and the sulfide fraction (Table A-199) were "in-compliance" with RPD criteria for the MS/MSD/MD pairs analyzed. Therefore, no discussion of precision for the noted fractions was necessary.

Based on assessment of duplicate precision evaluation criteria, the surface soil sample matrix analytical data was acceptable for precision for each SDG.

Trench Liquids Matrix. The assessment of trench liquid matrix environmental samples and associated duplicates for precision is provided in Tables A-200 through A-207.

The low concentration volatile analysis of the field sample 11TL07 and its associated duplicate exhibited positive results for six compounds (Table A-200). All of the compounds exhibited acceptable duplicate precision.

The semivolatile analysis of sample 11TL07 and its associated duplicate exhibited noncompliant RPD results for phenol and diethylphthalate (Table A-201). The concentrations of the compounds were below the CRQLs in both the original sample and the duplicate sample. The noncompliance for the compounds phenol and diethylphthalate can be attributed to the low concentrations detected. Assessment of the calibration data associated with the field duplicate pair indicates that the noncomplaint compounds were "in-control."

The pesticide and PCBs analysis of the field sample 11TL07 and its associated duplicate exhibited a compliant RPD for the only compound detected, endosulfan II (Table A-202).

The organophosphorus pesticide analysis of the field sample 11TL07 and its associated duplicate exhibited a compliant RPD for the only compound detected, O,O,O-triethylphosphorothioate (Table A-203).

No target compounds were detected in either the water samples or associated duplicates for the chlorinated herbicide fraction (Table A-204). Therefore, no precision assessment based on field duplicate reproducibility was possible for these parameters.

The metals analysis of the field duplicate pair of sample 11TL07 exhibited compliant precision results for all of the detected analytes (Table A-205).

No target compounds were detected in either the water samples or associated duplicates for the cyanide fraction (Table A-206) or the sulfide fraction (Table A-207). Therefore, no precision assessment based on field duplicate reproducibility was possible for these parameters.

Based on assessment of duplicate precision evaluation criteria, the trench liquid sample matrix analytical data was acceptable for precision for each SDG.

The assessment of precision based on the reproducibility of results between matrix spike and matrix spike duplicate (organic fractions), or matrix duplicate (metals fraction) pairs are provided in Tables A-208 through A-214. All of the fractions for the MS/MSD/MD pairs analyzed were "in-compliance" with RPD criteria for the MS/MSD/MD pairs analyzed. Therefore, no discussion of the results for the noted fractions was necessary.

Trench Soils Matrix. The assessment of trench liquid matrix environmental samples and associated duplicates for precision is provided in Tables A-215 through A-222.

No target compounds were detected in either the trench soil samples or associated duplicates for the volatile fraction (Table A-215), the semivolatile fraction (Table A-216), the pesticide/PCBs fraction (Table A-217), the organophosphorus pesticide fraction (Table A-218), or the chlorinated herbicide fraction (Table A-219). Therefore, no precision assessment based on field duplicate reproducibility was possible for these parameters.

The metals analysis of the field duplicate pair of sample 11TS07 exhibited compliant precision results for all of the detected analytes (Table A-220).

No target compounds were detected in either the trench soil samples or associated duplicates for the cyanide fraction (Table A-221) or the sulfide fraction (Table A-222). Therefore, no precision assessment based on field duplicate reproducibility was possible for these parameters.

Based on assessment of duplicate precision evaluation criteria, the trench soil sample matrix analytical data was acceptable for precision for each SDG, with the noted potential for bias in the manganese results.

The assessment of precision based on the reproducibility of results between MS/MSD (organic fractions) or MD (metals fraction) pairs are provided in Tables A-223 through A-229.

The MS/MSD sample pairs analyzed for the volatile fraction (Table A-223), the semivolatile fraction (Table A-224), the pesticides and PCBs fraction (Table A-225) organophosphorus pesticide fraction (Table A-226), the chlorinated herbicide fraction (Table A-227) were "in-compliance" with RPD criteria for the MS/MSD pairs analyzed. Therefore, no discussion of the results for the noted fractions was necessary.

The metals analysis of the MS/MD pair of sample 11TL04 exhibited three compounds with noncompliant RPDs (Table A-228). The noncompliant compounds were aluminum, iron, and manganese. The RPDs for the analytes aluminum and iron were less than 35 percent so qualification of associated analytical results was not required. The RPD for manganese was 62.5 percent. All positive results reported for manganese in associated samples were appropriately qualified as estimated, J. Assessment of the serial dilution results for the noncompliant analytes indicates that they were in-control (Heartland).

The MS/MD sample pairs analyzed for the sulfide fraction (Table A-229) were "in-compliance" with RPD criteria for the MS/MSD/MD pairs analyzed. Therefore, no discussion was necessary.

Air Matrix. The assessment of air matrix environmental samples and associated duplicates for precision is provided in Table A-230. The following paragraphs summarize field duplicate results. It should be noted that it is difficult to obtain a true field duplicate for air samples because samples are taken in two separate canisters. The collection of each replicate sample represents an instantaneous sampling episode and homogeneity of the matrix is difficult to ensure. Overall, 75.3 percent of all duplicate results were within the precision criteria. In general, when precision criteria were not met, the noncompliance was either due to the relatively low concentration of constituents detected (less than five times the detection limit) or laboratory contamination (Heartland).

The TO-14 analysis of the field sample 11AIR102 and its associated duplicate exhibited noncompliant RPD results for benzene and toluene (Table A-230). The RPD values for the compounds were 40 percent and 49 percent, respectively. The noncompliance can be attributed to the relatively low concentrations detected in the samples or laboratory and/or field inconsistencies.

The TO-14 analysis of the field sample 11AIR104 and its associated duplicate exhibited five compounds with noncompliant RPD results (Table A-230). The noncompliant compounds were benzene, m/p-xylene, o-xylene, 1,2,4-trimethylbenzene, and methylene chloride. Methylene chloride was detected in the method blank associated with one of the two field duplicate samples and resulted in the positive result for the original sample to be qualified as undetected. The noncompliance for methylene chloride can be attributed laboratory contamination. The noncompliance for the compounds m/p-xylene, benzene, o-xylene, and 1,2,4-trimethylbenzene is most likely attributed to the relatively low concentrations detected in the samples.

The TO-14 analysis of the field sample 11AIR117 and its associated duplicate exhibited four compounds with noncompliant RPD results (Table A-230). The

compounds toluene, chloroform, chlorobenzene, and tetrachloroethene were noncompliant. The noncompliance for the compounds toluene and chloroform may be attributed to field and/or laboratory inconsistencies. The noncompliance for the compounds, chlorobenzene and tetrachloroethene, is most likely attributed to the relatively low concentrations detected in the samples.

The TO-14 analysis of the field sample 11AIR119 and its associated duplicate exhibited a noncompliant RPD result for methylene chloride (Table A-230). Methylene chloride was detected in the method blank associated with the field duplicate pair. The concentration of methylene chloride in the field duplicate pair was above the action limit for qualification. However, the compounds presence in the laboratory as a contaminant could affect precision results. Therefore, noncompliance is attributed to laboratory contamination.

The TO-14 analysis of the field sample 11AIR111 and its associated duplicate exhibited four compounds with noncompliant RPD results (Table A-230). The compounds vinyl chloride, methylene chloride, freon 113, and chloroform were noncompliant. Methylene chloride was detected in the method blank associated with the field duplicate pair. The concentration of methylene chloride in the original sample was above the action limit for qualification. However, the compound was qualified as nondetect in the field duplicate sample. The noncompliance for methylene chloride can be attributed to laboratory contamination. The noncompliance for freon 113 may be attributed to field and/or laboratory inconsistencies. The noncompliance for the compounds, vinyl chloride and chloroform, has been attributed to the relatively low concentrations detected in the samples.

The TO-14 analysis of the field sample 11AIR114 and its associated duplicate exhibited noncompliant RPD results for toluene and o-xylene (Table A-230). Toluene was detected in the method blank associated with the field duplicate pair. The concentration of toluene in the original sample was above the action limit for qualification. However, the compound was qualified as nondetect in the field duplicate sample. The noncompliance for toluene can be attributed to laboratory contamination. The noncompliance for the compound o-xylene has been attributed to the relatively low concentration detected in the duplicate samples.

The TO-14 analysis of the field sample 11AIR112 and its associated duplicate exhibited compliant RPDs for all compounds detected (Table A-230).

The TO-14 analysis of the field sample 11AIR108 and its associated duplicate exhibited noncompliant RPD results for methylene chloride and m/p-xylene (Table A-230). Methylene chloride was detected in the method blank associated with the field duplicate pair. The concentration of methylene chloride in the field duplicate sample was above the action limit for qualification. The concentration of methylene chloride in the original sample was within the action limit and was amended to nondetect. The noncompliance for methylene chloride can be attributed laboratory contamination. The compound m/p-xylene was detected in the original sample at a concentration above the CRQL, but was not detected in the field duplicate sample. The noncompliance for the compound m/p-xylene has been attributed to the relatively low concentration detected in the duplicate sample.

Based on assessment of duplicate precision evaluation criteria, the air sample matrix analytical data was acceptable for precision for each SDG.

ACCURACY. The following sections summarize the evaluation of analytical accuracy for the surface water, trench liquid and QC water matrices, and the field soil samples.

Accuracy was assessed using MS/MSD samples for organic analyses and MS samples for inorganic analyses, as well as, surrogate compound recoveries for those analytical fractions which utilize them. The results of the evaluation of accuracy for the MS/MSD samples are provided in Tables A-161 through A-229. The results of the evaluation of accuracy for the surrogates in the samples are provided in Tables A-231 through A-236.

QC Water Matrix. The surrogate recoveries for the water matrices were acceptable for all field QC Blanks and field samples for the low concentration volatile (Table A-231), the volatiles, (Table A-232), semivolatile fraction (Table A-233), pesticide and PCBs fraction (Table A-234), the organophosphorus pesticides (Table A-235), and the chlorinated herbicides (Table A-236). Therefore, no discussion of these fractions was required.

Surface Water Matrix. The MS/MSD sample pairs analyzed for the surface water matrix are presented in Tables A-161 through a-167.

The MS/MSD sample pairs analyzed for the surface water matrix exhibited acceptable recovery results for the low concentration volatile fraction (Table A-161), the semivolatile fraction (Table A-162), and the pesticide and PCBs fraction (Table A-163).

The organophosphorus pesticide analysis of the MS/MSD pair of sample 11SW205 exhibited a noncompliant recovery for one compound in the MS (Table A-164). Phorate was recovered slightly above the QC limit in the MS sample. However, based on the assessment of additional QC criteria, the analytical data did not require qualification.

The chlorinated herbicide analysis of the MS/MSD pair of sample 11SW205 exhibited noncompliant recoveries for the compound dinoseb in both the MS and the MSD (Table A-165). The compound was recovered well below the QC limit in both spike samples. The compound was also recovered below the QC limit in all other MS/MSD pairs and QC blank spikes performed with this project. For this reason, all positive and nondetect results for dinoseb in associated samples were appropriately qualified as estimated, J/UJ.

The MS/MSD sample pairs analyzed for the surface water matrix exhibited acceptable recovery results for the metals and cyanide fractions (Table A-166).

The sulfide analysis of the MS/MSD pair of sample 11SW205 exhibited a recovery in the MSD which was below 30 percent (Table A-167). This indicates that all positive results for sulfide in associated samples are suspect and that nondetect results for sulfide in associated samples are unreliable. All positive results for sulfide in associated samples were appropriately qualified as estimated, J, and all nondetect results are rejected, R. Two sulfide data points were rejected. The completion goal for the fraction for surface water was not met. However, the overall completion goal for the sulfide fraction was met. The re-preparation and analysis of the MS/MSD pair exhibited acceptable recoveries. However, the laboratory did not re-prep the associated field samples. Therefore,

the original extraction and analysis of the MS/MSD pair was used to validate the data.

The semivolatile surrogate recoveries were within the QC limits for all surface water samples (Table A-233). The surrogate recoveries of the pesticide and PCBs samples exhibited many noncompliant recoveries (Table A-234). The compound 2,4,5,6-tetrachloro-m-xylene (TCMX) was recovered below the QC limit in all but one of the surface water samples. DCB was recovered below the QC limit in only one of the surface water samples. Analytical results in surface water samples and associated water QC samples which exhibited surrogate recoveries below the QC limits were appropriately qualified as estimated, J/UJ.

The low concentration volatile (Table A-231), volatile (Table A-232), organophosphorus pesticide (Table A-235), and herbicide (Table A-236) fractions exhibited acceptable surrogate recoveries.

Trench Liquids. The MS/MSD sample pairs analyzed for the trench liquid matrix are presented in Tables A-208 through A-214.

The MS/MSD sample pairs analyzed for the trench liquids matrix exhibited acceptable recovery results for the low concentration volatile fraction (Table A-208), the semivolatile fraction (Table A-209), the pesticide and PCBs fraction (Table A-210), the organophosphorus pesticide fraction (Table A-211). Therefore, no discussion of these fractions was required.

MS/MSD/MD samples analyzed for the trench liquid matrix exhibited acceptable recovery for the metals fractions (Table A-213).

The cyanide analysis of the MS of sample 11TL04 exhibited a noncompliant recovery for the compound (Table A-213). The compound was recovered above the QC limit. All positive results in associated samples were appropriately qualified as estimated, J.

The MS/MSD sample pairs analyzed for the trench liquids matrix exhibited acceptable recovery results for the sulfide fraction (Table A-214). Therefore, no discussion of these fractions was required.

The surrogate recoveries for the semivolatile fraction exhibited some noncompliant recoveries (Table A-233). Qualification of the associated analytical data was not required because the Functional Guidelines allow one surrogate compound per fraction to be outside the QC limits as long as the recovery is above 10 percent.

The surrogate recoveries of the pesticide and PCBs samples exhibited many noncompliant recoveries (Table A-234). The compound TCMX was recovered below the QC limit in all but one of the trench liquid samples. DCB was recovered below the QC limit in five of the trench liquid samples and above the QC limit in one of the trench liquid samples. Analytical results in trench liquid samples and associated water QC samples which exhibited surrogate recoveries below the QC limits or variable recoveries were appropriately qualified as estimated, J/UJ.

The chlorinated herbicide analysis of the MS/MSD pair of sample 11TL08 exhibited noncompliant recoveries for the compound dinoseb in both the MS and the MSD (Table A-236). The compound was recovered well below the QC limit in both spike

samples. The compound was also recovered below the QC limit in all other MS/MSD pairs and QC blank spikes performed with this project. For this reason, all positive and nondetect results for dinoseb in associated samples were appropriately qualified as estimated, J/UJ.

SUMMARY. None of the compounds or analytes were rejected with the exception of two data points in the sulfide fraction. Some of the pesticide, PCBs and chlorinated herbicide analytical data required qualifications based on noncompliant recovery results. Therefore (with the exception of the sulfide fraction), based on an overall assessment of MS/MSD and surrogate sample accuracy evaluation criteria, the water matrices analytical data was acceptable for each SDG with the noted potential for bias in the pesticides, PCBs and herbicide results.

Sediment Matrix. The MS/MSD sample pairs analyzed for the sediment matrix are presented in Tables A-177 through A-184. The MS/MSD sample pairs analyzed for the sediment matrix exhibited acceptable recovery results for the volatile fraction (Table A-177), the organophosphorus pesticide fraction (Table A-180), the sulfide fraction (Table A-183), and the TOC fraction (Table A-184). The semivolatile MS/MSD pair of sample 11SD203 exhibited noncompliant recoveries for five of the spike compounds (Table A-178). The compounds were recovered below the QC limits, but above 10 percent. Based on the assessment of additional QC criteria, the data did not require qualification.

The pesticide and PCBs MS/MSD pair of sample 11SD203 exhibited noncompliant recoveries for three compounds (Table A-179). The compounds were recovered below the QC limits, but above 10 percent. Based on the assessment of additional QC criteria, the data did not require qualification.

The chlorinated herbicide analysis of the MS/MSD pair of sample 11SD205 exhibited noncompliant recoveries for the compound dinoseb in both the MS and the MSD (Table A-181). The compound was recovered below the QC limit in both spike samples. The compound was also recovered below the QC limit in all other MS/MSD pairs and QC blank spikes performed with this project. For this reason, all positive and nondetect results for dinoseb in associated samples were appropriately qualified as estimated, J/UJ.

The cyanide analysis of the MS of sample 11SD203 exhibited a noncompliant recovery for the compound (Table A-182). The compound was recovered below the QC limit, but above 30 percent. All positive and nondetect results in associated samples were appropriately qualified as estimated, J/UJ.

The surrogate recoveries for the soil/sediment matrices are presented in Tables A-237 through A-241. The surrogate recoveries for the soil and sediment matrices were acceptable for all field samples for the volatiles (Table A-237), the semivolatiles (Table A-238), the organophosphorus pesticides (Table A-240), and the chlorinated herbicides (Table A-241). Therefore, no discussion of these fractions was required.

The surrogate recoveries of the pesticide and PCBs samples exhibited many noncompliant recoveries (Table A-239). The compound TCMX was recovered below the QC limit in all but one of the original extraction and analysis of the sediment samples. DCB was recovered below the QC limit in many of the samples. Analyti-

cal results in sediment samples which exhibited surrogate recoveries below the QC limits were appropriately qualified as estimated, J/UJ.

Surface Soil Samples. The MS/MSD sample pairs analyzed for the surface soil matrix are presented in Tables A-193 through A-199.

The MS/MSD sample pairs analyzed for the surface soil matrix exhibited acceptable recovery results for the volatile fraction (Table A-193), the organophosphorus pesticide fraction (Table A-196), and the sulfide fraction (Table A-199).

The semivolatile MS/MSD pair of sample 11SSBG1 exhibited a noncompliant recovery for one of the spike compounds (Table A-194). The compound was recovered below the QC limit, but above 10 percent. Based on the assessment of additional QC criteria, the data did not require qualification.

The pesticide and PCBs MS/MSD pair of sample 11SSBG1 exhibited noncompliant recoveries for two compounds (Table A-195). The compounds were recovered below the QC limits, but above 10 percent. Based on the assessment of additional QC criteria, the data did not require qualification.

The surrogate recoveries for the soil and sediment matrices are presented in Tables A-237 through A-241. The surrogate recoveries for the soil and sediment matrices were acceptable for all field samples for the volatiles (Table A-237), the semivolatiles (Table A-238), the organophosphorus pesticides (Table A-240), and the chlorinated herbicides (Table A-241). Therefore, no discussion of these fractions was required.

The surrogate recoveries of the pesticide and PCBs samples exhibited many noncompliant recoveries (Table A-239). The compound TCMX was recovered below the QC limit in all but two of the surface soil samples. DCB was recovered below the QC limit in many of the surface soil samples. Analytical results in surface soil samples which exhibited surrogate recoveries below the QC limits or variable recoveries were appropriately qualified as estimated, J/UJ.

The chlorinated herbicide analysis of the MS/MSD pair of sample 11SSBG2 exhibited noncompliant recoveries for the compound dinoseb in both the MS and the MSD (Table A-197). The compound was recovered well below the QC limit in both spike samples. The compound was also recovered below the QC limit in all other MS/MSD pairs and QC blank spikes performed with this project. For this reason, all positive and nondetect results for dinoseb in associated samples were appropriately qualified as estimated, J/UJ.

The cyanide analysis of the MS of sample 11SSBG1 exhibited a noncompliant recovery for the compound (Table A-198). The compound was recovered below the QC limit. All positive and nondetect results in associated samples were appropriately qualified as estimated, J/UJ.

Trench Soil Samples. The MS/MSD sample pairs analyzed for the trench soil matrix are presented in Tables A-223 through A-229.

The MS/MSD sample pairs analyzed for the trench soil matrix exhibited acceptable recovery results for the volatile fraction (Table A-223), the semivolatile fraction (Table A-224), the pesticide and PCBs fraction (Table A-225), the organophosphorus pesticide fraction (Table A-226), the metals/cyanide fraction

(Table A-228), and the sulfide fraction (Table A-229). Therefore, no discussion of these fractions was required.

The chlorinated herbicide analysis of the MS/MSD pair of sample 11TS08 exhibited noncompliant recoveries for the compound dinoseb in both the MS and the MSD (Table A-227). The compound was recovered well below the QC limit in both spike samples. The compound was also recovered below the QC limit in all other MS/MSD pairs and QC blank spikes performed with this project. For this reason, all positive and nondetect results for dinoseb in associated samples were appropriately qualified as estimated, J/UJ.

The surrogate recoveries for the soil/sediment matrices are presented in Tables A-237 through A-241. The surrogate recoveries for the soil and sediment matrices were acceptable for all field samples for the volatiles (Table A-237), the semivolatiles (Table A-238), the organophosphorus pesticides (Table A-240), and the chlorinated herbicides (Table A-241). Therefore, no discussion of these fractions was required.

The surrogate recoveries of the pesticide/PCBs samples exhibited many noncompliant recoveries (Table A-239). The compound TCMX was recovered below the QC limit in all but one of the original extraction and analysis of the trench soil samples. Analytical results in surface soil samples which exhibited surrogate recoveries below the QC limits or variable recoveries were appropriately qualified as estimated, J/UJ.

Summary. For the analytical fractions, none of the compounds or analytes were rejected. Some of the pesticide, PCBs, chlorinated herbicide, and metals analytical data required qualifications based on noncompliant recovery results. Therefore, based on an overall assessment of MS/MSD and surrogate sample accuracy evaluation criteria, the soil and sediment matrices analytical data was acceptable for each SDG with the noted potential for bias in the pesticides and PCBs and herbicide results.

REPRESENTATIVENESS. Representativeness of the analytical data was assessed using trip blanks, field blanks, equipment rinsate blanks, laboratory method blanks and determining if holding time requirements were met.

The assessment of representativeness is summarized in tabular form for each type of blank, trip blank results are summarized in Tables A-241 and A-243, field blanks results are summarized in Tables A-244 through A-252, equipment rinsate blank results are summarized in Tables A-253 through A-261, and method blank results are summarized in Tables A-262 through A-269.

If contaminants were detected in a blank, corrective actions were made for the chemical analytical data during data validation by Heartland. The corrective action consisted of amending the laboratory reported results for organic and inorganic target analytes by the criteria listed in Section 1.2.

Trip Blanks. The volatile organic compounds that were detected in the trip blank samples consisted of methylene chloride and acetone for the low concentration volatile analyses and acetone and butanone for the volatile analyses Tables A-242 and A-243, respectively. The methylene chloride, 2-butanone, and acetone could be attributed to laboratory contamination. The presence of the compounds in the trip blanks did result in qualification of some of the field sample results.

Based on the assessment of the trip blanks for representativeness, the analytical data was acceptable for each SDG.

Field Blanks. No pesticide, PCBs, organophosphorus pesticides, chlorinated herbicides, cyanide or sulfide target compounds were detected in the field blank samples (Tables A-246, A-247, A-248, A-250, and A-251).

The presence of acetone and methylene chloride in field blank, BS601FB, has been attributed to trip blank contamination Table A-244. The presence of the ketones, 2-butanone and 4-methyl-2-pentanone, could be attributed to laboratory and/or field contamination. These two ketones were detected at very high concentrations in a trench liquid sample collected during the sampling event. Methylene chloride contamination could be the result of laboratory contamination due to its presence in method blanks associated with this project. The compound carbon disulfide was detected at concentrations below the CRQL. The field blank contamination did not result in the qualification of analytical data.

The semivolatile compounds detected were present in only one of the field blank samples Table A-245. The compounds were detected at concentrations well below the CRQLs. Qualification of the semivolatile analytical data was not required due to the field blank contamination. The inorganic analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts. Most of the analytes detected in the field blanks were below the analyte CRDLs. Some of the analytical data required qualification based on the field blank contamination. The compounds present in the air toxics samples could be due to system contamination. Some of the air toxics samples required qualification due to the air toxics compounds detected in the field blanks.

Based on the target compounds and analytes were detected in the field blanks some of the sample data required qualification. Based on assessment of field blanks for representativeness, the analytical data was acceptable for each SDG.

Equipment Rinsate Blanks. Organophosphorus pesticides, chlorinated herbicides, and cyanide were not detected in equipment rinsate blank samples (Tables A-257, A-258, and A-260).

The presence of methylene chloride and acetone in the equipment rinsate blanks has been attributed to trip blank contamination. The presence of carbon disulfide, 2-butanone, and 4-methyl-2-pentanone, has been attributed to field and/or source water contamination. The two ketones were detected at very high concentrations in a trench liquid sample collected during the sampling event. None of the data associated with equipment rinsate blanks required qualification.

The semivolatile compound bis(2-ethylhexyl)phthalate may be attributed to field and/or laboratory contamination Table A-255. The compound was at concentrations well below the CRQL. The compound is a common laboratory contaminant. Qualification of the semivolatile analytical data was required due to the rinsate blank contamination. The pesticide and PCBs compound heptachlor epoxide was detected at a trace level in only one of the rinsate blanks Table A-256. One sample was qualified based on the heptachlor epoxide detected in the rinsate blank. The inorganic analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts Table A-259. Most of the analytes detected in the rinsate blanks were

below the analyte CRDLs. The sulfide concentration was at the reporting limit. Some of the metals analytical data required qualification based on the rinsate blank contamination. Sulfide was detected in two of the rinsate blanks Table A-261. The sulfide concentration was at the reporting limit. Analytical data did not require qualification based on the contamination.

Target compounds were detected in the equipment rinsate blank samples and some of the analytical data required qualification. Therefore, based on assessment of equipment rinsate blanks for representativeness, the analytical data was acceptable for each SDG.

Method Blanks. The method blanks were a sample of deionized water that is prepared by the laboratory at the time of analysis. Method blanks undergo the same analytical process as the corresponding environmental samples and associated field blanks. The purpose of the method blank is to assess the potential for target analytes to "contaminate" the sample during analysis. Low concentration volatiles, organophosphorus pesticides and chlorinated herbicides target compounds were not detected in method blank samples (Tables A-262, A-266, and A-267). Target analytes detected in the method blank samples consisted of:

The detected acetone, methylene chloride, 2-butanone, diethylphthalate, di-n-butylphthalate results are common laboratory contaminants and are attributed to laboratory contamination. The compound phenanthrene is likely due to carry-over from a standard injection. The concentration is less than the compound CRQL. pesticide and PCBs compounds are not commonly detected in the method blanks. The compounds may be the result of contaminated glassware used in the extraction process. The inorganic analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts. The air toxics compounds are likely the result of system contamination.

Because target analytes were detected in some of the method blanks, some of the analytical results were qualified. However, based on assessment of method blanks for representativeness the analytical data was acceptable for each SDG.

Holding Times. All holding time requirements, both extraction and analytical, were met by the laboratory for all fractions, for the original extraction and analysis of the samples. Many of the pesticide and PCBs samples were re-extracted outside of the extraction holding time. However, the re-extracted samples were rejected in favor of the results reported from the original extraction and analysis of the samples. Therefore, there was no impact on the analytical data due to the holding time violations.

COMPARABILITY. The methods used to collect the environmental samples and the methods used to analyze the samples assure comparability of the analytical data.

COMPLETENESS. The overall completeness goal of 85 percent was met. One fraction did not meet the completeness goal for one matrix. The sulfide fraction went below the completeness goal for the surface water matrix due to the rejection of data points for a MS recovery which was below the 30 percent QC limit for rejection. A detailed narrative on fractions containing qualified data which was not previously addressed follows.

GC/MS Volatiles, Noncompliant RRFs. Twelve low concentration volatile compounds and twenty volatile compounds, did not always meet the initial and continuing calibration criteria of greater than 0.05 for RRF or less than 100 percent for %D. The RRF values fell below 0.05 and the %Ds exceeded 100 percent in analyses affecting the SDG associated with this project. All nondetect sample results associated with the initial and continuing calibrations that exhibited the compounds with noncompliant RRFs or %Ds are rejected, R. All positive sample results associated with the initial and continuing calibrations that exhibited the compounds with noncompliant RRFs or %Ds are qualified as estimated, J. The noncompliant calibrations resulted in the rejection of 88 data points. The overall completeness goals for the methods were still met.

Nondetect results that were rejected for the compounds may be evaluated by adjusting the CRQL to the concentration of the continuing calibration standard and qualifying the results as not detected at an estimated concentration, UJ. The nondetect qualification at the concentration of the continuing calibration standard insures that the instrumentation is capable of detecting the compound at a known concentration.

Semivolatiles, Noncompliant RRFs. Five semivolatile compounds did not always meet the initial and continuing calibration criteria of greater than 0.05 for RRF. The RRF values fell below 0.05 in analyses affecting the SDG associated with this project. All nondetect sample results associated with the initial and continuing calibrations that exhibited any of the five compounds with noncompliant RRFs are rejected, R. All positive sample results associated with the initial and continuing calibrations that exhibited any of the five compounds with noncompliant RRFs or %Ds are qualified as estimated, J. The noncompliant calibrations resulted in the rejection of fourteen data points. The completeness goals for the fractions were still met.

Nondetect results that were rejected for the compounds may be evaluated by adjusting the CRQL to the concentration of the continuing calibration standard and qualifying the results as not detected at an estimated concentration, UJ. The nondetect qualification at the concentration of the continuing calibration standard insures that the instrumentation is capable of detecting the compound at a known concentration.

Volatiles, Semivolatiles, Pesticides, and PCBs. Target compounds for the volatile, semivolatile, pesticide, and PCBs fractions were qualified because of noncompliant calibrations in some SDGs. The noncompliant compounds did not always meet the initial and/or continuing calibration criteria for RRF, RSD, and %D. All results qualified for calibration %RSD and %D deficiencies (J/UJ) are considered to be useable. For the compounds in the GC/MS volatile and semivolatile analyses that did not meet calibration criteria, all positive results are qualified as estimated (J) (%Ds >25 percent) and all non detect results are qualified as estimated (UJ) (>50 percent D <90 percent) due to calibration deficiencies. For the pesticide analyses that did not meet initial calibration criteria, all positive and nondetect results are qualified as estimated, (J or UJ) (%RSD greater than 20 percent).

Volatiles and Semivolatile, Internal Standards. Some analytical data required qualification due to noncompliant internal standard recoveries. For the volatile fraction, positive and nondetect results were qualified as estimated, J/UJ, in two samples, 11SS006 and 11SS006RE. For the semivolatile fraction, positive

results associated with the internal standard perylene-d_{12} were qualified as estimated, J, in sample 11TL07D. All results qualified due to noncompliant internal standard recoveries are considered useable.

Volatiles. The results reported in sample 11SS006RE were "rejected" in favor of the results reported from the original extraction and analysis of the sample. This action does not constitute a true rejection since viable results were obtained from the original analysis.

Semivolatiles. The results reported in samples 11TL08RE and 11TL07D were "rejected" in favor of the results reported from the original extraction and analysis of the sample. This action does not constitute a true rejection since viable results were obtained from the original analysis

Pesticides and PCBs. The results reported in the sediment and surface soil samples which were re-extracted due to noncompliant surrogate recoveries or MS/MSD recoveries were "rejected" in favor of the results reported from the original extraction and analysis of the sample. This action does not constitute a true rejection since viable results were obtained from the original analysis.

Metals, Serial Dilutions. Positive results in some of the samples were qualified as estimated, J, due to noncompliant serial dilution results. Positive results for potassium in samples associated with SDG BS601 were qualified as estimated, J. Positive results for calcium in samples associated with SDG 11SD201 were qualified as estimated, J. Positive results for potassium and zinc in water samples associated with SDG 11TB02 and for aluminum in soil samples associated with SDG 11TB02 were qualified as estimated, J. All results qualified due to noncompliant serial dilution results are considered useable.

SUMMARY. Overall, the chemical analytical data are acceptable and exceeded the completion goal of 85 percent.

Surface Water Samples. Seven low concentration volatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. Ten volatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. Three semivolatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. Two sulfide data points were rejected due to MS/MSD recoveries below 30 percent. The overall completion goals were met for all fractions.

Sediment Samples. Three volatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. Three semivolatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. The overall completion goals were met for all fractions.

Surface Soil Samples. Six volatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. Two semivolatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. The overall completion goals were met for all fractions.

Trench Liquid Samples. Seven low concentration volatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. Eighteen volatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. Three semivolatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. The overall completion goals were met for all fractions.

Trench Soils Samples. Three volatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. Three semivolatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. The overall completion goals were met for all fractions.

Air Samples. Twenty-four air toxics volatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. The overall completion goal was met for the fraction.

QC Samples. Sixteen low concentration volatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. Eighteen volatile data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. Thirteen air toxics data points were rejected due to initial and/or continuing calibration RRFs and/or %Ds which were below the minimum QC criteria. The overall completion goals were met for all fractions.

1.2.6 September 1995 Field Program This subsection summarizes the analytical program for subsurface soil samples collected during Supplemental RFI field activities at NSB Kings Bay during September 1995. It also presents a summary of data quality and useability. Listed below are the analytical fractions that the data quality and useability were evaluated.

- VOCs
- SVOCs
- pesticides and PCBs
- metals and cyanide
- sulfide

PRECISION. The acceptance criteria for evaluating precision of field duplicate analytical results is a RPD of 35 for the soil boring matrix. The percentage of duplicate samples collected for this project was ten percent. Duplicate precision was assessed using both environmental sample and associated duplicates and MS/MSD/MDs. Tabulation of the results of assessing duplicate precision and duplicate frequency for the volatiles, semivolatiles, pesticide, PCBs, metals, cyanide, and sulfide fractions are presented in Tables A-270 through A-275, respectively. Tabulation of the results assessing precision based on the reproducibility between spike sample and duplicate sample pairs for the volatiles, semivolatiles, pesticide, PCBs, metals, cyanide, and sulfide fractions are presented in Tables A-276 through A-281, respectively.

Soil Boring Matrix. The assessment of soil boring matrix environmental samples and associated duplicates for precision is provided in Tables A-270 through A-275. No target compounds requiring RPD calculation were detected in either the soil samples or associated duplicates for the volatile fraction, the semivolatile

fraction, the pesticide and PCBs fraction, or the cyanide fraction (Tables A-270, A-271, A-272, and A-274). Therefore, no precision assessment based on field duplicate reproducibility was possible for these parameters. The assessment of precision based on the reproducibility of results between MS/MSD (organic fractions), or MD (metals fraction) pairs are provided in Tables A-276 through A-281. A MS/MSD pair was not provided for the sulfide fraction.

The MS/MSD sample pairs analyzed for volatiles, semivolatiles, pesticides, PCBs, and cyanide were "in-compliance" with RPD precision criteria for the MS/MSD or MD pairs analyzed (Tables A-276, A-277, A-278, and A-280).

The metals analysis of the field duplicate pair of sample 11SB20103 exhibited noncompliant RPDs for four of the twelve analytes requiring RPD calculation (Table A-273). The noncompliant analytes were barium, magnesium, manganese, and zinc. The four analytes were detected at concentrations below the CRDLs in one or both of the samples. The noncompliance for the four analytes can be attributed to the low concentrations detected. Assessment of the serial dilution criteria for the noncompliant analytes indicates that they were in-control. The MD analysis of sample 11SB20103 exhibited a noncompliant RPD for the analyte aluminum (Table A-279). Qualifications were not required because the RPD value was less than 35 percent. Assessment of the serial dilution criteria for the noncompliant analyte indicates that it was in-control.

The sulfide analysis of the 11SB20103 and its field duplicate exhibited a noncompliant RPD (Table A-275). The compound was also noncompliant in the matrix duplicate analysis (Table A-281). This indicates potential inhomogeneous sample aliquots or the possibility of matrix interference. The noncompliance for sulfide may be attributed to sample anomalies (Heartland).

Based on assessment of duplicate precision evaluation criteria, the soil boring sample matrix analytical data was acceptable for precision for each SDG.

ACCURACY. Accuracy was assessed using MS and MSD samples for organic analyses, and MS samples for metals, cyanide and sulfide analyses for the water matrix, as well as surrogate compound recoveries for those analytical fractions which utilize them. The results of the evaluation of accuracy for the MS/MSD samples for the volatiles, semivolatiles, pesticide, PCBs, metals, cyanide, and sulfide fractions are presented in Tables A-276 through A-281, respectively are provided in Tables A-276 through A-281 for the soil boring matrix. A MS/MSD pair was not provided for the sulfide fraction. The results of the evaluation of accuracy for the surrogates for the volatiles, semivolatiles, pesticide, and PCBs are provided in Tables A-282 through A-284, respectively.

Soil Boring Matrix. The MS/MSD sample pairs analyzed for volatiles, pesticides, PCBs, metals, and cyanide (Tables A-276, A-278, A-279, and A-280) exhibited "in-control" recovery results. All surrogate recoveries for all fractions were acceptable (Tables A-1, A-2, and A-3).

The semivolatile analysis of the MS/MSD pair of sample 11SB20103 exhibited a noncompliant recovery for the compound 2,4-dinitrotoluene (Table A-277). The compound 2,4-dinitrotoluene exhibited a recovery above the QC limit for accuracy in the MSD. However, based on the assessment of additional QC criteria the analytical data did not require qualifications.

Based on an overall assessment of MS/MSD and surrogate sample accuracy evaluation criteria, the soil boring matrix analytical data was acceptable for each SDG.

REPRESENTATIVENESS. The trip blank samples were analyzed for only volatile organic target analytes. Field blanks, equipment rinsate blanks, and laboratory method blanks were analyzed for target analytes in each listed category. The field QC blanks were not analyzed for sulfide. The assessment of representativeness is summarized in tabular form for each type of blank, trip blank results are summarized in Table A-285, equipment rinsate blank results are summarized in Tables A-286 through A-290, field blank results are summarized in Tables A-291 through A-295, and method blank results are summarized in Tables A-296 through A-299.

If contaminants were detected in a blank, corrective actions were made for the chemical analytical data during data validation by Heartland. The corrective action consisted of amending the laboratory reported results for organic and inorganic target analytes by the criteria. The following describes the Validation Qualifier code in the blank summary tables.

Trip Blanks. Trip blanks contained organic free deionized water from the laboratory and consisted of sample bottles which were similar to the environmental sample containers. The trip blanks were prepared and packaged at the laboratory prior to the sampling event and traveled with the sample bottles to the site. The trip blank bottles were not opened at the site or anytime prior to laboratory analysis.

Acetone was detected in the trip blank. Acetone is a common laboratory contaminant. None of the analytical data required qualification based on the trip blank contamination. Based on the assessment of the trip blanks for representativeness, the analytical data was acceptable for each SDG.

Equipment Rinsate Blanks. The equipment rinsate blank was collected by rinsing a piece of sampling equipment with organic free deionized water. A sample of this water was collected and placed in sample containers similar to those used for the environmental samples. Volatiles, pesticide, PCBs, and cyanide were not detected in equipment rinsate blank sample (Tables A-286, A-288, and A-290).

The semivolatile compound 1,4-dichlorobenzene detected in the equipment rinsate blank is not a common laboratory contaminant. However, the compound was detected at concentrations well below the CRQL of 10 $\mu g/\ell$. The metals analyte cadmium can be attributed to the water system. None of the analytical data required qualifications due to the rinsate blank contamination. Based on assessment of equipment rinsate blanks for representativeness, the analytical data was acceptable for each SDG.

Field Blanks. The field blank is a sample of deionized water and/or potable water used during equipment decontamination. The field blank was opened to ambient field conditions. Volatiles, pesticide, PCBs, and cyanide were not detected in the field blank sample (Tables A-291, A-293, and A-295). Target analytes detected in the field blank sample consisted of:

- semivolatiles (Table A-292)
  1,4-dichlorobenzene

- metals (Table A-294)
  - aluminum
  - zinc

The semivolatile compound 1,4-dichlorobenzene detected in the field blank is not a common laboratory contaminant. However, the compound was detected at concentrations well below the CRQL of 10 $\mu g/\ell$. The metals analytes aluminum and zinc can be attributed to the water system. None of the analytical data required qualifications due to the field blank contamination. Based on assessment of field blanks for representativeness, the analytical data was acceptable for each SDG.

Method Blanks. The method blanks were a sample of deionized water that is prepared by the laboratory at the time of analysis. Method blanks undergo the same analytical process as the corresponding environmental samples and associated field blanks. The purpose of the method blank is to assess the potential for target analytes to "contaminate" the sample during analysis. Semivolatiles, pesticides, and PCBs target compounds were not detected in method blank samples (Tables A-297 and A-298). The wet chemistry parameter sulfide was not detected in the method blanks associated with the field sample analysis. Target analytes detected in the method blank samples consisted of:

- volatiles (Table A-296)
  - benzene
  - acetone

- metals (Table A-299)
  - calcium
  - iron
  - sodium
  - copper
  - arsenic
  - aluminum

The detectable acetone is a common laboratory contaminant and can be attributed to laboratory contamination. The other volatile compound is not a common contaminants. However, its presence is likely due to low level random contamination. The metals analytes can be attributed to the water source, the water treatment system that was used to make the deionized water, or laboratory artifacts. Some of the metals analytes were negative in concentration and can be attributed to instrumentation anomalies. Target analytes were detected in the method blanks and analytical results required qualification. However, based on assessment of method blanks for representativeness the analytical data was acceptable for each SDG (Heartland).

Holding Times. Holding times requirements are utilized in an effort to minimize the degradation or concentration of constituents in a particular matrix over time. The stability of the constituents is determined to the best extent by the regulatory agencies. A reasonable time limit is imposed under which the samples must be extracted or prepared and then analyzed. The holding times regulations assume that the samples have been properly preserved according to the guidelines, either at the laboratory or in the field. Analytical results from samples with holding time violations are qualified as estimated, J/UJ, because of the

potential of compromising the sample. If the holding time is grossly violated (greater than 15 days) the results are qualified/rejected, J/R.

All holding time requirements, both extraction and analytical, were met by the laboratory for all fractions.

COMPARABILITY. The analytical samples were collected and transported to the chemical analytical laboratory in accordance with standard procedures and were analyzed in conformance with acceptable USEPA procedures.

COMPLETENESS. The completeness goal of 85 percent for each fraction of analytical data for each matrix was met. A detailed narrative on fractions containing rejected or qualified data which was not previously addressed follows.

Volatiles and Semivolatiles, Noncompliant %RSDs and %Ds. Target compounds for both the volatile and semivolatile fractions were qualified because of noncompliant calibrations in the SDG. Some volatile and semivolatile compounds did not always meet the initial and/or continuing calibration criteria for RRF, RSD, and %D. All results qualified for calibration %RSD and %D deficiencies (J/UJ) are considered to be useable. For the compounds in the low concentration volatile and semivolatile analyses that did not meet calibration criteria, all positive results are qualified as estimated (J) (%Ds greater than 25 percent) and all nondetect results are qualified as estimated (UJ) (greater than 50 %D less than 90 percent) due to calibration deficiencies.

Pesticides and PCBs, Noncompliant %RSDs. Target compounds for the pesticides and PCBs fraction were qualified because of noncompliant calibrations in some SDGs. One pesticides compound did not always meet the initial calibration criteria for %RSD. All results qualified for calibration %RSD deficiencies (J/UJ) are considered to be useable. For the compound in the pesticides and PCBs analyses that did not meet calibration criteria, all positive results are qualified as estimated (J) and all non detect results are qualified as estimated (UJ) (%RSD greater than 20 percent) due to calibration deficiencies.

Graphite Furnace MSAs. Some metals data was qualified as estimated, J, or J/UJ because the analytes arsenic and selenium did not always meet the QC criteria. All data qualified for serial dilution deficiencies is considered useable.

SUMMARY. The purpose of evaluating the quality of the analytical data using the PARCC criteria was to address the qualification of the data in regards to evaluation of the presence, magnitude and characteristics of hazardous substances at NSB Kings Bay. Overall, the chemical analytical data are acceptable and exceeded the completion goal of 85 percent for all fractions except the Low Concentration volatile fraction.

QC Samples. No analytical data points were rejected. The completion goal was met.

Soil Boring Samples. No analytical data points were rejected. The completion goal was met.

Attachment A

Analytical Tables

TABLE A-1
GC/MS VOLATILE ORGANIC COMPOUNDS
SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
90184	SB10125	SOIL	13	ARBON DISULFID	4	10	35%	86%	1
				2-BUTANONE	15	14	35%	7%	0
				TOLUENE	5	7	35%	33%	0
				XYLENE (TOTAL)	3	3	35%	0%	0
90248	SB10425	SOIL		CARBON DISULFID	8	7	35%	13%	0
				TOLUENE	12	7	35%	53%	1
				ETHYLBENZENE	4	8	35%	67%	1
				XYLENE (TOTAL)	23	44	35%	63%	1
	TOTAL SAMPLES		13						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
15.4%	4	4	50.0%

TABLE A-2
SEMIVOLATILE ORGANIC COMPOUNDS
SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
90184	SB10125	SOIL	13	NO COMPOUNDS DETECTED					
90248	SB10425	SOIL		BIS(2-ETHYLHEXYL)PHTHALAT	0	630	35%	200%	1
	TOTAL SAMPLES		13						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
15.4%	0	1	0.0%

TABLE A-3
PESTICIDES/PCB COMPOUNDS
SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
90184	SB10125	SOIL	13	O COMPOUNDS DETECTED					
90248	SB10425	SOIL		NO COMPOUNDS DETECTED					
	TOTAL SAMPLES		13						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
15.4%	0	0	100.0%

TABLE A-4
METALS AND CYANIDE
SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	ANALYTE	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
90184	SB10125	SOIL	13	ALUMINUM	3620	3370	35%	7%	0
				ARSENIC	2.5	2.3	35%	8%	0
				BARIUM	14.9	14.6	35%	2%	0
				BERYLLIUM	0.13	0.11	35%	17%	0
				CALCIUM	76.8	81.5	35%	6%	0
				CHROMIUM	4.7	4.5	35%	4%	0
				COBALT	1.1	1.5	35%	31%	0
				COPPER	0.7	0.71	35%	1%	0
				IRON	2330	2590	35%	11%	0
				LEAD	1.5	1.4	35%	7%	0
				MAGNESIUM	234	219	35%	7%	0
				MANGANESE	14.7	16	35%	8%	0
				POTASSIUM	197	200	35%	2%	0
				SODIUM	21.4	20.9	35%	2%	0
				VANADIUM	4.4	4.4	35%	0%	0
				ZINC	6.7	6.6	35%	2%	0
90248	SB10425	SOIL		ALUMINUM	1330	1660	35%	22%	0
					3.6	3.5	35%	3%	0
				BARIUM	7.3	8.3	35%	13%	0
				CALCIUM	18.9	26.8	35%	35%	0
				CHROMIUM	2.3	2.5	35%	8%	0
				COBALT	0.83	1.3	35%	44%	1
				COPPER	0.5	0	35%	200%	1
				IRON	769	993	35%	25%	0
				LEAD	0.97	0.93	35%	4%	0
				MAGNESIUM	78.6	93.7	35%	18%	0
				MANGANESE	4	5.5	35%	32%	0
				MERCURY	1.1	0	35%	200%	1
				SELENIUM	0.48	0.4	35%	18%	0
				THALLIUM	0.3	0.31	35%	3%	0
				VANADIUM	1.3	1.7	35%	27%	0
				ZINC	3.5	4	35%	13%	0
				CYANIDE	0.25	0.34	35%	31%	0
	TOTAL SAMPLES		**13**						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
15.4%	30	3	90.9%

TABLE A-5
SULFIDE
SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
90184	SB10125	SOIL	13	0 COMPOUND DETECTED					
90248	SB10425	SOIL		SULFIDE	68	51	35%	29%	0
	TOTAL SAMPLES		13						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
15.4%	1	0	100.0%

TABLE A-6
GC/MS VOLATILE ORGANICS COMPOUNDS
SOIL SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE SB10125*		SDG 90184		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
1,1-DICHLOROETHENE	ug/Kg	106	108	2
TRICHLOROETHENE	ug/Kg	116	114	2
BENZENE	ug/Kg	111	105	6
TOLUENE	ug/Kg	106	108	2
CHLOROBENZENE	ug/Kg	118	118	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

90184: SB10125D, SB10145, SB10175, SB10125
90202: SBPS925, SBPS915, SBPS925DL
90206: SB11412

MS = MATRIX SPIKE *SAMPLE SB11512*		SDG 90230		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
1,1-DICHLOROETHENE	ug/Kg	105	111	6
TRICHLOROETHENE	ug/Kg	113	116	3
BENZENE	ug/Kg	79	84	6
TOLUENE	ug/Kg	95	102	7
CHLOROBENZENE	ug/Kg	106	111	5

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

90230: SB11512
90237: SB10840, SB11220
90246: SBPS1015, SBPS1025
90248: SB10425, SB10425D, SB10440

COMPOUND	VISORY LIMITS		RPD
	%R SOIL		SOIL
1,1-DICHLOROETHENE	59%-172%		22
TRICHLOROETHENE	62%-137%		24
BENZENE	66%-142%		21
TOLUENE	59%-139%		21
CHLOROBENZENE	60%-133%		21

TABLE A - 7
SEMIVOLATILE ORGANICS COMPOUNDS
SOIL SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE SB10125D*		SDG 90184		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/Kg	56	54	4
2-CHLOROPHENOL	ug/Kg	58	57	2
1,4-DICHLOROBENZENE	ug/Kg	64	64	0
N-NITROSO-DI-N-PROP.(1)	ug/Kg	69	68	1
1,2,4-TRICHLOROBENZENE	ug/Kg	67	67	0
4-CHLORO-3-METHYLPHENOL	ug/Kg	77	75	3
ACENAPHTHENE	ug/Kg	59	61	3
4-NITROPHENOL	ug/Kg	75	74	1
2,4-DINITROTOLUENE	ug/Kg	69	69	0
PENTACHLOROPHENOL	ug/Kg	88	83	6
PYRENE	ug/Kg	72	72	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

90184: SB10125D, SB10145, SB10175, SB10125
90202: SBPS925, SBPS915, SBPS925_RE, SBPS915_RE
90206: SB11412

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
PHENOL	26%-90%		35
2-CHLOROPHENOL	25%-102%		50
1,4-DICHLOROBENZENE	28%-104%		27
N-NITROSO-DI-N-PROP.(1)	41%-126%		38
1,2,4-TRICHLOROBENZENE	38%-107%		23
4-CHLORO-3-METHYLPHENOL	26%-103%		33
ACENAPHTHENE	31%-137%		19
4-NITROPHENOL	11%-114%		50
2,4-DINITROTOLUENE	28%-89%		47
PENTACHLOROPHENOL	17%-109%		47
PYRENE	35%-142%		36

TABLE A - 7 (Continued)
SEMIVOLATILE ORGANICS COMPOUNDS
SOIL SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE SB11512*	SDG 90230		
		MS	MSD	
		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/Kg	61	52	16
2-CHLOROPHENOL	ug/Kg	68	58	16
1,4-DICHLOROBENZENE	ug/Kg	75	63	17
N-NITROSO-DI-N-PROP.(1)	ug/Kg	83	71	16
1,2,4-TRICHLOROBENZENE	ug/Kg	71	66	7
4-CHLORO-3-METHYLPHENOL	ug/Kg	67	62	8
ACENAPHTHENE	ug/Kg	64	60	6
4-NITROPHENOL	ug/Kg	65	59	10
2,4-DINITROTOLUENE	ug/Kg	64	60	6
PENTACHLOROPHENOL	ug/Kg	49	54	10
PYRENE	ug/Kg	67	61	9

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

90230: SB11512
90237: SB10840, SB11220
90246: SBPS1015, SBPS1025
90248: SB10425, SB10425D, SB10440

COMPOUND	ADVISORY LIMITS	RPD
	% R SOIL	SOIL
PHENOL	26%-90%	35
2-CHLOROPHENOL	25%-102%	50
1,4-DICHLOROBENZENE	28%-104%	27
N-NITROSO-DI-N-PROP.(1)	41%-126%	38
1,2,4-TRICHLOROBENZENE	38%-107%	23
4-CHLORO-3-METHYLPHENOL	26%-103%	33
ACENAPHTHENE	31%-137%	19
4-NITROPHENOL	11%-114%	50
2,4-DINITROTOLUENE	28%-89%	47
PENTACHLOROPHENOL	17%-109%	47
PYRENE	35%-142%	36

TABLE A - 8
PESTICIDES/PCBS
SOIL SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE SB10125D*		SDG 90184		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/Kg	84	95	12
Heptachlor	ug/Kg	73	85	15
Aldrin	ug/Kg	71	82	14
Dieldrin	ug/Kg	90	98	9
Endrin	ug/Kg	94	103	9
4,4'-DDT	ug/Kg	96	101	5

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

90184: SB10125D, SB10145, SB10175, SB10125
90206: SB11412

MS = MATRIX SPIKE *SAMPLE SB11512*		SDG 90230		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/Kg	100	95	5
Heptachlor	ug/Kg	94	88	7
Aldrin	ug/Kg	87	85	2
Dieldrin	ug/Kg	91	91	0
Endrin	ug/Kg	102	103	1
4,4'-DDT	ug/Kg	95	98	3

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

90230: SB11512
90237: SB10840, SB11220
90246: SBPS1015, SBPS1025
90248: SB10425, SB10425D, SB10440

COMPOUND	VISORY LIMITS		RPD
	% R SOIL		SOIL
gamma-BHC(Lindane)	46%-127%		50
HEPTACHLOR	35%-130%		31
ALDRIN	34%-132%		43
DIELDRIN	31%-134%		38
ENDRIN	42%-139%		45
4,4'-DDT	23%-134%		50

TABLE A - 9
METALS AND CYANIDE
SOIL SAMPLE MATRIX SPIKE/MATRIX DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE SB10125D* MD = MATRIX DUPLICATE *SAMPLE SB10125D* RPD = RELATIVE PERCENT DIFFERENCE		SDG 90184	
		MS	MD
		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	mg/Kg	NR	15.3
ANTIMONY	mg/Kg	92.9	NC
ARSENIC	mg/Kg	99.8	17.8
BARIUM	mg/Kg	95.3	3.8
BERYLLIUM	mg/Kg	92.7	200
CADMIUM	mg/Kg	94.0	NC
CALCIUM	mg/Kg	NR	41.2
CHROMIUM	mg/Kg	95.4	31.2
COBALT	mg/Kg	94.2	200
COPPER	mg/Kg	95.9	200
IRON	mg/Kg	NR	*41.8
LEAD	mg/Kg	90.3	10.4
MAGNESIUM	mg/Kg	NR	22.0
MANGANESE	mg/Kg	94.3	*57.0
MERCURY	mg/Kg	114.2	NC
NICKEL	mg/Kg	91.4	43.3
POTASSIUM	mg/Kg	NR	21.4
SELENIUM	mg/Kg	101.8	NC
SILVER	mg/Kg	91.3	NC
SODIUM	mg/Kg	NR	0.3
THALLIUM	mg/Kg	105.4	NC
VANADIUM	mg/Kg	89.7	35.9
ZINC	mg/Kg	90.3	5.8
CYANIDE	mg/Kg	94.3	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

90184: SB10125, SB10125D, SB10145, SB10175

COMPOUND	ADVISORY LIMITS		RPD
	%R SOIL		SOIL
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

RPD Limit applicable only on values 5 times the Contract Required Detection Limit (CRDL)

TABLE A - 9 (Continued)
METALS AND CYANIDE
SOIL SAMPLE MATRIX SPIKE/MATRIX DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE SBPS915*		SDG 90202	
MD = MATRIX DUPLICATE *SAMPLE SBPS915*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	mg/Kg	NR	2.6
ANTIMONY	mg/Kg	95.0	NC
ARSENIC	mg/Kg	100.8	NC
BARIUM	mg/Kg	99.2	6.8
BERYLLIUM	mg/Kg	97.0	22
CADMIUM	mg/Kg	88.0	NC
CALCIUM	mg/Kg	NR	0.9
CHROMIUM	mg/Kg	96.9	12.6
COBALT	mg/Kg	97.7	NC
COPPER	mg/Kg	97.6	200
IRON	mg/Kg	NR	*95.3
LEAD	mg/Kg	92.9	21.1
MAGNESIUM	mg/Kg	NR	4.0
MANGANESE	mg/Kg	95.3	*114.1
MERCURY	mg/Kg	105.2	NC
NICKEL	mg/Kg	97.7	NC
POTASSIUM	mg/Kg	NR	NC
SELENIUM	mg/Kg	99.2	200
SILVER	mg/Kg	88.1	NC
SODIUM	mg/Kg	NR	16.8
THALLIUM	mg/Kg	102.9	NC
VANADIUM	mg/Kg	91.7	4.8
ZINC	mg/Kg	93.4	3.2
CYANIDE	mg/Kg	99.6	200

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

90202: SBPS915, SBPS925
90206: SB11412

COMPOUND	ADVISORY LIMITS		RPD
	%R SOIL		SOIL
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

RPD Limit applicable only on values 5 times the Contract Required Detection Limit (CRDL)

TABLE A - 9 (Continued)
METALS AND CYANIDE
SOIL SAMPLE MATRIX SPIKE/MATRIX DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE SB11512* MD = MATRIX DUPLICATE *SAMPLE SB11512* RPD = RELATIVE PERCENT DIFFERENCE		SDG 90230	
		MS	MD
		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	mg/Kg	NR	5.7
ANTIMONY	mg/Kg	100.4	NC
ARSENIC	mg/Kg	96.4	200
BARIUM	mg/Kg	97.3	10.9
BERYLLIUM	mg/Kg	97.6	0.1
CADMIUM	mg/Kg	90.7	NC
CALCIUM	mg/Kg	NR	4.1
CHROMIUM	mg/Kg	95.2	68.2
COBALT	mg/Kg	95.2	NC
COPPER	mg/Kg	94.0	200
IRON	mg/Kg	NR	*71.9
LEAD	mg/Kg	106.1	3.1
MAGNESIUM	mg/Kg	NR	1.2
MANGANESE	mg/Kg	97.5	90.4
MERCURY	mg/Kg	92.4	NC
NICKEL	mg/Kg	94.7	NC
POTASSIUM	mg/Kg	NR	NC
SELENIUM	mg/Kg	123.0	NC
SILVER	mg/Kg	78.4	NC
SODIUM	mg/Kg	NR	36.8
THALLIUM	mg/Kg	102.6	NC
VANADIUM	mg/Kg	90.6	19.0
ZINC	mg/Kg	90.4	24.3
CYANIDE	mg/Kg	95.2	200

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

90230: SB11512
90237: SB10840, SB11220
90246: SBPS1015, SBPS1025
90248: SB10425, SB10425D, SB10440

COMPOUND	ADVISORY LIMITS		RPD
	%R SOIL		SOIL
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

RPD Limit applicable only on values 5 times the Contract Required Detection Limit (CRDL)

TABLE A - 9 (Continued)
METALS AND CYANIDE
SOIL SAMPLE MATRIX SPIKE/MATRIX DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE SB10425*		SDG 90248	
MD = MATRIX DUPLICATE *SAMPLE SB10425*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
CYANIDE	mg/Kg	90.2	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

90248: SB10425, SB10425D, SB10440

COMPOUND	DVISORY LIMITS		RPD
	%R SOIL		SOIL
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

RPD Limit applicable only on values 5 times the Contract
Required Detection Limit (CRDL)

TABLE A - 10
METALS AND CYANIDE
QC WATER MATRIX SPIKE/MATRIX DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE BS201FB* MD = MATRIX DUPLICATE *SAMPLE BS201FB* RPD = RELATIVE PERCENT DIFFERENCE		SDG 90192	
		MS	MD
		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	ug/L	97.2	NC
ANTIMONY	ug/L	97.3	NC
ARSENIC	ug/L	106.3	200
BARIUM	ug/L	95.0	1.7
BERYLLIUM	ug/L	93.5	NC
CADMIUM	ug/L	102.8	NC
CALCIUM	ug/L	NR	0.40
CHROMIUM	ug/L	93.2	NC
COBALT	ug/L	93.2	NC
COPPER	ug/L	99.0	1.1
IRON	ug/L	94.4	17.0
LEAD	ug/L	*73.6	7.9
MAGNESIUM	ug/L	NR	0.0
MANGANESE	ug/L	95.0	1.0
MERCURY	ug/L	NR	NR
NICKEL	ug/L	94.0	NC
POTASSIUM	ug/L	NR	2.70
SELENIUM	ug/L	80.0	NC
SILVER	ug/L	94.5	NC
SODIUM	ug/L	NR	0.0
THALLIUM	ug/L	104.0	NC
VANADIUM	ug/L	91.3	NC
ZINC	ug/L	91.9	0.5
CYANIDE	ug/L	96.6	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

90192: BS201FB, BS202FB

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

RPD Limit applicable only on values 5 times the Contract
Required Detection Limit (CRDL)

TABLE A - 10 (Continued)
METALS AND CYANIDE
QC WATER MATRIX SPIKE/MATRIX DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE BS202FB*		SDG 90192	
MD = MATRIX DUPLICATE *SAMPLE BS202FB*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
MERCURY	ug/L	88.9	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

90192: BS201FB, BS202FB

MS = MATRIX SPIKE *SAMPLE BS202FB*		SDG 90192	
MD = MATRIX DUPLICATE *SAMPLE BS202FB*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
CYANIDE	ug/L	98.1	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

90206: BS203ER

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

RPD Limit applicable only on values 5 times the Contract
Required Detection Limit (CRDL)

TABLE A-11
SURROGATE % RECOVERIES
GC/MS VOLATILE SOIL SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	SMC1	SMC2	SMC3	TOTAL OUT
90184	SB10125D	95	87	84	0
	SB10145	91	85	83	0
	SB10175	97	89	87	0
	SB10125MS	94	87	85	0
	SB10125MSD	98	90	85	0
	SB10125	97	90	85	0
90202	SBPS925	99	88	88	0
	SBPS915	99	86	89	0
	SBPS925DL	103	91	94	0
90206	SB11412	104	79	88	0
90230	SB11512	100	96	90	0
	SB11512MS	101	101	95	0
	SB11512MSD	104	98	93	0
90237	SB10840	99	103	96	0
	SB11220	104	103	97	0
90246	SBPS1015	100	103	97	0
	SBPS1025	94	99	96	0
90248	SB10425	107	100	97	0
	SB10425D	100	92	94	0
	SB10440	94	99	94	0

SMC1 = TOLUENE-D8 — QC LIMITS 84% - 138%
SMC2 = BROMOFLUOROBENZENE — QC LIMITS 59% - 113%
SMC3 = 1,2-DICHLOROETHANE-D4 — QC LIMITS 70% - 121%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
20	60	0	100.0%

TABLE A-12
SURROGATE % RECOVERIES
SEMIVOLATILE SOIL SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL OUT
90184	SB10125D	90	80	78	74	86	78	76	81	0
	SB10145	83	74	73	69	82	70	72	75	0
	SB10175	75	68	69	60	73	62	64	66	0
	SB10125MS	75	66	68	64	72	67	64	66	0
	SB10125MSD	77	69	68	64	69	67	63	66	0
	SB10125	81	75	75	68	82	75	70	72	0
90202	SBPS925	68	66	67	58	62	59	61	64	0
	SBPS925_RE	73	74	66	62	67	69	67	72	0
	SBPS915	67	69	70	59	62	60	61	64	0
	SBPS915_RE	86	83	77	72	75	77	78	84	0
90206	SB11412	73	73	78	60	65	81	65	66	0
90230	SB11512	65	68	63	58	59	61	63	62	0
	SB11512MS	74	68	60	68	72	66	72	74	0
	SB11512MSD	71	66	60	62	64	68	64	65	0
90237	SB10840	58	60	57	50	52	62	57	57	0
	SB11220	67	68	63	59	66	66	64	62	0
90246	SBPS1015	83	77	95	76	81	74	75	77	0
	SBPS1025	80	77	94	76	83	80	75	76	0
90248	SB10425	75	81	70	60	62	72	67	78	0
	SB10425D	70	74	66	56	59	68	64	74	0
	SB10440	69	74	66	54	57	71	60	64	0

S1 = NITROBENZENE-D5 QC LIMITS 23% - 120%
S2 = 2-FLUOROBIPHENYL QC LIMITS 30% - 115%
S3 = TERPHENYL-D14 QC LIMITS 18% - 137%
S4 = PHENOL-D5 QC LIMITS 24% - 113%
S5 = 2-FLUOROPHENOL QC LIMITS 25% - 121%
S6 = 2,4,6-TRIBROMOPHENOL QC LIMITS 19% - 122%
S7 = 2-CHLOROPHENOL-D4 QC LIMITS 20% - 130% (ADVISORY)
S8 = 1,2-DICHLOROBENZENE-D4 QC LIMITS 20% - 130% (ADVISORY)

D - INDICATES SURROGATES DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
21	168	0	100.0%

TABLE A-13
SURROGATE % RECOVERIES
PESTICIDE/PCB SOIL SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TCX1	TCX2	DCB1	DCB2	TOTAL OUT
90184	SB10125D	86	82	107	114	0
	SB10145	79	70	110	113	0
	SB10175	72	68	101	105	0
	SB10125MS	70	60	104	107	0
	SB10125MSD	81	74	106	112	0
	SB10125	82	75	110	114	0
90206	SB11412	98	104	117	117	0
90230	SB11512	98	82	101	92	0
	SB11512MS	91	81	97	89	0
	SB11512MSD	90	81	105	97	0
90237	SB10840	90	79	103	95	0
	SB11220	88	78	100	93	0
90246	SBPS1015	87	78	96	89	0
	SBPS1025	89	72	98	91	0
90248	SB10425	90	80	105	96	0
	SB10425D	97	78	99	92	0
	SB10440	94	87	106	97	0

TCX - TETRACHLORO-M-XYLENE — QC LIMITS 60% - 150%
DCB - DECACHLOROBIPHENYL — QC LIMITS 60% - 150%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE OF QC LIMITS

TCX1 - COLUMN 1
TCX2 - COLUMN 2
DCB1 - COLUMN 1
DCB2 - COLUMN 2

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
17	68	0	100.0%

TABLE A-14
SURROGATE % RECOVERIES
GC/MS VOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	SMC1	SMC2	SMC3	TOTAL OUT
90184	BT201FB	96	87	88	0
	BS201ER	101	92	93	0
90192	BS202FB	95	87	83	0
	BT202FB	98	90	87	0
	BS201FB	94	87	82	0
	BS201FBDL	94	87	84	0
90202	BS202ER	103	99	99	0
	BT203FB	90	94	98	0
90206	BS203ER	109	100	95	0
	BT204FB	106	95	94	0
90215	BS203FB	98	95	96	0
	BS204FB	104	100	101	0
	BT205FB	100	101	99	0
90230	BT206FB	108	101	97	0
	BS205ER	106	97	94	0
90237	BT207FB	105	97	95	0
	BS206ER	107	98	94	0
90246	BT208FB	103	93	92	0
	BS207ER	107	98	95	0
90248	BS208ER	99	92	91	0
	BT209FB	101	96	94	0

SMC1 = TOLUENE-D8 QC LIMITS 88% - 110%
SMC2 = BROMOFLUOROBENZENE QC LIMITS 86% - 115%
SMC3 = 1,2-DICHLOROETHANE-D4 QC LIMITS 76% - 114%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
21	63	0	100.0%

TABLE A-17
GC/MS VOLATILES DETECTED IN TRIP BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	TB CONC.	UNITS	VALIDATION QUALIFIER
90184	BT201FB	SB10125, SB10125MS, SB10125MSD, SB10125D, SB10145, SB10175	METHYLENE CHLORIDE	1	ug/L	
	BT202FB	SB10125, SB10125MS, SB10125MSD, SB10125D, SB10145, SB10175	ACETONE	6	ug/L	
90202	BT203FB	SBPS915, SBPS925, SBPS925DL	CHLOROFORM	2	ug/L	
90206	BT204FB	SB11412	ACETONE	7	ug/L	
	BT205FB	SB11412	METHYLENE CHLORIDE	3	ug/L	
90230	BT206FB	SB11512, SB11512MS, SB11512MSD	NO CONTAMINATION FOUND			
	BT207FB	SB11512, SB11512MS, SB11512MSD	NO CONTAMINATION FOUND			
90246	BT208FB	SBPS1015, SBPS1025	NO CONTAMINATION FOUND			
90248	BT209FB	SB10425, SB10425D, SB10440	CHLOROMETHANE	1	ug/L	

TABLE A-18
GC/MS VOLATILES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
90184	BS201ER	SB10125, SB10125MS, SB10125MSD, SB10125D, SB10145, SB10175	ACETONE	23	ug/L	
90202	BS202ER	SBPS915, SBPS925, SBPS925DL	2-BUTANONE	35	ug/L	
90206	BS203ER	SB11412	NO CONTAMINATION FOUND			
90230	BS205ER	SB11512, SB11512MS, SB11512MSD	NO CONTAMINATION FOUND			
90237	BS206ER	SB10840, SB11220	NO CONTAMINATION FOUND			
90246	BS207ER	SBPS1015, SBPS1025	NO CONTAMINATION FOUND			
90248	BS208ER	SB10425, SB10425D, SB10440	NO CONTAMINATION FOUND			

TABLE A-19
SEMIVOLATILES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
90184	BS201ER	SB10125, SB10125MS, SB10125MSD, SB10125D, SB10145, SB10175	NO CONTAMINATION FOUND			
90202	BS202ER	SBPS915, SBPS925, SBPS915RE, SBPS925RE	NO CONTAMINATION FOUND			
90206	BS203ER	SB11412	NO CONTAMINATION FOUND			
90230	BS205ER	SB11512, SB11512MS, SB11512MSD	NO CONTAMINATION FOUND			
90237	BS206ER	SB10840, SB11220	NO CONTAMINATION FOUND			
90246	BS207ER	SBPS1015, SBPS1025	NO CONTAMINATION FOUND			
90248	BS208ER	SB10425, SB10425D, SB10440	NO CONTAMINATION FOUND			

TABLE A-20
PESTICIDES/PCBS DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
90184	BS201ER	SB10125, SB10125MS, SB10125MSD, SB10125D, SB10145, SB10175	NO CONTAMINATION FOUND			
90206	BS203ER	SB11412	NO CONTAMINATION FOUND			
90230	BS205ER	SB11512, SB11512MS, SB11512MSD	NO CONTAMINATION FOUND			
90237	BS206ER	SB10840, SB11220	NO CONTAMINATION FOUND			
90246	BS207ER	SBPS1015, SBPS1025	NO CONTAMINATION FOUND			
90248	BS208ER	SB10425, SB10425D, SB10440	NO CONTAMINATION FOUND			

TABLE A-21
METALS AND CYANIDE DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
90184	BS201ER	SB10125, SB10125MS, SB10125MSD, SB10125D, SB10145, SB10175	CALCIUM	195	ug/L	
			IRON	415	ug/L	
			MAGNESIUM	59.1	ug/L	
			MANGANESE	5.0	ug/L	
			SODIUM	322	ug/L	
			ZINC	2.0	ug/L	
90202	BS202ER	SBPS915, SBPS915MS, SBPS915MSD,	ALUMINUM	31.9	ug/L	
			CALCIUM	46.6	ug/L	
			IRON	221	ug/L	
			MERCURY	0.71	ug/L	
				70.5	ug/L	
			ZINC	3.4	ug/L	
		SBPS925	MERCURY	0.71	ug/L	U
90206	BS204ER	SB11412	CADMIUM	3.7	ug/L	
			CALCIUM	90.6	ug/L	
			COPPER	7.3	ug/L	
			IRON	36.5	ug/L	
			SODIUM	134	ug/L	
			ZINC	1.7	ug/L	
90230	BS205ER	SB11512, SB11512MS, SB11512MSD	CALCIUM	152	ug/L	
			IRON	104	ug/L	
			MANGANESE	2.8	ug/L	
			SODIUM	120	ug/L	
			CYANIDE	1.8	ug/L	
90237	BS206ER	SB10840, SB11220	ALUMINUM	29.2	ug/L	
			CALCIUM	219	ug/L	
			IRON	235	ug/L	
			MAGNESIUM	34.8	ug/L	
			MANGANESE	7.7	ug/L	
			MERCURY	0.22	ug/L	
			SODIUM	156	ug/L	
			CYANIDE	1.9	ug/L	
90246	BS207ER	SBPS1015, SBPS1025	IRON	85.2	ug/L	
			MANGANESE	2.0	ug/L	
			SODIUM	351	ug/L	
		SBPS1025	ZINC	30.7	ug/L	CRDL
		SBPS1015	ZINC	30.7	ug/L	U
90248	BS208ER	SB10425, SB10425D, SB10440	ALUMINUM	23.8	ug/L	
			CALCIUM	319	ug/L	
			COPPER	2.4	ug/L	
			IRON	440	ug/L	
			MAGNESIUM	77.1	ug/L	
			MANGANESE	23.6	ug/L	
			SODIUM	1870	ug/L	
			ZINC	3.2	ug/L	
			CYANIDE	3.4	ug/L	

TABLE A-22
SULFIDE DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
90184	BS201ER	SB10125, SB10125D, SB10145, SB10175	SULFIDE	0.8	mg/L	
90202	BS202ER	SBPS915, SBPS925	NO CONTAMINATION FOUND			
90206	BS203ER	SB11412	SULFIDE	2.2	mg/L	
90230	BS205ER	SB11512	NO CONTAMINATION FOUND			
90237	BS206ER	SB10840, SB11220	SULFIDE	0.7	mg/L	
90246	BS207ER	SBPS1015, SBPS1025	SULFIDE	0.6	mg/L	
90248	BS208ER	SB10425, SB10425D, SB10440	NO CONTAMINATION FOUND			

TABLE A-23
GC/MS VOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
90192	BS201FB (POTABLE)	SB10125D, SB10145, SB10125, SB10175, SBPS925, SBPS915, SBPS925DL, SB11412	ACETONE	83	ug/L	
			CHLOROFORM	33	ug/L	
			2-BUTANONE	500	ug/L	
			BROMODICHLOROMETHANE	34	ug/L	
			DIBROMOCHLOROMETHANE	25	ug/L	
			BROMOFORM	4	ug/L	
			TOLUENE	2	ug/L	
	BS202FB (DI)	SB10125D, SB10145, SB10125, SB10175, SBPS925, SBPS915, SBPS925DL, SB11412	ACETONE	13	ug/L	
			2-BUTANONE	56	ug/L	
90215	BS203FB (POTABLE)	SB11512, SB10840, SB11220, SBPS1015, SBPS1025, SB10425, SB10425D, SB10440	METHYLENE CHLORIDE	8	ug/L	
			CHLOROFORM	27	ug/L	
			2-BUTANONE	39	ug/L	
			BROMODICHLOROMETHANE	30	ug/L	
			DIBROMOCHLOROMETHANE	25	ug/L	
			BROMOFORM	5	ug/L	
	BS204FB (DI)	SB11512, SB10840, SB11220, SBPS1015, SBPS1025, SB10425, SB10425D, SB10440	METHYLENE CHLORIDE	3	ug/L	
			2-BUTANONE	20	ug/L	

TABLE A-24
SEMIVOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
90192	BS201FB (POTABLE)	SB10125D, SB10145, SB10125, SB10175, SBPS925, SBPS915, SBPS925DL, SB11412	NO CONTAMINATION FOUND			
	BS202FB (DI)	SB10125D, SB10145, SB10125, SB10175, SBPS925, SBPS915, SBPS925RE, SBPS915RE, SB11412	NO CONTAMINATION FOUND			
90215	BS203FB_RE (POTABLE)	SB11512, SB10840, SB11220, SBPS1015, SBPS1025, SB10425, SB10425D, SB10440	DI-N-BUTYLPHTHALATE	3	ug/L	
			BIS(2-ETHYLHEXYL)PHTHALATE	5	ug/L	
	BS204FB (DI)	SB11512, SB10840, SB11220, SBPS1015, SBPS1025, SB10425, SB10425D, SB10440	NO CONTAMINATION FOUND			

TABLE A-25
PESTICIDES/PCBS DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
90192	BS201FB (POTABLE)	SB10125D, SB10145, SB10125, SB10175, SBPS925, SBPS915, SB11412	NO CONTAMINATION FOUND			
	BS202FB (DI)	SB10125D, SB10145, SB10125, SB10175, SBPS925, SBPS915, SB11412	NO CONTAMINATION FOUND			
90215	BS203FB (POTABLE)	SB11512, SB10840, SB11220, SBPS1015, SBPS1025, SB10425, SB10425D, SB10440	NO CONTAMINATION FOUND			
	BS204FB (DI)	SB11512, SB10840, SB11220, SBPS1015, SBPS1025, SB10425, SB10425D, SB10440	NO CONTAMINATION FOUND			

TABLE A-26
METALS/CYANIDE DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
90192	BS201FB (POTABLE)	SB10125D, SB10145, SB10125, SB10175, SBPS925, SBPS915, SB11412	ARSENIC	2.4	ug/L	
			BARIUM	4.6	ug/L	
			CALCIUM	17200	ug/L	
			COPPER	94.8	ug/L	
			IRON	138	ug/L	
			LEAD	10.2	ug/L	
			MAGNESIUM	10700	ug/L	
			POTASSIUM	2150	ug/L	
			SODIUM	113000	ug/L	
			ZINC	472	ug/L	
	BS202FB (DI)	SB10125D, SB10145, SB10125, SB10175, SBPS925, SBPS915, SB11412	ZINC	5.0	ug/L	
90215	BS203FB (POTABLE)	SB11512, SB10840, SB11220, SBPS1015, SBPS1025, SB10425, SB10425D, SB10440	BARIUM	6	ug/L	
			CALCIUM	22800	ug/L	
			COPPER	74.2	ug/L	
			IRON	47.8	ug/L	
			MAGNESIUM	6600	ug/L	
			POTASSIUM	2270	ug/L	
			SODIUM	100000	ug/L	
			ZINC	113	ug/L	
	BS204FB (DI)	SB11512, SB10840, SB11220, SBPS1015, SBPS1025, SB10425,	SODIUM	43.6	ug/L	

TABLE A-27
SULFIDE DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
90192	BS201FB (POTABLE)	SB10125D, SB10145, SB10125, SB10175, SBPS925, SBPS915, SB11412	NO CONTAMINATION FOUND			
	BS202FB (DI)	SB10125D, SB10145, SB10125, SB10175, SBPS925, SBPS915, SB11412	NO CONTAMINATION FOUND			
90215	BS203FB (POTABLE)	SB11512, SB10840, SB11220, SBPS1015, SBPS1025, SB10425, SB10425D, SB10440	NO CONTAMINATION FOUND			
	BS204FB (DI)	SB11512, SB10840, SB11220, SBPS1015, SBPS1025, SB10425, SB10425D, SB10440	SULFIDE	0.8	mg/L	

TABLE A-29
SEMIVOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
90184	SBLKW	SB201ER	NO CONTAMINATION FOUND			
	SBLKS	SB10125, SB10125D, SB10145, SB10175, SB10125MS, SB10125MSD	DI-N-BUTYLPHTHALATE	160	ug/Kg	CRQL
90192	SBLKW	BS201FB, BS202FB	NO CONTAMINATION FOUND			
90202	SBLKW	BS202ER	NO CONTAMINATION FOUND			
	SBLKS	SBPS915	DI-N-BUTYLPHTHALATE	2100	ug/Kg	U
		SBPS925	DI-N-BUTYLPHTHALATE	2100	ug/Kg	CRQL
		SBPS915, SBPS925	BUTYLBENZYLPHTHALATE	77	ug/Kg	
	SBLKS_2	SBPS915_RE, SBPS925_RE	DI-N-BUTYLPHTHALATE	51	ug/Kg	CRQL
90215	SBLK2	BS204FB, BS203FB	DI-N-BUTYLPHTHALATE	1	ug/L	CRQL
	SBLKW1	BS203FB_RE	NO CONTAMINATION FOUND			
90206	SBLKW	BS203ER	NO CONTAMINATION FOUND			
	SBLKS	SB11412	DI-N-BUTYLPHTHALATE	1200	ug/Kg	U
		SB11412	BIS(2-ETHYLHEXYL)PHTHALATE	55	ug/Kg	
90230	SBLKS	SB11512, SB11512MS, SB11512MSD	DI-N-BUTYLPHTHALATE	75	ug/Kg	CRQL
	SBLKW	BS205ER	DI-N-BUTYLPHTHALATE	2	ug/L	CRQL
90237	SBLKS	SB10840, SB11220	DI-N-BUTYLPHTHALATE	75	ug/Kg	CRQL
	SBLKW	BS206ER	DI-N-BUTYLPHTHALATE	2	ug/L	CRQL
90246	SBLK8M	SB207ER	NO CONTAMINATION FOUND			
	SBLK82	SBPS1025, SBPS1015	DI-N-BUTYLPHTHALATE	100	ug/Kg	CRQL
90248	SBLKW	BS208ER	DI-N-BUTYLPHTHALATE	1	ug/L	
	SBLKS	SB10425, SB10440	DI-N-BUTYLPHTHALATE	50	ug/Kg	CRQL
		SB10425D	DI-N-BUTYLPHTHALATE	50	ug/Kg	U

TABLE A-28
GC/MS VOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
90184	VBLKWa	BT201FB	ACETONE	4	ug/L	CRQL
	VBLKW1	BS201ER	2-BUTANONE	4	ug/L	U
	VBLKSa1	SB10125D, SB10145, SB10175	METHYLENE CHLORIDE	1	ug/Kg	CRQL
		SB10125D, SB10145, SB10175	ACETONE	5	ug/Kg	U
	VBLKS	SB10125	METHYLENE CHLORIDE	2	ug/Kg	CRQL
		SB10125	ACETONE	6	ug/Kg	U
90192	VBLKW	BS202FB, BT202FB, BS201FB, BS201FBDL	NO CONTAMINATION FOUND			
90202	VBLKW	BT203FB, BS202ER	METHYLENE CHLORIDE	4	ug/L	CRQL
		BT203FB, BS202ER	ACETONE	10	ug/L	
	VBLKS1	SBPS925	METHYLENE CHLORIDE	5	ug/Kg	U
		SBPS925	ACETONE	12	ug/Kg	NA
	VBLKS	SBPS915, SBPS925DL	METHYLENE CHLORIDE	2	ug/Kg	CRQL
		SBPS915, SBPS925DL	2-BUTANONE	3	ug/Kg	
90215	VBLKW	BS203FB, BS204FB, BS205FB	NO CONTAMINATION FOUND			
90206	VBLKS1	SB11412	METHYLENE CHLORIDE	5	ug/Kg	CRQL
		SB11412	ACETONE	12	ug/Kg	U
	VBLKW	BSS03ER	METHELENE CHLORIDE	1	ug/L	CRQL
90230	VBLK2	BT206FB, BS205ER	METHYLENE CHLORIDE	1	ug/L	
			ACETONE	8	ug/L	
	VBLKS1	SB11512	METHELENE CHLORIDE	3	ug/Kg	U
		SB11512	ACETONE	16	ug/Kg	U
90237	VBLKW1	BT207FB, BS206ER	METHELENE CHLORIDE	1	ug/L	
			ACETONE	8	ug/L	
	VBLKS1	SB10840	METHYLENE CHLORIDE	3	ug/Kg	U
		SB11220	METHYLENE CHLORIDE	3	ug/Kg	CRQL
		SB10840, SB11220	ACETONE	16	ug/Kg	U
90246	VBLKW1	BT208FB, BS207ER	METHELENE CHLORIDE	1	ug/L	
			ACETONE	8	ug/L	
	VBLKS1	SBPS1015	METHYLENE CHLORIDE	3	ug/Kg	CRQL
		SBPS1015	ACETONE	16	ug/Kg	U
	VBLKS	SBPS1025	METHYLENE CHLORIDE	2	ug/Kg	CRQL
		SBPS1025	ACETONE	12	ug/Kg	U
90248	VBLKS1	SB10425, SB10425D	METHYLENE CHLORIDE	3	ug/Kg	CRQL
		SB10425, SB10425D	ACETONE	16	ug/Kg	U
	VBLKS	SB10440	METHYLENE CHLORIDE	1	ug/Kg	CRQL
		SB10440	ACETONE	9	ug/Kg	U
	VBLKW1	BS208ER, BT209FB	METHYLENE CHLORIDE	2	ug/L	
			ACETONE	7	ug/L	

TABLE A-30
PESTICIDES/PCBs DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
90184	PBLK27	BS201ER	NO CONTAMINATION FOUND			
	PBLK26	SB10125, SB10125D, SB10145, SB10175, SB10125MD, SB10125MS	NO CONTAMINATION FOUND			
90192	PBLK01	BS201FB, BS202FB	NO CONTAMINATION FOUND			
90215	PBLK02	BS203FB, BS204FB	NO CONTAMINATION FOUND			
90206	PBLK11	BS203ER	NO CONTAMINATION FOUND			
	PBLK15	SB11412	NO CONTAMINATION FOUND			
90230	PBLK01	BS205ER	NO CONTAMINATION FOUND			
	PBLK02	SB11512, SB11512MD, SB11512MS	NO CONTAMINATION FOUND			
90237	PBLK22	BS206ER	NO CONTAMINATION FOUND			
	PBLK02	SB10840, SB11220	NO CONTAMINATION FOUND			
90246	PBLK22	BS207ER	NO CONTAMINATION FOUND			
	PBLK23	SBPS1015, SBPS1025	NO CONTAMINATION FOUND			
90248	PBLK24	BS208ER	NO CONTAMINATION FOUND			
	PBLK29	SB10425, SB10425D, SB10440	NO CONTAMINATION FOUND			

TABLE A-31
METALS/CYANIDE DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
90184	SB10125, SB10125MS, SB10125MD, SB10145, SB10175, SB10125D	ZINC	0.51	mg/Kg	
	BS201ER	NO H2O PREP BLANK			
90192	BS202FB, BS201FB	CALCIUM	81	ug/L	U
		MANGANESE	0.97	ug/L	
		SODIUM	42	ug/L	U
		BERYLLIUM	-0.26	ug/L	UJ
90202	SBPS915, SBPS915MS, SBPS915MD, SBPS925	BERYLLIUM	0.07	mg/Kg	U
		LEAD	0.25	mg/Kg	U
	BS202ER	LEAD	1.25	ug/L	U
90215	BS204FB, BS203FB, BS204ER	ARSENIC	1.75	ug/L	U
		LEAD	1.25	ug/L	
		CYANIDE	1.80	ug/L	U
		MANGANESE	-0.85	ug/L	UJ
90206	SB11412	BERYLLIUM	0.07	mg/Kg	U
		LEAD	0.25	mg/Kg	U
90230	SB11512, SB11512MS, SB11512MSD	SELENIUM	0.44	mg/Kg	
		SODIUM	4.98	mg/Kg	U
	BS205ER	NO H2O PREP BLANK			
90237	SB10840, SB11220	NICKEL	2.01	mg/Kg	U
		SELENIUM	0.44	mg/Kg	
		SODIUM	13.8	mg/Kg	U
		CALCIUM	-6.25	mg/Kg	J
		VANADIUM	-0.63	mg/Kg	J
	SB206ER	NO H2O PREP BLANK			
90246	SBPS1025, SBPS1015	NICKEL	2.01	mg/Kg	U
		SELENIUM	0.44	mg/Kg	U
		SODIUM	13.8	mg/Kg	U
		CALCIUM	-6.25	mg/Kg	
		VANADIUM	-0.63	mg/Kg	J
	BS207ER	NO H2O PREP BLANK			
90248	SB10425, SB10425MS, SB10425MD, SB10425D, SB10440	NICKEL	2.01	mg/Kg	U
		SELENIUM	0.44	mg/Kg	U
		SODIUM	13.8	mg/Kg	U
		CALCIUM	-6.25	mg/Kg	J
		VANADIUM	-0.63	mg/Kg	J
	BS208ER	NO H2O PREP BLANK			

TABLE A-32
LOW CONCENTRATION VOLATILE ORGANIC COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
92024	11AGW01	WATER	6	NO COMPOUNDS DETECTED					
92028	12GW01	WATER	16	NO COMPOUNDS DETECTED					
92037	17BGW01	WATER	9	CHLOROMETHANE	0.6	0	20%	ND	1
				CARBON DISULFIDE	0.7	0	20%	ND	1
				1,1-DICHLOROETHANE	1	0	20%	200%	1
				2-BUTANONE	61	0	20%	200%	1
				BENZENE	0.5	0	20%	ND	1 nd
				4-METHYL-2-PENTANONE	78	10	20%	155%	1
92038	22BGW01	WATER	4	CARBON DISULFIDE	2	4	20%	67%	1
				1,1-DICHLOROETHANE	0.6	0.6	20%	0%	0
				CIS-1,2-DICHLOROETHENE	19	20	20%	5%	0
				TRICHLOROETHENE	0.5	0.5	20%	0%	0
				BENZENE	6	6	20%	0%	0
				TOLUENE	12	12	20%	0%	0
				CHLOROBENZENE	1	1	20%	0%	0
				ETHYLBENZENE	54	56	20%	4%	0
				XYLENE (TOTAL)	15	14	20%	7%	0
	TOTAL SAMPLES		35						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	8	7	53.3%

TABLE A-33
SEMIVOLATILE ORGANIC COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
92024	11AGW01	WATER	6	NO COMPOUNDS DETECTED					
92028	12GW01	WATER	16	NO COMPOUNDS DETECTED					
92037	17BGW01	WATER	9	4-METHYLPHENOL	4	3	20%	29%	1
				BIS(2-ETHYLHEXYL)PHTHALATE	12	29	20%	83%	1
92038	22BGW01	WATER	4	4-METHYLPHENOL	14	16	20%	13%	0
				DIMETHYLPHTHALATE	3	4	20%	29%	1
				DIETHYLPHTHALATE	10	11	20%	10%	0
				BIS(2-ETHYLHEXYL)PHTHALATE	1	0.6	20%	50%	1
	TOTAL SAMPLES		35						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	2	4	33.3%

TABLE A-34
PESTICIDE/PCB COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
92024	11AGW01	WATER	6	NO COMPOUNDS DETECTED					
92028	12GW01	WATER	16	NO COMPOUNDS DETECTED					
92037	17BGW01	WATER	9	NO COMPOUNDS DETECTED					
92038	22BGW01	WATER	4	NO COMPOUNDS DETECTED					
	TOTAL SAMPLES		35						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	1	0	100.0%

TABLE A-35
ORGANOPHOSPHOROUS PESTICIDE COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
92022	11BGW01	WATER	3	NO COMPOUNDS DETECTED					
	TOTAL SAMPLES		3						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
33.3%	1	0	100.0%

TABLE A-36
HERBICIDES COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
92022	11BGW01	WATER	3	NO COMPOUNDS DETECTED					
	TOTAL SAMPLES		3						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
33.3%	1	0	100.0%

TABLE A-37
DIOXIN/FURAN COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
074296	11BBGWR1	WATER	3	NO COMPOUNDS DETECTED					
	TOTAL SAMPLES		3						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
33.3%	1	0	100.0%

* - VALUE IN FIELD DUPLICATE RESULT WAS REPORTED AS MPC (MAXIMUM POSSIBLE CONCENTRATION).

TABLE A-38
METALS AND CYANIDE
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	ANALYTE	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
92028	12GW01	WATER	16	ALUMINUM	3930	4160	20%	6%	0
				ARSENIC	2.7	0	20%	ND	1
				BARIUM	31.8	33.3	20%	5%	0
				BERYLLIUM	0.21	0.21	20%	0%	0
				CALCIUM	1510	1500	20%	1%	0
				CHROMIUM	8.2	5.8	20%	34%	1
				COBALT	2.8	2.2	20%	24%	1
				COPPER	3.1	3.8	20%	20%	1
				IRON	3810	3800	20%	0%	0
				MAGNESIUM	1350	1360	20%	1%	0
				MANGANESE	20.2	20.2	20%	0%	0
				NICKEL	0	7.4	20%	ND	1
				SODIUM	8740	8660	20%	1%	0
				VANADIUM	3.5	2.6	20%	30%	1
				ZINC	13.7	13.3	20%	3%	0
92024	11AGW01	WATER	6	ALUMINUM	569	576	20%	1%	0
				ARSENIC	0	1.8	20%	ND	1
				BARIUM	35.9	34.4	20%	4%	0
				BERYLLIUM	0.16	0.12	20%	29%	1
				CALCIUM	3550	3470	20%	2%	0
				CHROMIUM	6.9	5.2	20%	28%	1
				COPPER	14.9	0	20%	ND	1
				IRON	5140	5540	20%	7%	0
				LEAD	8.1	3.3	20%	84%	1
				MAGNESIUM	2820	2870	20%	2%	0
				MANGANESE	44.5	47.6	20%	7%	0
					9.0	7.2	20%	22%	1
				POTASSIUM	3760	3600	20%	4%	0
				SODIUM	17000	17300	20%	2%	0
				ZINC	62.4	0	20%	200%	1

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TABLE A-38, CONTINUED
METALS AND CYANIDE
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	ANALYTE	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
92038	22BGW01	WATER	4	ALUMINUM	1770	1580	20%	11%	0
				ARSENIC	2.8	2.6	20%	7%	0
				BARIUM	29.6	28.1	20%	5%	0
				CALCIUM	7570	7280	20%	4%	0
				CHROMIUM	5.5	5.6	20%	2%	0
				COPPER	13.4	0	20%	ND	1
				IRON	931	923	20%	1%	0
				LEAD	2.9	0	20%	ND	1
				MAGNESIUM	1140	1110	20%	3%	0
				MANGANESE	13.2	12.8	20%	3%	0
				NICKEL	5.9	0	20%	ND	1
				POTASSIUM	19100	19000	20%	1%	0
				SODIUM	39300	39000	20%	1%	0
				VANADIUM	6.4	6.6	20%	3%	0
				ZINC	51.6	49.2	20%	5%	0
92037	17BGW01	WATER	9	ALUMINUM	1460	1700	20%	15%	0
				ARSENIC	6.3	6.4	20%	2%	0
				BARIUM	39.9	40	20%	0%	0
				BERYLLIUM	0	0.19	20%	ND	1
				CALCIUM	3220	3560	20%	10%	0
				CHROMIUM	7.8	7.9	20%	1%	0
				COPPER	16.5	14.6	20%	12%	0
				IRON	1590	1670	20%	5%	0
				MAGNESIUM	1540	1600	20%	4%	0
				MANGANESE	8.6	9.1	20%	6%	0
				NICKEL	6.3	7.3	20%	15%	0
				POTASSIUM	1080	1260	20%	15%	0
				SODIUM	13100	13700	20%	4%	0

TOTAL SAMPLES 35

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	41	17	70.7%

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TABLE A-39
SULFIDE
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
92023	11AGW01	WATER	3	SULFIDE	1.6	1.5	20%	6%	0
92026	12GW01	WATER	16	SULFIDE	0.4	0.2	20%	67%	1
92036	17BGW01	WATER	16	SULFIDE	0.2	0.2	20%	0%	0
	22BGW01	WATER		SULFIDE	2.2	2	20%	10%	0
	TOTAL SAMPLES		35						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
10.5%	3	1	75.0%

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TABLE A-40
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 11AGW01*	SDG 92024		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
VINYL CHLORIDE	ug/L	60	60	0
1,2-DICHLOROETHANE	ug/L	80	100	22
CARBON TETRACHLORIDE	ug/L	100	100	0
1,2-DICHLOROPROPANE	ug/L	100	120	18
CIS-1,3-DICHLOROPROPENE	ug/L	80	80	0
TRICHLOROETHENE	ug/L	100	100	0
1,1,2-TRICHLOROETHANE	ug/L	80	100	0
BENZENE	ug/L	100	100	0
BROMOFORM	ug/L	80	80	0
TETRACHLOROETHENE	ug/L	100	100	0
1,2-DIBROMOETHANE	ug/L	60	80	0
1,4-DICHLROROBENZENE	ug/L	60	80	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92024: 11CGW01, 06GW01, 07GW01, 11AGW01, 11AGW01D, 08CGW01
92028: 08BGW01, 08AGW01, 09GW01, 14GW01, 01GW01,
12GW01, 12GW01D, 15GW01, 18GW01
92033: 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01

COMPOUND	VISORY LIMITS	RPD
	%R WATER	WATER
VINYL CHLORIDE	60%-140%	40
1,2-DICHLOROETHANE	60%-140%	40
CARBON TETRACHLORIDE	60%-140%	40
1,2-DICHLOROPROPANE	60%-140%	40
CIS-1,3-DICHLOROPROPENE	60%-140%	40
TRICHLOROETHENE	60%-140%	40
1,1,2-TRICHLOROETHANE	60%-140%	40
BENZENE	60%-140%	40
BROMOFORM	60%-140%	40
TETRACHLOROETHENE	60%-140%	40
1,2-DIBROMOETHANE	60%-140%	40
1,4-DICHLROROBENZENE	60%-140%	40

TABLE A-40 (Continued)
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 17BGW01*	92037		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
VINYL CHLORIDE	ug/L	80	60	28
1,2-DICHLOROETHANE	ug/L	100	120	18
CARBON TETRACHLORIDE	ug/L	100	80	22
1,2-DICHLOROPROPANE	ug/L	100	100	0
CIS-1,3-DICHLOROPROPENE	ug/L	80	80	0
TRICHLOROETHENE	ug/L	100	80	22
1,1,2-TRICHLOROETHANE	ug/L	100	100	0
BENZENE	ug/L	90	90	0
BROMOFORM	ug/L	80	100	22
TETRACHLOROETHENE	ug/L	100	80	22
1,2-DIBROMOETHANE	ug/L	80	80	0
1,4-DICHLROROBENZENE	ug/L	80	80	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92037: 04GW01, 05GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D
92038: 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01

COMPOUND	VISORY LIMITS		RPD
	%R WATER		WATER
VINYL CHLORIDE	60%-140%		40
1,2-DICHLOROETHANE	60%-140%		40
CARBON TETRACHLORIDE	60%-140%		40
1,2-DICHLOROPROPANE	60%-140%		40
CIS-1,3-DICHLOROPROPENE	60%-140%		40
TRICHLOROETHENE	60%-140%		40
1,1,2-TRICHLOROETHANE	60%-140%		40
BENZENE	60%-140%		40
BROMOFORM	60%-140%		40
TETRACHLOROETHENE	60%-140%		40
1,2-DIBROMOETHANE	60%-140%		40
1,4-DICHLROROBENZENE	60%-140%		40

TABLE A-40 (Continued)
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 19AGW01*		SDG 92032		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
1,1-DICHLOROETHENE	ug/L	60	60	0
TRICHLOROETHENE	ug/L	80	100	22
BENZENE	ug/L	100	100	0
TOLUENE	ug/L	100	120	18
CHLOROBENZENE	ug/L	80	80	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92022: 11BGW01
92032: 19AGW01
92035: 13AGW01

COMPOUND	VISORY LIMITS	RPD
	%R WATER	WATER
1,1-DICHLOROETHENE	61%-145%	14
TRICHLOROETHENE	71%-120%	14
BENZENE	76%-127%	11
TOLUENE	76%-125%	13
CHLOROBENZENE	75%-130%	13

TABLE A-41
SEMIVOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11AGW01*		SDG 92024		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/L	65	57	13
2-CHLOROPHENOL	ug/L	61	56	8
1,4-DICHLOROBENZENE	ug/L	50	44	13
N-NITROSO-DI-N-PROP.(1)	ug/L	64	56	13
1,2,4-TRICHLOROBENZENE	ug/L	52	50	4
4-CHLORO-3-METHYLPHENOL	ug/L	77	63	20
ACENAPHTHENE	ug/L	54	54	0
4-NITROPHENOL	ug/L	*109	*96	13
2,4-DINITROTOLUENE	ug/L	76	66	14
PENTACHLOROPHENOL	ug/L	92	85	8
PYRENE	ug/L	60	54	10

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92024: 11CGW01, 06GW01, 07GW01, 11AGW01, 11AGW01D, 08CGW01
92028: 08BGW01, 08AGW01, 09GW01, 14GW01, 01GW01,
12GW01, 12GW01D, 15GW01, 18GW01
92033: 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01

COMPOUND	VISORY LIMITS	RPD
	% R WATER	WATER
PHENOL	12%-110%	42
2-CHLOROPHENOL	27%-123%	40
1,4-DICHLOROBENZENE	36%-97%	28
N-NITROSO-DI-N-PROP.(1)	41%-116%	38
1,2,4-TRICHLOROBENZENE	39%-98%	28
4-CHLORO-3-METHYLPHENOL	23%-97%	42
ACENAPHTHENE	46%-118%	31
4-NITROPHENOL	10%-80%	50
2,4-DINITROTOLUENE	24%-96%	38
PENTACHLOROPHENOL	9%-103%	50
PYRENE	26%-127%	31

TABLE A-41 (Continued)
SEMIVOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *MPLE 17BGW01*		SDG 92037		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/L	65	75	14
2-CHLOROPHENOL	ug/L	61	69	12
1,4-DICHLOROBENZENE	ug/L	48	50	4
N-NITROSO-DI-N-PROP.(1)	ug/L	68	74	8
1,2,4-TRICHLOROBENZENE	ug/L	48	50	4
4-CHLORO-3-METHYLPHENOL	ug/L	80	87	8
ACENAPHTHENE	ug/L	50	50	0
4-NITROPHENOL	ug/L	*112	*96	15
2,4-DINITROTOLUENE	ug/L	76	72	5
PENTACHLOROPHENOL	ug/L	97	85	13
PYRENE	ug/L	70	64	9

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92037: 04GW01, 05GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D
92038: 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01

COMPOUND	VISORY LIMITS	RPD
	% R WATER	WATER
PHENOL	12%-110%	42
2-CHLOROPHENOL	27%-123%	40
1,4-DICHLOROBENZENE	36%-97%	28
N-NITROSO-DI-N-PROP.(1)	41%-116%	38
1,2,4-TRICHLOROBENZENE	39%-98%	28
4-CHLORO-3-METHYLPHENOL	23%-97%	42
ACENAPHTHENE	46%-118%	31
4-NITROPHENOL	10%-80%	50
2,4-DINITROTOLUENE	24%-96%	38
PENTACHLOROPHENOL	9%-103%	50
PYRENE	26%-127%	31

TABLE A-42
PESTICIDES/PCBS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *MPLE 11AGW01*		SDG 92024		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/L	82	80	2
Heptachlor	ug/L	65	64	2
Aldrin	ug/L	76	75	1
Dieldrin	ug/L	93	92	1
Endrin	ug/L	96	96	0
4,4'-DDT	ug/L	71	74	4

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

92024: 11CGW01, 06GW01, 07GW01, 11AGW01, 11AGW01D, 08CGW01
92028: 08BGW01, 08AGW01, 09GW01, 14GW01, 01GW01,
12GW01, 12GW01D, 15GW01, 18GW01
92033: 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01

COMPOUND	VISORY LIMITS		RPD
	% R WATER		WATER
gamma-BHC(Lindane)	56%-123%		15
HEPTACHLOR	40%-131%		20
ALDRIN	40%-120%		22
DIELDRIN	52%-126%		18
ENDRIN	56%-121%		21
4,4'-DDT	38%-127%		27

TABLE A-42 (Continued)
PESTICIDES/PCBS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *MPLE 17BGW01*		SDG 92037		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/L	82	83	1
Heptachlor	ug/L	89	89	0
Aldrin	ug/L	88	89	1
Dieldrin	ug/L	104	108	4
Endrin	ug/L	108	112	4
4,4'-DDT	ug/L	93	98	5

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

92037: 04GW01, 05GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D
92038: 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01

COMPOUND	VISORY LIMITS		RPD
	% R WATER		WATER
gamma-BHC(Lindane)	56%-123%		15
HEPTACHLOR	40%-131%		20
ALDRIN	40%-120%		22
DIELDRIN	52%-126%		18
ENDRIN	56%-121%		21
4,4'-DDT	38%-127%		27

TABLE A-43
ORGANOPHOSPHOROUS PESTICIDES
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11AGW01*		SDG 92022		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
OPP COMPOUNDS	UNITS			
PHORATE	ug/L	77	68	13
DISULFOTON	ug/L	83	77	8
METHYL PARATHION	ug/L	97	80	19
ETHYL PARATHION	ug/L	104	85	20

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

92022: 11BGW01, 11BGW01D
92032: 19AGW01
92035: 13AGW01

QC LIMITS NOT PROVIDED BY LABORATORY.
RECOVERIES AND RPDS DEEMED ACCEPTABLE BY THE DATA VALIDATOR.

TABLE A-44
HERBICIDES
WATER SAMPLE MATRIX SPIKE.MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11AGW01*		SDG 92022		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
HERB COMPOUNDS	UNITS			
2,4-D	ug/L	82	86	5
SILVEX (2,4,5-TP)	ug/L	84	89	6
2,4,5-T	ug/L	76	89	16
DINOSEB	ug/L	*16	*34	*70

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

92022: 11BGW01, 11BGW01D
92032: 19AGW01
92035: 13AGW01

NO QC LIMITS WERE REPORTED BY THE LABORATORY.
DATA WAS DETERMINED TO BE IN CONTROL BY DATA VALIDATOR WITH THE EXCEPTION OF DINOSEB.

TABLE A-45
DIOXIN/FURAN
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 11BBGWR1*	SDG 074296		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	RPD
DIOXIN/FURANS	UNITS			
2378-TCDD	ng	89	84	2.9
2378-TCDF	ng	93	89	2.2
12378-PeCDD	ng	100	98	1.0
23478-PeCDF	ng	120	110	4.3
123478-HxCDD	ng	110	100	4.8
123478-HxCDF	ng	97	86	6.0
1234678-HpCDD	ng	87	86	0.6
1234678-HpCDF	ng	100	76	13.6
OCDD	ng	88	86	1.1
OCDF	ng	100	94	3.1

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

074296: 11BBGWR1, 11BBGWR1D
074344: 19AGWR1, 13AGWR1

QC LIMITS WERE NOT PROVIDED BY THE LABORATORY.
%R WERE DEEMED IN CONTROL BY THE DATA REVIEWER.

TABLE A-46
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11AGW01*		SDG 92024	
MD = MATRIX DUPLICATE *SAMPLE 11AGW01*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	ug/L	101	11.2
ANTIMONY	ug/L	*58.7	92.1
ARSENIC	ug/L	107	NC
BARIUM	ug/L	101	7.7
BERYLLIUM	ug/L	99.4	200
CADMIUM	ug/L	106	NC
CALCIUM	ug/L	NR	4.4
CHROMIUM	ug/L	98.0	20.0
COBALT	ug/L	102	NC
COPPER	ug/L	97.2	34.6
IRON	ug/L	135	6.6
LEAD	ug/L	84.8	*60
MAGNESIUM	ug/L	NR	0.5
MANGANESE	ug/L	104	5.8
MERCURY	ug/L	93.4	NC
NICKEL	ug/L	98.9	66.8
POTASSIUM	ug/L	NR	12.2
SELENIUM	ug/L	110	NC
SILVER	ug/L	98.9	NC
SODIUM	ug/L	NR	1.4
THALLIUM	ug/L	96.0	NC
VANADIUM	ug/L	101	NC
ZINC	ug/L	98.2	*74.9
CYANIDE	ug/L	96.2	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92024: 11AGW01, 11AGW01D, 08CGW01, 11CGW01
92033: 08AGW01, 09GW01, 01GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

+/- CRDL = RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)
NOTE: SOME VALUES WERE ROUNDED TO THREE (3) SIGNIFICANT FIGURES.

TABLE A-46 (Continued)
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 17BGW01*		SDG 92037	
MD = MATRIX DUPLICATE *SAMPLE 17BGW01*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	ug/L	123	11.2
ANTIMONY	ug/L	99.4	92.1
ARSENIC	ug/L	94.6	NC
BARIUM	ug/L	104	*29.5
BERYLLIUM	ug/L	102	21.3
CADMIUM	ug/L	99.0	12.4
CALCIUM	ug/L	NR	8.7
CHROMIUM	ug/L	100	200
COBALT	ug/L	103	NC
COPPER	ug/L	101	13.2
IRON	ug/L	*125	*27.2
LEAD	ug/L	108	200
MAGNESIUM	ug/L	NR	4.8
MANGANESE	ug/L	104	3.0
MERCURY	ug/L	84.2	NC
NICKEL	ug/L	102	30.2
POTASSIUM	ug/L	NR	11.3
SELENIUM	ug/L	101	NC
SILVER	ug/L	*0.0	NC
SODIUM	ug/L	NR	12.9
THALLIUM	ug/L	77.3	NC
VANADIUM	ug/L	102	200
ZINC	ug/L	104	0.8
CYANIDE	ug/L	97.9	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92037: 04GW01, 05GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D
92038: 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

+/- CRDL = RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)
NOTE: SOME VALUES WERE ROUNDED TO THREE (3) SIGNIFICANT FIGURES.

TABLE A-46 (Continued)
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *08BGW01/15GW01*		SDG 92028	
MD = MATRIX DUPLICATE *08BGW01/15GW01*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	ug/L	*151	13.1
ANTIMONY	ug/L	91.3	21.6
ARSENIC	ug/L	110	NC
BARIUM	ug/L	104	4.8
BERYLLIUM	ug/L	101	6
CADMIUM	ug/L	96.8	NC
CALCIUM	ug/L	NR	1.6
CHROMIUM	ug/L	103	23.4
COBALT	ug/L	103	NC
COPPER	ug/L	111	NC
IRON	ug/L	224	3.1
LEAD	ug/L	75.6	61.1
MAGNESIUM	ug/L	NR	2.5
MANGANESE	ug/L	104	2.9
MERCURY	ug/L	NR	NR
NICKEL	ug/L	101	NC
POTASSIUM	ug/L	NR	15.4
SELENIUM	ug/L	88.7	NC
SILVER	ug/L	*64.0	NC
SODIUM	ug/L	NR	1.1
THALLIUM	ug/L	*73.6	NC
VANADIUM	ug/L	101	13.1
ZINC	ug/L	103	5.3
CYANIDE	ug/L	NR	NR

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92028: 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 06GW01, 08GW01,07GW01

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

+/- CRDL = RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)
NOTE: SOME VALUES WERE ROUNDED TO THREE (3) SIGNIFICANT FIGURES.

TABLE A-46 (Continued)
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 19AGW01*	SDG 92032	
MD = MATRIX DUPLICATE	*SAMPLE 19AGW01*	MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	ug/L	NR	NR
ANTIMONY	ug/L	100	200
ARSENIC	ug/L	108	200
BARIUM	ug/L	99.1	1.0
BERYLLIUM	ug/L	94.8	11.8
CADMIUM	ug/L	95.5	NC
CALCIUM	ug/L	NR	NR
CHROMIUM	ug/L	95.2	10
COBALT	ug/L	96.9	28.9
COPPER	ug/L	94.2	19.2
IRON	ug/L	NR	NR
LEAD	ug/L	104	NC
MAGNESIUM	ug/L	NR	NR
MANGANESE	ug/L	NR	NR
MERCURY	ug/L	NR	NR
NICKEL	ug/L	93.5	15.0
POTASSIUM	ug/L	NR	NR
SELENIUM	ug/L	95.3	NC
SILVER	ug/L	*56.1	NC
SODIUM	ug/L	NR	NR
THALLIUM	ug/L	80.2	NC
VANADIUM	ug/L	96.4	5
ZINC	ug/L	100	19.4
TIN	ug/L	91.1	200

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92032: 19AGW01

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

+/- CRDL = RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)

NOTE: SOME VALUES WERE ROUNDED TO THREE (3) SIGNIFICANT FIGURES.

TABLE A-46 (Continued)
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 13AGW01*	SDG 92035	
MD = MATRIX DUPLICATE	*SAMPLE 13AGW01*	MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	ug/L	NR	NR
ANTIMONY	ug/L	87.6	1.3
ARSENIC	ug/L	97.2	11.5
BARIUM	ug/L	97.4	0.5
BERYLLIUM	ug/L	97.1	NC
CADMIUM	ug/L	104	NC
CALCIUM	ug/L	NR	NR
CHROMIUM	ug/L	102	11.2
COBALT	ug/L	99.3	NC
COPPER	ug/L	94.8	54.0
IRON	ug/L	NR	NR
LEAD	ug/L	101	NC
MAGNESIUM	ug/L	NR	NR
MANGANESE	ug/L	NR	NR
MERCURY	ug/L	NR	NR
NICKEL	ug/L	102	14.2
POTASSIUM	ug/L	NR	NR
SELENIUM	ug/L	97.7	NC
SILVER	ug/L	NR	NR
SODIUM	ug/L	NR	NR
THALLIUM	ug/L	*69.4	NC
VANADIUM	ug/L	98.1	6.9
ZINC	ug/L	102	0.3
TIN	ug/L	98.9	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92035: 13AGW01

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

+/- CRDL = RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)
NOTE: SOME VALUES WERE ROUNDED TO THREE (3) SIGNIFICANT FIGURES.

TABLE A-46 (Continued)
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11BGW01*		SDG 92022	
MD = MATRIX DUPLICATE *SAMPLE 11BGW01*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	ug/L	NR	NR
ANTIMONY	ug/L	79.6	7.6
ARSENIC	ug/L	100	NC
BARIUM	ug/L	99.5	0.8
BERYLLIUM	ug/L	99.2	22.6
CADMIUM	ug/L	107	NC
CALCIUM	ug/L	NR	NR
CHROMIUM	ug/L	99	22.8
COBALT	ug/L	103	NC
COPPER	ug/L	98.3	0.0
IRON	ug/L	NR	NR
LEAD	ug/L	88	22.6
MAGNESIUM	ug/L	NR	NR
MANGANESE	ug/L	NR	NR
MERCURY	ug/L	92.4	NC
NICKEL	ug/L	99	34.9
POTASSIUM	ug/L	NR	NR
SELENIUM	ug/L	103	NC
SILVER	ug/L	101	NC
SODIUM	ug/L	NR	NR
THALLIUM	ug/L	95.1	NC
VANADIUM	ug/L	101	14.9
ZINC	ug/L	102	3.4
TIN	ug/L	99.3	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92022: 11BGW01

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

+/- CRDL = RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)
NOTE: SOME VALUES WERE ROUNDED TO THREE (3) SIGNIFICANT FIGURES.

TABLE A-47
SULFIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 11AGW01*		SDG 92023	
MD = MATRIX DUPLICATE	*SAMPLE 11AGW01*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE			%R	RPD
SULFIDE		UNITS		
SULFIDE		mg/L	*48.4	1.9

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92023: 11AGW01, 11AGW01D, 08CGW01, 11CGW01
92026: 06GW01, 07GW01, 08BGW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01
92029: 08AGW01, 09GW01, 01GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01

MS = MATRIX SPIKE	*SAMPLE 17BGW01*		SDG 92036	
MD = MATRIX DUPLICATE	*SAMPLE 17BGW01*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE			%R	RPD
SULFIDE		UNITS		
SULFIDE		mg/L	*69.7	0.0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

92036: 22AGW01, 04GW01, 05GW01, 03AGW01, 10AGW01, 02GW01, 17BGW01, 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01, 13BGW01, 16GW01, 17BGW01D

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
SULFIDE	80%-120%		+/-20

TABLE A-48
SURROGATE % RECOVERIES
LOW CONCENTRATION VOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	SMC1	SMC2	SMC3	TOTAL OUT
# 92022	11BGW01	96	87	87	0
92024	08CGW01	NA	86	NA	0
	BT301FB	NA	91	NA	0
	BS301FB	NA	84	NA	0
	06GW01	NA	83	NA	0
	11AGW01	NA	86	NA	0
	11AGW01MS	NA	83	NA	0
	11AGW01MSD	NA	93	NA	0
	BS301ER	NA	98	NA	0
	11CGW01	NA	101	NA	0
92028	BT302FB	NA	80	NA	0
	09GW01	NA	82	NA	0
	08AGW01	NA	95	NA	0
	08BGW01	NA	99	NA	0
	01GW01	NA	96	NA	0
	12GW01	NA	99	NA	0
	12GW01D	NA	99	NA	0
	15GW01	NA	98	NA	0
	18GW01	NA	90	NA	0
	14GW01	NA	96	NA	0
# 92032	19AGW01	101	92	93	0
	19AGW01MS	98	88	91	0
	19AGW01MSD	96	87	88	0
92033	BT303FB	NA	101	NA	0
	BS302ER	NA	94	NA	0
	21GW01	NA	88	NA	0
	20GW01	NA	100	NA	0
	17AGW01	NA	97	NA	0
	17CGW01	NA	96	NA	0
	19BGW01	NA	97	NA	0
	03CGW01	NA	88	NA	0

TABLE A-48 (Continued)
SURROGATE % RECOVERIES
LOW CONCENTRATION VOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	SMC1	SMC2	SMC3	TOTAL OUT
# 92035	03AGW01	100	102	103	0
92037	BT304FB	ND	100	ND	0
	04GW01	ND	93	ND	0
	05GW01	ND	103	ND	0
	22AGW01	ND	114	ND	0
	02GW01	ND	98	ND	0
	03AGW01	ND	104	ND	0
	10AGW01	ND	107	ND	0
	13BGW01	ND	98	ND	0
	16GW01	ND	102	ND	0
	17BGW01	ND	109	ND	0
	17BGW01MS	ND	93	ND	0
	17BGW01MSD	ND	107	ND	0
	02GW01DL	ND	99	ND	0
	17BGW01D	ND	90	ND	0
	16GW01DL	ND	107	ND	0
92038	BT305FB	ND	110	ND	0
	BS303ER	ND	110	ND	0
	03BGW01	ND	108	ND	0
	22BGW01	ND	97	ND	0
	22BGW01D	ND	106	ND	0
	22BGW01DL	ND	102	ND	0
	22BGW01DDL	ND	105	ND	0
	10CGW01	ND	106	ND	0
	10BGW01	ND	96	ND	0

SMC1 = TOLUENE-D8 QC LIMITS 88% - 110%
SMC2 = BROMOFLUOROBENZENE QC LIMITS 80% - 120%
# QC LIMITS 86% - 115%
SMC3 = 1,2-DICHLOROETHANE-D4 QC LIMITS 76% - 114%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

TABLE A-48 (Continued)
SURROGATE % RECOVERIES
LOW CONCENTRATION VOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
56	72	0	100.0%

TABLE A-49
SURROGATE % RECOVERIES
SEMIVOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL OUT
# 92022	11BGW01	47	51	71	43	48	70	NA	NA	0
92024	08CGW01	73	58	51	80	75	83	78	52	0
	07GW01	81	60	67	76	73	77	77	57	0
	BS301FB	82	66	78	80	76	90	80	62	0
	06GW01	73	61	73	73	69	90	73	54	0
	11AGW01	60	51	61	66	61	78	65	42	0
	11AGW01MS	64	52	64	69	66	82	67	47	0
	11AGW01MSD	60	55	60	61	60	77	60	41	0
	11AGW01D	79	63	65	76	72	86	76	56	0
	BS301ER	80	63	72	79	78	82	80	63	0
	11CGW01	76	60	68	75	73	93	76	52	0
92028	09GW01	54	43	39	57	50	67	55	37	0
	08AGW01	74	55	54	93	85	84	87	68	0
	08BGW01	63	50	48	70	68	87	69	53	0
	01GW01	62	55	63	64	60	85	64	49	0
	12GW01	58	58	63	62	56	83	60	45	0
	12GW01D	66	62	64	62	60	76	63	51	0
	15GW01	62	52	62	62	59	76	62	44	0
	18GW01	66	58	64	65	63	75	64	48	0
	14GW01	39	*31	43	42	38	54	41	30	1
# 92032	19AGW01	69	96	84	87	87	81	NA	NA	0
92033	BS302ER	71	57	72	81	73	77	80	59	0
	21GW01	62	61	75	73	61	86	66	46	0
	20GW01	76	62	73	85	77	81	83	63	0
	17AGW01	66	59	69	71	66	81	70	56	0
	17CGW01	66	52	63	74	66	88	71	56	0
	19BGW01	76	65	71	88	75	92	82	58	0
	03CGW01	61	49	63	78	65	86	70	49	0
# 92035	13AGW01	81	104	96	85	79	*144	NA	NA	1
	13AGW01RE	59	90	82	28	28	47	NA	NA	0

TABLE A-49 (Continued)
SURROGATE % RECOVERIES
SEMIVOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL OUT
92037	04GW01	67	*36	44	93	85	76	88	50	1
	05GW01	62	*36	58	39	68	80	72	36	1
	22AGW01	63	48	53	77	69	85	73	49	0
	02GW01	66	*41	59	74	63	89	73	39	1
	03AGW01	70	*40	50	69	68	94	71	44	1
	10AGW01	62	*39	52	59	57	94	68	45	1
	13BGW01	55	*37	55	76	72	69	72	46	1
	16GW01	68	48	65	86	59	78	97	35	0
	17BGW01	69	43	65	80	73	79	73	48	0
	17BGW01MS	60	*42	66	65	62	81	62	42	1
	17BGW01MSD	65	48	59	80	70	80	74	46	0
	16GW01DL	97	70	91	104	99	87	98	65	0
	17BGW01D	76	48	80	105	108	86	108	67	0
92038	BS303ER	89	56	75	96	93	102	94	56	0
	03BGW01	68	45	70	83	76	101	78	44	0
	22BGW01	74	58	70	76	76	94	78	51	0
	22BGW01D	61	*42	61	78	70	87	72	42	1
	10CGW01	74	51	65	79	79	94	81	60	0
	10BGW01	70	43	70	89	87	97	89	51	0

S1 = NITROBENZENE-D5	QC LIMITS 35% - 114%	
S2 = 2-FLUOROBIPHENYL	QC LIMITS 43% - 116%	
S3 = TERPHENYL-D14	QC LIMITS 33% - 141%	
S4 = PHENOL-D5	QC LIMITS 10% - 110%	
S5 = 2-FLUOROPHENOL	QC LIMITS 21% - 110%	
S6 = 2,4,6-TRIBROMOPHENOL	QC LIMITS 10% - 123%	
S7 = 2-CHLOROPHENOL-D4	QC LIMITS 33% - 110%	(ADVISORY)
S8 = 1,2-DICHLOROBENZENE-D4	QC LIMITS 16% - 110%	(ADVISORY)

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE SPIKE NOT REQUIRED FOR METHOD UTILIZED.

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
48	368	10	97.4%

TABLE A-50
SURROGATE % RECOVERIES
PESTICIDE/PCB WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TCX1	TCX2	DCB1	DCB2	TOTAL OUT
# 92022	11BGW01	NA	NA	56	NA	0
92024	08CGW01	74	71	*54	*54	2
	07GW01	80	82	*42	*44	2
	07GW01RE	82	78	*54	*55	2
	BS301FB	84	88	72	80	0
	06GW01	76	76	*47	*49	2
	06GW01RE	83	83	60	62	0
	11AGW01	68	70	83	85	0
	11AGW01MS	76	73	80	82	0
	11AGW01MSD	68	69	80	82	0
	11AGW01D	62	*57	73	76	1
	BS301ER	78	78	77	82	0
	11CGW01	72	72	*40	*42	2
	11CGW01RE	93	89	87	88	0
92028	09GW01	82	82	*34	*34	2
	09GW01RE	84	85	*38	*37	2
	08AGW01	80	76	69	74	0
	08BGW01	74	70	84	86	0
	01GW01	84	79	*47	*46	2
	01GW01RE	77	75	64	62	0
	12GW01	91	86	62	64	0
	12GW01D	96	90	80	86	0
	15GW01	84	81	96	100	0
	18GW01	86	81	75	78	0
	14GW01	84	80	*51	*52	2
	14GW01RE	86	87	93	88	0
# 92032	19AGW01	NA	NA	44	NA	0
	19AGW01RE	NA	NA	71	NA	0
92033	BS302ER	92	109	84	92	0
	21GW01	76	69	*44	*43	2
	21GW01RE	70	69	73	71	0
	20GW01	*54	*54	*41	*41	4
	20GW01RE	94	88	74	71	0
	17AGW01	69	66	*46	*46	2
	17AGW01RE	83	87	*44	*37	2
	17CGW01	91	86	100	101	0
	19BGW01	80	77	*9	*8	2
	19BGW01RE	102	96	*9	*10	2
	03CGW01	80	76	71	60	0
# 92035	13AGW01	NA	NA	73	NA	0

TABLE A-50 (Continued)
SURROGATE % RECOVERIES
PESTICIDE/PCB WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TCX1	TCX2	DCB1	DCB2	TOTAL OUT
92037	04GW01	86	87	66	67	0
	05GW01	79	76	*38	*37	2
	22AGW01	82	69	64	66	0
	02GW01	76	70	*57	64	1
	03AGW01	80	68	*59	61	1
	10AGW01	70	71	*54	*55	2
	13BGW01	70	72	91	88	0
	16GW01	89	100	86	91	0
	17BGW01	81	78	68	68	0
	17BGW01MS	84	80	62	63	0
	17BGW01MSD	85	81	64	64	0
	17BGW01D	89	87	71	72	0
92038	BS303ER	90	88	96	101	0
	03BGW01	*57	64	87	89	1
	22BGW01	*50	66	87	90	1
	22BGW01D	*52	*55	89	91	2
	10CGW01	62	66	*57	*58	2
	10BGW01	70	68	*48	*54	2

TCX = TETRACHLORO-M-XYLENE — QC LIMITS 60% - 150%
DCB = DECACHLOROBIPHENYL — QC LIMITS 60% - 150%
# QC LIMITS 33% - 123%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE SPIKE NOT REQUIRED FOR METHOD UTILIZED.

TCX1 - COLUMN 1
TCX2 - COLUMN 2
DCB 1 - COLUMN 1
DCB 2 - COLUMN 2

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
58	144	47	75.4%

TABLE A-51
SURROGATE % RECOVERIES
ORGANOPHOSPHOROUS PESTICIDE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	TOTAL OUT
92022	BS301FB	81	0
	BS301ER	86	0
	11BGW01	68	0
	11BGW01D	71	0
	11BGW01MS	86	0
	11BGW01MSD	71	0
92032	19AGW01	83	0
	BS302ER	*104	1
92035	13AGW01	*98	1

S1 - ASPON QC LIMITS 52% - 97%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
9	7	2	77.8%

TABLE A-52
SURROGATE % RECOVERIES
KEPONE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	TOTAL OUT
92022	11BGW01	80	0
92032	19AGW01	62	0
	19AGW01RE	103	0
92035	13AGW01	104	0

S1 - DECACHLOROBIPHENYL QC LIMITS 33% - 123%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
4	4	0	100.0%

TABLE A-53
SURROGATE % RECOVERIES
HERBICIDE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	TOTAL OUT
92022	BS301FB	83	0
	BS301ER	91	0
	11BGW01	93	0
	11BGW01D	96	0
	11BGW01MS	90	0
	11BGW01MSD	94	0
92032	19AGW01	91	0
	BS302ER	85	0
92035	13AGW01	97	0

S1 - 3,5-DICHLOROBENZOIC ACID

QC LIMITS 42% - 119%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
9	9	0	100.0%

TABLE A-54
WATER SAMPLE INTERNAL STANDARDS % RECOVERIES
DIOXIN/FURAN
NSB KINGSBAY SUPPLEMENTAL RFI

	11BBGWR1	11BBGWR1MS	11BBGWR1MD	11BBGWR1D	BS302FB	19AGWR1	13AGWR1	BS302FB
I.S. COMPOUND								
13C-2378-TCDF	71	82	87	88	74	72	78	77
13C-2378-TCDD	77	88	96	97	82	80	86	88
13C-12378-PeCDD	71	81	86	87	74	72	79	79
13C-123678-HxCDD	81	95	99	100	87	87	91	90
13C-1234678-HpCDD	79	95	94	99	83	83	85	85
13C-OCDD	61	74	69	70	60	62	60	61
TOTAL OUT	0	0	0	0	0	0	0	0

QC LIMITS: 40% - 120%

* - VALUE OUTSIDE OF QC LIMITS

# SAMPLES	% REC IN	% REC OUT	% TOTAL IN
9	48	0	100.0%

TABLE A-55
LOW CONCENTRATION VOLATILES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
92024	BS301ER	11BGW01	ACETONE	6	ug/L	U
		11CGW01, 06GW01, 11AGW01, 11AGW01D, 08CGW01, 07GW01, 08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01	ACETONE	6	ug/L	
92033	BS302ER	19AGW01	ACETONE	6	ug/L	CRQL
		08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01 05GW01, 04GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D, 13AGW01	ACETONE	6	ug/L	
		02GW01, 03AGW01, 10AGW01, 17BGW01, 13BGW01, 17BGW01D, STORAGE	METHYLENE CHLORIDE	0.3	ug/L	U
		16GW01	METHYLENE CHLORIDE	0.3	ug/L	NA
		08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01 05GW01, 04GW01, 22AGW01, 16GW01, 13AGW01	METHYLENE CHLORIDE	0.3	ug/L	
92038	BS303ER	04GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D 05GW01, 13AGW01, 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01	NO CONTAMINATION FOUND			

TABLE A-56
SEMIVOLATILES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
92024	BS301ER	11CGW01, 06GW01, 11AGW01, 11AGW01D, 08CGW01, 07GW01, 08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01 11BGW01	NO CONTAMINATION FOUND			
92033	BS302ER	08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01 19AGW01, 04GW01, 22AGW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01	NO CONTAMINATION FOUND			
92038	BS303ER	04GW01, 22AGW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01, 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01	NO CONTAMINATION FOUND			

TABLE A-57
PESTICIDES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
92024	BS301ER	11CGW01, 06GW01, 11AGW01, 11AGW01D, 08CGW01, 07GW01, 08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01 11BGW01	NO CONTAMINATION FOUND			
92033	BS302ER	08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01 19AGW01, 04GW01, 22AGW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01	NO CONTAMINATION FOUND			
92038	BS303ER	04GW01, 22AGW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01, 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01 02GW01	4,4-DDT	0.046	ug/L	

TABLE A-58
ORGANOPHOSPHOROUS PESTICIDES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
92022	BS301ER	11BGW01, 11BGW01D,	NO CONTAMINATION FOUND			
92032	BS302ER	13AGW01, 19AGW01	NO CONTAMINATION FOUND			

TABLE A-59
HERBICIDES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
92022	BS301ER	11BGW01, 11BGW01D,	NO CONTAMINATION FOUND			
92032	BS302ER	13AGW01, 19AGW01	NO CONTAMINATION FOUND			

TABLE A-60
DIOXIN/FURANS DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
074344	BS304ER	19AGWR1, 13AGWR1, 11BBGWR1, 11BBGWR1D	NO CONTAMINATION FOUND			

* - REPORTED VALUE IS MPC (MAXIMUM POSSIBLE CONCENTRATION).

TABLE A-61
METALS/CYANIDE DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
92024	BS301ER	11CGW01, 06GW01, 11AGW01, 11AGW01D, 08CGW01, 07GW01, 08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01 11BGW01	NO CONTAMINATION FOUND			
92033	BS302ER	08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01 19AGW01, 04GW01, 22AGW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01	CALCIUM IRON ALUMINUM	24.7 14.9 27.9	ug/L ug/L ug/L	
		08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 17AGW01, 13AGW01, 17CGW01, 19BGW01, 17BGW01D 19AGW01, 04GW01, 22AGW01, 03AGW01, 16GW01, 17BGW01,	CHROMIUM	3.7	ug/L	
		13BGW01, 05GW01, 10AGW01, 02GW01, 20GW01, 03CGW01	CHROMIUM	3.7	ug/L	U
92038	BS303ER	02GW01, 03AGW01, 13BGW01, 16GW01, 17BGW01D, 13AGW01, 22BGW01	ANTIMONY	2.7	ug/L	
		02GW01, 13BGW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01, 22BGW01, 10CGW01	COPPER	11.3	ug/L	
		16GW01, 22AGW01, 04GW01, 10AGW01, 02GW01, 03BGW01, 22BGW01D, 10BGW01	COPPER	11.3	ug/L	U
		17BGW01, 22AGW01, 04GW01, 05GW01, 10AGW01, 03BGW01, 22BGW01D, 10CGW01, 10BGW01		2.7	ug/L	U

TABLE A-62
SULFIDE DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
92024	BS301ER	11CGW01, 06GW01, 11AGW01, 11AGW01D, 08CGW01, 07GW01, 08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01 11BGW01	NO CONTAMINATION FOUND			
92033	BS302ER	08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01 19AGW01, 04GW01, 22AGW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01	NO CONTAMINATION FOUND			
92038	BS303ER	04GW01, 22AGW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01, 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01 02GW01	NO CONTAMINATION FOUND			

TABLE A-63
LOW CONCENTRATION VOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
92024	BS301FB	11CGW01, 06GW01, 11AGW01, 11AGW01D, 08CGW01, 11BGW01, 07GW01, 08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01, 19AGW01, 04GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 17BGW01D, 05GW01, 17BGW01, 13AGW01, 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01 BS301ER, BS0302ER, BS303ER	METHYLENE CHLORIDE ACETONE			

TABLE A-64
SEMIVOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
92024	BS301FB	11CGW01, 06GW01, 11AGW01, 11AGW01D, 08CGW01, 11BGW01, 07GW01, 08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01, 19AGW01, 04GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01, 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01 BS301ER, BS0302ER, BS303ER	NO CONTAMINATION FOUND			

TABLE A-65
PESTICIDES/PCBS DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
92024	BS301FB	11CGW01, 06GW01, 11AGW01, 11AGW01D, 08CGW01, 11BGW01, 07GW01, 08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01, 19AGW01, 04GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01, 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01 BS301ER, BS0302ER, BS303ER	NO CONTAMINATION FOUND			

TABLE A-66
ORGANOPHOSPHOROUS PESTICIDES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
92022	BS301FB	11BGW01, 11BGW01D, BS301ER, 13AGW01, 19AGW01, BS302ER	NO CONTAMINATION FOUND			

TABLE A-67
HERBICIDES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
92022	BS301FB	11BGW01, 11BGW01D, BS301ER, 13AGW01, 19AGW01, BS302ER	NO CONTAMINATION FOUND			

TABLE A-68
DIOXIN/FURANS DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
074296	BS302FB	11BBGWR1, 11BBGWR1D, 19AGWR1, 13AGWR1, BS304ER	NO CONTAMINATION FOUND			

TABLE A-69
METALS/CYANIDE DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
92024	BS301FB	11CGW01, 06GW01, 11AGW01, 11AGW01D, 08CGW01, 11BGW01, 07GW01, 08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01, 19AGW01, 04GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01, 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01 BS301ER, BS303ER	BARIUM	0.83	ug/L	
		BS0302ER		0.83	ug/L	U

TABLE A-70
SULFIDE DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
92024	BS301FB	11CGW01, 06GW01, 11AGW01, 11AGW01D, 08CGW01, 11BGW01, 07GW01, 08BGW01, 08AGW01, 09GW01, 01GW01, 14GW01, 12GW01, 12GW01D, 15GW01, 18GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01, 19AGW01, 04GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 17BGW01, 17BGW01D, 05GW01, 13AGW01, 03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01 BS301ER, BS0302ER, BS303ER	NO CONTAMINATION FOUND			

TABLE A-71
LOW CONCENTRATION VOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
92022	VBLK15	11BGW01	METHYLENE CHLORIDE			
92024	VBLK17	08CGW01, BT301FB, BS301FB, 06GW01, 11AGW01, 11AGW01D, 07GW01, 11AGW01MS, 11AGW01MSD	NO CONTAMINATION FOUND			
	VBLK1C	BS301ER	ACETONE	5	ug/L	U
		11CGW01	ACETONE	5	ug/L	CRQL
	VBLK1F	STORAGE BLANK	METHYLENE CHLORIDE	0.4	ug/L	
			ACETONE	4	ug/L	U
92028	VBLK17	BT302FB, 09GW01	NO COTAMINATION FOUND			
	VBLK1C	08AGW01, 12GW01D, 18GW01	ACETONE	5	ug/L	U
		01GW01, 12GW01, 15GW01	ACETONE	5	ug/L	CRQL
	VBLK1F	14GW01	METHYLENE CHLORIDE	0.6	ug/L	CRQL
	VBLK1R	STORAGE	NO CONTAMINATION FOUND			
92032	VBLK15	19AGW01	METHYLENE CHLORIDE	3	ug/L	CRQL
		19AGW01MS, 19AGW01MSD	METHYLENE CHLORIDE	3	ug/L	
92033	VBLK1C	BT303FB, BS302ER, 21GW01	ACETONE	5	ug/L	U
	VBLK1F	20GW01, 17CGW01, 19BGW01	METHYLENE CHLORIDE	0.4	ug/L	CRQL
		17AGW01, 03CGW01	METHYLENE CHLORIDE	0.4	ug/L	U
		20GW01, 17AGW01, 19BGW01, 03CGW01	ACETONE	4	ug/L	U
		17CGW01	ACETONE	4	ug/L	
	VBLK1I	STORAGEBLK	ACETONE	4	ug/L	U
92035	VBLK19	13AGW01	METHYLENE CHLORIDE	2	ug/L	CRQL
92037	VBLK1F	BT304FB, 04GW01, 05GW01, 22AGW01	METHYLENE CHLORIDE	0.4	ug/L	CRQL
		BT304FB, 05GW01, 22AGW01	ACETONE	4	ug/L	U
		04GW01	ACETONE	4	ug/L	
	VBLKI	02GW01, 03AGW01, 10AGW01 13BGW01	ACETONE	4	ug/L	U
		16GW01, 17BGW01	ACETONE	4	ug/L	NA
	VBLK1R	02GW01DL, 17BGW01D	NO CONTAMINATION FOUND			
	VBLK1T	16GW01DL, STORAGE	NO CONTAMINATION FOUND			
92038	VBLK1I	BT305FB, BS303ER	ACETONE	4	ug/L	U
	VBLK1R	03BGW01, 22BGW01, 22BGW01D	NO CONTAMINATION FOUND			
	VBLK1T	22BGW01DL, 22BGW01DDL, 10CGW01, 10BGW01, STORAGE	NO CONTAMINATION FOUND			

TABLE A-72
SEMIVOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
92022	SBLKW	11BGW01	NO CONTAMINATION FOUND			
92024	SBLKW1	BS301ER, 11CGW01, 06GW01, 07GW01, 11AGW01D	DI-N-BUTYLPHTHALATE	3	ug/L	CRQL
		BS301FB				
	SBLKW2	11AGW01, 08CGW01, 11AGW01MS	DI-N-BUTYLPHTHALATE	3	ug/L	CRQL
		11AGW01MSD				
92028	SBLKW1	01GW01, 12GW01D, 15GW01, 13GW01	DI-N-BUTYLPHTHALATE	1	ug/L	CRQL
		12GW01, 14GW01, 09GW01				
		12GW01, 18GW01	BIS(2-ETHYLHEXYL)PHTHALATE	0.6	ug/L	CRQL
		15GW01				NA
		12GW01D, 01GW01, 14GW01, 09GW01				
	SBLKW3	08BGW01	DI-N-BUTYLPHTHALATE	2	ug/L	CRQL
		08BGW01	BIS(2-ETHYLHEXYL)PHTHALATE	0.9	ug/L	CRQL
92032	SBLKW	19AGW01	NO CONTAMINATION FOUND			
92033	SBLKW	BS302ER, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01	NO CONTAMINATION FOUND			
92035	SBLKW1	13AGW01	DI-N-BUTYLPHTHALATE	9	ug/L	CRQL
	SBLKW2	13AGW01RE	DI-N-BUTYLPHTHALATE	3	ug/L	CRQL
92037	SBLKW1	22AGW01, 02GW01, 03AGW01, 10AGW01	DI-N-BUTYLPHTHALATE	0.5	ug/L	CRQL
		04GW01, 05GW01				
	SBLKW2	13BGW01	DI-N-BUTYLPHTHALATE	0.5	ug/L	CRQL
		16GW01, 17BGW01, 17BGW01MS, 17BGW01MSD				
	SBLKW3	17BGW01D	DI-N-BUTYLPHTHALATE	0.6	ug/L	CRQL
		16GW01DL				
92038	SBLKW3	03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01	DI-N-BUTYLPHTHALATE	0.6	ug/L	CRQL
	SBLKW2	BS303ER	NO CONTAMINATION FOUND			

TABLE A-73
PESTICIDES/PCBS DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
92022	W01074B1	11BGW01	NO CONTAMINATION FOUND			
92024	W01064B1	06GW01, 07GW01, 08CGW01, 11AGW01, 11AGW01D, 11CGW01, BS301ER, BS301FB, 11AGW01MS, 11AGW01MSD	NO CONTAMINATION FOUND			
	W01144B1	06GW01RE, 07GW01RE, 11CGW01RE	NO CONTAMINATION FOUND			
92028	W01074B1	01GW01, 08AGW01, 08BGW01, 09GW01, 12GW01, 12GW01D, 14GW01, 15GW01 18GW01	NO CONTAMINATION FOUND			
	W01144B2	09GW01RE	NO CONTAMINATION FOUND			
	W01194B1	01GW01RE, 14GW01RE	NO CONTAMINATION FOUND			
92032	W01104B2	19AGW01	NO CONTAMINATION FOUND			
		19AGW01RE	NO CONTAMINATION FOUND			
92033	W01194B1	17AGW01RE, 19BGW01RE, 20GW01RE, 21GW01RE	NO CONTAMINATION FOUND			
		03CGW01, 17AGW01, 17CGW01, 19BGW01, 20GW01, 21GW01, BS302ER	NO CONTAMINATION FOUND			
92035	W01114B1	13AGW01	NO CONTAMINATIO FOUND			
92037	W01124B2	02GW01, 03AGW01, 04GW01, 05GW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01D, 22AGW01, 17BGW01MD, 17BGW01MS				
92038	W01124B2K	03BGW01, 10BGW01, 10CGW01, 22BGW01, 22BGW01D, BS303ER	NO CONTAMINATION FOUND			

TABLE A-74
ORGANOPHOSPHOROUS PESTICIDES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
92022	W01064B1	BS301FB, BS301ER, 11BGW01, 11BGW01D, 11BGW01MS, 11BGW01MSD	NO CONTAMINATION FOUND			
92032	W01114B1	19AGW01, BS302ER	NO CONTAMINATION FOUND			
92035	W01114B1	13AGW01	NO CONTAMINATION FOUND			

TABLE A-75
KEPONE DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
92022	W01074B1	11BGW01	NO CONTAMINATION FOUND			
92032	W01114B2	19AGW01	NO CONTAMINATION FOUND			
92035	W01114B1	13AGW01	NO CONTAMINATION FOUND			

TABLE A-76
HERBICIDES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
92022	W01064B1	BS301FB, BS301ER, 11BGW01, 11BGW01D, 11BGW01MS, 11BGW01MSD	NO CONTAMINATION FOUND			
92032	W01114B1	19AGW01, BS302ER	NO CONTAMINATION FOUND			
92035	W01114B1	13AGW01	NO CONTAMINATION FOUND			

TABLE A-77
DIOXIN/FURANS DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
074296	METHOD BLANK	11BBGWR1, 11BBGWR1MS, 11BBGWR1MSD, 11BBGWR1D, BS302FB	NO CONTAMINATION FOUND			
074344	METHOD BLANK	19AGWR1, 13AGWR1, BS304ER	NO CONTAMINATION FOUND			

TABLE A-78
METALS/CYANIDE DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
92022	PBW	11BGW01	ANTIMONY	10.1	ug/L	U
			ZINC	28.4	ug/L	U
			COPPER	1.9	ug/L	
			ARSENIC	-2.13	ug/L	
92024	PBW	BS301FB, BS301ER, 11AGW01, 11AGW01D, 11CGW01, 08CGW01	ALUMINUM	24.0	ug/L	U
			ANTIMONY	2.2	ug/L	U
			CALCIUM	16.7	ug/L	U
			COPPER	1.9	ug/L	U
			IRON	5.32	ug/L	U
			MANGANESE	0.53		
			POTASSIUM	619	ug/L	U
			SODIUM	117	ug/L	U
			ZINC	6.82	ug/L	U
			ARSENIC	-2.13	ug/L	UJ
92028	PBW	06GW01, 07GW01, 08BGW01, 18GW01, 14GW01, 12GW01, 12GW01D, 15GW01	ANTIMONY	1.8	ug/L	U
			SODIUM	151	ug/L	
92032	PBW	19AGW01	NO CONTAMINATION FOUND			
92033	PBW	08AGW01, 09GW01, 01GW01, 21GW01, 20GW01, 17AGW01, 17CGW01, 19BGW01, 03CGW01, BS302ER	SODIUM	151	ug/L	U
92035	PBW	13AGW01	ZINC	3.9	ug/L	
92037	PBW	04GW01, 22AGW01, 02GW01, 03AGW01, 10AGW01, 13BGW01, 16GW01, 17BGW01, 17BGW01MS, 17BGW01MSD, 117BGW01D, 05GW01	CALCIUM	15.8	ug/L	
			SODIUM	52.3	ug/L	
			ZINC	3.9	ug/L	U
92038	PBW	03BGW01, 22BGW01, 22BGW01D, 10CGW01, 10BGW01	CALCIUM	15.8	ug/L	U
			SODIUM	52.3	ug/L	U
			ZINC	3.9	ug/L	U

TABLE A-79
LOW CONCENTRATION VOLATILE ORGANIC COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
07GW0	12GW02	WATER	10	NO COMPOUNDS DETECTED					
	10AGW02	WATER	5	BENZENE	0.4	0.5	20%	22%	1
				CHLOROBENZENE	1	2	20%	67%	1
				1,4-DICHLOROBENZENE	4	4	20%	0%	0
	17AGW01	WATER	10	NO COMPOUNDS DETECTED					0
BS401	22BGW02	WATER	10	ACETONE	82	70	20%	16%	0
				CIS-1,2-DICHLOROETHENE	18	17	20%	6%	0
				BENZENE	4	4	20%	0%	0
				TOLUENE	4	5	20%	22%	1
				ETHYLBENZENE	44	45	20%	2%	0
				XYLENE (TOTAL)	0	6	20%	200%	1
	TOTAL SAMPLES		35						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	5	4	55.6%

TABLE A-80
SEMIVOLATILE ORGANIC COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
07GW0	12GW02	WATER	10	NO COMPOUNDS DETECTED					
	10AGW02	WATER	5	1,4-DICHLOROBENZENE	3	3	20%	0%	0
				NAPHTHALENE	3	3	20%	0%	0
				2-METHYLNAPHTHALENE	0.5	0.5	20%	0%	0
				DIETHYLPHTHALATE	0.5	0.5	20%	0%	0
	17AGW01	WATER	10	NO COMPOUNDS DETECTED					0
BS401	22BGW02	WATER	10	4-METHYLPHENOL	6	5	20%	18%	0
				DIETHYLPHTHALATE	8	8	20%	0%	0
				BIS(2-ETHYLHEXYL)PHTHALATE	18	0	20%	200%	1
	TOTAL SAMPLES		35						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	6	1	85.7%

TABLE A-81
PESTICIDE/PCB COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
07GW0	12GW02	WATER	10	NO COMPOUNDS DETECTED					
	17AGW02	WATER	5	NO COMPOUNDS DETECTED					
	10AGW02	WATER	10	NO COMPOUNDS DETECTED					
BS401	22BGW02	WATER	10	LINDANE	0.072	0	20%	200%	1
				ALPHA-CHLORDANE	0.023	0.013	20%	56%	1
				HEPTACHLOR	0	0.016	20%	ND	1
				GAMMA-CHLORDANE	0.049	0.027	20%	58%	1
	TOTAL SAMPLES		35						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	0	4	0.0%

TABLE A-82
ORGANOPHOSPHOROUS PESTICIDE COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
BS401	11BGW02	WATER	3	NO COMPOUNDS DETECTED					
	TOTAL SAMPLES		3						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
33.3%	1	0	100.0%

TABLE A-83
HERBICIDES COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
BS401	11BGW02	WATER	3	NO COMPOUNDS DETECTED					
	TOTAL SAMPLES		3						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
33.3%	1	0	100.0%

TABLE A-84
DIOXIN/FURAN COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
075049	11BGW02	WATER	3	NO COMPOUNDS DETECTED					
	TOTAL SAMPLES		3						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
33.3%	1	0	100.0%

* - VALUE IN FIELD DUPLICATE RESULT WAS REPORTED AS MPC (MAXIMUM POSSIBLE CONCENTRATION).

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TABLE A-85
METALS AND CYANIDE
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	ANALYTE	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
07GW0	12GW01	WATER	10	ALUMINUM	7860	7030	20%	11%	0
				ARSENIC	14.9	15.2	20%	2%	0
				BARIUM	73.7	63.2	20%	15%	0
				CALCIUM	2090	1680	20%	22%	1
				CHROMIUM	13.8	14.3	20%	3%	0
				COPPER	0	10.7	20%	ND	1
				IRON	6040	5730	20%	5%	0
				LEAD	4.0	4.1	20%	2%	0
				MAGNESIUM	1880	1580	20%	7%	0
				MANGANESE	27.1	26	20%	4%	0
				POTASSIUM	1380	1100	20%	21%	1
				SODIUM	8540	7680	20%	11%	0
				VANADIUM	6.4	6.0	20%	6%	0
07GW0	10AGW02	WATER	5	ALUMINUM	37500	12800	20%	99%	1
				ARSENIC	2.4	1.5	20%	46%	1
				BARIUM	71.9	52.1	20%	32%	1
				CALCIUM	67800	66100	20%	2%	0
				CHROMIUM	19.4	13.8	20%	34%	1
				IRON	45300	40500	20%	11%	0
				LEAD	13.9	2.0	20%	150%	1
					17700	16100	20%	9%	0
				MANGANESE	401	390	20%	3%	0
				MERCURY	0.24	0	20%	200%	1
				POTASSIUM	10100	9140	20%	10%	0
				SELENIUM	2.7	2.7	20%	0%	0
				SODIUM	10600	9500	20%	10%	0
				THALLIUM	0	1.0	20%	ND	1
				VANADIUM	18.6	10.3	20%	57%	1
				ZINC	132	74.9	20%	56%	1

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TABLE A-85, CONTINUED
METALS AND CYANIDE
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRI	NO. ASSC. SAMPLES	ANALYTE	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
07GW0	17AGW02	WATE	10	ALUMINUM	68100	66700	20%	2%	0
				ARSENIC	5.2	7.7	20%	39%	1
				BARIUM	524	513	20%	2%	0
				CALCIUM	38600	39400	20%	2%	0
				CHROMIUM	76.4	76.7	20%	0%	0
				COBALT	9.0	13.9	20%	43%	1
				COPPER	35.9	34.6	20%	4%	0
				IRON	17300	16700	20%	4%	0
				LEAD	15.2	10.4	20%	38%	1
				MAGNESIUM	21100	21300	20%	1%	0
				MANGANESE	64.4	62.2	20%	3%	0
				NICKEL	22.1	12.9	20%	53%	1
				POTASSIUM	4070	3800	20%	7%	0
				SELENIUM	0	13	20%	ND	1
				SODIUM	112000	113000	20%	1%	0
				THALLIUM	1.1	0	20%	ND	1
				VANADIUM	63.6	61.8	20%	3%	0
				TIN	14.2	0	20%	ND	1
BS401	22BGW02	WATE	10	ALUMINUM	450	396	20%	13%	0
				ARSENIC	1.5	1.4	20%	7%	0
				BARIUM	25.7	25.4	20%	1%	0
				CALCIUM	4310	3380	20%	24%	1
				CHROMIUM	9.1	8.8	20%	3%	0
				COPPER	11.5	5.4	20%	72%	1
				IRON	689	734	20%	6%	0
				LEAD	1.3	1.0	20%	26%	1
				MAGNESIUM	835	800	20%	4%	0
				MANGANESE	12.1	11.2	20%	8%	0
				POTASSIUM	17200	17300	20%	1%	0
				SODIUM	35700	35900	20%	1%	0
				VANADIUM	5.5	0	20%	ND	1
				ZINC	41.3	38.4	20%	7%	0

TOTAL SAMPLES 35

% OF UPLICATES OLLECTE	RPD IN	PD OU	% WITHIN RPD LIMIT
11.4%	38	23	62.3%

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TABLE A-86
SULFIDE
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	ANALYTE	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
BS401/D0612	22BGW02	WATER	10	NO COMPOUND DETECTED					
07GW0/D0836	12GW02	WATER	10	NO COMPOUND DETECTED					
	17AGW02	WATER	10	NO COMPOUND DETECTED					
	10AGW02	WATER	5	NO COMPOUND DETECTED					

TOTAL SAMPLES 35

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	0	0	100.0%

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TABLE A-87
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 17AGW02*	SDG 07GW0		
		MS	MSD	
		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
VINYL CHLORIDE	ug/L	80	80	0
1,2-DICHLOROETHANE	ug/L	80	60	28
CARBON TETRACHLORIDE	ug/L	100	100	0
1,2-DICHLOROPROPANE	ug/L	80	80	0
CIS-1,3-DICHLOROPROPENE	ug/L	80	80	0
TRICHLOROETHENE	ug/L	100	100	0
1,1,2-TRICHLOROETHANE	ug/L	80	100	22
BENZENE	ug/L	80	80	0
BROMOFORM	ug/L	80	80	0
TETRACHLOROETHENE	ug/L	120	120	0
1,2-DIBROMOETHANE	ug/L	80	100	22
1,4-DICHLROROBENZENE	ug/L	100	100	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

07GW0: 07GW02, 12GW02, 12GW02D, 15GW02, 17AGW02, 17AGW02D, 18GW02, 20GW02, 21GW02, 04GW02, 05GW02, 06GW02, 10AGW02, 10CGW02, 17BGW02, 17CGW02, 19AGW02, 19BGW02, 10AGW02D, BT404FB

COMPOUND	ADVISORY LIMITS	RPD
	%R WATER	WATER
VINYL CHLORIDE	60%-140%	40
1,2-DICHLOROETHANE	60%-140%	40
CARBON TETRACHLORIDE	60%-140%	40
1,2-DICHLOROPROPANE	60%-140%	40
CIS-1,3-DICHLOROPROPENE	60%-140%	40
TRICHLOROETHENE	60%-140%	40
1,1,2-TRICHLOROETHANE	60%-140%	40
BENZENE	60%-140%	40
BROMOFORM	60%-140%	40
TETRACHLOROETHENE	60%-140%	40
1,2-DIBROMOETHANE	60%-140%	40
1,4-DICHLROROBENZENE	60%-140%	40

TABLE A-87 (Continued)
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11AGW01*		BS401		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
VINYL CHLORIDE	ug/L	80	80	0
1,2-DICHLOROETHANE	ug/L	100	80	22
CARBON TETRACHLORIDE	ug/L	100	100	0
1,2-DICHLOROPROPANE	ug/L	100	80	22
CIS-1,3-DICHLOROPROPENE	ug/L	80	80	0
TRICHLOROETHENE	ug/L	100	100	0
1,1,2-TRICHLOROETHANE	ug/L	100	100	0
BENZENE	ug/L	100	100	0
BROMOFORM	ug/L	80	80	0
TETRACHLOROETHENE	ug/L	100	100	0
1,2-DIBROMOETHANE	ug/L	100	80	22
1,4-DICHLROROBENZENE	ug/L	100	100	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

BS401: 01GW02, 03CGW02, 10BGW02, 11AGW01, 11AGW01MS, 11AGW01MSD, 11CGW01, 22BGW02, 22BGW02D, 03BGW02, 08AGW02, 08BGW02, 08CGW02, 09GW02, 14GW02, 22AGW02

COMPOUND	ADVISORY LIMITS	RPD
	%R WATER	WATER
VINYL CHLORIDE	60%-140%	40
1,2-DICHLOROETHANE	60%-140%	40
CARBON TETRACHLORIDE	60%-140%	40
1,2-DICHLOROPROPANE	60%-140%	40
CIS-1,3-DICHLOROPROPENE	60%-140%	40
TRICHLOROETHENE	60%-140%	40
1,1,2-TRICHLOROETHANE	60%-140%	40
BENZENE	60%-140%	40
BROMOFORM	60%-140%	40
TETRACHLOROETHENE	60%-140%	40
1,2-DIBROMOETHANE	60%-140%	40
1,4-DICHLROROBENZENE	60%-140%	40

TABLE A-87 (Continued)
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 03AGW02*		02GW0		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
VINYL CHLORIDE	ug/L	60	60	0
1,2-DICHLOROETHANE	ug/L	80	80	0
CARBON TETRACHLORIDE	ug/L	120	100	18
1,2-DICHLOROPROPANE	ug/L	80	80	0
CIS-1,3-DICHLOROPROPENE	ug/L	80	80	0
TRICHLOROETHENE	ug/L	100	100	0
1,1,2-TRICHLOROETHANE	ug/L	100	100	0
BENZENE	ug/L	100	100	0
BROMOFORM	ug/L	80	80	0
TETRACHLOROETHENE	ug/L	100	100	0
1,2-DIBROMOETHANE	ug/L	100	100	0
1,4-DICHLROROBENZENE	ug/L	80	80	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

02GW0: 02GW02, 03AGW02, 13BGW02

COMPOUND	ADVISORY LIMITS	RPD
	%R WATER	WATER
VINYL CHLORIDE	60%-140%	40
1,2-DICHLOROETHANE	60%-140%	40
CARBON TETRACHLORIDE	60%-140%	40
1,2-DICHLOROPROPANE	60%-140%	40
CIS-1,3-DICHLOROPROPENE	60%-140%	40
TRICHLOROETHENE	60%-140%	40
1,1,2-TRICHLOROETHANE	60%-140%	40
BENZENE	60%-140%	40
BROMOFORM	60%-140%	40
TETRACHLOROETHENE	60%-140%	40
1,2-DIBROMOETHANE	60%-140%	40
1,4-DICHLROROBENZENE	60%-140%	40

TABLE A-87 (Continued)
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 13AGW02*		SDG 02GW0		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
VOA COMPOUNDS	*UNITS*			
1,1-DICHLOROETHENE	ug/L	106	99	7.4
TRICHLOROETHENE	ug/L	105	103	1.9
BENZENE	ug/L	103	104	0.38
TOLUENE	ug/L	107	106	0.74
CHLOROBENZENE	ug/L	106	105	0.38

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

02GW0: 13AGW02
07GW0: 16GW02
BS401: 11BGW02

MS = MATRIX SPIKE *SAMPLE 11BGW02*		SDG BS401		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
VOA COMPOUNDS	*UNITS*			
1,1-DICHLOROETHENE	ug/L	100	100	1.2
TRICHLOROETHENE	ug/L	101	101	1.2
BENZENE	ug/L	102	106	3.8
TOLUENE	ug/L	102	107	4.6
CHLOROBENZENE	ug/L	102	104	1.9

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

02GW0: 13AGW02
07GW0: 16GW02
BS401: 11BGW02

COMPOUND	ADVISORY LIMITS	RPD
	%R WATER	WATER
1,1-DICHLOROETHENE	55%-142%	19
TRICHLOROETHENE	77%-124%	13
BENZENE	82%-123%	13
TOLUENE	82%-122%	15
CHLOROBENZENE	85%-120%	10

TABLE A-88
SEMIVOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 17AGW02*		SDG 07GW0		
			MS	MSD	
			%R	%R	%RPD
SVOA COMPOUNDS		UNITS			
PHENOL		ug/L	71	67	6
2-CHLOROPHENOL		ug/L	73	68	7
1,4-DICHLOROBENZENE		ug/L	72	68	6
N-NITROSO-DI-N-PROP.(1)		ug/L	78	72	8
1,2,4-TRICHLOROBENZENE		ug/L	82	74	10
4-CHLORO-3-METHYLPHENOL		ug/L	97	91	4
ACENAPHTHENE		ug/L	82	86	5
4-NITROPHENOL		ug/L	*92	*88	4
2,4-DINITROTOLUENE		ug/L	*98	*102	4
PENTACHLOROPHENOL		ug/L	95	101	6
PYRENE		ug/L	110	118	7

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

07GW0: 04GW02, 05GW01, 06GW02, 07GW02, 10AGW02, 10AGW02D, 10CGW02, 12GW02D, 12GW02, 15GW02, 17AGW02, 17AGW02D, 17BGW02, 17CGW02, 18GW02, 19AGW02, 19BGW02, 20GW02, 21GW02, BS402ER
07GW0/D0836: 16GW02
02GW0/D1124: 13AGW02

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
PHENOL	12%-110%		42
2-CHLOROPHENOL	27%-123%		40
1,4-DICHLOROBENZENE	36%-97%		28
N-NITROSO-DI-N-PROP.(1)	41%-116%		38
1,2,4-TRICHLOROBENZENE	39%-98%		28
4-CHLORO-3-METHYLPHENOL	23%-97%		42
ACENAPHTHENE	46%-118%		31
4-NITROPHENOL	10%-80%		50
2,4-DINITROTOLUENE	24%-96%		38
PENTACHLOROPHENOL	9%-103%		50
PYRENE	26%-127%		31

TABLE A-88 (Continued)
SEMIVOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 11AGW01*	SDG BS401		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/L	48	44	9
2-CHLOROPHENOL	ug/L	81	81	0
1,4-DICHLOROBENZENE	ug/L	72	70	3
N-NITROSO-DI-N-PROP.(1)	ug/L	86	88	2
1,2,4-TRICHLOROBENZENE	ug/L	78	78	0
4-CHLORO-3-METHYLPHENOL	ug/L	88	87	1
ACENAPHTHENE	ug/L	78	76	2
4-NITROPHENOL	ug/L	63	63	0
2,4-DINITROTOLUENE	ug/L	88	86	2
PENTACHLOROPHENOL	ug/L	*125	*125	0
PYRENE	ug/L	84	84	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

BS401: 01GW02, 03BGW02, 03CGW02, 09GW02, 10BGW02, 11AGW01, 11CGW01, 22AGW02, 22BGW02, 22BGW02D, 08AGW02, 08BGW02, 08CGW02, 14GW02
BS401/D0612: 11BGW02

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
PHENOL	12%-110%		42
2-CHLOROPHENOL	27%-123%		40
1,4-DICHLOROBENZENE	36%-97%		28
N-NITROSO-DI-N-PROP.(1)	41%-116%		38
1,2,4-TRICHLOROBENZENE	39%-98%		28
4-CHLORO-3-METHYLPHENOL	23%-97%		42
ACENAPHTHENE	46%-118%		31
4-NITROPHENOL	10%-80%		50
2,4-DINITROTOLUENE	24%-96%		38
PENTACHLOROPHENOL	9%-103%		50
PYRENE	26%-127%		31

TABLE A-88 (Continued)
SEMIVOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 13BGW02*	SDG 02GW0		
		MS	MSD	
		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/L	61	32	*63
2-CHLOROPHENOL	ug/L	60	32	*61
1,4-DICHLOROBENZENE	ug/L	56	*30	*60
N-NITROSO-DI-N-PROP.(1)	ug/L	62	*36	*53
1,2,4-TRICHLOROBENZENE	ug/L	64	*36	*56
4-CHLORO-3-METHYLPHENOL	ug/L	89	44	*68
ACENAPHTHENE	ug/L	80	*44	*58
4-NITROPHENOL	ug/L	80	49	48
2,4-DINITROTOLUENE	ug/L	*100	52	*63
PENTACHLOROPHENOL	ug/L	99	52	*62
PYRENE	ug/L	108	62	*54

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

02GW0: 02GW02, 03AGW02, 13BGW02

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
PHENOL	12%-110%		42
2-CHLOROPHENOL	27%-123%		40
1,4-DICHLOROBENZENE	36%-97%		28
N-NITROSO-DI-N-PROP.(1)	41%-116%		38
1,2,4-TRICHLOROBENZENE	39%-98%		28
4-CHLORO-3-METHYLPHENOL	23%-97%		42
ACENAPHTHENE	46%-118%		31
4-NITROPHENOL	10%-80%		50
2,4-DINITROTOLUENE	24%-96%		38
PENTACHLOROPHENOL	9%-103%		50
PYRENE	26%-127%		31

TABLE A-89
PESTICIDES/PCBS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 17AGW02*		SDG 07GW0		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/L	98	90	9
Heptachlor	ug/L	72	80	11
Aldrin	ug/L	56	68	19
Dieldrin	ug/L	81	92	13
Endrin	ug/L	89	89	0
4,4'-DDT	ug/L	61	77	23

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

07GW0: 04GW02, 05GW02, 06GW02, 07GW02, 10AGW02, 10AGW02D, 10CGW02, 12GW02, 12GW02D, 15GW02, 17AGW02, 17AGW02D, 17BGW02, 17CGW02, 18GW02, 19AGW02, 19BGW02, 20GW02, 21GW02
D0836/07GW0: 16GW02
D1124/02GW0: 13AGW02

MS = MATRIX SPIKE *SAMPLE 11AGW01*		SDG BS401		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/L	92	114	*21
Heptachlor	ug/L	56	72	*25
Aldrin	ug/L	82	90	9
Dieldrin	ug/L	88	100	13
Endrin	ug/L	87	100	14
4,4'-DDT	ug/L	65	69	6

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

BS401: 01GW02, 03BGW02, 03CGW02, 09GW02, 10BGW02, 11AGW01, 11CGW01, 22AGW02, 22BGW02, 22BGW02D
D0612/BS401: 11BGW02

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
gamma-BHC(Lindane)	56%-123%		15
HEPTACHLOR	40%-131%		20
ALDRIN	40%-120%		22
DIELDRIN	52%-126%		18
ENDRIN	56%-121%		21
4,4'-DDT	38%-127%		27

TABLE A-89 (Continued)
PESTICIDES/PCBS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 13BGW02*		SDG 02GW0		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/L	78	72	8
Heptachlor	ug/L	56	50	11
Aldrin	ug/L	42	*36	15
Dieldrin	ug/L	67	60	11
Endrin	ug/L	69	59	16
4,4'-DDT	ug/L	*35	*31	12

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

02GW0: 02GW02, 03AGW02, 13BGW02

COMPOUND	ADVISORY LIMITS	RPD
	% R WATER	WATER
gamma-BHC(Lindane)	56%-123%	15
HEPTACHLOR	40%-131%	20
ALDRIN	40%-120%	22
DIELDRIN	52%-126%	18
ENDRIN	56%-121%	21
4,4'-DDT	38%-127%	27

TABLE A-90
ORGANOPHOSPHOROUS PESTICIDES
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 11BGW02*	SDG D0612/BS401		
		MS	MSD	
		%R	%R	%RPD
OPP COMPOUNDS	UNITS			
THIONAZIN	ug/L	80	81	14
SULFOTEPP	ug/L	72	72	30
PHORATE	ug/L	80	80	36
DISULFOTON	ug/L	71	71	43
METHYL PARATHION	ug/L	72	71	28
PARATHION	ug/L	72	70	54
FAMPHUR	ug/L	76	76	42
O,O,O-TRIETHYL PHOSPHOROTHIO	ug/L	65	67	24
DIMETHOATE	ug/L	78	73	34

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

D0612/BS401: 11BGW02, 11BGW02D
D1124/02GW0: 13AGW02
D0836/07GW0: 16GW02

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
THIONAZIN	57%-123%		14
SULFOTEPP	41%-137%		30
PHORATE	24%-115%		36
DISULFOTON	18%-120%		43
METHYL PARATHION	27%-111%		28
PARATHION	19%-110%		54
FAMPHUR	43%-144%		42
O,O,O-TRIETHYL PHOSPHOROTHIO	41%-128%		24
DIMETHOATE	55%-123%		34

TABLE A-91
HERBICIDES
WATER SAMPLE MATRIX SPIKE.MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11BGW01* MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE		SDG D0612/BS401		
		MS	MSD	
		%R	%R	%RPD
HERB COMPOUNDS	UNITS			
2,4-D	ug/L	89	88	1
SILVEX (2,4,5-TP)	ug/L	71	71	0
2,4,5-T	ug/L	79	75	5

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

D0612/BS401: 11BGW02
D1124/02GW0: 13AGW02
D0836/07GW0: 16GW02

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
2,4-D	33%-137%		32
SILVEX	35%-139%		39
2,4,5-T	21%-158%		29

TABLE A-92
DIOXIN/FURAN
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11BGW02* MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE		SDG 075049/D0612/BS401		
		MS	MSD	
		%R	%R	RPD
DIOXIN/FURANS	UNITS			
2378-TCDD	ng	110	110	0%
2378-TCDF	ng	110	110	0%
12378-PeCDD	ng	99	100	1%
23478-PeCDF	ng	100	100	0%
123478-HxCDD	ng	100	110	10%
123478-HxCDF	ng	99	96	3%

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

075049: 11BGW02
075082: 16GW02
075125: 13AGW02
ERE NOT PROVIDED BY THE LABORATORY.
EMED IN CONTROL BY THE DATA REVIEWER.

TABLE A-93
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 17AGW02*		SDG 07GW0	
MD = MATRIX DUPLICATE *SAMPLE 17AGW02*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	ug/L	-28.8	8.5
ARSENIC	ug/L	75.8	23.7
BARIUM	ug/L	98	1.2
BERYLLIUM	ug/L	101	NC
CADMIUM	ug/L	96	NC
CALCIUM	ug/L	NR	0.7
CHROMIUM	ug/L	92.8	13.7
COBALT	ug/L	94	200
COPPER	ug/L	96.2	15.7
IRON	ug/L	-19.4	11.0
LEAD	ug/L	*55.0	18.7
MAGNESIUM	ug/L	NR	0.7
MANGANESE	ug/L	94	5.5
MERCURY	ug/L	116	NC
NICKEL	ug/L	96.0	26.6
POTASSIUM	ug/L	NR	12.3
SELENIUM	ug/L	*230	200
SILVER	ug/L	86.2	NC
SODIUM	ug/L	NR	1.5
THALLIUM	ug/L	*64.2	16.7
VANADIUM	ug/L	95.4	18.4
ZINC	ug/L	93.9	29.3
CYANIDE	ug/L	95.9	NC
TIN	ug/L	104.0	200

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

07GW0: 04GW02, 05GW02, 06GW02, 07GW02, 10AGW02, 10AGW02D, 10CGW02, 12GW02, 12GW02D, 15GW02, 17AGW02, 17AGW02D, 17BGW02, 17CGW02, 18GW02, 19AGW02, 19BGW02, 20GW02, 21GW02
07GW0/D0836: 16GW02
02GW0/D1124: 13AGW02

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

= RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)
NOTE: SOME VALUES WERE ROUNDED TO LIMIT SIGNIFICANT FIGURES TO THREE (3).

TABLE A-93 (Continued)
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11AGW01*		SDG BS401	
MD = MATRIX DUPLICATE *SAMPLE 11AGW01*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	ug/L	96.7	10.4
ARSENIC	ug/L	92.8	NC
BARIUM	ug/L	92.2	10.2
BERYLLIUM	ug/L	94.0	NC
CADMIUM	ug/L	92.0	NC
CALCIUM	ug/L	NR	13.2
CHROMIUM	ug/L	89.9	46.7
COBALT	ug/L	91.3	NC
COPPER	ug/L	92.0	200
IRON	ug/L	94.1	3.9
LEAD	ug/L	104	NC
MAGNESIUM	ug/L	NR	5.4
MANGANESE	ug/L	94.3	5.5
MERCURY	ug/L	95.3	NC
NICKEL	ug/L	93.3	200
POTASSIUM	ug/L	NR	5.4
SELENIUM	ug/L	109	NC
SILVER	ug/L	94.5	NC
SODIUM	ug/L	NR	1.0
THALLIUM	ug/L	97.6	NC
VANADIUM	ug/L	92.7	NC
ZINC	ug/L	91.4	47.4
CYANIDE	ug/L	91.2	NC
TIN	ug/L	103.1	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

BS401: 01GW02, 02GW02, 03AGW02, 03BGW02, 03CGW02, 08AGW02, 08BGW02, 08CGW02, 09GW02, 10BGW02, 11AGW01, 11CGW01, 14GW02, 22AGW02, 22BGW02, 22BGW02D
BS401/D0612: 11BGW02

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

= RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)
NOTE: SOME VALUES WERE ROUNDED TO LIMIT SIGNIFICANT FIGURES TO THREE (3).

TABLE A-93 (Continued)
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 13BGW02*	SDG 02GW0	
MD = MATRIX DUPLICATE	*SAMPLE 13BGW02*	MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	ug/L	89.6	11.4
ARSENIC	ug/L	92.5	200
BARIUM	ug/L	94.8	13.5
BERYLLIUM	ug/L	92.9	NC
CADMIUM	ug/L	85.7	NC
CALCIUM	ug/L	NR	0.7
CHROMIUM	ug/L	90.1	69.7
COBALT	ug/L	91.9	NC
COPPER	ug/L	91.4	36.3
IRON	ug/L	84.6	6.3
LEAD	ug/L	95.0	0.0
MAGNESIUM	ug/L	NR	1.6
MANGANESE	ug/L	94.1	5.6
MERCURY	ug/L	106	NC
NICKEL	ug/L	93.8	NC
POTASSIUM	ug/L	NR	5.6
SELENIUM	ug/L	88.0	NC
SILVER	ug/L	85.4	NC
SODIUM	ug/L	NR	2.0
THALLIUM	ug/L	91.2	NC
VANADIUM	ug/L	92.5	NC
ZINC	ug/L	80.7	*121
CYANIDE	ug/L	113	NR
TIN	ug/L	99.3	200

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

02GW0: 13BGW02

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

= RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)

NOTE: SOME VALUES WERE ROUNDED TO LIMIT SIGNIFICANT FIGURES TO THREE (3).

TABLE A-93 (Continued)
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 11AGW01*		SDG BS401	
MD = MATRIX DUPLICATE	*SAMPLE 11AGW01*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE			%R	RPD
METALS COMPOUND		UNITS		
ANTIMONY		ug/L	92.8	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

BS401: 01GW02, 02GW02, 03AGW02, 03BGW02, 03CGW02, 08AGW02, 08BGW02, 08CGW02, 09GW02, 10BGW02, 11AGW01, 11CGW01, 14GW02, 22AGW02, 22BGW02, 22BGW02D

MS = MATRIX SPIKE	*SAMPLE 13BGW02*		SDG 02GW0	
MD = MATRIX DUPLICATE	*SAMPLE 13BGW02*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE			%R	RPD
METALS COMPOUND		UNITS		
ANTIMONY		ug/L	95.0	200

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

02GW0: 13BGW02

MS = MATRIX SPIKE	*SAMPLE 17AGW02*		SDG 07GW0	
MD = MATRIX DUPLICATE	*SAMPLE 17AGW02*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE			%R	RPD
METALS COMPOUND		UNITS		
ANTIMONY		ug/L	74.8	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

07GW0: 04GW02, 05GW02, 06GW02, 07GW02, 10AGW02, 10AGW02D, 10CGW02, 12GW02, 12GW02D, 15GW02, 17AGW02, 17AGW02D, 17BGW02, 17CGW02, 18GW02, 19AGW02, 19BGW02, 20GW02, 21GW02

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

= RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)

NOTE: SOME VALUES WERE ROUNDED TO LIMIT SIGNIFICANT FIGURES TO THREE (3).

TABLE A-94
SULFIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11AGW01*		SDG BS401/D0612		
MD = MATRIX DUPLICATE *SAMPLE 11AGW01*		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	RPD
SULFIDE	UNITS			
SULFIDE	mg/L	100	112	11

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

BS401: 01GW02, 02GW02, 03AGW02, 03BGW02, 03CGW02, 08AGW02, 08BGW02, 08CGW02, 09GW02, 10BGW02, 11AGW01, 11CGW01, 14GW02, 22AGW02, 22BGW02, 22BGW02D

07GW0: 04GW02, 05GW02, 06GW02, 07GW02, 10AGW02, 10AGW02D, 10CGW02, 12GW02, 12GW02D, 15GW02, 17AGW02, 17AGW02D, 17BGW02, 17CGW02, 18GW02, 19AGW02, 19BGW02, 20GW02, 21GW02

02GW0: 13AGW02, 13BGW02

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
SULFIDE	25%-197%		11

TABLE A-95
SURROGATE % RECOVERIES
LOW CONCENTRATION VOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	SMC1	SMC2	SMC3	TOTAL OUT
# 02GW0	02GW02	NA	109	NA	0
	03AGW02	NA	91	NA	0
	03AGW02MS	NA	90	NA	0
	03AGW02MSD	NA	92	NA	0
	13BGW02	NA	85	NA	0
	BT405FB	NA	96	NA	0
02GW0	13AGW02	99	102	104	0
# 07GW0	04GW02	NA	84	NA	0
	05GW02	NA	85	NA	0
	06GW02	NA	86	NA	0
	07GW02	NA	85	NA	0
	10AGW02	NA	87	NA	0
	10AGW02D	NA	90	NA	0
	10CGW02	NA	80	NA	0
	12GW02	NA	83	NA	0
	12GW02D	NA	82	NA	0
	15GW02	NA	83	NA	0
	17AGW02	NA	83	NA	0
	17AGW02D	NA	84	NA	0
	17AGW02MS	NA	90	NA	0
	17AGW02MSD	NA	85	NA	0
	17BGW02	NA	85	NA	0
	17CGW02	NA	90	NA	0
	18GW02	NA	83	NA	0
	19AGW02	NA	100	NA	0
	19BGW02	NA	86	NA	0
	20GW02	NA	85	NA	0
	21GW02	NA	84	NA	0
	BS402ER	NA	91	NA	0
	BT404FB	NA	85	NA	0

TABLE A-95 (Continued)
SURROGATE % RECOVERIES
LOW CONCENTRATION VOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	SMC1	SMC2	SMC3	TOTAL OUT
07GW0	16GW02	98	107	107	0
# BS401	01GW02	NA	93	NA	0
	03BGW02	NA	81	NA	0
	03CGW02	NA	97	NA	0
	08AGW02	NA	87	NA	0
	08BGW02	NA	86	NA	0
	08CGW02	NA	85	NA	0
	09GW02	NA	84	NA	0
	10BGW02	NA	110	NA	0
	11AGW01	NA	95	NA	0
	11AGW01MS	NA	97	NA	0
	11AGW01MSD	NA	97	NA	0
	11CGW01	NA	92	NA	0
	14GW02	NA	87	NA	0
	22AGW02	NA	88	NA	0
	22BGW02	NA	100	NA	0
	22BGW02D	NA	97	NA	0
	BS401ER	NA	92	NA	0
	BS401FB	NA	91	NA	0
	BT402FB	NA	95	NA	0
	BT403FB	NA	101	NA	0
BS401	11BGW02	90	98	94	0

SMC1 = TOLUENE-D8 QC LIMITS 73% - 118%
SMC2 = BROMOFLUOROBENZENE QC LIMITS 92% - 109%
SMC3 = 1,2-DICHLOROETHANE-D4 QC LIMITS 85% - 108%

SMC2 = BROMOFLUOROBENZENE QC LIMITS 80% - 120%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
52	58	0	100.0%

TABLE A-96
SURROGATE % RECOVERIES
SEMIVOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL OUT
# 02GW0	02GW02	88	82	56	77	84	123	91	80	0
	03AGW02	82	76	*28	72	80	109	88	78	1
	13BGW02	74	74	64	66	66	102	76	68	0
	13BGW02MS	72	80	108	70	70	122	76	66	0
	13BGW02MSD	40	44	54	36	34	60	38	34	0
02GW0	# 13AGW02	68	77	86	59	63	96	NA	NA	0
#07GW0	04GW02	82	86	62	80	83	125	91	78	0
	05GW02	78	74	36	67	71	103	80	76	0
	06GW02	76	70	38	64	67	105	75	68	0
	07GW02	90	84	50	76	83	116	91	84	0
	10AGW02	84	84	44	79	81	123	88	76	0
	10AGW02D	80	78	36	77	77	119	84	72	0
	10CGW02	82	84	106	80	80	115	87	80	0
	12GW02	82	80	86	80	84	103	87	74	0
	12GW02D	82	84	86	80	88	119	89	76	0
	15GW02	76	78	92	76	76	107	83	72	0
	17AGW02	80	82	104	77	79	119	85	80	0
	17AGW02D	78	84	82	77	80	113	84	72	0
	17AGW02MS	88	84	86	83	87	112	91	82	0
	17AGW02MSD	82	84	100	77	79	120	84	76	0
	17BGW02	80	78	118	73	75	123	81	74	0
	17CGW02	82	88	104	83	84	112	91	76	0
	18GW02	86	86	108	85	91	119	96	78	0
	19AGW02	86	82	64	80	83	115	89	84	0
	19BGW02	80	82	104	80	81	115	85	74	0
	20GW02	78	80	72	80	80	111	87	70	0
	21GW02	82	88	90	83	81	107	87	72	0
	BS402ER	76	78	132	73	75	101	81	76	0

TABLE A-96 (Continued)
SURROGATE % RECOVERIES
SEMIVOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL OUT
07GW0	# 16GW02	66	76	69	53	62	81	NA	NA	0
# BS401	01GW02	82	80	40	83	87	111	92	76	0
	03BGW02	86	92	86	84	93	119	99	78	0
	03CGW02	86	86	100	95	93	112	100	84	0
	08AGW02	76	78	50	85	85	115	88	74	0
	08BGW02	90	88	82	103	99	123	105	84	0
	08CGW02	92	80	46	95	100	116	109	88	0
	09GW02	78	72	*22	81	84	103	91	72	1
	10BGW02	86	74	42	88	84	99	93	74	0
	11AGW01	84	84	82	55	91	113	96	80	0
	11AGW01MS	84	80	74	56	96	109	101	86	0
	11AGW01MSD	82	82	68	51	95	104	100	84	0
	11CGW01	84	82	94	96	91	108	96	78	0
	14GW02	76	72	54	75	76	107	80	70	0
	22AGW02	84	82	52	85	87	107	93	76	0
	22BGW02	84	82	72	57	92	108	100	78	0
	22BGW02D	80	82	72	59	88	108	96	74	0
	BS401ER	82	80	98	85	85	103	89	74	0
	BS401FB	78	76	120	80	80	97	87	72	0
BS401	# 11BGW02	62	71	51	57	60	88	NA	NA	0

S1 = NITROBENZENE-D5	QC LIMITS 35% - 114%	# QC LIMITS 36% - 148%
S2 = 2-FLUOROBIPHENYL	QC LIMITS 43% - 116%	# QC LIMITS 38% - 106%
S3 = TERPHENYL-D14	QC LIMITS 33% - 141%	# QC LIMITS 10% - 169%
S4 = PHENOL-D5	QC LIMITS 10% - 110%	# QC LIMITS 15% - 126%
S5 = 2-FLUOROPHENOL	QC LIMITS 21% - 110%	# QC LIMITS 17% - 106%
S6 = 2,4,6-TRIBROMOPHENOL	QC LIMITS 10% - 123%	# QC LIMITS 13% - 145%
S7 = 2-CHLOROPHENOL-D4	QC LIMITS 33% - 110%	(ADVISORY)
S8 = 1,2-DICHLOROBENZENE-D4	QC LIMITS 16% - 110%	(ADVISORY)

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE SPIKE NOT REQUIRED FOR METHOD UTILIZED.

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
48	376	2	99.5%

TABLE A-97
SURROGATE % RECOVERIES
PESTICIDE/PCB WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TCX1	TCX2	DCB1	DCB2	TOTAL OUT
# 02GW0	02GW02	90	85	*17	*18	2
	03AGW02	75	75	*11	78	1
	13BGW02	85	80	*24	*33	2
	13BGW02MS	85	75	*13	*15	2
	13BGW02MSD	70	75	*12	*13	2
02GW0	13AGW02	127	52	90	45	0
#07GW0	04GW02	90	75	*19	*22	2
	05GW02	100	75	*13	*16	2
	06GW02	90	80	*30	*33	2
	07GW02	75	75	*17	*19	2
	10AGW02	65	75	*14	*15	2
	10AGW02D	75	70	*25	*29	2
	10CGW02	80	85	*38	*46	2
	12GW02	90	90	*14	*14	2
	12GW02D	105	100	*16	*16	2
	15GW02	*210	80	*14	*15	3
	17AGW02	85	80	*16	*23	2
	17AGW02D	85	75	*14	*31	2
	17AGW02MS	*185	80	*21	*24	3
	17AGW02MSD	90	85	*24	*28	2
	17BGW02	115	90	*42	*55	2
	17CGW02	90	80	*44	*45	2
	18GW02	105	70	*22	*24	2
	19AGW02	*225	80	*28	*30	3
	19BGW02	85	75	*17	*21	2
	20GW02	*170	90	*34	*35	3
	21GW02	125	85	*20	*23	2
	BS402ER	90	85	60	65	0

TABLE A-97 (Continued)
SURROGATE % RECOVERIES
PESTICIDE/PCB WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TCX1	TCX2	DCB1	DCB2	TOTAL OUT
07GW0	16GW02	*161	*429	78	92	2
# BS401	01GW02	70	120	*20	*18	2
	03BGW02	60	80	*38	*37	2
	03CGW02	75	85	*31	*45	2
	08AGW02	*50	65	*23	*20	3
	08BGW02	*45	65	*13	*13	3
	08CGW02	90	125	*8	*7	2
	08CGW02RE	85	60	*32	*31	2
	09GW02	70	115	*27	*26	2
	10BGW02	*36	70	*33	*32	3
	11AGW01	95	90	70	*28	1
	11AGW01MS	95	70	65	65	0
	11AGW01MSD	*43	85	65	65	1
	11CGW01	70	70	*15	*18	2
	14GW02	85	85	*29	*30	2
	22AGW02	60	75	*42	*42	2
	22BGW02	*45	85	*40	*40	3
	22BGW02D	*37	*55	*12	*10	4
	22BGW02DRE	70	85	*27	*28	2
	BS401ER	90	80	*43	*39	2
	BS401FB	75	85	80	80	0
BS401	11BGW02	70	57	98	48	0

TCX = TETRACHLORO-M-XYLENE # QC LIMITS 60% - 150% QC LIMITS 14% - 155%
DCB = DECACHLOROBIPHENYL # QC LIMITS 60% - 150% QC LIMITS 7% - 154%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

TCX1 - COLUMN 1
TCX2 - COLUMN 2
DCB 1 - COLUMN 1
DCB 2 - COLUMN 2

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
50	103	97	51.5%

TABLE A-98
SURROGATE % RECOVERIES
ORGANOPHOSPHOROUS PESTICIDE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S2	TOTAL OUT
02GW0	13AGW02	60	55	0
07GW0	BS402ER	65	59	0
	16GW02	45	44	0
BS401	BS401FB	61	56	0
	BS401ER	55	51	0
	11BGW02	54	50	0
	11BGWO2MS	53	50	0
	11BGW02MSD	52	49	0
	11BGW02D	39	*36	1

S1 & S2 - TRIPHENYL PHOSPHATE

QC LIMITS 38% - 146%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
9	17	1	94.4%

TABLE A-99
SURROGATE % RECOVERIES
HERBICIDE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S1	S2	S2	TOTAL OUT
02GW0	13AGW02	*5	*2	*18	*15	4
	13AGW02RE	61	65	90	73	0
07GW0	BS402ER	77	73	98	93	0
	16GW02	*25	*23	78	51	2
BS401	BS401FB	89	83	84	74	0
	BS401ER	67	72	89	81	0
	11BGW02	49	54	79	62	0
	11BGW02MS	80	63	91	86	0
	11BGW02MSD	81	65	91	84	0
	11BGW02D	95	90	117	96	0

S1 - 2,4-DB QC LIMITS 28% - 141%
S2 - 2,4-DICHLOROPHENYLACETIC ACID QC LIMITS 50% - 150%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
10	34	6	85.0%

TABLE A-100
WATER SAMPLE INTERNAL STANDARDS % RECOVERIES
DIOXIN/FURAN
NSB KINGSBAY SUPPLEMENTAL RFI

	13AGW02	BS402ER	16GW02	BS401FB	11BGW02	11BGW02MS	11BGW02MD	11BGW02D
I.S. COMPOUND								
13C-2378-TCDF	78	61	68	69	73	75	69	72
13C-2378-TCDD	77	67	69	75	75	77	73	78
13C-12378-PeCDD	77	62	68	70	73	72	68	73
13C-123678-HxCDD	79	62	68	74	86	73	79	73
TOTAL OUT	0	0	0	0	0	0	0	0

QC LIMITS: 40% - 120%
* - VALUE OUTSIDE OF QC LIMITS

# SAMPLES	% REC IN	% REC OUT	% TOTAL IN
8	32	0	100.0%

TABLE A-101
LOW CONCENTRATION VOLATILES DETECTED IN TRIP BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	TB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BT402FB	09GW02	METHYLENE CHLORIDE	0.5	ug/L	CRQL
		03BGW02, 22BGW02, 22BGW02D	METHYLENE CHLORIDE	0.4	ug/L	U
		22AGW02, 10BGW02, 01GW02, 03CGW02, 11AGW01, 11CGW01, 11BGW02	METHYLENE CHLORIDE	0.4	ug/L	
	BT403FB	08AGW02	METHYLENE CHLORIDE	0.5	ug/L	CRQL
		08BGW02	METHYLENE CHLORIDE	0.5	ug/L	U
		08CGW02, 14GW02	METHYLENE CHLORIDE	0.5	ug/L	
07GW0	BT403FB	18GW02	METHYLENE CHLORIDE	0.5	ug/L	U
		12GW02, 07GW02, 15GW02, 21GW02, 20GW02, 17AGW02, 17CGW02, 19BGW02	METHYLENE CHLORIDE	0.5	ug/L	
	BT404FB	04GW02, 05GW02, 06GW02, 19AGW02, 17BGW02, 16GW02, 10CGW02, 10AGW02	NO CONTAMINATION FOUND			
02GW0	BT405FB	03AGW02, 13BGW02, 13AGW02, 02GW02	METHYLENE CHLORIDE	0.4	ug/L	

TABLE A-102
LOW CONCENTRATION VOLATILES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401ER	08BGW02, 10BGW02, 11AGW01, 11CGW01	ACETONE	5	ug/L	U
		22BGW02, 22BGW02D	ACETONE	5	ug/L	NA
		01GW02, 09GW02, 03BGW02, 03CGW02, 11BGW02, 08AGW02, 08CGW02	ACETONE	5	ug/L	
	BS402ER	08AGW02, 08BGW02, 08CGW02, 14GW02	ACETONE	7	ug/L	
07GW0	BS402ER	06GW02	ACETONE	7	ug/L	CRQL
		15GW02, 17AGW02D, 17BGW02, 17CGW02, 18GW02, 20GW02, 21GW02	ACETONE	7	ug/L	U
		19BGW02, 16GW02	ACETONE	7	ug/L	NA
		12GW02, 07GW02, 17AGW02, 04GW02, 05GW02, 19AGW02, 10CGW02, 10AGW02	ACETONE	7	ug/L	
02GW0	BS402ER	03AGW02, 13BGW02, 13AGW02, 02GW02	ACETONE	7	ug/L	

TABLE A-103
SEMIVOLATILES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401ER	03BGW02, 03CGW02, 08AGW02, 08BGW02 08CGW02, 09GW02, 10BGW02, 11AGW01, 22BGW02D, 11BGW02	BIS(2-ETHYLHEXYL)PHTHALATE	0.6	ug/L	CRQL
		11CGW01, 22AGW02, 22BGW02	BIS(2-ETHYLHEXYL)PHTHALATE	0.6	ug/L	NA
		01GW02, 14GW02	BIS(2-ETHYLHEXYL)PHTHALATE	0.6	ug/L	
		10BGW02, 11AGW01, 11CGW01, 22AGW02, 22BGW02, 22BGW02D	DI-N-BUTYLPHTHALATE	1.0	ug/L	CRQL
		01GW02, 09GW02, 03BGW02, 03CGW02, 11BGW02, 08AGW02, 08BGW02, 08CGW02, 14GW02	DI-N-BUTYLPHTHALATE	1.0	ug/L	
07GW0	BS401ER	12GW02, 20GW02, 12GW02D, 15GW02, 17AGW02, 17AGW02D, 17CGW02, 19BGW02	BIS(2-ETHYLHEXYL)PHTHALATE	0.6	ug/L	CRQL
		07GW02, 21GW02, 18GW02	BIS(2-ETHYLHEXYL)PHTHALATE	0.6	ug/L	
		17AGW02, 17AGW02D, 17CGW02, 21GW02, 19BGW02, 20GW02	DI-N-BUTYLPHTHALATE	1.0	ug/L	CRQL
		12GW02, 07GW02, 15GW02, 18GW02	DI-N-BUTYLPHTHALATE	1.0	ug/L	
	BS402ER	12GW02, 07GW02, 15GW02, 21GW02, 20GW02, 18W02, 17AGW02, 17CGW02, 19BGW02, 04GW02, 05GW02, 06GW02, 19AGW02, 17BGW02, 16GW02, 10CGW02, 10AGW02	NO CONTAMINATION FOUND			
02GW0	BS402ER	03AGW02, 13BGW02, 13AGW02, 02GW02	NO CONTAMINATION FOUND			

TABLE A-104
PESTICIDES/PCBS DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGS BAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401ER	22AGW02, 22BGW02, 10BGW02, 01GW02 09GW02, 03GW02, 03CGW02, 11AGW02, 11CGW02, 11BGW02	NO CONTAMINATION FOUND			
	BS402ER	08AGW02, 08GW02, 08CGW02, 14GW02	NO CONTAMINATION FOUND			
07GW0	BS402ER	12GW02, 07GW02, 15GW02, 21GW02, 20GW02, 18GW02, 17AGW02, 17CGW02 19BGW02, 04GW02, 05GW02, 06GW02, 19AGW02, 17BGW02, 16GW02, 10CGW02, 10AGW02	NO CONTAMINATION FOUND			
02GW0	BS402ER	03AGW02, 13BGW02, 13AGW02, 02GW02	NO CONTAMINATION FOUND			

TABLE A-105
ORGANOPHOSPHOROUS PESTICIDES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
D0612/BS401	BS401ER	11BGW02, 11BGW02D	NO CONTAMINATION FOUND			
D0836/07GW0	BS402ER	16GW02	NO CONTAMINATION FOUND			
D1124/02GW0	BS402ER	13AGW02	NO CONTAMINATION FOUND			

TABLE A-106
HERBICIDES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
D0612/BS401	BS401ER	11BGW02, 11BGW02D	NO CONTAMINATION FOUND			
D0836/07GW0	BS402ER	16GW02	NO CONTAMINATION FOUND			
D1124/02GW0	BS402ER	13AGW02	NO CONTAMINATION FOUND			

TABLE A-107
DIOXIN/FURANS DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
D0612/BS401	BS401ER	11BGW02, 11BGW02D	NO CONTAMINATION FOUND			
D0836/07GW0	BS402ER	16GW02	NO CONTAMINATION FOUND			
D1124/02GW0	BS402ER	13AGW02	NO CONTAMINATION FOUND			

TABLE A-108
METALS AND CYANIDE DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401ER	01GW02, 03AGW02, 08AGW02, 11AGW01, 11CGW01, 08AGW02	ZINC	35.2	ug/L	U
		03CGW02	CADMIUM	3.6	ug/L	U
		02GW02, 03BGW02, 08BGW02, 08CGW02, 09GW02, 10BGW02, 14GW02, 22AGW02, 22BGW02, 22BGW02D, 11BGW02	CADMIUM ZINC CALCIUM	3.6 35.2 441	ug/L ug/L ug/L	
	BS402ER	08AGW02, 08BGW02, 08CGW02	COPPER	8.2	ug/L	
07GW0	BS401ER	12GW02, 07GW02, 15GW02, 21GW02, 20GW02, 18GW02, 17AGW02, 17CGW02, 19BGW02	CADMIUM ZINC CALCIUM	3.6 35.2 441	ug/L ug/L ug/L	
	BS402ER	04GW02, 10AGW02, 10AGW02D, 12GW02, 18GW02, 21GW02	COPPER	8.2	ug/L	U
		05GW02, 06GW02, 07GW02, 10CGW02, 12GW02D, 15GW02, 17AGW02, 17AGW02D, 17BGW02, 17CGW02, 19AGW02, 19BGW02, 20GW02, 13AGW02, 16GW02	MAGNESIUM SODIUM	16.7 213	ug/L ug/L	
02GW0	BS402ER	13BGW02	COPPER MAGNESIUM SODIUM	8.2 16.7 213	ug/L ug/L ug/L	

TABLE A-109
SULFIDE DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS401/D0612	BS401ER	02GW02, 03AGW02, 22BGW02, 10BGW02, 03BGW02, 22AGW02, 03CGW02, 01GW02, 09GW02, 11BGW02, 11AGW01, 11CGW01, 08BGW02, 08CGW02, 14GW02, 12GW02, 15GW02, 21GW02, 20GW02, 08AGW02, 07GW02, 18GW02, 17AGW02, 17CGW02, 19BGW02	NO CONTAMINATION FOUND			
07GW0/D0836	BS402ER	08BGW02, 08CGW02, 14GW02, 12GW02, 15GW02, 21GW02, 20GW02, 08AGW02, 07GW02, 18GW02, 17AGW02, 17CGW02, 19BGW02, 19AGW02, 17BGW02, 16GW02, 10CGW02, 04GW02, 05GW02, 06GW02, 10AGW02, 13BGW02, 13AGW02	NO CONTAMINATION FOUND			

TABLE A-110
GC/MS VOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401FB	22AGW02, 22BGW02, 10BGW02, 01GW02, 09GW02, 03BGW02, 03CGW02, 11AGW01, 11CGW01, 11BGW02, 08AGW02, 08BGW02, 08CGW02, 14GW02, 12GW02, 07GW02, 15GW02, 21GW02, 20GW02, 18GW02, 17AGW02, 17CGW02, 19BGW02, 04GW02, 05GW02, 06GW02, 19AGW02, 17BGW02, 16GW02, 10CGW02, 10AGW02, 03AGW02, 13BGW02, 13AGW02, 02GW02	NO CONTAMINATION FOUND			

TABLE A-111
SEMIVOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401FB	22AGW02, 22BGW02, 10BGW02, 01GW02, 09GW02, 03BGW02, 03CGW02, 11AGW01, 11CGW01, 11BGW02, 08AGW02, 08BGW02, 08CGW02, 14GW02, 12GW02, 07GW02, 15GW02, 21GW02, 20GW02, 18GW02, 17AGW02, 17CGW02, 19BGW02, 04GW02, 05GW02, 06GW02, 19AGW02, 17BGW02, 16GW02, 10CGW02, 10AGW02, 03AGW02, 13BGW02, 13AGW02, 02GW02	NO CONTAMINATION FOUND			

TABLE A-112
PESTICIDES/PCBS DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401FB	22AGW02, 22BGW02, 10BGW02, 01GW02, 09GW02, 03BGW02, 03CGW02, 11AGW01, 11CGW01, 11BGW02, 08AGW02, 08BGW02, 08CGW02, 14GW02, 12GW02, 07GW02, 15GW02, 21GW02, 20GW02, 18GW02, 17AGW02, 17CGW02, 19BGW02, 04GW02, 05GW02, 06GW02, 19AGW02, 17BGW02, 16GW02, 10CGW02, 10AGW02, 03AGW02, 13BGW02, 13AGW02, 02GW02	NO CONTAMINATION FOUND			

TABLE A-113
ORGANOPHOSPHOROUS PESTICIDES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401FB	11BGW02, 16GW02, 13AGW02	NO CONTAMINATION FOUND			

TABLE A-114
HERBICIDES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401FB	11BGW02, 16GW02, 13AGW02	NO CONTAMINATION FOUND			

TABLE A-115
DIOXIN/FURANS DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401FB	11BGW02, 16GW02, 13AGW02	NO CONTAMINATION FOUND			

TABLE A-116
METALS/CYANIDE DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401FB	22AGW02, 22BGW02, 10BGW02, 01GW02, 09GW02, 03BGW02, 03CGW02, 11AGW01, 11CGW01, 11BGW02, 08AGW02, 08BGW02, 08CGW02, 14GW02, 12GW02, 07GW02, 15GW02, 21GW02, 20GW02, 18GW02, 17AGW02, 17CGW02, 19BGW02, 04GW02, 05GW02, 06GW02, 19AGW02, 17BGW02, 16GW02, 10CGW02, 10AGW02, 03AGW02, 13BGW02, 13AGW02, 02GW02	NO CONTAMINATION FOUND			

TABLE A-117
SULFIDE DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
BS401	BS401FB	22AGW02, 22BGW02, 10BGW02, 01GW02, 09GW02, 03BGW02, 03CGW02, 11AGW01, 11CGW01, 11BGW02, 08AGW02, 08BGW02, 08CGW02, 14GW02, 12GW02, 07GW02, 15GW02, 21GW02, 20GW02, 18GW02, 17AGW02, 17CGW02, 19BGW02, 04GW02, 05GW02, 06GW02, 19AGW02, 17BGW02, 16GW02, 10CGW02, 10AGW02, 03AGW02, 13BGW02, 13AGW02, 02GW02	NO CONTAMINATION FOUND			

TABLE A-118
GC/MS VOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
02GW0	VBLK3	02GW02, 03AGW02, 03AGW02MS, 03AGW02MSD, 13BGW02, BT405FB	NO CONTAMINATION FOUND			
BS401	VBLK1	01GW02, 03CGW02, 10BGW02, 11AGW01, 11AGW01MS, 11AGW01MSD, 11CGW01, 22BGW02, 22BGW02D, BS401ER, BS402FB, BT402FB, BT403FB	NO CONTAMINATION FOUND			
	VBLK2	03BGW02, 08AGW02, 08BGW02, 08CGW02, 09GW02, 14GW02, 22AGW02	NO CONTAMINATION FOUND			
07GW0	VBLK1	07GW02, 12GW02, 12GW02D, 15GW02, 17AGW02, 17AGW02D, 17AGW02MS, 17AGW02MSD, 18GW02, 20GW02, 21GW02	NO CONTAMINATION FOUND			
	VBLK2	04GW02, 05GW02, 06GW02, 10AGW02, 10CGW02, 17BGW02, 17CGW02, 19AGW02, 19BGW02, BS402ER	NO CONTAMINATION FOUND			
	VBLK3	10AGW02D, BT404FB	NO CONTAMINATION FOUND			
07GW0/D0836	VBLK1	16GW02	NO CONTAMINATION FOUND			
BS401/D0612	VBLK1	11BGW02	NO CONTAMINATION FOUND			
02GW0/D1124	VBLK1	13AGW02	NO CONTAMINATION FOUND			

TABLE A-119
SEMIVOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
02GW0	SBLK1	02GW02	BIS(2-ETHYLHEXYL)PHTHALATE	10	ug/L	CRQL
		03AGW02	BIS(2-ETHYLHEXYL)PHTHALATE	10	ug/L	
	SBLK2	13BGW02, 13BGW02MS, 13BGW02MSD	NO CONTAMINATION FOUND			
BS401	SBLK1	01GW02, 03BGW02, 03CGW02, 09GW02, 10BGW02, 11AGW01, 11AGW01MS, 11AGW01MSD, 11CGW01, 22AGW02, 22BGW02, 22BGW02D, BS401ER, BS401FB	NO CONTAMINATION FOUND			
	SBLK2A	08AGW02, 08BGW02, 08CGW02, 14GW02	NO CONTAMINATION FOUND			
07GW0	SBLK1	04GW02, 05GW02, 06GW02, 07GW02, 10AGW02, 10AGW02D, 10CGW02, 12GW02, 12GW02D, 15GW02, 17AGW02, 17AGW02D, 17AGW02MS, 17AGW02MSD, 17BGW02, 17CGW02, 18GW02, 19AGW02, 19BGW02, 20GW02, 21GW02, BS402ER	NO CONTAMINATION FOUND			
07GW0/D0836	SBLK1	16GW02	BIS(2-ETHYLHEXYL)PHTHALATE	1.5	ug/L	CRQL
BS401/D0612	SBLK1	11BGW02	BENZYL ALCOHOL	1.1	ug/L	
02GW0/D1124	SBLK1	13AGW02	BIS(2-ETHYLHEXYL)PHTHALATE	1.5	ug/L	CRQL

TABLE A-120
PESTICIDES/PCBs DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
02GW0	PBLK1	02GW02, 03AGW02, 13BGW02	NO CONTAMINATION FOUND			
	PBLK2	13BGW02MS, 13BGW02MSD	NO CONTAMINATION FOUND			
BS401	PBLK1	01GW02, 03BGW02, 03CGW02, 09GW02, 10BGW02, 11AGW01, 11AGW01MS, 11AGW01MSD, 11CGW01, 22AGW02, 22BGW02, 22BGW02D, BS401ER, BS401FB	NO CONTAMINATION FOUND NO CONTAMINATION FOUND			
	PBLK2	08AGW02, 08BGW02, 08CGW02, 14GW02	NO CONTAMINATION FOUND			
	PBLK3	22BGW02DRE	NO CONTAMINATION FOUND			
	PBLK4	08CGW02RE	NO CONTAMINATION FOUND			
07GW0	PBLK1	04GW02, 05GW02, 06GW02, 07GW02, 10AGW02, 10AGW02D, 10CGW02, 12GW02, 12GW02D, 15GW02, 17AGW02, 17AGW02D, 17AGW02MS, 17AGW02MSD, 17BGW02, 17CGW02, 18GW02, 19AGW02, 19BGW02, 20GW02, 21GW02, BS402ER	NO CONTAMINATION FOUND			
07GW0/D0836	BLANK	16GW02	NO CONTAMINATION FOUND			
BS401/D0612	BLANK	11BGW02	NO CONTAMINATION FOUND			
02GW0/D1124	PBLANK	13AGW02	NO CONTAMINATION FOUND			

TABLE A-121
ORGANOPHOSPHOROUS PESTICIDES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
07GW0/D0836	BLANK	16GW02, BS402ER	NO CONTAMINATION FOUND			
BS401/D0612	BLANK	11BGW02, 11BGW02D, 11BGW02MS, 11BGW02MSD, BS401FB, BS401ER	NO CONTAMINATION FOUND			
02GW0/D1124	BLANK	13AGW02	NO CONTAMINATION FOUND			

TABLE A-122
HERBICIDES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
07GW0/D0836	BLANK	16GW02, BS402ER	NO CONTAMINATION FOUND			
BS401/D0612	BLANK	BS401FB	NO CONTAMINATION FOUND			
	BLANK	11BGW02, 11BGW02D, 11BGW02MS, 11BGW02MSD, BS401ER	NO CONTAMINATION FOUND			
02GW0/D1124	BLANK	13AGW02	NO CONTAMINATION FOUND			
	BLANK	13AGW02RE	NO CONTAMINATION FOUND			

TABLE A-123
DIOXIN/FURANS DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
075082	075082-001MB	16GW02	NO CONTAMINATION FOUND			
075049	075049-001MB	11BGW02, 11BGW02D, 11BGW02MS, 11BGW02MSD	NO CONTAMINATION FOUND			
	075049-002MB	BS401ER	NO CONTAMINATION FOUND			
075125	075125-001MB	13AGW02	NO CONTAMINATION FOUND			

TABLE A-124
METALS/CYANIDE DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
02GW0	13BGW02	COBALT	-5.0	ug/L	UJ
BS401	BS401ER, BS401FB, 01GW02, 02GW02, 03AGW02, 03BGW02, 03CGW02, 08AGW02, 08BGW02, 08CGW02, 09GW02, 10BGW02, 11AGW01, 11CGW01, 14GW02, 22AGW02, 22BGW02, 22BGW02D	ALUMINUM	49.3	ug/L	U
		BARIUM	3.3	ug/L	U
		CALCIUM	59.9	ug/L	U
		IRON	66.6	ug/L	U
		MAGNESIUM	49.6	ug/L	U
		NICKEL	14.0	ug/L	U
		POTASSIUM	125	ug/L	U
		SODIUM	106	ug/L	U
		ZINC	4.9	ug/L	U
		TIN	13.0	ug/L	
07GW0	BS402ER, 04GW02, 05GW02, 06GW02, 07GW02, 10AGW02, 10AGW02D, 10CGW02, 12GW02, 12GW02D, 15GW02, 17AGW02, 17AGW02D, 17BGW02, 17CGW02, 18GW02, 19AGW02, 19BGW02, 20GW02, 21GW02	CALCIUM	134	ug/L	U
		SODIUM	36.0	ug/L	U
		ZINC	18.0	ug/L	U
		CADMIUM	-3.2	ug/L	UJ
		COPPER	-3.5	ug/L	UJ
		IRON	-10.2	ug/L	UJ
		SILVER	-4.0	ug/L	UJ
		VANADIUM	-7.0	ug/L	UJ
02GW0/D1124	13AGW02	NO CONTAMINATION FOUND			
07GW0/D0836	16GW02	NO CONTAMINATION FOUND			
BS401/D0612	11BGW02	NO CONTAMINATION FOUND			

TABLE A-125
LOW CONCENTRATION VOLATILE ORGANIC COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
01GW03	12GW03	WATER	15	NO COMPOUNDS DETECTED					
	11AGW03			CARBON DISULFIDE	10	16	20%	46%	1
03BGW03	22BGW03	WATER	4	CARBON DISULFIDE	18	17	20%	6%	0
				CIS-1,2-DICHLOROETHENE	18	19	20%	5%	0
				BENZENE	5	5	20%	0%	0
				TOLUENE	2	2	20%	0%	0
				CHLOROBENZENE	2	2	20%	0%	0
				ETHYLBENZENE	62	65	20%	5%	0
03CGW03	16GW03	WATER	16	CARBON DISULFIDE	11	14	20%	24%	1
				1,1-DICHLOROETHANE	2	3	20%	40%	1
				CIS-1,2-DICHLOROETHENE	1	0.9	20%	11%	0
				4-METHYL-2-PENTANONE	2	0	20%	200%	1
	TOTAL SAMPLES		35						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	7	4	63.6%

TABLE A-126
SEMIVOLATILE ORGANIC COMPOUNDS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
01GW03	12GW03	WATER	15	BIS(2-ETHYLHEXYL)PHTHALATE	32	13	20%	84%	1
	11AGW03			BIS(2-ETHYLHEXYL)PHTHALATE	0.6	0	20%	ND	1
				BUTYLBENZYLPHTHALATE	0	0.7	20%	ND	1
03BGW03	22BGW03	WATER	4	4-METHYLPHENOL	1	2	20%	67%	1
				DIETHYLPHTHALATE	6	7	20%	15%	0
				BIS(2-ETHYLHEXYL)PHTHALATE	6	5	20%	18%	0
03CGW03	16GW03	WATER	16	BIS(2-ETHYLHEXYL)PHTHALATE	23	16	20%	36%	1
				4-METHYLPHENOL	0	0.9	20%	ND	1
	TOTAL SAMPLES		35						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	2	6	25.0%

TABLE A-127
PESTICIDES/PCBS
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
03BGW03	22BGW03	WATER	5	HEPTACHLOR EPOXIDE	0	0.027	20%	ND	1
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	0	1	0.0%

TABLE A-128
METALS AND CYANIDE
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	ANALYTE	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
01GW03	11AGW03	WATER	15	ALUMINUM	616	514	20%	18%	0
				BARIUM	20	17.2	20%	15%	0
				CALCIUM	1610	1910	20%	17%	0
				COPPER	4.4	4.8	20%	9%	0
				IRON	672	684	20%	2%	0
				MAGNESIUM	979	979	20%	0%	0
				MANGANESE	7.4	6.4	20%	14%	0
				POTASSIUM	4450	3730	20%	18%	0
				SODIUM	13100	11900	20%	10%	0
				ZINC	14.1	14.8	20%	5%	0
	12GW03	WATER		BARIUM	14.2	14.3	20%	1%	0
				CADMIUM	9.8	8.1	20%	19%	0
				CALCIUM	1530	1360	20%	12%	0
				CHROMIUM	17.2	14.3	20%	18%	0
				COPPER	24.3	5.7	20%	124%	1
				IRON	755	604	20%	22%	1
				MAGNESIUM	1300	1330	20%	2%	0
				MANGANESE	6.6	5.4	20%	20%	0
				NICKEL	13.7	7.6	20%	57%	1
				POTASSIUM	1090	982	20%	10%	0
				SODIUM	7190	7010	20%	3%	0
				ZINC	53.8	36.4	20%	39%	1
03BGW03	22BGW03	WATER	4	ALUMINUM	360	0	20%	200%	1
				ANTIMONY	2.9	2.4	20%	19%	0
				BARIUM	22.8	22.3	20%	2%	0
				CADMIUM	12.3	8.9	20%	32%	1
				CALCIUM	2980	3030	20%	2%	0
				CHROMIUM	12	6.9	20%	54%	1
				COPPER	5.5	7.6	20%	32%	1
				IRON	569	485	20%	16%	0
				MAGNESIUM	726	743	20%	2%	0
				MANGANESE	12.2	9.8	20%	22%	1
				NICKEL	9.8	0	20%	ND	1
				POTASSIUM	19300	19400	20%	1%	0
				SODIUM	36000	35800	20%	1%	0
				VANADIUM	6.9	6.8	20%	1%	0
				ZINC	27.8	20.6	20%	30%	1
03CGW03	16GW03	WATER	16	ALUMINUM	508	501	20%	1%	0
				BARIUM	40.1	41.3	20%	3%	0
				CADMIUM	40.1	39.9	20%	1%	0
				CALCIUM	11400	10500	20%	8%	0
				CHROMIUM	21.3	14.3	20%	39%	1
				COPPER	59.8	60.8	20%	2%	0
				IRON	884	872	20%	1%	0
				MAGNESIUM	2820	2840	20%	1%	0
				MANGANESE	8.2	8.5	20%	4%	0
				NICKEL	19.1	19.1	20%	0%	0
				POTASSIUM	3560	3700	20%	4%	0
				SODIUM	18300	21300	20%	15%	0
				ZINC	68.8	63.4	20%	8%	0

TOTAL SAMPLES 35

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	38	12	76.0%

TABLE A-129
SULFIDE
WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
01GW03	12GW03	WATER	15	NO COMPOUND DETECTED					
	11AGW03			NO COMPOUND DETECTED					0
03BGW03	22BGW03	WATER	4	NO COMPOUND DETECTED					0
03CGW03	16GW03	WATER	16	NO COMPOUND DETECTED					0
	TOTAL SAMPLES		35						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
11.4%	0	0	100.0%

TABLE A-130
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 11AGW03*		SDG 01GW03		
			MS	MSD	
			%R	%R	%RPD
VOA COMPOUNDS		UNITS			
VINYL CHLORIDE		ug/L	80	100	22
1,2-DICHLOROETHANE		ug/L	100	100	0
CARBON TETRACHLORIDE		ug/L	100	100	0
1,2-DICHLOROPROPANE		ug/L	100	100	0
CIS-1,3-DICHLOROPROPENE		ug/L	100	100	0
TRICHLOROETHENE		ug/L	100	100	0
1,1,2-TRICHLOROETHANE		ug/L	100	100	0
BENZENE		ug/L	100	100	0
BROMOFORM		ug/L	80	80	0
TETRACHLOROETHENE		ug/L	100	100	0
1,2-DIBROMOETHANE		ug/L	80	100	22
1,4-DICHLROROBENZENE		ug/L	80	80	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

01GW03: 01GW03, 06GW03, 07GW03, 08AGW03, 08BGW03, 08CGW03, 09GW03, 11AGW03, 11AGW03D, 11BGW03, 11CGW03, BS501FB, BT501FB, 12GW03, 12GW03D, 14GW03, 15GW03, 18GW03, 20GW03, BS501ER

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
VINYL CHLORIDE	60%-140%		40
1,2-DICHLOROETHANE	60%-140%		40
CARBON TETRACHLORIDE	60%-140%		40
1,2-DICHLOROPROPANE	60%-140%		40
CIS-1,3-DICHLOROPROPENE	60%-140%		40
TRICHLOROETHENE	60%-140%		40
1,1,2-TRICHLOROETHANE	60%-140%		40
BENZENE	60%-140%		40
BROMOFORM	60%-140%		40
TETRACHLOROETHENE	60%-140%		40
1,2-DIBROMOETHANE	60%-140%		40
1,4-DICHLROROBENZENE	60%-140%		40

TABLE A-130 (Continued)
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 22BGW03D*		03BGW03		
			MS	MSD	
			%R	%R	%RPD
VOA COMPOUNDS		UNITS			
VINYL CHLORIDE		ug/L	78	78	0
1,2-DICHLOROETHANE		ug/L	78	78	0
CARBON TETRACHLORIDE		ug/L	107	107	0
1,2-DICHLOROPROPANE		ug/L	100	107	7
CIS-1,3-DICHLOROPROPENE		ug/L	86	93	8
TRICHLOROETHENE		ug/L	121	114	6
1,1,2-TRICHLOROETHANE		ug/L	93	93	0
BENZENE		ug/L	121	121	0
BROMOFORM		ug/L	86	93	8
TETRACHLOROETHENE		ug/L	107	107	0
1,2-DIBROMOETHANE		ug/L	86	93	8
1,4-DICHLROROBENZENE		ug/L	100	100	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

03BGW03: 03BGW03, 10BGW03, 10CGW03, 22BGW03, 22BGW03D, BT507FB

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
VINYL CHLORIDE	60%-140%		40
1,2-DICHLOROETHANE	60%-140%		40
CARBON TETRACHLORIDE	60%-140%		40
1,2-DICHLOROPROPANE	60%-140%		40
CIS-1,3-DICHLOROPROPENE	60%-140%		40
TRICHLOROETHENE	60%-140%		40
1,1,2-TRICHLOROETHANE	60%-140%		40
BENZENE	60%-140%		40
BROMOFORM	60%-140%		40
TETRACHLOROETHENE	60%-140%		40
1,2-DIBROMOETHANE	60%-140%		40
1,4-DICHLROROBENZENE	60%-140%		40

TABLE A-130 (Continued)
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 17BGW03*		03CBW03		
			MS	MSD	
			%R	%R	%RPD
VOA COMPOUNDS		UNITS			
VINYL CHLORIDE		ug/L	100	100	0
1,2-DICHLOROETHANE		ug/L	100	100	0
CARBON TETRACHLORIDE		ug/L	100	100	18
1,2-DICHLOROPROPANE		ug/L	100	100	0
CIS-1,3-DICHLOROPROPENE		ug/L	100	100	0
TRICHLOROETHENE		ug/L	100	100	0
1,1,2-TRICHLOROETHANE		ug/L	100	120	18
BENZENE		ug/L	100	100	0
BROMOFORM		ug/L	100	100	0
TETRACHLOROETHENE		ug/L	100	100	0
1,2-DIBROMOETHANE		ug/L	100	100	0
1,4-DICHLROROBENZENE		ug/L	100	100	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

03CGW03: 02GW03, 03AGW03, 03CGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17AGW03, 17BGW03, 17CGW03, 19AGW03, 19BGW03, 21GW03, 22AGW03, BS502ER, BT502FB, BT506FB

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
VINYL CHLORIDE	60%-140%		40
1,2-DICHLOROETHANE	60%-140%		40
CARBON TETRACHLORIDE	60%-140%		40
1,2-DICHLOROPROPANE	60%-140%		40
CIS-1,3-DICHLOROPROPENE	60%-140%		40
TRICHLOROETHENE	60%-140%		40
1,1,2-TRICHLOROETHANE	60%-140%		40
BENZENE	60%-140%		40
BROMOFORM	60%-140%		40
TETRACHLOROETHENE	60%-140%		40
1,2-DIBROMOETHANE	60%-140%		40
1,4-DICHLROROBENZENE	60%-140%		40

TABLE A-131
SEMIVOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 11AGW03*	SDG 01GW03		
		MS	MSD	
		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/L	67	64	4
2-CHLOROPHENOL	ug/L	64	65	1
1,4-DICHLOROBENZENE	ug/L	56	56	0
N-NITROSO-DI-N-PROPYLAMINE	ug/L	66	66	0
1,2,4-TRICHLOROBENZENE	ug/L	60	58	3
4-CHLORO-3-METHYLPHENOL	ug/L	80	79	1
ACENAPHTHENE	ug/L	68	66	3
4-NITROPHENOL	ug/L	*84	64	27
2,4-DINITROTOLUENE	ug/L	78	78	0
PENTACHLOROPHENOL	ug/L	*104	*112	7
PYRENE	ug/L	86	76	12

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

01GW03: 01GW03, 06GW03, 07GW03, 08AGW03, 08BGW03, 08CGW03, 09GW03, 11AGW03, 11AGW03D, 11BGW03, 11CGW03, BS501FB, 12GW03, 12GW03D, 14GW03, 15GW03, 18GW03, 20GW03, BS501ER

COMPOUND	ADVISORY LIMITS	RPD
	% R WATER	WATER
PHENOL	12%-110%	42
2-CHLOROPHENOL	27%-123%	40
1,4-DICHLOROBENZENE	36%-97%	28
N-NITROSO-DI-N-PROP.(1)	41%-116%	38
1,2,4-TRICHLOROBENZENE	39%-98%	28
4-CHLORO-3-METHYLPHENOL	23%-97%	42
ACENAPHTHENE	46%-118%	31
4-NITROPHENOL	10%-80%	50
2,4-DINITROTOLUENE	24%-96%	38
PENTACHLOROPHENOL	9%-103%	50
PYRENE	26%-127%	31

TABLE A-131 (Continued)
SEMIVOLATILE ORGANICS COMPOUNDS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 17BGW03*		SDG 03CGW03		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/L	69	61	12
2-CHLOROPHENOL	ug/L	69	68	1
1,4-DICHLOROBENZENE	ug/L	64	66	3
N-NITROSO-DI-N-PROP.(1)	ug/L	64	68	6
1,2,4-TRICHLOROBENZENE	ug/L	66	70	6
4-CHLORO-3-METHYLPHENOL	ug/L	77	83	7
ACENAPHTHENE	ug/L	76	80	5
4-NITROPHENOL	ug/L	43	64	39
2,4-DINITROTOLUENE	ug/L	80	82	2
PENTACHLOROPHENOL	ug/L	69	73	6
PYRENE	ug/L	86	92	7

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

03CGW03: 02GW03, 03AGW03, 03CGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17AGW03, 17BGW03, 17CGW03, 19AGW03, 19BGW03, 21GW03, 22AGW03, BS502ER

COMPOUND	ADVISORY LIMITS	RPD
	% R WATER	WATER
PHENOL	12%-110%	42
2-CHLOROPHENOL	27%-123%	40
1,4-DICHLOROBENZENE	36%-97%	28
N-NITROSO-DI-N-PROP.(1)	41%-116%	38
1,2,4-TRICHLOROBENZENE	39%-98%	28
4-CHLORO-3-METHYLPHENOL	23%-97%	42
ACENAPHTHENE	46%-118%	31
4-NITROPHENOL	10%-80%	50
2,4-DINITROTOLUENE	24%-96%	38
PENTACHLOROPHENOL	9%-103%	50
PYRENE	26%-127%	31

TABLE A-132
PESTICIDES/PCBS
WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11CGW03* MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE		SDG 01GW03		
		MS	MSD	
		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/L	96	*126	*27
Heptachlor	ug/L	102	96	6
Aldrin	ug/L	58	60	3
Dieldrin	ug/L	109	119	9
Endrin	ug/L	97	110	13
4,4'-DDT	ug/L	89	85	5

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

01GW03: 09GW03, 11CGW03, 14GW03, BS501ER, BS501FB
03BGW03: 10BGW03, 22BGW03, 22BGW03D

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
gamma-BHC(Lindane)	56%-123%		15
HEPTACHLOR	40%-131%		20
ALDRIN	40%-120%		22
DIELDRIN	52%-126%		18
ENDRIN	56%-121%		21
4,4'-DDT	38%-127%		27

TABLE A-133
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 11AGW03*		SDG 01GW03	
MD = MATRIX DUPLICATE	*SAMPLE 11AGW03*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE			%R	RPD
METALS COMPOUNDS		UNITS		
ALUMINUM		ug/L	90.8	5.3
ANTIMONY		ug/L	96.6	NC
ARSENIC		ug/L	99.0	NC
BARIUM		ug/L	88.7	15.8
BERYLLIUM		ug/L	90.5	NC
CADMIUM		ug/L	89.8	NC
CALCIUM		ug/L	NR	13.4
CHROMIUM		ug/L	90.8	NC
COBALT		ug/L	89.0	NC
COPPER		ug/L	90.1	200
IRON		ug/L	91.5	4.4
LEAD		ug/L	90.2	NC
MAGNESIUM		ug/L	NR	12.1
MANGANESE		ug/L	89.0	28.7
MERCURY		ug/L	108	NC
NICKEL		ug/L	90.3	NC
POTASSIUM		ug/L	NR	0.6
SELENIUM		ug/L	79.2	NC
SILVER		ug/L	97.7	NC
SODIUM		ug/L	NR	0.5
THALLIUM		ug/L	99.8	NC
VANADIUM		ug/L	89.3	NC
ZINC		ug/L	87.8	19.8
CYANIDE		ug/L	77.6	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

01GW03: 01GW03, 06GW03, 07GW03, 08AGW03, 08BGW03, 08CGW03, 09GW03, 11AGW03, 11AGW03D, 11BGW03, 11CGW03, BS501FB, 12GW03, 12GW03D, 14GW03, 15GW03, 18GW03, 20GW03, BS501ER

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

= RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)

NOTE: SOME VALUES WERE ROUNDED TO LIMIT SIGNIFICANT FIGURES TO THREE (3).

TABLE A-133 (Continued)
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 10BGW03*	SDG 03BGW03	
MD = MATRIX DUPLICATE	*SAMPLE 10BGW03*	MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	ug/L	96.5	5.7
ANTIMONY	ug/L	102	200
ARSENIC	ug/L	115	NC
BARIUM	ug/L	102	2.4
BERYLLIUM	ug/L	107	NC
CADMIUM	ug/L	105	1.6
CALCIUM	ug/L	NR	2.3
CHROMIUM	ug/L	104	18.1
COBALT	ug/L	102	NC
COPPER	ug/L	98.9	20.0
IRON	ug/L	103	0.7
LEAD	ug/L	97.9	NC
MAGNESIUM	ug/L	NR	2.4
MANGANESE	ug/L	104	14.4
MERCURY	ug/L	NR	NC
NICKEL	ug/L	104	9.5
POTASSIUM	ug/L	NR	1.2
SELENIUM	ug/L	77.0	NC
SILVER	ug/L	97.0	NC
SODIUM	ug/L	NR	2.6
THALLIUM	ug/L	90.6	NC
VANADIUM	ug/L	102	1.3
ZINC	ug/L	106	23.9
CYANIDE	ug/L	NR	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

03BGW03: 03BGW03, 10BGW03, 10CGW03, 22BGW03, 22BGW03D

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

= RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)

NOTE: SOME VALUES WERE ROUNDED TO LIMIT SIGNIFICANT FIGURES TO THREE (3).

TABLE A-133 (Continued)
METALS AND CYANIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 17BGW03*		SDG 03CGW03	
MD = MATRIX DUPLICATE	*SAMPLE 17BGW03*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE			%R	RPD
METALS COMPOUNDS		UNITS		
ALUMINUM		ug/L	96.7	13.6
ANTIMONY		ug/L	96.1	NC
ARSENIC		ug/L	109	NC
BARIUM		ug/L	94.2	4.6
BERYLLIUM		ug/L	96.6	NC
CADMIUM		ug/L	99.4	8.9
CALCIUM		ug/L	NR	6.9
CHROMIUM		ug/L	94.5	7.4
COBALT		ug/L	94.9	NC
COPPER		ug/L	94.3	15.7
IRON		ug/L	94.8	0.6
LEAD		ug/L	105	NC
MAGNESIUM		ug/L	NR	4.3
MANGANESE		ug/L	95.6	40.3
MERCURY		ug/L	103	NC
NICKEL		ug/L	95.0	200
POTASSIUM		ug/L	NR	8.7
SELENIUM		ug/L	99.4	NC
SILVER		ug/L	102.6	NC
SODIUM		ug/L	NR	3.5
THALLIUM		ug/L	99.0	200
VANADIUM		ug/L	94.2	NC
ZINC		ug/L	96.3	14.9
CYANIDE		ug/L	80.6	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

03CGW03: 02GW03, 03AGW03, 03CGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17AGW03, 17BGW03, 17CGW03, 19AGW03, 19BGW03, 21GW03, 22AGW03, BS502ER

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
ALL COMPOUNDS	75%-125%		+/-20 OR +/-CRDL

= RPD Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)

NOTE: SOME VALUES WERE ROUNDED TO LIMIT SIGNIFICANT FIGURES TO THREE (3).

TABLE A-134
SULFIDE
WATER SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11AGW03*		SDG 01GW03		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	RPD
SULFIDE	UNITS			
SULFIDE	mg/L	100	104	3.9

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

01GW03: 01GW03, 06GW03, 07GW03, 08AGW03, 08BGW03, 08CGW03, 09GW03, 11AGW03, 11AGW03D, 11BGW03, 11CGW03, BS501FB, 12GW03, 12GW03D, 14GW03, 15GW03, 18GW03, 20GW03, BS501ER

MS = MATRIX SPIKE *SAMPLE 17BGW03*		SDG 03CGW03		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	RPD
SULFIDE	UNITS			
SULFIDE	mg/L	146	138	5.6

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

03CGW03: 02GW03, 03AGW03, 03CGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17AGW03, 17BGW03, 17CGW03, 19AGW03, 19BGW03, 21GW03, 22AGW03, BS502ER

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
SULFIDE	25%-197%		11

TABLE A-135
SURROGATE % RECOVERIES
LOW CONCENTRATION VOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	SMC1	TOTAL OUT
01GW03	01GW03	84	0
	06GW03	88	0
	07GW03	94	0
	08AGW03	91	0
	08BGW03	84	0
	08CGW03	93	0
	09GW03	88	0
	11AGW03	80	0
	11AGW03D	86	0
	11AGW03MS	86	0
	11AGW03MSD	88	0
	11BGW03	92	0
	11CBW03	96	0
	12GW03	95	0
	12GW03D	106	0
	14GW03	106	0
	15GW03	102	0
	18GW03	110	0
	20GW03	112	0
	BS501ER	104	0
	BS501FB	86	0
	BT501FB	88	0
03BGW03	03BGW03	90	0
	10BGW03	93	0
	10CGW03	87	0
	22BGW03	86	0
	22BGW03D	85	0
	22BGW03DMS	*79	1
	22BGW03DMSD	*79	1
	BT507FB	92	0

TABLE A-135 (Continued)
SURROGATE % RECOVERIES
LOW CONCENTRATION VOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	SMC1	TOTAL OUT
03CGW03	02GW03	94	0
	03AGW03	101	0
	03CGW03	118	0
	04GW03	103	0
	05GW03	96	0
	10AGW03	108	0
	13AGW03	115	0
	13BGW03	104	0
	16GW03	105	0
	16GW03D	104	0
	17AGW03	112	0
	17BGW03	103	0
	17BGW03MS	104	0
	17BGW03MSD	104	0
	17CGW03	97	0
	19AGW03	113	0
	19BGW03	96	0
	21GW03	110	0
	22AGW03	106	0
	BS502ER	110	0
	BT502FB	108	0
	BT506FB	98	0

SMC1 = BROMOFLUOROBENZENE

QC LIMITS 80% - 120%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
52	50	2	96.2%

TABLE A-136
SURROGATE % RECOVERIES
SEMIVOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL OUT
01GW03	01GW03	60	58	38	69	65	84	68	60	0
	06GW03	52	48	*22	53	55	76	55	50	1
	07GW03	56	54	*30	61	59	72	61	54	1
	08AGW03	60	60	40	69	67	80	65	58	0
	08BGW03	64	64	56	79	73	79	76	62	0
	08CGW03	50	50	*30	24	49	77	41	52	1
	09GW03	78	60	*10	69	67	81	72	68	1
	11AGW03	78	72	64	71	68	99	72	68	0
	11AGW03D	60	58	54	64	65	87	67	58	0
	11AGW03MS	62	62	78	72	69	91	69	62	0
	11AGW03MSD	60	60	66	72	69	88	71	60	0
	11BGW03	58	56	76	27	55	85	47	54	0
	11CBW03	56	56	58	40	60	76	61	54	0
	12GW03	76	76	92	76	68	96	72	72	0
	12GW03D	72	76	96	76	67	92	72	68	0
	14GW03	68	64	34	69	63	89	67	64	0
	15GW03	76	76	60	75	68	96	75	70	0
	15GW03DL	64	68	50	67	61	72	69	64	0
	18GW03	68	66	90	69	61	87	68	66	0
	20GW03	80	76	94	79	73	105	79	72	0
	BS501ER	68	64	94	69	69	76	69	66	0
	BS501FB	56	54	92	63	59	72	61	54	0
03BGW03	03BGW03	72	80	58	69	68	109	71	66	0
	10BGW03	74	76	56	68	67	104	72	64	0
	10CGW03	66	72	90	59	64	91	67	64	0
	10CGW03DL	74	80	88	71	69	92	73	66	0
	22BGW03	64	76	58	60	57	101	61	56	0
	22BGW03D	68	76	40	67	61	96	67	62	0

TABLE A-136 (Continued)
SURROGATE % RECOVERIES
SEMIVOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL OUT
03CGW03	02GW03	80	76	48	81	69	96	80	74	0
	03AGW03	70	76	44	76	77	113	76	74	0
	03CGW03	72	74	40	69	68	91	72	70	0
	04GW03	70	64	*32	64	63	92	65	62	1
	05GW03	68	62	*26	63	63	83	64	64	1
	10AGW03	70	72	48	72	72	101	71	68	0
	13AGW03	76	72	46	68	59	77	68	64	0
	13AGW03DL	68	72	50	67	59	87	69	68	0
	13BGW03	72	72	84	64	64	85	69	66	0
	16GW03	74	76	82	77	71	92	73	70	0
	16GW03D	72	76	80	77	71	85	72	70	0
	17AGW03	76	68	70	64	64	85	67	66	0
	17BGW03	76	72	90	63	68	87	69	68	0
	17BGW03MS	70	72	80	69	67	83	71	72	0
	17BGW03MSD	70	74	86	63	60	85	68	68	0
	17CGW03	74	74	92	67	67	85	69	68	0
	19AGW03	78	70	*32	72	71	85	72	68	1
	19BGW03	72	76	84	44	69	88	64	68	0
	19BGW03DL	56	66	72	36	48	45	52	70	0
	21GW03	72	66	84	35	61	79	65	64	0
	22AGW03	78	70	42	87	81	95	81	76	0
	BS502ER	80	76	100	79	79	87	77	74	0

S1 = NITROBENZENE-D5	QC LIMITS 35% - 114%	
S2 = 2-FLUOROBIPHENYL	QC LIMITS 43% - 116%	
S3 = TERPHENYL-D14	QC LIMITS 33% - 141%	
S4 = PHENOL-D5	QC LIMITS 10% - 110%	
S5 = 2-FLUOROPHENOL	QC LIMITS 21% - 110%	
S6 = 2,4,6-TRIBROMOPHENOL	QC LIMITS 10% - 123%	
S7 = 2-CHLOROPHENOL-D4	QC LIMITS 33% - 110%	ADVISORY
S8 = 1,2-DICHLOROBENZENE-D4	QC LIMITS 16% - 110%	ADVISORY

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE SPIKE NOT REQUIRED FOR METHOD UTILIZED.

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
50	393	7	98.3%

TABLE A-137
SURROGATE % RECOVERIES
PESTICIDE/PCB WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TCX1	TCX2	DCB1	DCB2	TOTAL OUT
01GW03	09GW03	95	80	*24	*18	2
	11CGW03	125	95	85	75	0
	11CGW03MS	110	75	80	*55	1
	11CGW03MSD	120	105	85	60	0
	14GW03	110	95	*29	*39	2
	BS501ER	130	95	75	75	0
	BS501FB	125	100	80	90	0
03BGW03	10BGW03	95	125	*32	*36	2
	22BGW03	115	100	*36	*44	2
	22BGW03D	135	120	75	85	0
03CGW03	BS502ER	115	90	75	85	0

TCX = TETRACHLORO-M-XYLENE QC LIMITS 60% - 150%
DCB = DECACHLOROBIPHENYL QC LIMITS 60% - 150%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

TCX1 - COLUMN 1
TCX2 - COLUMN 2
DCB 1 - COLUMN 1
DCB 2 - COLUMN 2

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
11	35	9	79.5%

TABLE A-138
LOW CONCENTRATION VOLATILES DETECTED IN TRIP BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	TB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	BT501FB	01GW03, 08AGW03	ACETONE	8	ug/L	CRQL
		06GW03, 08BGW03, 15GW03				U
		18GW03, 20GW03				NA
		01GW03, 08BGW03, 09GW03, 12GW03, 12GW03D, 20GW03	CARBON DISULFIDE	0.8	ug/L	U
		06GW03, 07GW03, 08AGW03, 11AGW03, 11AGW03D, 14GW03				NA
		11BGW03				CRQL
03BGW03	BT507FB	22BGW03	ACETONE	11	ug/L	CRQL
03CGW03	BT502FB	03CGW03, 13BGW03, 16GW03, 16GW03D, 17AGW03, 21GW03, 22AGW03, 17BGW03MS, 17BGW03MSD	ACETONE	10	ug/L	U
		17CGW03, 19BGW03				NA
	BT506FB	02GW03, 03AGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17BGW03, 22AGW03	METHYLENE CHLORIDE	0.9	ug/L	
		02GW03, 03AGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17BGW03, 22AGW03	ACETONE	11	ug/L	

TABLE A-139
LOW CONCENTRATION VOLATILES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	BS501ER	06GW03, 07GW03, 11CGW03, 11AGW03, 11AGW03D, 11BGW03, 08CGW03, 08AGW03, 08BGW03, 01GW03, 09GW03, 14GW03, 12GW03, 12GW03D, 15GW03, 18GW03, 20GW03, 21GW03, 17AGW03, 17CGW03, 03CGW03, 19AGW03, 19BGW03, 09GW03	ACETONE	8	ug/L	
		06GW03, 07GW03, 11CGW03, 11AGW03, 11AGW03D, 11BGW03, 08CGW03, 08AGW03, 08BGW03, 01GW03, 09GW03, 14GW03, 12GW03, 12GW03D, 15GW03, 18GW03, 20GW03, 21GW03, 17AGW03, 17CGW03, 03CGW03, 19AGW03, 19BGW03, 09GW03	CARBON DISULFIDE	0.5	ug/L	
03CGW03	BS502ER	20GW03	ACETONE	9	ug/L	U
		12GW03, 12GW03D, 15GW03, 18GW03, 21GW03, 17AGW03, 17CGW03, 14GW03, 03CGW03, 19AGW03, 19BGW03, 09GW03, 16GW03, 16GW03D, 04GW03, 05GW03, 22AGW03, 02GW03, 03AGW03, 10AGW03, 13BGW03, 17BGW03, 13AGW03, 03BGW03, 22BGW03, 22BGW03D, 10BGW03, 10CGW03				

TABLE A-140
SEMIVOLATILES DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	BS501ER	06GW03, 07GW03, 11CGW03, 11AGW03, 11AGW03D, 11BGW03, 08CGW03, 08AGW03, 08BGW03, 01GW03, 09GW03, 14GW03, 12GW03, 12GW03D, 15GW03, 18GW03, 20GW03, 21GW03, 17AGW03, 17CGW03, 03CGW03, 19AGW03, 19BGW03, 09GW03	NO CONTAMINATION FOUND			
03CGW03	BS502ER	12GW03, 12GW03D, 15GW03, 18GW03, 20GW03, 21GW03, 17AGW03, 17CGW03, 14GW03, 03CGW03, 19AGW03, 19BGW03, 09GW03, 16GW03, 16GW03D, 04GW03, 05GW03, 22AGW03, 02GW03, 03AGW03, 10AGW03, 13BGW03, 17BGW03, 13AGW03, 03BGW03, 22BGW03, 22BGW03D, 10BGW03, 10CGW03	NO CONTAMINATION FOUND			

TABLE A-141
PESTICIDES/PCBS DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	BS501ER	09GW03, 11CGW03, 14GW03	NO CONTAMINATION FOUND			
03CGW03	BS502ER	10CGW03, 22BGW03, 22BGW03D	NO CONTAMINATION FOUND			

TABLE A-142
METALS AND CYANIDE DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	BS501ER	06GW03, 07GW03, 11CGW03, 11AGW03, 11AGW03D, 11BGW03, 08CGW03, 08AGW03, 08BGW03, 01GW03, 09GW03, 14GW03, 12GW03, 12GW03D, 15GW03, 18GW03, 20GW03, 21GW03, 17AGW03, 17CGW03, 03CGW03, 19AGW03, 19BGW03, 09GW03	NO CONTAMINATION FOUND			
03CGW03	BS502ER	17BGW03	NICKEL	6.3	ug/L	U
		03BGW03, 22BGW03D	ZINC	4.9	ug/L	U

TABLE A-143
SULFIDE DETECTED IN EQUIPMENT RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	BS501ER	06GW03, 07GW03, 11CGW03, 11AGW03, 11AGW03D, 11BGW03, 08CGW03, 08AGW03, 08BGW03, 01GW03, 09GW03, 14GW03, 12GW03, 12GW03D, 15GW03, 18GW03, 20GW03, 21GW03, 17AGW03, 17CGW03, 03CGW03, 19AGW03, 19BGW03, 09GW03	NO CONTAMINATION FOUND			
03CGW03	BS502ER	12GW03, 12GW03D, 15GW03, 18GW03, 20GW03, 21GW03, 17AGW03, 17CGW03, 14GW03, 03CGW03, 19AGW03, 19BGW03, 09GW03, 16GW03, 16GW03D, 04GW03, 05GW03, 22AGW03, 02GW03, 03AGW03, 10AGW03, 13BGW03, 17BGW03, 13AGW03, 03BGW03, 22BGW03, 22BGW03D, 10BGW03, 10CGW03	NO CONTAMINATION FOUND			

TABLE A-144
LOW CONCENTRATION VOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	BS501FB	01GW03, 06GW03, 07GW03, 08AGW03, 08BGW03, 08CGW03, 09GW03, 11AGW03, 11AGW03D, 11BGW03, 11CGW03, 12GW03, 12GW03D, 14GW03, 15GW03, 18GW03, 20GW03, 21GW03, 22AGW03, 19BGW03, 03BGW03, 10BGW03, 10CGW03, 22BGW03, 22BGW03D, 02GW03, 03AGW03, 03CGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17AGW03, 17BGW03, 17CGW03, 19AGW03	ACETONE	6	ug/L	

TABLE A-145
SEMIVOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	BS501FB	01GW03, 06GW03, 07GW03, 08AGW03, 08BGW03, 08CGW03, 09GW03, 11AGW03, 11AGW03D, 11BGW03, 11CGW03, 12GW03, 12GW03D, 14GW03, 15GW03, 18GW03, 20GW03, 21GW03, 22AGW03, 19BGW03, 03BGW03, 10BGW03, 10CGW03, 22BGW03, 22BGW03D, 02GW03, 03AGW03, 03CGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17AGW03, 17BGW03, 17CGW03, 19AGW03	NO CONTAMINATION FOUND			

TABLE A-146
PESTICIDES/PCBS DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	BS501FB	09GW03, 11CGW03, 14GW03 10CGW03, 22BGW03, 22BGW03D	NO CONTAMINATION FOUND			

TABLE A-147
METALS AND CYANIDE DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	BS501FB	03BGW03, 10BGW03, 10CGW03, BS501ER	COPPER	4.2	ug/L	U
		BS501ER	SODIUM	291	ug/L	U
		01GW03, 06GW03, 07GW03, 08AGW03, 08BGW03, 08CGW03, 09GW03, 11AGW03, 11AGW03D, 11BGW03, 11CGW03, 12GW03, 12GW03D, 14GW03, 15GW03, 18GW03, 20GW03, 21GW03, 22AGW03, 19BGW03, 03BGW03, 10BGW03, 10CGW03, 22BGW03, 22BGW03D, 02GW03, 03AGW03, 03CGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17AGW03, 17BGW03, 17CGW03, 19AGW03				

TABLE A-148
SULFIDE DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	BS501FB	01GW03, 06GW03, 07GW03, 08AGW03, 08BGW03, 08CGW03, 09GW03, 11AGW03, 11AGW03D, 11BGW03, 11CGW03, 12GW03, 12GW03D, 14GW03, 15GW03, 18GW03, 20GW03, 21GW03, 22AGW03, 19BGW03, 03BGW03, 10BGW03, 10CGW03, 22BGW03, 22BGW03D, 02GW03, 03AGW03, 03CGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17AGW03, 17BGW03, 17CGW03, 19AGW03	NO CONTAMINATION FOUND			

TABLE A-149
LOW CONCENTRATION VOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	VBLK1	01GW03, 06GW03, 07GW03, 08AGW03, 08BGW03, 08CGW03, 09GW03, 11AGW03, 11AGW03D, 11AGW03MS, 11AGW03MSD, 11BGW03, 11CGW03, BS501FB, BT501FB	NO CONTAMINATION FOUND			
	VBLK2	12GW03, 18GW03, 20GW03	METHYLENE CHLORIDE	1	ug/L	U
		12GW03D, 14GW03, 15GW03, BS501ER	METHYLENE CHLORIDE	1	ug/L	
03BGW03	VBLK1	03BGW03, 10BGW03, 22BGW03, 22BGW03D	METHYLENE CHLORIDE	0.40	ug/L	CRQL
		10CGW03, 22BGW03DMS, 22BGW03DMSD, BT507FB	METHYLENE CHLORIDE	0.40	ug/L	
03CGW03	VBLK1	16GW03, 21GW03	METHYLENE CHLORIDE	1	ug/L	CRQL
		03CGW03, 17AGW03, 19AGW03, BS502ER, BT502FB	METHYLENE CHLORIDE	1	ug/L	
	VBLK2	02GW03, 03AGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03D, 17BGW03, 17BGW03MS, 17BGW03MSD, 17CGW03, 19BGW03, 22AGW03, BT506FB	NO CONTAMINATION FOUND			

TABLE A-150
SEMIVOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	SBLK1A	01GW03, 06GW03, 07GW03, 08AGW03, 08BGW03, 08CGW03, 09GW03, 11AGW03, 11AGW03D, 11AGW03MS, 11AGW03MSD, 11BGW03, 11CGW03, 14GW03, BS501ER, BS501FB	NO CONTAMINATION FOUND			
	SBLK2	12GW03, 12GW03D, 15GW03, 15GW03DL, 18GW03, 20GW03	NO CONTAMINATION FOUND			
03BGW03	SBLK1A	03BGW03, 10BGW03, 10CGW03, 10CGW03DL, 22BGW03, 22BGW03D	NO CONTAMINATION FOUND			
03CGW03	SBLK1A	02GW03, 03AGW03, 03CGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13AGW03DL, 13BGW03, 16GW03, 16GW03D, 17AGW03, 17BGW03, 17BGW03MS, 17BGW03MSD, 17CGW03, 19AGW03, 19BGW03, 19BGW03DL, 21GW03, 22AGW03, BS502ER	NO CONTAMINATION FOUND			

TABLE A-151
PESTICIDES/PCBs DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	PBLK1	09GW03, 11CGW03, 11CGW03MS, 11CGW03MSD, 14GW03, BS501ER, BS501FB	NO CONTAMINATION FOUND			
03BGW03	PBLK1	10BGW03, 22BGW03, 22BGW03D	NO CONTAMINATION FOUND			
03CGW03	PBLK1	BS502ER	NO CONTAMINATION FOUND			

TABLE 4 - A-152
METALS AND CYANIDE DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
01GW03	PBLK1	BS501ER, 08BGW03, 12GW03, 12GW03D, 15GW03, 18GW03, 20GW03	ALUMINUM	75.7	ug/L	U
		BS501ER, BS501FB	CALCIUM	67.0	ug/L	U
		BS501ER, BS501FB	IRON	32.4	ug/L	U
03BGW03	PBLK1	03BGW03, 10BGW03, 10CGW03, 22BGW03D	ALUMINUM	60.5	ug/L	U
		03BGW03, 10BGW03, 10CGW03, 22BGW03, 22BGW03D, 22BGW03DMS, 22BGW03DMSD	ARSENIC	4.1	ug/L	
			CALCIUM	37.4	ug/L	
			IRON	32.6	ug/L	
			MAGNESIUM	29.0	ug/L	
03AGW03	PBLK1	03CGW03, 13AGW03, 13BGW03, 17CGW03 19BGW03	ALUMINUM	48.2	ug/L	U
		BS502ER	CALCIUM	35.8	ug/L	U
		BS502ER, 02GW03	SODIUM	51.4	ug/L	U
		02GW03, 03AGW03, 03CGW03, 04GW03, 13BGW03, 16GW03, 17BGW03, 17CGW03, 19AGW03, 19BGW03	THALLIUM	6.11	ug/L	U
		BS502ER, 02GW03, 03AGW03, 03CGW03, 04GW03, 05GW03, 10AGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17AGW03, 17BGW03, 17CGW03, 19AGW03, 19BGW03, 21GW03, 22AGW03	ACETONE	-4.09	ug/L	J/UJ
		BS502ER, 03AGW03, 03CGW03, 13AGW03, 13BGW03, 16GW03, 16GW03D, 17AGW03, 17BGW03, 17CGW03, 19AGW03, 19BGW03, 21GW03, 22AGW03	LEAD	-1.20	ug/L	J/UJ

TABLE A-153
LOW CONCENTRATION VOLATILE ORGANIC COMPOUNDS
SURFACE WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
BS601	11SW202	WATER	5	CHLOROFORM	4	4	20%	0%	0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	1	0	100.0%

TABLE A-154
GC/MS SEMIVOLATILE ORGANIC COMPOUNDS
SURFACE WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
BS601	11SW202	WATER	5	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	0	0	#DIV/0!

TABLE A-155
PESTICIDES/PCBS ORGANIC COMPOUNDS
SURFACE WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
BS601	11SW202	WATER	5	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	0	0	#DIV/0!

TABLE A-156
ORGANOPHOSPHOROUS PESTICIDES ORGANIC COMPOUNDS
SURFACE WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
BS601	11SW205	WATER	1	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		1						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
100.0%	0	0	#DIV/0!

TABLE A-157
CHLORINATED HERBICIDES ORGANIC COMPOUNDS
SURFACE WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
BS601	11SW205	WATER	1	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		1						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
100.0%	0	0	#DIV/0!

TABLE A-158
TOTAL METALS ANALYTES
SURFACE WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
BS601	11SW202	WATER	5	ARSENIC	4.7	0	20%	ND	1
				BARIUM	18.8	18	20%	3%	0
				CALCIUM	30700	30000	20%	2%	0
				IRON	100	118	20%	17%	0
				MAGNESIUM	13000	12700	20%	2%	0
				MANGANESE	3.4	3.5	20%	3%	0
				POTASSIUM	1970	1940	20%	2%	0
				SODIUM	11700	11300	20%	3%	0
	TOTAL SAMPLES		5						

DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	7	1	87.5%

TABLE A-159
CYANIDE COMPOUND
SURFACE WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
BS601	11SW202	WATER	5	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	0	0	#DIV/0!

TABLE A-160
SULFIDE COMPOUND
SURFACE WATER SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
BS601	11SW202	WATER	5	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	0	0	#DIV/0!

TABLE A-161
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
SURFACE WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SW203*		SDG BS601		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
VINYL CHLORIDE	ug/L	120	100	18
1,3-DICHLOROETHANE	ug/L	100	100	0
CARBON TETRACHLORIDE	ug/L	120	120	0
1,2-DICHLOROPROPANE	ug/L	120	120	0
CIS-1,3-DICHLOROPROPENE	ug/L	120	120	0
TRICHLOROETHENE	ug/L	120	120	0
1,1,2-TRICHLOROETHANE	ug/L	120	120	0
BENZENE	ug/L	120	120	0
BROMOFORM	ug/L	100	120	18
TETRACHLOROETHENE	ug/L	120	120	0
1,2-DIBR4OMOETHANE	ug/L	100	120	18
1,4-DICHLOROBENZENE	ug/L	120	120	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

BS601: 11SW201, 11SW202, 11SW202D, 11SW03, 11SW204, 11SW205

COMPOUND	ADVISORY LIMITS	RPD
	%R WATER	WATER
VINYL CHLORIDE	60%-140%	NR
1,3-DICHLOROETHANE	60%-140%	NR
CARBON TETRACHLORIDE	60%-140%	NR
1,2-DICHLOROPROPANE	60%-140%	NR
CIS-1,3-DICHLOROPROPENE	60%-140%	NR
TRICHLOROETHENE	60%-140%	NR
1,1,2-TRICHLOROETHANE	60%-140%	NR
BENZENE	60%-140%	NR
BROMOFORM	60%-140%	NR
TETRACHLOROETHENE	60%-140%	NR
1,2-DIBR4OMOETHANE	60%-140%	NR
1,4-DICHLOROBENZENE	60%-140%	NR

NR INDICATES THAT LIMITS WERE NOT RECEIVED FROM THE LABORATORY.

TABLE A-162
SEMIVOLATILE ORGANICS COMPOUNDS
SURFACE WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SW203*		SDG BS601		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/L	64	63	2
2-CHLOROPHENOL	ug/L	67	63	6
1,4-DICHLOROBENZENE	ug/L	60	58	3
N-NITROSO-DI-N-PROP.(1)	ug/L	64	62	3
1,2,4-TRICHLOROBENZENE	ug/L	70	68	3
4-CHLORO-3-METHYLPHENOL	ug/L	76	76	0
ACENAPHTHENE	ug/L	72	70	3
4-NITROPHENOL	ug/L	73	75	3
2,4-DINITROTOLUENE	ug/L	88	76	15
PENTACHLOROPHENOL	ug/L	93	88	6
PYRENE	ug/L	78	72	8

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

BS601: 11SW201, 11SW202, 11SW202D, 11SW03, 11SW204, 11SW205

COMPOUND	ADVISORY LIMITS	RPD
	% R WATER	WATER
PHENOL	12%-110%	42
2-CHLOROPHENOL	27%-123%	40
1,4-DICHLOROBENZENE	36%-97%	28
N-NITROSO-DI-N-PROP.(1)	41%-116%	38
1,2,4-TRICHLOROBENZENE	39%-98%	28
4-CHLORO-3-METHYLPHENOL	23%-97%	42
ACENAPHTHENE	46%-118%	31
4-NITROPHENOL	10%-80%	50
2,4-DINITROTOLUENE	24%-96%	38
PENTACHLOROPHENOL	9%-103%	50
PYRENE	26%-127%	31

TABLE A-163
PESTICIDES/PCBS
SURFACE WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SW203*		SDG BS601		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/L	86	100	15
Heptachlor	ug/L	80	90	12
Aldrin	ug/L	76	82	8
Dieldrin	ug/L	90	100	11
Endrin	ug/L	91	110	19
4,4'-DDT	ug/L	90	100	11

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

BS601: 11SW201, 11SW202, 11SW202D, 11SW03, 11SW204, 11SW205

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
gamma-BHC(Lindane)	56%-123%		15
HEPTACHLOR	40%-131%		20
ALDRIN	40%-120%		22
DIELDRIN	52%-126%		18
ENDRIN	56%-121%		21
4,4'-DDT	38%-127%		27

TABLE A-164
ORGANOPHOSPHOROUS PESTICIDES
SURFACE WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SW205*		SDG K1044		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
OPP COMPOUNDS	UNITS			
Thionazin	ug/L	106	103	3
Sulfotepp	ug/L	99	96	3
Phorate	ug/L	*118	115	2
Disulfoton	ug/L	92	90	2
Methyl Parathion	ug/L	95	88	8
Parathion	ug/L	95	92	3
Famphur	ug/L	93	90	3
o,o,o-Triethyl phosphate	ug/L	80	84	5
Dimethoate	ug/L	107	98	8

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K1044: 11SW205, 11SW205D

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
Thionazin	57%-123%		14
Sulfotepp	41%-137%		30
Phorate	24%-115%		36
Disulfoton	18%-120%		43
Methyl Parathion	27%-111%		28
Parathion	19%-110%		54
Famphur	43%-144%		42
o,o,o-Triethyl phosphate	41%-128%		24
Dimethoate	55%-123%		34

TABLE A-165
CHLORINATED HERBICIDES
SURFACE WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SW205*		SDG K1044		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
HERB COMPOUNDS	UNITS			
2,4-D	ug/L	80	79	32
Silvex	ug/L	79	85	39
2,4,5-T	ug/L	83	87	29
Dinoseb	ug/L	*21	*26	50

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K1044: 11SW205, 11SW205D

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
2,4-D	33%-137%		32
Silvex	35%-139%		39
2,4,5-T	22%-139%		29
Dinoseb	74%-98%		50

TABLE A-166
METALS AND CYANIDE
SURFACE WATER MATRIX SPIKE/MATRIX DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 11SW203*		SDG BS601	
MD = MATRIX DUPLICATE	*SAMPLE 11SW203*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE			%R	RPD
METALS COMPOUNDS		UNITS		
ALUMINUM		ug/L	109	33.9
ANTIMONY		ug/L	108	200
ARSENIC		ug/L	118	NC
BARIUM		ug/L	108	0.5
BERYLLIUM		ug/L	114	NC
CADMIUM		ug/L	111	NC
CALCIUM		ug/L	NR	0.20
CHROMIUM		ug/L	107	NC
COBALT		ug/L	108	NC
COPPER		ug/L	107	NC
IRON		ug/L	113	9.5
LEAD		ug/L	99.0	NC
MAGNESIUM		ug/L	NR	0.6
MANGANESE		ug/L	110	3.2
MERCURY		ug/L	105	NR
NICKEL		ug/L	109	200
POTASSIUM		ug/L	NR	4.10
SELENIUM		ug/L	87.4	NC
SILVER		ug/L	105	NC
SODIUM		ug/L	NR	2.9
THALLIUM		ug/L	115	NC
VANADIUM		ug/L	107	NC
ZINC		ug/L	112	73.4
CYANIDE		ug/L	74.8	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

BS601: 11SW201, 11SW202, 11SW202D, 11SW03, 11SW204, 11SW205

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
75%-125%		+/-20 OR +/-CRDL	

TABLE A-167
SULFIDE
SURFACE WATER SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SW205*		SDG K1044		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SULFIDE COMPOUND	UNITS			
SULFIDE	ug/L	32	*20	44

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

MS = MATRIX SPIKE *SAMPLE 11SW205*		SDG K1044		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SULFIDE COMPOUND	UNITS			
SULFIDE	ug/L	113	92	21

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

BS601: 11SW201, 11SW202, 11SW202D, 11SW03, 11SW204, 11SW205

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
SULFIDE	25%-197%		11

TABLE A-168
GC/MS VOLATILE ORGANIC COMPOUNDS
SEDIMENT SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11SD201	11SD202	SOIL	5	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	0	0	#DIV/0!

TABLE A-169
GC/MS SEMIVOLATILE ORGANIC COMPOUNDS
SEDIMENT SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11SD201	11SD202	SOIL	5	PHENOL	130	130	35%	0%	0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	1	0	100.0%

TABLE A-170
PESTICIDE/PCB ORGANIC COMPOUNDS
SEDIMENT SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11SD201	11SD202	SOIL	5	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	0	0	#DIV/0!

TABLE A-171
ORGANOPHOSPHOROUS PESTICIDE ORGANIC COMPOUNDS
SEDIMENT SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K1030	11SD205	SOIL	1	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		1						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
100.0%	0	0	#DIV/0!

TABLE A-172
CHLORINATED HERBICIDES ORGANIC COMPOUNDS
SEDIMENT SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K1030	11SD205	SOIL	1	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		1						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
100.0%	0	0	#DIV/0!

TABLE A-173
TOTAL METALS ANALYTES
SEDIMENT SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11SD201	11SD202	SOIL	5	ALUMINUM	7390	7160	35%	3%	0
				BARIUM	22.5	22.1	35%	2%	0
				CALCIUM	2260	2400	35%	6%	0
				CHROMIUM	5.9	5.8	35%	2%	0
				IRON	1400	1170	35%	18%	0
				LEAD	7.3	6.5	35%	12%	0
				MAGNESIUM	472	453	35%	4%	0
				MANGANESE	14.9	13.5	35%	10%	0
				NICKEL	1.9	1.5	35%	24%	0
				POTASSIUM	105	86	35%	20%	0
				VANADIUM	4.5	3.8	35%	17%	0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	11	0	100.0%

TABLE A-174
CYANIDE COMPOUND
SEDIMENT SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11SD201	11SD202	SOIL	5	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	0	0	#DIV/0!

TABLE A-175
SULFIDE COMPOUND
SEDIMENT SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K1030	11SD202	SOIL	5	SULFIDE	280	0	35%	200%	1
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	0	1	0.0%

TABLE A-176
TOTAL ORGANIC CARBON
SEDIMENT SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K1030	11SD202	WATER	5	TOC	2.1	2.1	35%	0%	0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	1	0	100.0%

TABLE A-177
GC/MS VOLATILE ORGANICS COMPOUNDS
SEDIMENT SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 11SD203*		SDG 11SD201		
			MS	MSD	
			%R	%R	%RPD
VOA COMPOUNDS		UNITS			
1,1-DICHLOROETHENE		ug/Kg	105	94	11
TRICHLOROETHENE		ug/Kg	92	92	0
BENZENE		ug/Kg	106	94	12
TOLUENE		ug/Kg	105	98	7
CHLOROBENZENE		ug/Kg	95	92	3

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11SD201: 11SD201, 11SD202, 11SD202D, 11SD204, 11SD205 11SD203

COMPOUND	ADVISORY LIMITS		RPD
	%R SOIL		SOIL
1,1-DICHLOROETHENE	59%-172%		22
TRICHLOROETHENE	62%-137%		24
BENZENE	66%-142%		21
TOLUENE	59%-139%		21
CHLOROBENZENE	60%-133%		21

TABLE A-178
SEMIVOLATILE ORGANICS COMPOUNDS
SEDIMENT SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 11SD203*	SDG 11SD201		
		MS	MSD	
		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/KG	27	30	10
2-CHLOROPHENOL	ug/Kg	*26	29	11
1,4-DICHLOROBENZENE	ug/Kg	*23	*23	0
N-NITROSO-DI-N-PROP.(1)	ug/Kg	*25	*27	8
1,2,4-TRICHLOROBENZENE	ug/Kg	*30	*32	6
4-CHLORO-3-METHYLPHENOL	ug/Kg	31	38	20
ACENAPHTHENE	ug/Kg	*29	*37	24
4-NITROPHENOL	ug/Kg	31	38	20
2,4-DINITROTOLUENE	ug/Kg	33	43	26
PENTACHLOROPHENOL	ug/Kg	26	34	27
PYRENE	ug/Kg	35	43	20

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11SD201: 11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205

COMPOUND	ADVISORY LIMITS	RPD
	% R SOIL	SOIL
PHENOL	12%-110%	42
2-CHLOROPHENOL	27%-123%	40
1,4-DICHLOROBENZENE	36%-97%	28
N-NITROSO-DI-N-PROP.(1)	41%-116%	38
1,2,4-TRICHLOROBENZENE	39%-98%	28
4-CHLORO-3-METHYLPHENOL	23%-97%	42
ACENAPHTHENE	46%-118%	31
4-NITROPHENOL	10%-80%	50
2,4-DINITROTOLUENE	24%-96%	38
PENTACHLOROPHENOL	9%-103%	50
PYRENE	26%-127%	31

TABLE A-179
PESTICIDES/PCBS
SEDIMENT SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 11SD203*	SDG 11SD201		
		MS	MSD	
		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/Kg	*42	*39	7
Heptachlor	ug/Kg	39	36	8
Aldrin	ug/Kg	*19	37	*64
Dieldrin	ug/Kg	42	40	5
Endrin	ug/Kg	42	*40	5
4,4'-DDT	ug/Kg	44	40	10

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

11SD201: 11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 11SD203RE*	SDG 11SD201		
		MS	MSD	
		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/Kg	90	90	0
Heptachlor	ug/Kg	86	86	0
Aldrin	ug/Kg	62	67	8
Dieldrin	ug/Kg	91	93	2
Endrin	ug/Kg	93	93	0
4,4'-DDT	ug/Kg	95	98	3

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

11SD201: 11SD201RE, 11SD202RE, 11SD202DRE, 11SD203RE,
11SD204RE, 11SD205RE

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
gamma-BHC(Lindane)	46%-127%		50
HEPTACHLOR	35%-130%		31
ALDRIN	34-132%		43
31%-134		38	
42%-139%		45	
23%-134%		50	

TABLE A-180
ORGANOPHOSPHOROUS PESTICIDES
SEDIMENT SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SD205*		SDG K1030		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
OPP COMPOUNDS	UNITS			
Thionazin	ug/Kg	109	103	6
Sulfotepp	ug/Kg	102	94	8
Phorate	ug/Kg	114	108	5
Disulfoton	ug/Kg	75	80	7
Methyl Parathion	ug/Kg	94	87	8
Parathion	ug/Kg	96	91	6
Famphur	ug/Kg	101	96	4
o,o,o-Triethyl phosphate	ug/Kg	97	94	4
Dimethoate	ug/Kg	114	104	9

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K1030: 11SD205, 11SD205D

COMPOUND	ADVISORY LIMITS	RPD
	% R SOIL	SOIL
Thionazin	46%-134%	28
Sulfotepp	25%-153%	38
Phorate	10%-128%	34
Disulfoton	10%-137%	35
Methyl Parathion	14%-124%	39
Parathion	13%-125%	40
Famphur	26%-158%	30
o,o,o-Triethyl phosphate	27%-142%	34
Dimethoate	44%-138%	18

TABLE A-181
CHLORINATED HERBICIDES
SEDIMENT SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SD205*		SDG K1030		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
HERB COMPOUNDS	UNITS			
2,4-D	ug/Kg	51	53	5
Silvex	ug/Kg	78	80	2
2,4,5-T	ug/Kg	68	69	2
Dinoseb	ug/Kg	*69	*69	1

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K1030: 11SD205, 11SD205D

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
2,4-D	26%-143%		39
Silvex	28%-130%		25
2,4,5-T	10%-141%		33
Dinoseb	74%-98%		50

TABLE A-182
METALS AND CYANIDE
SEDIMENT MATRIX SPIKE/MATRIX DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 11SD203*		SDG 11SD201	
MD = MATRIX DUPLICATE	*SAMPLE 11SD203*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE			%R	RPD
METALS COMPOUNDS		UNITS		
ALUMINUM		mg/Kg	NR	8.2
ANTIMONY		mg/Kg	92.4	NC
ARSENIC		mg/Kg	100	NC
BARIUM		mg/Kg	101	9.2
BERYLLIUM		mg/Kg	100	NC
CADMIUM		mg/Kg	103	NC
CALCIUM		mg/Kg	NR	70.9
CHROMIUM		mg/Kg	102	11.4
COBALT		mg/Kg	101	40.4
COPPER		mg/Kg	98.4	15.2
IRON		mg/Kg	NR	*29.1
LEAD		mg/Kg	102	4.6
MAGNESIUM		mg/Kg	NR	13.0
MANGANESE		mg/Kg	96.2	*73.0
MERCURY		mg/Kg	108	NC
NICKEL		mg/Kg	102	57.6
POTASSIUM		mg/Kg	NR	23.0
SELENIUM		mg/Kg	95.5	NC
SILVER		mg/Kg	98	NC
SODIUM		mg/Kg	NR	6.2
THALLIUM		mg/Kg	94.8	NC
VANADIUM		mg/Kg	101	20.5
ZINC		mg/Kg	102	25.1
CYANIDE		mg/Kg	*43.9	NR

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11SD201: 11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205

COMPOUND	ADVISORY LIMITS		RPD
	%R SOIL		SOIL
75%-125%	+/-20 OR +/-CRDL		

TABLE A-183
SULFIDE
SEDIMENT SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SD203*		SDG K1030		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SULFIDE COMPOUND	UNITS			
SULFIDE	mg/Kg	68	69	1

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K1030: 11SD201, 11SD202, 11SD202D, 11SD204, 11SD205 11SD203

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
SULFIDE	26%-131%		19

TABLE A-184
TOTAL ORGANIC CARBON
SEDIMENT SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SD203*		SDG K1030		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
TOC COMPOUND	UNITS			
TOC	%	100	100	1

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K1030: 11SD201, 11SD202, 11SD202D, 11SD204, 11SD205 11SD203

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
TOC	NR		NR

NR INDICATES QC LIMITS NOT RECEIVED FROM THE LAB.

TABLE A-185
GC/MS VOLATILE ORGANIC COMPOUNDS
SURFACE SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11SD201	11SS006	SOIL	7	TOLUENE	3.0	4	35%	29%	0
	TOTAL SAMPLES		7						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
14.3%	1	0	100.0%

TABLE A-186
GC/MS SEMIVOLATILE ORGANIC COMPOUNDS
SURFACE SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11SD201	11SS006	SOIL	7	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		7						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
14.3%	0	0	#DIV/0!

TABLE A-187
PESTICIDES/PCBS ORGANIC COMPOUNDS
SURFACE SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11SD201	11SS006	SOIL	7	4,4'-DDT	0.0	81	35%	200%	1
				4,4'-DDE	0.0	0.32	20%	ND	1
				ENDRIN KETONE	0.0	0.50	20%	ND	1
				DIELDRIN	0.0	15	35%	200%	1
	TOTAL SAMPLES		7						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
	0	4	0.0%

TABLE A-188
ORGANOPHOSPHOROUS PESTICIDES ORGANIC COMPOUNDS
SURFACE SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K1030	11SS006	SOIL	2	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		2						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
50.0%	1	0	100.0%

TABLE A-189
CHLORINATED HERBICIDES ORGANIC COMPOUNDS
SURFACE SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K1030	11SS006	SOIL	2	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		2						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
50.0%	1	0	100.0%

TABLE A-190
TOTAL METALS ANALYTES
SURFACE SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11SD201	11SS06	SOIL	7	ALUMINUM	1810	1530	35%	17%	0
				BARIUM	4.00	3.30	35%	19%	0
				CALCIUM	401	335	35%	18%	0
				CHROMIUM	2.70	2.30	35%	16%	0
				COBALT	0.89	0.66	35%	30%	0
				IRON	637	423	35%	40%	1
				LEAD	3.60	3.10	35%	15%	0
				MAGNESIUM	86	67	35%	25%	0
				MANGANESE	8.70	5.80	35%	40%	1
				NICKEL	0.90	0.79	35%	13%	0
				VANADIUM	3.10	2.50	35%	21%	0
	TOTAL SAMPLES		7						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
14.3%	9	2	81.8%

TABLE A-191
CYANIDE COMPOUND
SURFACE SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11SD20	11SS006	SOIL	7	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		7						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
14.3%	1	0	100.0%

TABLE A-192
SULFIDE COMPOUND
SURFACE SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K1030	11SS006	SOIL	7	SULFIDE	0	98	35%	200%	1
	TOTAL SAMPLES		7						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
14.3%	0	1	0.0%

TABLE A-193
GC/MS VOLATILE ORGANICS COMPOUNDS
SURFACE SOIL SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 11SSBG1*		SDG 11SD201		
			MS	MSD	
			%R	%R	%RPD
VOA COMPOUNDS		UNITS			
1,1-DICHLOROETHENE		ug/Kg	107	98	9
TRICHLOROETHENE		ug/Kg	87	93	7
BENZENE		ug/Kg	96	94	2
TOLUENE		ug/Kg	105	105	0
CHLOROBENZENE		ug/Kg	93	93	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11SD201: 11SSBG1, 11SS006, 11SS006D, 11SS014, 11SS004, 11SS012, 11SS021

COMPOUND	ADVISORY LIMITS		RPD
	%R SOIL		SOIL
1,1-DICHLOROETHENE	59%-172%		22
TRICHLOROETHENE	62%-137%		24
BENZENE	66%-142%		21
TOLUENE	59%-139%		21
CHLOROBENZENE	60%-133%		21

TABLE A-194
SEMIVOLATILE ORGANICS COMPOUNDS
SURFACE SOIL SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 11SSBG1*		SDG 11SD201		
			MS	MSD	
			%R	%R	%RPD
SVOA COMPOUNDS		UNITS			
PHENOL		ug/KG	44	41	7
2-CHLOROPHENOL		ug/Kg	44	41	7
1,4-DICHLOROBENZENE		ug/Kg	46	42	9
N-NITROSO-DI-N-PROP.(1)		ug/Kg	42	*40	5
1,2,4-TRICHLOROBENZENE		ug/Kg	53	50	6
4-CHLORO-3-METHYLPHENOL		ug/Kg	52	48	8
ACENAPHTHENE		ug/Kg	48	48	0
4-NITROPHENOL		ug/Kg	44	44	0
2,4-DINITROTOLUENE		ug/Kg	52	52	0
PENTACHLOROPHENOL		ug/Kg	44	44	0
PYRENE		ug/Kg	53	49	8

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11SD201: 11SSBG1, 11SS006, 11SS006D, 11SS014, 11SS004, 11SS012, 11SS021

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
PHENOL	12%-110%		42
2-CHLOROPHENOL	27%-123%		40
1,4-DICHLOROBENZENE	36%-97%		28
N-NITROSO-DI-N-PROP.(1)	41%-116%		38
1,2,4-TRICHLOROBENZENE	39%-98%		28
4-CHLORO-3-METHYLPHENOL	23%-97%		42
ACENAPHTHENE	46%-118%		31
4-NITROPHENOL	10%-80%		50
2,4-DINITROTOLUENE	24%-96%		38
PENTACHLOROPHENOL	9%-103%		50
PYRENE	26%-127%		31

TABLE A-195
PESTICIDES/PCBS
SURFACE SOIL SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SSBG1*		SDG 11SD201		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/Kg	49	*45	9
Heptachlor	ug/Kg	47	46	2
Aldrin	ug/Kg	36	*29	22
Dieldrin	ug/Kg	51	42	19
Endrin	ug/Kg	51	46	10
4,4'-DDT	ug/Kg	89	62	36

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

11SD201: 11SSBG1, 11SS006, 11SS006D, 11SS014, 11SS004, 11SS012, 11SS021

MS = MATRIX SPIKE *SAMPLE 11SSBG1RE*		SDG 11SD201		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/Kg	94	94	0
Heptachlor	ug/Kg	83	83	0
Aldrin	ug/Kg	*0	*0	0
Dieldrin	ug/Kg	92	89	3
Endrin	ug/Kg	89	86	3
4,4'-DDT	ug/Kg	*7	*0	*200

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

11SD201: 11SSBG1RE, 11SS006RE, 11SS006DRE, 11SS014RE, 11SS004RE, 11SS021RE, 11SS012RE

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
gamma-BHC(Lindane)	46%-127%		50
HEPTACHLOR	35%-130%		31
ALDRIN	34-132%		43
31%-134		38	
42%-139%		45	
23%-134%		50	

TABLE A-196
ORGANOPHOSPHOROUS PESTICIDES
SURFACE SOIL SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SSBG2*		SDG K1030		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
OPP COMPOUNDS	UNITS			
Thionazin	ug/Kg	105	103	2
Sulfotepp	ug/Kg	96	97	1
Phorate	ug/Kg	103	103	1
Disulfoton	ug/Kg	73	73	1
Methyl Parathion	ug/Kg	88	92	5
Parathion	ug/Kg	93	92	0
Famphur	ug/Kg	87	88	0
o,o,o-Triethyl phosphate	ug/Kg	82	89	8
Dimethoate	ug/Kg	97	100	4

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K1030: 11SSBG2, 11SS021, 11SS021D

COMPOUND	ADVISORY LIMITS	RPD
	% R SOIL	SOIL
Thionazin	46%-134%	28
Sulfotepp	25%-153%	38
Phorate	10%-128%	34
Disulfoton	10%-137%	35
Methyl Parathion	14%-124%	39
Parathion	13%-125%	40
Famphur	26%-158%	30
o,o,o-Triethyl phosphate	27%-142%	34
Dimethoate	44%-138%	18

TABLE A-197
CHLORINATED HERBICIDES
SURFACE SOIL SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SSBG2*		SDG K1030		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
HERB COMPOUNDS	UNITS			
2,4-D	ug/Kg	56	65	16
Silvex	ug/Kg	81	86	6
2,4,5-T	ug/Kg	70	77	9
Dinoseb	ug/Kg	*50	*72	36

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K1030: 11SSBG2, 11SS021, 11SS021D

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
2,4-D	26%-143%		39
Silvex	28%-130%		25
2,4,5-T	10%-141%		33
Dinoseb	74%-98%		50

TABLE A-198
METALS AND CYANIDE
SURFACE SOIL MATRIX SPIKE/MATRIX DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 11SSBG1*	SDG 11SD201	
MD = MATRIX DUPLICATE	*SAMPLE 11SSBG1*	MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS COMPOUNDS	UNITS		
ALUMINUM	mg/Kg	NR	4.2
ANTIMONY	mg/Kg	89.8	NC
ARSENIC	mg/Kg	82.3	NC
BARIUM	mg/Kg	100	5.7
BERYLLIUM	mg/Kg	95.0	NC
CADMIUM	mg/Kg	101	NC
CALCIUM	mg/Kg	NR	13.6
CHROMIUM	mg/Kg	100	9.1
COBALT	mg/Kg	100	13.6
COPPER	mg/Kg	97.0	200
IRON	mg/Kg	NR	7.4
LEAD	mg/Kg	96.6	15.6
MAGNESIUM	mg/Kg	NR	9.8
MANGANESE	mg/Kg	103	9.4
MERCURY	mg/Kg	107	NC
NICKEL	mg/Kg	100	29.7
POTASSIUM	mg/Kg	NR	10.9
SELENIUM	mg/Kg	77.6	NC
SILVER	mg/Kg	96.0	NC
SODIUM	mg/Kg	NR	21.2
THALLIUM	mg/Kg	96.3	NC
VANADIUM	mg/Kg	99.0	5.2
ZINC	mg/Kg	103	63.2
CYANIDE	mg/Kg	*52.1	NR

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11SD201: 11SSBG1, 11SS006, 11SS006D, 11SS014, 11SS004, 11SS012, 11SS021

COMPOUND	DVISORY LIMITS		RPD
	%R SOIL		SOIL
75%-125%		+/-20 OR +/-CRDL	

TABLE A-199
SULFIDE
SURFACE SOIL SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SSBG1*		SDG K1030		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SULFIDE COMPOUND	UNITS			
SULFIDE	mg/Kg	88	92	5

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K1030: 11SSBG1, 11SS006, 11SS006D, 11SS014, 11SS004, 11SS012, 11SS021

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
SULFIDE	26%-131%		19

TABLE A-200
LOW CONCENTRATION VOLATILE ORGANIC COMPOUNDS
TRENCH LIQUIDS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11TB02	11TL07	LIQUID	5	ACETONE	17	18	20%	6%	0
				4-METHYL-2-PENTANONE	0	7	20%	ND	1
				TOLUENE	13	14	20%	7%	0
				CHLOROBENZENE	14	14	20%	0%	0
				ETHYLBENZENE	73	70	20%	4%	0
				XYLENE (TOTAL)	42	43	20%	2%	0
				1,4-DICHLOROBENZENE	6	6	20%	0%	0
	TOTAL SAMPLES		5						

% OF COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	6	1	85.7%

TABLE A-201
GC/MS SEMIVOLATILE ORGANIC COMPOUNDS
TRENCH LIQUIDS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11TB02	11TL07	LIQUID	5	PHENOL	6	9	20%	40%	1
				1,4-DICHLOROBENZENE	4	4	20%	0%	0
				4-METHYLPHENOL	0	2	20%	ND	1
				NAPHTHALENE	190	200	20%	5%	0
				2-METHYLNAPHTHALENE	6	6	20%	0%	0
				DIETHYLPHTHALATE	4	5	20%	22%	1
	TOTAL SAMPLES		5						

% OF DUPLICATES	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	3	3	50.0%

TABLE A-202
PESTICIDES/PCBS ORGANIC COMPOUNDS
TRENCH LIQUIDS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11TB02	11TL07	LIQUID	5	ENDOSULFAN II	0.01	0.01	20%	9%	0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	1	0	100.0%

TABLE A-203
ORGANOPHOSPHOROUS PESTICIDES ORGANIC COMPOUNDS
TRENCH LIQUIDS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K2123	11TL08	LIQUID	1	O,O,O-TRIETHYL PHOSPHOROTHIO.	0.67	0.70	20%	4%	0
	TOTAL SAMPLES		1						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
100.0%	1	0	100.0%

TABLE A-204
CHLORINATED HERBICIDES ORGANIC COMPOUNDS
TRENCH LIQUIDS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K2123	11TL08	LIQUID	1	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		1						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
100.0%	0	0	#DIV/0!

TABLE A-205
TOTAL METALS ANALYTES
TRENCH LIQUIDS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11TB02	11TL07	LIQUID	5	ALUMINUM	0	166	20%	ND	1
				ARSENIC	0	3.7	20%	ND	1
				BARIUM	161	157	20%	3%	0
				CALCIUM	136000	133000	20%	2%	0
				COPPER	2.0	0	20%	ND	1
				IRON	44600	43700	20%	2%	0
				MAGNESIUM	11700	11500	20%	2%	0
				MANGANESE	344	335	20%	3%	0
				POTASSIUM	4440	4370	20%	2%	0
				SODIUM	6600	6600	20%	0%	0
	TOTAL SAMPLES		5						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
20.0%	7	3	70.0%

TABLE A-206
CYANIDE COMPOUND
TRENCH LIQUIDS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K2123	11TL08	LIQUID	1	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		1						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
100.0%	0	0	#DIV/0!

TABLE A-207
SULFIDE COMPOUND
TRENCH LIQUIDS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K2123	11TL08	LIQUID	1	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		1						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
100.0%	0	0	#DIV/0!

TABLE A-208
LOW CONCENTRATION VOLATILE ORGANICS COMPOUNDS
TRENCH LIQUIDS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE	*SAMPLE 11TL04*	SDG 11TB02		
		MS	MSD	
		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
VINYL CHLORIDE	ug/L	120	120	0
1,3-DICHLOROETHANE	ug/L	100	100	0
CARBON TETRACHLORIDE	ug/L	100	100	0
1,2-DICHLOROPROPANE	ug/L	100	100	0
CIS-1,3-DICHLOROPROPENE	ug/L	100	100	0
TRICHLOROETHENE	ug/L	100	100	0
1,1,2-TRICHLOROETHANE	ug/L	100	120	18
BENZENE	ug/L	100	100	0
BROMOFORM	ug/L	100	100	0
TETRACHLOROETHENE	ug/L	100	100	0
1,2-DIBR4OMOETHANE	ug/L	100	120	18
1,4-DICHLOROBENZENE	ug/L	92	112	20

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11TB02: 11TL02, 11TL04, 11TL07, 11TL07D, 11TL08, 11TL11

COMPOUND	ADVISORY LIMITS	RPD
	%R WATER	WATER
VINYL CHLORIDE	60%-140%	NR
1,3-DICHLOROETHANE	60%-140%	NR
CARBON TETRACHLORIDE	60%-140%	NR
1,2-DICHLOROPROPANE	60%-140%	NR
CIS-1,3-DICHLOROPROPENE	60%-140%	NR
TRICHLOROETHENE	60%-140%	NR
1,1,2-TRICHLOROETHANE	60%-140%	NR
BENZENE	60%-140%	NR
BROMOFORM	60%-140%	NR
TETRACHLOROETHENE	60%-140%	NR
1,2-DIBR4OMOETHANE	60%-140%	NR
1,4-DICHLOROBENZENE	60%-140%	NR

NR INDICATES THAT LIMITS WERE NOT RECEIVED FROM THE LABORATORY.

TABLE A-209
SEMIVOLATILE ORGANICS COMPOUNDS
TRENCH LIQUIDS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11TL04*		SDG 11TB04		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/L	68	74	8
2-CHLOROPHENOL	ug/L	71	75	5
1,4-DICHLOROBENZENE	ug/L	66	62	6
N-NITROSO-DI-N-PROP.(1)	ug/L	66	72	9
1,2,4-TRICHLOROBENZENE	ug/L	72	68	6
4-CHLORO-3-METHYLPHENOL	ug/L	83	88	6
ACENAPHTHENE	ug/L	64	66	3
4-NITROPHENOL	ug/L	36	43	18
2,4-DINITROTOLUENE	ug/L	60	64	6
PENTACHLOROPHENOL	ug/L	77	69	11
PYRENE	ug/L	28	26	7

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11TB02: 11TL02, 11TL04, 11TL07, 11TL07D, 11TL08, 11TL11

COMPOUND	DVISORY LIMITS	RPD
	% R WATER	WATER
PHENOL	12%-110%	42
2-CHLOROPHENOL	27%-123%	40
1,4-DICHLOROBENZENE	36%-97%	28
N-NITROSO-DI-N-PROP.(1)	41%-116%	38
1,2,4-TRICHLOROBENZENE	39%-98%	28
4-CHLORO-3-METHYLPHENOL	23%-97%	42
ACENAPHTHENE	46%-118%	31
4-NITROPHENOL	10%-80%	50
2,4-DINITROTOLUENE	24%-96%	38
PENTACHLOROPHENOL	9%-103%	50
PYRENE	26%-127%	31

TABLE A-210
PESTICIDES/PCBS
TRENCH LIQUIDS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11TL04*		SDG 11TB02		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/L	96	100	4
Heptachlor	ug/L	78	84	7
Aldrin	ug/L	68	70	3
Dieldrin	ug/L	89	96	8
Endrin	ug/L	93	99	6
4,4'-DDT	ug/L	68	76	11

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

11TB02: 11TL02, 11TL04, 11TL07, 11TL07D, 11TL08, 11TL11

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
gamma-BHC(Lindane)	56%-123%		15
HEPTACHLOR	40%-131%		20
ALDRIN	40%-120%		22
DIELDRIN	52%-126%		18
ENDRIN	56%-121%		21
4,4'-DDT	38%-127%		27

TABLE A-211
ORGANOPHOSPHOROUS PESTICIDES
TRENCH LIQUIDS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11TL08*		SDG K2123		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
OPP COMPOUNDS	UNITS			
Thionazin	ug/L	104	100	3
Sulfotepp	ug/L	91	90	1
Phorate	ug/L	105	98	7
Disulfoton	ug/L	91	81	12
Methyl Parathion	ug/L	91	92	1
Parathion	ug/L	98	92	6
Famphur	ug/L	109	102	7
o,o,o-Triethyl phosphate	ug/L	85	84	1
Dimethoate	ug/L	96	99	2

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K2123: 11TL08, 11TL08D

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
Thionazin	57%-123%		14
Sulfotepp	41%-137%		30
Phorate	24%-115%		36
Disulfoton	18%-120%		43
Methyl Parathion	27%-111%		28
Parathion	19%-110%		54
Famphur	43%-144%		42
o,o,o-Triethyl phosphate	41%-128%		24
Dimethoate	55%-123%		34

TABLE A-212
CHLORINATED HERBICIDES
TRENCH LIQUIDS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11TL08*		SDG K2123		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
HERB COMPOUNDS	UNITS			
2,4-D	ug/L	84	89	6
Silvex	ug/L	106	98	8
2,4,5-T	ug/L	93	94	1
Dinoseb	ug/L	*33	*32	5

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K2123: 11TL08, 11TL08D

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
2,4-D	33%-137%		32
Silvex	35%-139%		39
2,4,5-T	22%-139%		29
Dinoseb	74%-98%		50

TABLE A-213
METALS AND CYANIDE
TRENCH LIQUIDS MATRIX SPIKE/MATRIX DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 11TL04*		SDG 11TB02	
MD = MATRIX DUPLICATE	*SAMPLE 11TL04*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE			%R	RPD
METALS COMPOUNDS		UNITS		
ALUMINUM		ug/L	162	5.1
ANTIMONY		ug/L	104	NC
ARSENIC		ug/L	122	14
BARIUM		ug/L	111	1.7
BERYLLIUM		ug/L	115	NC
CADMIUM		ug/L	109	0
CALCIUM		ug/L	NR	1.20
CHROMIUM		ug/L	106	3.20
COBALT		ug/L	107	0.10
COPPER		ug/L	112	3.6
IRON		ug/L	198	1.0
LEAD		ug/L	109	0.4
MAGNESIUM		ug/L	NR	0.9
MANGANESE		ug/L	111	1.3
MERCURY		ug/L	110	NR
NICKEL		ug/L	109	2
POTASSIUM		ug/L	NR	1.00
SELENIUM		ug/L	97.0	NC
SILVER		ug/L	107	NC
SODIUM		ug/L	NR	2.4
THALLIUM		ug/L	109	NC
VANADIUM		ug/L	107	3.4
ZINC		ug/L	93	19.7
CYANIDE		ug/L	*127	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11TB02 11TL02, 11TL04, 11TL07, 11TL07D, 11TL08, 11TL11

COMPOUND	ADVISORY LIMITS		RPD
	%R WATER		WATER
75%-125%		+/-20 OR +/-CRDL	

TABLE A-214
SULFIDE
TRENCH LIQUIDS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11TL04*		SDG 11TB02		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SULFIDE COMPOUND	UNITS			
SULFIDE	ug/L	76	76	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

11TB02: 11TL02, 11TL04, 11TL07, 11TL07D, 11TL08, 11TL11

COMPOUND	ADVISORY LIMITS		RPD
	% R WATER		WATER
SULFIDE -	25%-197%		11

TABLE A-215
GC/MS VOLATILE ORGANIC COMPOUNDS
TRENCH SOILS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11TB02	11TS07	SOIL	6	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		**6**						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
16.7%	0	0	#DIV/0!

TABLE A-216
GC/MS SEMIVOLATILE ORGANIC COMPOUNDS
TRENCH SOILS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11TB02	11TS07	SOIL	6	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		6						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
16.7%	0	0	#DIV/0!

TABLE A-217
PESTICIDES/PCBS ORGANIC COMPOUNDS
TRENCH SOILS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11TB02	11TS07	SOIL	6	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		6						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
16.7%	0	0	#DIV/0!

TABLE A-218
ORGANOPHOSPHOROUS PESTICIDES ORGANIC COMPOUNDS
TRENCH SOILS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K2123	11TS08	SOIL	6	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		6						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
16.7%	0	0	#DIV/0!

TABLE A-219
HERBICIDES ORGANIC COMPOUNDS
TRENCH SOILS SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
K2123	11TS08	SOIL	6	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		6						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
16.7%	0	0	#DIV/0!

TABLE A-220
TOTAL METALS ANALYTES
TRENCH SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11TB02	11TS07	SOIL	6	ALUMINUM	1460	1410	35%	3%	0
				BARIUM	5.3	5.1	35%	4%	0
				CALCIUM	216	205	35%	5%	0
				COBALT	0.81	0.74	35%	9%	0
				IRON	722	693	35%	4%	0
				LEAD	1.8	2.1	35%	15%	0
				MAGNESIUM	92.3	91.5	35%	1%	0
				MANGANESE	8.9	7.4	35%	18%	0
				POTASSIUM	36.3	35	35%	5%	0
				SODIUM	175	176	35%	1%	0
				VANADIUM	2.1	2.1	35%	0%	0
	TOTAL SAMPLES		6						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
16.7%	11	0	100.0%

TABLE A-221
CYANIDE COMPOUND
TRENCH SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11TB02	11TS07	SOIL	6	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		6						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
16.7%	0	0	#DIV/0!

TABLE A-222
SULFIDE COMPOUND
TRENCH SOIL SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
11TB02	11TS07	SOIL	6	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		6						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
16.7%	0	0	#DIV/0!

TABLE A-223
GC/MS VOLATILE ORGANICS COMPOUNDS
TRENCH SOILS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11TS04*		SDG 11TB02		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
1,1-DICHLOROETHENE	ug/Kg	109	98	11
TRICHLOROETHENE	ug/Kg	101	100	1
BENZENE	ug/Kg	92	95	3
TOLUENE	ug/Kg	97	97	0
CHLOROBENZENE	ug/Kg	98	98	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11TB02: 11TS02, 11TS04, 11TS07, 11TS07D, 11TS11, 11TS08, 11TS12

COMPOUND	ADVISORY LIMITS	RPD
	%R SOIL	SOIL
1,1-DICHLOROETHENE	59%-172%	22
TRICHLOROETHENE	62%-137%	24
BENZENE	66%-142%	21
TOLUENE	59%-139%	21
CHLOROBENZENE	60%-133%	21

TABLE A-224
SEMIVOLATILE ORGANICS COMPOUNDS
TRENCH SOILS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11TS04*		SDG 11TB02		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/KG	66	59	11
2-CHLOROPHENOL	ug/Kg	59	56	5
1,4-DICHLOROBENZENE	ug/Kg	57	57	0
N-NITROSO-DI-N-PROP.(1)	ug/Kg	62	57	8
1,2,4-TRICHLOROBENZENE	ug/Kg	67	57	16
4-CHLORO-3-METHYLPHENOL	ug/Kg	72	72	0
ACENAPHTHENE	ug/Kg	67	62	8
4-NITROPHENOL	ug/Kg	47	50	6
2,4-DINITROTOLUENE	ug/Kg	62	67	8
PENTACHLOROPHENOL	ug/Kg	72	66	9
PYRENE	ug/Kg	67	67	0

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11TB02: 11TS02, 11TS04, 11TS07, 11TS07D, 11TS11, 11TS08, 11TS12

COMPOUND	ADVISORY LIMITS	RPD
	% R SOIL	SOIL
PHENOL	12%-110%	42
2-CHLOROPHENOL	27%-123%	40
1,4-DICHLOROBENZENE	36%-97%	28
N-NITROSO-DI-N-PROP.(1)	41%-116%	38
1,2,4-TRICHLOROBENZENE	39%-98%	28
4-CHLORO-3-METHYLPHENOL	23%-97%	42
ACENAPHTHENE	46%-118%	31
4-NITROPHENOL	10%-80%	50
2,4-DINITROTOLUENE	24%-96%	38
PENTACHLOROPHENOL	9%-103%	50
PYRENE	26%-127%	31

TABLE A-225
PESTICIDES/PCBS
TRENCH SOILS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11TS04*		SDG 11TB02		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
gamma-BHC (Lindane)	ug/Kg	76	86	12
Heptachlor	ug/Kg	71	81	13
Aldrin	ug/Kg	57	67	16
Dieldrin	ug/Kg	71	86	19
Endrin	ug/Kg	79	93	16
4,4'-DDT	ug/Kg	93	88	6

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

11TB02: 11TS02, 11TS04, 11TS07, 11TS07D, 11TS11, 11TS08, 11TS12

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
gamma-BHC(Lindane)	46%-127%		50
HEPTACHLOR	35%-130%		31
ALDRIN	34-132%		43
DIELDRIN	31%-134		38
ENDRIN	42%-139%		45
4,4'-DDT	23%-134%		50

TABLE A-226
ORGANOPHOSPHOROUS PESTICIDES
TRENCH SOILS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11TS08*		SDG K2123		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
OPP COMPOUNDS	UNITS			
Thionazin	ug/Kg	92	87	5
Sulfotepp	ug/Kg	83	77	7
Phorate	ug/Kg	91	91	0
Disulfoton	ug/Kg	68	61	10
Methyl Parathion	ug/Kg	81	85	5
Parathion	ug/Kg	80	86	7
Famphur	ug/Kg	78	89	13
o,o,o-Triethyl phosphate	ug/Kg	80	76	5
Dimethoate	ug/Kg	84	94	11

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K2123: 11TS08, 11TS08D

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
Thionazin	46%-134%		28
Sulfotepp	25%-153%		38
Phorate	10%-128%		34
Disulfoton	10%-137%		35
Methyl Parathion	14%-124%		39
Parathion	13%-125%		40
Famphur	26%-158%		30
o,o,o-Triethyl phosphate	27%-142%		34
Dimethoate	44%-138%		18

TABLE A-227
CHLORINATED HERBICIDES
TRENCH SOILS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11TS08*		SDG K2123		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
HERB COMPOUNDS	UNITS			
2,4-D	ug/Kg	78	77	1
Silvex	ug/Kg	84	83	1
2,4,5-T	ug/Kg	77	76	1
Dinoseb	ug/Kg	*40	*49	19

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

K2123: 11TS08, 11TS08D

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
2,4-D	26%-143%		39
Silvex	28%-130%		25
2,4,5-T	10%-141%		33
Dinoseb	74%-98%		50

TABLE A-228
METALS AND CYANIDE
TRENCH SOILS MATRIX SPIKE/MATRIX DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE	*SAMPLE 11TL04*		SDG 11TB02	
MD = MATRIX DUPLICATE	*SAMPLE 11TL04*		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE			%R	RPD
METALS COMPOUNDS		UNITS		
ALUMINUM		mg/Kg	NR	*22.2
ANTIMONY		mg/Kg	82.3	NC
ARSENIC		mg/Kg	97	NC
BARIUM		mg/Kg	105	31.5
BERYLLIUM		mg/Kg	103	NC
CADMIUM		mg/Kg	104	NC
CALCIUM		mg/Kg	NR	43.0
CHROMIUM		mg/Kg	104	35.2
COBALT		mg/Kg	103	23.1
COPPER		mg/Kg	102.8	NC
IRON		mg/Kg	NR	*32.9
LEAD		mg/Kg	105	13.7
MAGNESIUM		mg/Kg	NR	42.2
MANGANESE		mg/Kg	102	*62.5
MERCURY		mg/Kg	110	NC
NICKEL		mg/Kg	105	57.9
POTASSIUM		mg/Kg	NR	44.6
SELENIUM		mg/Kg	81.5	NC
SILVER		mg/Kg	100	NC
SODIUM		mg/Kg	NR	22.9
THALLIUM		mg/Kg	89.0	NC
VANADIUM		mg/Kg	104	23.9
ZINC		mg/Kg	107	7.7
CYANIDE		mg/Kg	93.8	NR

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

11TB02: 11TS02, 11TS04, 11TS07, 11TS07D, 11TS11, 11TS08, 11TS12

COMPOUND	ADVISORY LIMITS		RPD
	%R SOIL		SOIL
75%-125%		+/-20 OR +/-CRDL	

TABLE A-229
SULFIDE
TRENCH SOILS SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11TS04*		SDG 11TB02		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SULFIDE COMPOUND	UNITS			
SULFIDE	mg/Kg	66	69	3

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

11TB02: 11TS02, 11TS04, 11TS07, 11TS07D, 11TS11, 11TS08, 11TS12

MS = MATRIX SPIKE *SAMPLE 11TS12*		SDG 11TB02		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SULFIDE COMPOUND	UNITS			
SULFIDE	mg/Kg	100	104	4

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

11TB02: 11TS02, 11TS04, 11TS07, 11TS07D, 11TS11, 11TS08, 11TS12

COMPOUND	ADVISORY LIMITS		RPD
	% R SOIL		SOIL
SULFIDE	26%-131%		19

TABLE A-230, CONTINUED
GC/MS VOLATILE ORGANIC COMPOUNDS
AIR SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
G56173	11AIR111	AIR		VINYL CHLORIDE	0.01	0.00	35%	200%	1
				TRICHLOROFLUOROMETHANE	0.32	0.27	35%	17%	0
				METHYLENE CHLORIDE	7.84	0.00	35%	200%	1
				FREON-113	1.07	0.10	35%	166%	1
				CHLOROFORM	0.09	0.00	35%	200%	1
				1,1,1-TRICHLOROETHANE	0.16	0.13	35%	21%	0
				BENZENE	0.18	0.19	35%	5%	0
				CARBON TETRACHLORIDE	0.13	0.13	35%	0%	0
				TOLUENE	0.57	0.56	35%	2%	0
				ETHYLBENZENE	0.08	0.08	35%	0%	0
				M,P-XYLENE	0.28	0.29	35%	4%	0
				O-XYLENE	0.10	0.08	35%	22%	0
				1,2,4-TRIMETHYLBENZENE	0.09	0.07	35%	25%	0
	11AIR114	AIR		TRICHLOROFLUOROMETHANE	0.27	0.31	35%	14%	0
				FREON 113	0.12	0.10	35%	18%	0
				1,1,1-TRICHLOROETHANE	0.13	0.13	35%	0%	0
				BENZENE	0.20	0.19	35%	5%	0
				CARBON TETRACHLORIDE	0.13	0.12	35%	8%	0
				M,P-XYLENE	0.14	0.13	35%	7%	0
				1,2,4-TRIMETHYLBENZENE	0.05	0.07	35%	33%	0
				TOLUENE	1.24	0.00	35%	200%	1
				O-XYLENE	0.00	0.07	35%	200%	1
	11AIR112	AIR		TRICHLOROFLUOROMETHANE	0.28	0.27	35%	4%	0
				FREON 113	0.11	0.12	35%	9%	0
				1,1,1-TRICHLOROETHANE	0.13	0.13	35%	0%	0
				BENZENE	0.19	0.19	35%	0%	0
				CARBON TETRACHLORIDE	0.13	0.13	35%	0%	0
				M,P-XYLENE	0.09	0.11	35%	20%	0
				1,2,4-TRIMETHYLBENZENE	0.06	0.06	35%	0%	0
	TOTAL SAMPLES		24						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
29.2%	52	18	74.3%

TABLE A-230
GC/MS VOLATILE ORGANIC COMPOUNDS
AIR SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
G55819	11AIR102	AIR	24	DICHLORODIFLUOROMETHANE	0.55	0.51	35%	8%	0
				TRICHLOROFLUOROMETHANE	0.35	0.34	35%	3%	0
				1,1,1-TRICHLOROETHANE	0.13	0.13	35%	0%	0
				BENZENE	0.18	0.12	35%	40%	1
				CARBON TETRACHLORIDE	0.14	0.13	35%	7%	0
				TOLUENE	0.14	0.23	35%	49%	1
G55820	11AIR104	AIR		DICHLORODIFLUOROMETHANE	0.56	0.51	35%	9%	0
				TRICHLOROFLUOROMETHANE	0.34	0.30	35%	13%	0
				1,1,1-TRICHLOROETHANE	0.13	0.13	35%	0%	0
				BENZENE	0.21	0.13	35%	47%	1
				CARBON TETRACHLORIDE	0.12	0.12	35%	0%	0
				TOLUENE	0.28	0.24	35%	15%	0
				M,P-XYLENE	0.17	0.00	35%	200%	1
				O-XYLENE	0.06	0.00	35%	200%	1
				1,2,4-TRIMETHYLBENZENE	0.10	0.06	35%	50%	1
				METHYLENE CHLORIDE	0.00	0.60	35%	200%	1
G56520	11AIR117	AIR		DICHLORODIFLUOROMETHANE	0.63	0.73	35%	15%	0
				TRICHLOROFLUOROMETHANE	0.37	0.42	35%	13%	0
				1,1,1-TRICHLOROETHANE	0.17	0.23	35%	30%	0
				BENZENE	0.39	0.31	35%	23%	0
				CARBON TETRACHLORIDE	0.16	0.21	35%	27%	0
				TOLUENE	0.84	0.42	35%	67%	1
				M,P-XYLENE	0.19	0.16	35%	17%	0
				FREON-113	0.29	0.29	35%	0%	0
				METHYLENE CHLORIDE	6.89	9.34	35%	30%	0
				CHLOROFORM	1.25	0.00	35%	200%	1
				CHLOROBENZENE	0.36	0.00	35%	200%	1
				TETRACHLOROETHENE	0.10	0.00	35%	200%	1
	11AIR119	AIR		DICHLORODIFLUOROMETHANE	1.22	1.71	35%	33%	0
				TRICHLOROFLUOROMETHANE	0.60	0.69	35%	14%	0
				1,1,1-TRICHLOROETHANE	0.34	0.31	35%	9%	0
				BENZENE	1.86	1.80	35%	3%	0
				CARBON TETRACHLORIDE	0.16	0.16	35%	0%	0
				TOLUENE	2.44	2.43	35%	0%	0
				FREON-113	3.47	4.37	35%	23%	0
				METHYLENE CHLORIDE	21.70	33.30	35%	42%	1
				CHLOROFORM	0.67	0.78	35%	15%	0
				ETHYLBENZENE	0.13	0.14	35%	7%	0
				M,P-XYLENE	0.53	0.53	35%	0%	0
				O-XYLENE	0.19	0.20	35%	5%	0
				1,2,4-TRIMETHYLBENZENE	0.11	0.10	35%	10%	0

TABLE A-231
SURROGATE % RECOVERIES
LOW CONCENTRATION VOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	BFB	TOTAL OUT
BS601	11SW201	96	0
	11SW202	95	0
	11SW202D	99	0
	11SW203	102	0
	11SW203MS	100	0
	11SW203MSD	97	0
	11SW204	97	0
	11TL02	93	0
	BS601ER	101	0
	BS601FB	94	0
	BS602ER	95	0
	BS602FB	86	0
	BS604ER	96	0
	BSTR1TB	92	0
	BT602FB	98	0
	BT603FB	94	0
11TB02	11TB02	97	0
	11TL04	92	0
	11TL04MS	100	0
	11TL04MSD	98	0
	11TL07	105	0
	11TL07D	102	0
	11TL11	107	0
	BS4TR4TB	NA	0
	BS605ER	93	0
	BS606ER	NA	0
	BSTR2TB	96	0
	BSTRTB06	96	0

BFB = BROMOFLUOROBENZENE

QC LIMITS 80% - 120%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE COMPOUND NOT SPIKED

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
28	28	0	100.0%

TABLE A-232
SURROGATE % RECOVERIES
GC/MS VOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	SMC1	SMC2	SMC3	TOTAL OUT
11TB02	BS4TR4RB	99	96	93	0
	BS606ER	99	97	93	0
K1044	11SW205	98	98	101	0
K2123	BSTR3TB	102	100	94	0
	11TL08	98	104	96	0
11SD201	BS603ER	99	95	88	0
	BT604FB	99	94	88	0
	BT605FB	100	96	86	0

SMC1 = TOLUENE-D8 QC LIMITS 88% - 110%
SMC2 = BROMOFLUOROBENZENE QC LIMITS 86% - 115%
SMC3 = 1,2-DICHLOROETHANE-D4 QC LIMITS 76% - 114%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
8	32	0	100.0%

TABLE A-233
SURROGATE % RECOVERIES
SEMIVOLATILE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL OUT
BS601	11SW202D	71	76	80	84	100	68	78	73	0
	BS601ER	65	74	74	79	95	95	70	65	0
	BS601FB	74	80	85	86	92	97	80	74	0
	BS602ER	62	67	68	76	92	90	68	64	0
	11SW201	71	78	83	84	99	77	78	72	0
	11SW202	75	80	82	85	98	58	80	76	0
	11SW204	63	67	72	75	87	48	68	64	0
	11SW203	59	66	64	71	88	63	66	59	0
	11SW203MS	66	72	69	73	91	55	72	65	0
	11SW203MSD	62	68	68	69	80	65	64	62	0
	BS602FB	78	86	88	87	92	97	82	77	0
	11TL02	81	85	85	78	91	21D	86	81	0
	BS604ER	62	66	67	72	75	82	67	61	0
11TB02	11TL04	70	70	65	60	78	*24	69	61	1
	11TL04MS	83	79	72	69	83	*31	76	69	1
	BS605ER	83	80	78	71	98	87	78	71	0
	11TL07	39	38	34D	36D	48	32D	38	36	0
	11TL07D	41	43	34D	41D	52	39	42	40	0
	11TL11	68	74	68	65	79	*21	68	62	1
	11TL04MSD	82	78	78	71	76	*23	80	70	1
	11TL07DRE	44	42	38	43	54	37	44	43	0
	BS606ER	71	78	77	68	77	89	76	72	0
11SD201	BS603ER	56	62	60	62	69	78	60	54	0
K1044 #	11SW205	72	68	71	68	84	87	NA	NA	0
K2123 #	11TL08	23	*13	*24	*21	85	25	NA	NA	3
	11TL08RE	82	89	86	81	98	33	NA	NA	0

S1 = 2-FLUOROBIPHENYL	QC LIMITS 21% - 110%	# QC LIMITS 15% - 126%	
S2 = PHENOL-D5	QC LIMITS 10% - 110%	# QC LIMITS 17% - 106%	
S3 = NITROBENZENE-D5	QC LIMITS 35% - 114%	# QC LIMITS 36% - 148%	
S4 = 2-FLUOROPHENOL	QC LIMITS 43% - 116%	# QC LIMITS 38% - 106%	
S5 = 2,4,6-TRIBROMOPHENOL	QC LIMITS 10% - 123%	# QC LIMITS 13% - 145%	
S6 = TERPHENYL-D14	QC LIMITS 33% - 141%	# QC LIMITS 10% - 169%	
S7 = 2-CHLOROPHENOL-D4	QC LIMITS 33% - 110%		(ADVISORY)
S8 = 1,2-DICHLOROBENZENE-D4	QC LIMITS 16% - 110%		(ADVISORY)

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE COMPOUND NOT SPIKED

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
26	195	7	96.5%

TABLE A-234
SURROGATE % RECOVERIES
PESTICIDE/PCBS WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TCX1	TCX2	DCB1	DCB2	TOTAL OUT
BS601	11SW202D	*50	76	80	84	1
	BS601ER	*50	75	85	95	1
	BS601FB	*55	70	80	80	1
	BS602ER	*45	65	*41	*48	3
	11SW201	*46	*55	60	65	2
	11SW202	65	70	65	*55	1
	11SW204	*40	*55	90	95	2
	11SW203	*22	*37	70	80	2
	11SW203MS	*28	*50	80	95	2
	11SW203MSD	*43	60	95	105	1
	BS602FB	*37	65	75	80	1
	11TL02	*20	60	*330	*425	3
	BS604ER	*48	70	80	85	1
11TB02	11TL04	*44	80	*50	*55	3
	11TL04MS	*49	80	*50	*55	3
	11TL04MSD	*45	90	*55	60	2
	11TL07	*55	85	*49	*55	3
	11TL07D	*55	110	60	60	1
	11TL11	*11	*12	*18	*24	4
	BS605ER	*50	75	75	80	1
	BS606ER	*55	85	90	95	1
11SD201	BS603ER	*25	*50	60	70	2
K1044 #	11SW205	103	111	88	93	0
K2123 #	11TL08	29	41	17	15	0

TCMX = TETRACHLORO-M-XYLENE QC LIMITS 60% - 150% # QC LIMITS 14% - 155%
DCB = DECACHLOROBIPHENYL QC LIMITS 60% - 150% # QC LIMITS 10% - 155%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE COMPOUND NOT SPIKED

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
24	55	41	57.3%

TABLE A-235
SURROGATE % RECOVERIES
ORGANOPHOSPHOROUS PESTICIDE WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TPP1	TPP2	TOTAL OUT
11TB02	BS605ER	100	102	0
K1030	BS603ER	80	81	0
K1044	BS602FB	109	109	0
	11SW205	103	99	0
	11SW205MS	104	102	0
	11SW205MSD	100	99	0
	11SW205D	100	97	0
	BS601ER	93	93	0
	BS601FB	106	104	0
	BS602ER	96	91	0
K2123	11TL08	106	116	0
	11TL08MS	104	105	0
	11TL08MSD	107	102	0
	11TL08D	102	111	0

TPP = TRIPHENYLPHOSPHATE

QC LIMITS 38% - 146%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE COMPOUND NOT SPIKED

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
14	28	0	100.0%

TABLE A-236
SURROGATE % RECOVERIES
CHLORINATED HERBICIDES WATER SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	DCAA1	DCAA2	TOTAL OUT
11TB02	BS605ER	83	90	0
K1030	BS603ER	70	77	0
K1044	BS602FB	76	84	0
	11SW205	76	84	0
	11SW205MS	78	80	0
	11SW205MSD	80	85	0
	11SW205D	82	91	0
	BS601ER	67	75	0
	BS601FB	78	86	0
	BS602ER	75	83	0
K2123	11TL08	119	114	0
	11TL08MS	100	95	0
	11TL08MSD	100	104	0
	11TL08D	116	117	0

DCAA = DECACHLOROBIPHENYL

QC LIMITS 50% - 150%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE COMPOUND NOT SPIKED

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
14	28	0	100.0%

TABLE A-237
SURROGATE % RECOVERIES
GC/MS VOLATILE SOIL/SEDIMENT SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	SMC1	SMC2	SMC3	TOTAL OUT
11TB02	11TS04	102	94	95	0
	11TS04MS	101	95	94	0
	11TS04MSD	102	93	95	0
	11TS07	102	93	94	0
	11TS07D	106	103	99	0
	11TS11	114	88	98	0
	11TS12	103	97	107	0
K1030	11SS021	109	91	96	0
	11SSBG2	112	89	93	0
	11SD205	101	96	100	0
K2123	11TS08	101	102	100	0
11SD201	11SD201	110	96	97	0
	11SD202	110	101	102	0
	11SD202D	108	103	104	0
	11SD203	108	101	96	0
	11SD203MS	107	99	104	0
	11SD203MSD	107	98	99	0
	11SD204	104	104	104	0
	11SS004	121	88	102	0
	11SS006	120	88	104	0
	11SS006D	121	82	100	0
	11SS006RE	126	77	102	0
	11SS012	113	87	89	0
	11SS014	110	80	89	0
	11SSBG1	108	92	105	0
	11SSBG1MS	114	95	105	0
	11SSBG1MSD	113	85	94	0
	11TS02	100	92	99	0

SMC1 = TOLUENE-D8 QC LIMITS 84% - 138%
SMC2 = BROMOFLUOROBENZENE QC LIMITS 59% - 113%
SMC3 = 1,2-DICHLOROETHANE-D4 QC LIMITS 70% - 121%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
28	84	0	100.0%

TABLE A-238
SURROGATE % RECOVERIES
SEMIVOLATILE SOIL/SEDIMENT SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL OUT
11SD201	11SD202	48	58	50	63	71	72	53	47	0
	11SD201	70	78	69	80	75	78	75	68	0
	11SD203	66	75	67	76	104	97	72	62	0
	11SD203MS	28	30	28	30	38	35	29	25	0
	11SD203MSD	30	35	30	37	47	42	32	27	0
	11SSBG1MS	47	52	50	54	57	53	50	47	0
	11SSBG1MSD	42	47	46	51	55	49	47	44	0
	11SSBG1	42	47	45	51	56	50	47	44	0
	11SD204	38	45	40	44	52	49	43	39	0
	11SS006	41	45	43	49	54	48	44	42	0
	11TS02	62	61	64	67	91	81	58	58	0
	11SS014	49	48	47	49	59	47	46	48	0
	11SS004	40	37	39	39	46	36	39	38	0
	11SS012	48	45	49	50	53	48	45	44	0
	11SD202D	80	81	81	86	93	80	77	72	0
	11SS006	45	44	45	47	57	47	43	41	0
11TB02	11TS07D	47	54	52	51	66	74	51	47	0
	11TS07	52	59	59	56	72	73	57	54	0
	11TS04	58	65	62	61	75	72	64	59	0
	11TS04MS	65	71	67	66	77	74	68	63	0
	11TS04MSD	60	67	58	61	77	70	62	56	0
	11TS12	71	73	72	71	83	80	72	72	0
	11TS11	84	94	85	87	91	95	89	85	0
K2123 #	11TS08	61	59	65	68	82	81	NA	NA	0
K1030 #	11SS021	71	60	63	59	87	79	NA	NA	0
	11SSBG2	60	63	68	60	71	68	NA	NA	0
	11SD205	66	62	67	62	69	67	NA	NA	0

S1 = 2-FLUOROBIPHENYL QC LIMITS 25% - 121% # QC LIMITS 52% - 131%
S2 = PHENOL-D5 QC LIMITS 24% - 113% # QC LIMITS 43% - 109%
S3 = NITROBENZENE-D5 QC LIMITS 23% - 120% # QC LIMITS 37% - 150%
S4 = 2-FLUOROPHENOL QC LIMITS 30% - 115% # QC LIMITS 37% - 117%
S5 = 2,4,6-TRIBROMOPHENOL QC LIMITS 19% - 122% # QC LIMITS 28% - 101%
S6 = TERPHENYL-D14 QC LIMITS 18% - 137% # QC LIMITS 10% - 170%
S7 = 2-CHLOROPHENOL-D4 QC LIMITS 20% - 130% (ADVISORY)
S8 = 1,2-DICHLOROBENZENE-D4 QC LIMITS 20% - 130% (ADVISORY)

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE COMPOUND NOT SPIKED

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
27	214	0	100.0%

TABLE A-239
SURROGATE % RECOVERIES
PESTICIDE/PCBS SOIL/SEDIMENT SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TCX1	TCX2	DCB1	DCB2	TOTAL OUT
11SD201	11SD201	*55	67	84	88	1
	11SD201RE	*46	72	93	97	1
	11SD202	*53	69	85	89	1
	11SD202D	*54	70	97	95	1
	11SD202RE	*45	66	91	95	1
	11SD202DRE	*49	77	*179	*191	3
	11SD203	*20	*29	*43	*44	4
	11SD203MS	*25	*33	*48	*50	4
	11SD203MSD	*21	*29	*43	*45	4
	11SD203RE	*50	76	94	100	1
	11SD203MSRE	*55	76	94	94	1
	11SD203MSDRE	*50	70	94	100	1
	11SD204	*27	*39	65	*54	3
	11SD204RE	70	76	97	97	0
	11SS004	*29	*37	*58	*52	4
	11SS004RE	*51	71	97	91	1
	11SS006	*32	*48	*54	*58	4
	11SS006D	*33	*46	*52	*57	4
	11SS006RE	*43	69	84	91	1
	11SS006DRE	*49	66	78	84	1
	11SS012	*34	*41	*17	64	3
	11SS012RE	*39	*52	*19	74	3
	11SS014	*23	*34	*47	*50	4
	11SS014RE	*48	72	92	98	1
	11SSBG1	*19	*27	*40	*42	4
	11SSBG1MS	*32	*40	*53	*55	4
	11SSBG1MSD	*31	*38	*51	*53	4
	11SSBG1RE	*50	75	89	96	1
	11SSBG1MSRE	*47	75	89	96	1
	11SSBG1MSDRE	*57	75	89	89	1
11TB02	11TS07D	*58	73	91	85	1
	11TS07	*44	60	76	69	1
	11TS04	*43	65	71	77	1
	11TS04MS	*49	65	77	77	1
	11TS04MSD	*46	77	83	83	1
	11TS12	*57	83	90	97	1
	11TS12RE	69	104	111	104	0
	11TS11	*52	81	106	87	1
	11TS11RE	69	106	119	106	0
11SD201	11TS02	*43	*59	84	84	2
	11TS02RE	70	84	98	98	0

TABLE A-239
SURROGATE % RECOVERIES
PESTICIDE/PCBS SOIL/SEDIMENT SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TCX1	TCX2	DCB1	DCB2	TOTAL OUT
K2123 #	11TS08	92	100	95	123	0
K1030 #	11SS021	88	102	86	111	0
	11SSBG2	106	98	100	121	0
	11SD205	106	90	116	91	0

TCMX = TETRACHLORO-M-XYLENE QC LIMITS 60% - 150% # QC LIMITS 14% - 155%
DCB = DECACHLOROBIPHENYL QC LIMITS 60% - 150% # QC LIMITS 10% - 155%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE COMPOUND NOT SPIKED

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
45	104	76	57.8%

TABLE A-240
SURROGATE % RECOVERIES
ORGANOPHOSPHOROUS PESTICIDE SOIL/SED SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TPP1	TPP2	TOTAL OUT
K2123	11TS08	85	83	0
	11TS08MS	88	92	0
	11TS08MSD	99	97	0
	11TS08D	81	80	0
K1030	11SSBG2	96	92	0
	11SSBG2MS	106	97	0
	11SSBG2MSD	111	103	0
	11SS021	96	97	0
	11SS021D	103	103	0
	11SD205	99	100	0
	11SD205MS	115	110	0
	11SD205MSD	102	106	0
	11SD205D	99	106	0

TPP = TRIPHENYLPHOSPHATE

QC LIMITS 20% - 157%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE COMPOUND NOT SPIKED

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
13	26	0	100.0%

TABLE A-241
SURROGATE % RECOVERIES
CHLORINATED HERBICIDES SOIL/SEDIMENT SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	DCAA1	DCAA2	TOTAL OUT
K2123	11TS08	77	82	0
	11TS08MS	86	92	0
	11TS08MSD	89	95	0
	11TS08D	75	80	0
K1030	11SSBG2	75	80	0
	11SSBG2MS	79	84	0
	11SSBG2MSD	85	94	0
	11SS021	78	84	0
	11SS021D	84	83	0
	11SD205	75	81	0
	11SD205MS	76	83	0
	11SD205MSD	73	80	0
	11SD205D	73	78	0

DCAA

QC LIMITS 50% - 150%

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE COMPOUND NOT SPIKED

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
13	26	0	100.0%

TABLE A-242
LOW CONCENTRATION VOLATILES DETECTED IN TRIP BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	TB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BSTR1TB	11TL02, 11TS02	NO CONTAMINATION FOUND			
	BT602FB	11SD201, 11SD202, 11SD202D, 11SW201, 11SW202, 11SW202D	METHYLENE CHLORIDE	0.6	ug/L	
			ACETONE	8	ug/L	
	BT603FB	11SD203, 11SD204, 11SD205, 11SW203, 11SW204, 11SW205D	METHYLENE CHLORIDE	1	ug/L	
			ACETONE	6	ug/L	
11TB02	BSTRTB06	11TL11	ACETONE	9	ug/L	U
		11TS11, 11TS12				
	11TB02	11TL04, 11TL04MS, 11TL04MSD	ACETONE	21	ug/L	U
		11TS04				
	BSTR2TB	11TL07, 11TL07D, 11TS07, 11TS07D	ACETONE	10	ug/L	

TABLE A-243
GC/MS VOLATILES DETECTED IN TRIP BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	TB CONC.	UNITS	VALIDATION QUALIFIER
11SD201	BT604FB	11SSBG1, 11SS006, 11SS006D, 11SSBG2	ACETONE	10	ug/L	
			2-BUTANONE	4	ug/L	
	BT605FB	11SS014, 11SS004, 11SS012, 11SS021	ACETONE	8	ug/L	
11TB02	BS4TR4TB	11TS07D	ACETONE	9	ug/L	CRQL
		11TS12				U
K2123	BSTR3TB	11TL08	ACETONE	7	ug/L	U
		11TS08				

TABLE A-244
LOW CONCENTRATION VOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601FB	11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205, 11SW201, 11SW202, 11SW202D, 11SW203, 11SW204, 11SW205, 11SSBG1, 11SS006, 11SS006D, 11SSBG2, 11SS014, 11SS004, 11SS012, 11SS021	METHYLENE CHLORIDE	0.8	ug/L	
			ACETONE	51.0	ug/L	
			CARBON DISULFIDE	0.9	ug/L	
			2-BUTANONE	9.0	ug/L	
	BS602FB	11TL02, 11TS02, 11TS04, 11TL04, 11TL07, 11TL07D, 11TS07, 11TS07D, 11TL08, 11TS08, 11TL11, 11TS11, 11TS12	ACETONE	14.0	ug/L	
			2-BUTANONE	35.0	ug/L	
			4-METHYL-2-PENTANONE	3.0	ug/L	

TABLE A-245
GC/MS SEMIVOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601FB	11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205, 11SW201, 11SW202, 11SW202D, 11SW203, 11SW204, 11SW205, 11SSBG1, 11SS006, 11SS006D, 11SSBG2, 11SS014, 11SS004, 11SS012, 11SS021	NO CONTAMINATION FOUND			
	BS602FB	11TL02, 11TS02, 11TS04, 11TL04, 11TL07, 11TL07D, 11TS07, 11TS07D, 11TL08, 11TS08, 11TL11, 11TS11, 11TS12	ACENAPHTHENE	0.6	ug/L	
			DIBENZOFURAN	0.7	ug/L	
			FLUORENE	1.0	ug/L	
			PHENANTHRENE	2.0	ug/L	
			ANTHRACENE	3.0	ug/L	
			CARBAZOLE	1.0	ug/L	

TABLE A-246
PESTICIDES/PCBS DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601FB	11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205, 11SW201, 11SW202, 11SW202D, 11SW203, 11SW204, 11SW205, 11SSBG1, 11SS006, 11SS006D, 11SSBG2, 11SS014, 11SS004, 11SS012, 11SS021	NO CONTAMINATION FOUND			
	BS602FB	11TL02, 11TS02, 11TS04, 11TL04, 11TL07, 11TL07D, 11TS07, 11TS07D, 11TL08, 11TS08, 11TL11, 11TS11, 11TS12	NO CONTAMINATIONFOUND			

TABLE A-247
ORGANOPHOSPHOROUS PESTICIDES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
K1044	BS601FB	11SW205, 11SW205D, 11SD205, 11SD205D 11SSBG2, 11SS021, 11SS021D	NO CONTAMINATION FOUND			
	BS602FB	11TL08, 11TL08D, 11TS08, 11TS08D	NO CONTAMINATIONFOUND			

TABLE A-248
CHLORINATED HERBICIDES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
K1044	BS601FB	11SW205, 11SW205D, 11SD205, 11SD205D 11SSBG2, 11SS021, 11SS021D	NO CONTAMINATION FOUND			
	BS602FB	11TL08, 11TL08D, 11TS08, 11TS08D	NO CONTAMINATIONFOUND			

TABLE A-249
TOTAL METALS DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601FB	11SW201, 11SW204	COPPER	4.2	ug/L	U
		11SW201	NICKEL	2.1	ug/L	U
		11SW202, 11SW202D, 11SW203, 11SW204,	ALUMINUM	40.5	ug/L	U
		11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205, 11SW201, 11SW202, 11SW202D, 11SW203, 11SW204, 11SW205, 11SSBG1, 11SS006, 11SS006D, 11SSBG2, 11SS014, 11SS004, 11SS012, 11SS021	IRON POTASSIUM ARSENIC SODIUM	61.2 33.0 3.5 110	ug/L ug/L ug/L ug/L	
	BS602FB	11TL02, 11TS02, 11TS04, 11TL04, 11TL07, 11TL07D, 11TS07, 11TS07D, 11TL08, 11TS08, 11TL11, 11TS11, 11TS12	IRON SODIUM ALUMINUM	19.9 51.4 51.1	ug/L ug/L ug/L	

TABLE A-250
CYANIDE DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601FB	11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205, 11SW201, 11SW202, 11SW202D, 11SW203, 11SW204, 11SW205, 11SSBG1, 11SS006, 11SS006D, 11SSBG2, 11SS014, 11SS004, 11SS012, 11SS021	NO CONTAMINATION FOUND			
	BS602FB	11TL02, 11TS02, 11TS04, 11TL04, 11TL07, 11TL07D, 11TS07, 11TS07D, 11TL08, 11TS08, 11TL11, 11TS11, 11TS12	NO CONTAMINATIONFOUND			

TABLE A-251
SULFIDE DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601FB	11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205, 11SW201, 11SW202, 11SW202D, 11SW203, 11SW204, 11SW205, 11SSBG1, 11SS006, 11SS006D, 11SSBG2, 11SS014, 11SS004, 11SS012, 11SS021	NO CONTAMINATION FOUND			
	BS602FB	11TL02, 11TS02, 11TS04, 11TL04, 11TL07, 11TL07D, 11TS07, 11TS07D, 11TL08, 11TS08, 11TL11, 11TS11, 11TS12	NO CONTAMINATIONFOUND			

TABLE A-252
TO-14 VOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
G55819	11AIRFB1	11AIR102, 11AIR102D, 11AIR105, 11AIR108, 11AIR107, 11AIR104, 11AIR106, 11AIR108D, 11AIR104D, 11AIR101, 11AIR109, 11AIR108DD	FREON 113	0.22	PPBV	U
		11AIR102, 11AIR102D, 11AIR105, 11AIR108, 11AIR107, 11AIR104, 11AIR106, 11AIR108D, 11AIR104D, 11AIR101, 11AIR109, 11AIR108DD	DICHLORODIFLUOROMETHANE	0.05	PPBV	
G56847	11AIRFB2	11AIR113, 11AIR111, 11AIR112, 11AIR112D, 11AIR111D, 11AIR114, 11AIR114D, 11AIR103, 11AIR117D, 11AIR117, 11AIR119, 11AIR119D, 11AIR116, 11AIR118, 11AIR121	NO CONTAMINATION FOUND			

TABLE A-253
LOW CONCENTRATION VOLATILES DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601ER	11SW202, 11SW202D, 11SW203, 11SW201,	METHYLENE CHLORIDE	1	ug/L	CRQL
		11SW204, 11SW205	ACETONE	11	ug/L	CRQL
	BS602ER	11SD201, 11SD202, 11SD202D, 11SD203,	METHYLENE CHLORIDE	0.8	ug/L	
		11SD204, 11SD205	ACETONE	7	ug/L	
	BS604ER	11TL02, 11TL04, 11TS02, 11TS04	NO CONTAMINATION FOUND			
11TB02	BS605ER	11TL07, 11TL07D	ACETONE	11	ug/L	
			4-METHYL-2-PENTANONE	3	ug/L	

TABLE A-254
GC/MS VOLATILES DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
11SD201	BS603ER	11SSBG1, 11SS006, 11SS006D, 11SSBG2,	ACETONE	8	ug/L	
		11SS014, 11SS004, 11SS012, 11SS021	CARBON DISULFIDE	3	ug/L	
11TB02	BS606ER	11TL11, 11TS11, 11TS12	ACETONE	16	ug/L	
			2-BUTANONE	5	ug/L	

TABLE A-255
SEMIVOLATILES DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601ER	11SW201, 11SW202, 11SW202D, 11SW203, 11SW204, 11SW205	NO CONTAMINATION FOUND			
	BS602ER	11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205	NO CONTAMINATION FOUND			
	BS604ER	11TL02, 11TS02, 11TL04, 11TS04	NO CONTAMINATION FOUND			
11SD201	BS603ER	11SSBG1, 11SS006, 11SS006D, 11SSBG2, 11SS014, 11SS004, 11SS012, 11SS021	BIS(2-ETHYLHEXYL)PHTHALATE	2	ug/L	
11TB02	BS605ER	11TL04, 11TL04MD, 11TL04MSD,	BIS(2-ETHYLHEXYL)PHTHALATE	6	ug/L	CRQL
		11TS07D, 11TS08, 11TL08				
	BS606ER	11TL11, 11TS11, 11TS12	NO CONTAMINATION FOUND			

TABLE A-256
PESTICIDES/PCBS DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601ER	11SW202D	HEPTACHLOR EPOXIDE	0.01	ug/L	CRQL
		11SW201, 11SW202, 11SW203, 11SW204, 11SW205				
	BS602ER	11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205	NO CONTAMINATION FOUND			
	BS604ER	11TL02, 11TS02, 11TL04, 11TS04	NO CONTAMINATION FOUND			
11SD201	BS603ER	11SSBG1, 11SS006, 11SS006D, 11SSBG2, 11SS014, 11SS004, 11SS012, 11SS021	NO CONTAMINATION FOUND			
11TB02	BS605ER	11TS07, 11TS07D, 11TS08, 11TL08				
	BS606ER	11TS11, 11TL11, 11TS12	NO CONTAMINATION FOUND			

TABLE A-257
ORGANOPHOSPHOROUS PESTICIDES DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
K1044	BS601ER	11SW205, 11SW205D, 11SW205MS, 11SW205MSD	NO CONTAMINATION FOUND			
	BS602ER	11SD205, 11SD205D, 11SD205MS, 11SD205MSD	NO CONTAMINATION FOUND			
K1030	BS603ER	11SSBG2, 11SS021, 11SS021D, 11SSBG2MS, 11SSBG2MSD	NO CONTAMINATION FOUND			
11TB02	BS605ER	11TL08, 11TL08D, 11TS08, 11TS08D, 11TL08MS, 11TL08MSD, 11TS08MS,	NO CONTAMINATION FOUND			

TABLE A-258
CHLORINATED HERBICIDES DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
K1044	BS601ER	11SW205, 11SW205D, 11SW205MS, 11SW205MSD	NO CONTAMINATION FOUND			
	BS602ER	11SD205, 11SD205D, 11SD205MS, 11SD205MSD	NO CONTAMINATION FOUND			
K1030	BS603ER	11SSBG2, 11SS021, 11SS021D, 11SSBG2MS, 11SSBG2MSD	NO CONTAMINATION FOUND			
11TB02	BS605ER	11TL08, 11TL08D, 11TS08, 11TS08D, 11TL08MS, 11TL08MSD, 11TS08MS,	NO CONTAMINATION FOUND			

TABLE A-259
TOTAL METALS DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601ER	11SW201, 11SW202, 11SW203, 11SW202D, 11SW204, 11SW205	IRON	21.2	ug/L	
			NICKEL	3.2	ug/L	
			POTASSIUM	18.1	ug/L	
			SODIUM	38.3	ug/L	
			ZINC	38.2	ug/L	
	BS602ER	11SD201, 11SD202, 11SD202D, 11SD201, 11SD204, 11SD205	ALUMINUM	50.7	ug/L	
			ARSENIC	3.5	ug/L	
			COPPER	3.0	ug/L	
				38.7	ug/L	
				26.8	ug/L	
			SODIUM	109	ug/L	
	BS604ER	11TL02, 11TS02, 11TL04, 11TS04	ARSENIC	3.2	ug/L	
			BARIUM	1.5	ug/L	
			COPPER	3.5	ug/L	
			IRON	38.1	ug/L	
			MANGANESE	1.3	ug/L	
			SODIUM	78.1	ug/L	
11SD201	BS603ER	11SSBG1, 11SS006, 11SS006D, 11SSBG2, 11SS014, 11SS004, 11SS012, 11SS021	BARIUM	1.2	ug/L	
			MAGNESIUM	13.4	ug/L	
			MANGANESE	12.8	ug/L	
			ZINC	58.0	ug/L	
		11SS021	COPPER	13.4	ug/L	U
11TB02	BS605ER	11TL04, 11TS04, 11TL07, 11TL07D, 11TS08, 11TL08	BARIUM	1.9	ug/L	
			IRON	202	ug/L	
			POTASSIUM	78.3	ug/L	
		11TS07, 11TS07D	CHROMIUM	24.6	ug/L	U
		11TS07, 11TS07D	NICKEL	5.1	ug/L	U
	BS606ER	11TS11, 11TL11, 11TS12	BARIUM	1.5	ug/L	
			IRON	191	ug/L	

TABLE A-260
CYANIDE DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601ER	11SW201, 11SW202, 11SW203, 11SW202D, 11SW204, 11SW205	NO CONTAMINATION FOUND			
	BS602ER	11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205	NO CONTAMINATION FOUND			
	BS604ER	11TL02, 11TS02, 11TL04, 11TS04	NO CONTAMINATION FOUND			
11SD201	BS603ER	11SSBG1, 11SS006, 11SS006D, 11SSBG2, 11SS014, 11SS004, 11SS012, 11SS021	NO CONTAMINATION FOUND			
11TB02	BS605ER	11TL04, 11TS04, 11TL07, 11TL07D,	NO CONTAMINATION FOUND			
	BS606ER	11TS11, 11TL11, 11TS12				

TABLE A-261
SULFIDE DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
BS601	BS601ER	11SW201, 11SW202, 11SW203, 11SW202D, 11SW204, 11SW205	NO CONTAMINATION FOUND			
	BS602ER	11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SD205	NO CONTAMINATION FOUND			
	BS604ER	11TL02, 11TS02, 11TL04, 11TS04	SULFIDE	1	mg/L	
11SD201	BS603ER	11SSBG1, 11SS006, 11SS006D, 11SSBG2, 11SS014, 11SS004, 11SS012, 11SS021	SULFIDE	1	mg/L	
11TB02	BS605ER	11TL04, 11TS04, 11TL07, 11TL07D,	NO CONTAMINATION FOUND			
	BS606ER	11TS11, 11TL11, 11TS12				

TABLE A-262
LOW CONCENTRATION VOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
BS601	VBLK1	11SW201, 11SW202, 11SW202D, 11SW203, BS601ER, BS601FB, BS602ER, BT602FB, BT603FB	NO CONTAMINATION FOUND			
	VBLK2	11SW203MSD, 11SW203MS, 11SW204	NO CONTAMINATION FOUND			
	VBLK3	11TL02, BS602FB, BS604ER, BSTR1TB	NO CONTAMINATION FOUND			
11TB02	VBLK1	11TL04, 11TL04MS, 11TL04MSD, 11TL07, 11TL07D, BSTR2TB	NO CONTAMINATION FOUND			
	VBLK2	11TB02, 11TL11, BS605ER, BSTRTB06	NO CONTAMINATION FOUND			

TABLE A-263
GC/MS VOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
11TB02	VBLK3	11TS04, 11TS04MS, 11TS04,SD	METHYLENE CHLORIDE	2	ug/Kg	
			2-BUTANONE	3	ug/Kg	
		11TS04, 11TS04MS	ACETONE	11	ug/Kg	U
		11TS04MSD				CRQL
	VBLK4	11TS07	ACETONE	14	ug/Kg	CRQL
	VBLK5	11TS07D, 11TS12	NO CONTAMINATION FOUND			
	VBLK6	11TS11	ACETONE	3	ug/Kg	CRQL
11SD02	VBLK1	11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SS006, 11SS006D, 11SSBG1	METHYLENE CHLORIDE	4	ug/Kg	CRQL
		11SD201, 11SD202, 11SD202D, 11SD204	ACETONE	11	ug/Kg	U
		11SD203, 11SS006, 11SS006D, 11SSBG1				CRQL
		11SD201, 11SD202, 11SD202D, 11SD204	2-BUTANONE	3	ug/Kg	CRQL
	VBLK2	11SS004, 11SS014	ACETONE	5	ug/Kg	CRQL
		11SS006RE, 11SS012				U
	VBLK3	11TS02	METHYLENE CHLORIDE	2	ug/Kg	
			2-BUTANONE	3	ug/Kg	
		11TS02	ACETONE	11	ug/Kg	CRQL
	VBLK4	BS603ER, BT604FB, BT605FB	NO CONTAMINATION FOUND			
K1030	VBLK1	11SD205	ACETONE	12	ug/Kg	CRQL
		11SD205, 11SSBG2	2-BUTANONE	3	ug/Kg	CRQL
	VBLK2	11SS021	ACETONE	5	ug/Kg	CRQL
K2123	VBLK1	11TS08	ACETONE	3	ug/Kg	CRQL
	VBLK2	11TL08	NO CONTAMINATION FOUND			
K1044	VBLK	11SW205	NO CONTAMINATION FOUND			

TABLE A-264
GC/MS SEMIVOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
BS601	SBLK1	11SW202D, BS601ER, BS601FB, BS602ER, 11SW201, 11SW202, 11SW203	DIETHYLPHTHALATE	1	ug/L	CRQL
	SBLK2	11SW04, 11SW203MSD, 11SW203MS	DIETHYLPHTHALATE	0.9	ug/L	CRQL
	SBLK3	BS602FB, 11TL02, BS604ER	DIETHYLPHTHALATE	0.7	ug/L	NA
11TB02	SBLK1	11TL04, 11TL04MS, 11TL04MSD, BS605ER, 11TL07, 11TL07D, 11TL07DRE	NO CONTAMINATION FOUND			
	SBLK2	11TL11	NO CONTAMINATION FOUND			
	SBLK3	11TS07, 11TS07D, 11TS04, 11TS04MS, 11TS04MSD	DI-N-BUTYLPHTHALATE	31	ug/Kg	CRQL
	SBLK4	BS606ER	NO CONTAMINATION FOUND			
	SBLK5	11TS12, 11TS11	DI-N-BUTYLPHTHALATE	43	ug/Kg	CRQL
11SD201	SBLK1	11SD202, 11SD201	DIETHYLPHTHALATE	20	ug/Kg	CRQL
		11SD201	PHENANTHRENE	19	ug/Kg	CRQL
		11SD202	DI-N-BUTYLPHTHALATE	84	ug/Kg	CRQL
		11SD201				U
	SBLK2	BS603ER	NO CONTAMINATION FOUND			
	SBLK3	11SD203, 11SD203MS, 11SD203MSD, 11SD202D, 11SSBG1, 11SS014, 11SS004	DI-N-BUTYLPHTHALATE	320	ug/Kg	CRQL
		11SD204, 11SSBG1MS, 11SSBG1MSD, 11SS006, 11SS012, 11SS006D				U
K1030	A189K101	11SD205	NO CONTAMINATION FOUND			
	A19DK101	11SSBG2	NO CONTAMINATION FOUND			
	A19K9101	11SS021	DI-N-BUTYLPHTHALATE	320	ug/Kg	U
k2123	SBLK1	11TL08	NO CONTAMINATION FOUND			
	SBLK2	11TS08	NO CONTAMINATION FOUND			
	SBLK3	11TL08RE	NO CONTAMINATION FOUND			
K1044	A18A3101	11SW205	NO CONTAMINATION FOUND			

TABLE A-265
PESTICIDES/PCBS DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
BS601	PBLK1	11SW201, 11SW202, 11SW202D, BS601ER, BS601FB, BS602ER	NO CONTAMINATION FOUND			
	PBLK2	11SW03, 11SW03MS, 11SW03MSD, 11SW204	NO CONTAMINATION FOUND			
	PBLK3	11TL02, BS602FB, BS604ER	NO CONTAMINATION FOUND			
11TB02	PBLK1	11TL04, 11TL04MS, 11TL04MSD, 11TL07, 11TL07D, BS605ER	NO CONTAMINATION FOUND			
	PBLK2	11TL11	NO CONTAMINATION FOUND			
	PBLK3	11TS04, 11TS07, 11TS07D	4,4'-DDT	0.91	ug/Kg	CRQL
	PBLK4	BS606ER	NO CONTAMINATION FOUND			
	PBLK5	11TS11, 11TS12	DIELDRIN	1.3	ug/Kg	U
		11TS11, 11TS12	METHOXYCHLOR	1.9	ug/Kg	CRQL
		11TS11	4,4'-DDT	6.1	ug/Kg	U
		11TS12				NA
	PBLK6	11TS11RE	4,4'-DDT	0.83	ug/Kg	CRQL
11SD201	PBLK1	11SD201, 11SD202, 11SD202D	DIELDRIN	4.7	ug/Kg	U
		11SD201, 11SD202, 11SD202D	4,4'-DDT	86	ug/Kg	U
		11SD201, 11SD202, 11SD202D	4,4'-DDE	0.53	ug/Kg	CRQL
		11SD201	ENDRIN KETONE	0.35	ug/Kg	CRQL
		11SD201, 11SD202, 11SD202D	METHOXYCHLOR	1.5	ug/Kg	CRQL
	PBLK2	BS603ER	NO CONTAMINATION FOUND			
	PBLK3	11SD203, 11SD204, 11SS012, 11SSBG1 11SS004, 11SS006, 11SS014 11SS006D	DIELDRIN	2	ug/Kg	CRQL
						U
						NA
		11SD203, 11SD204, 11SS004, 11SS006, 11SS012, 11SS014, 11SSBG1	4,4'-DDT	16	ug/Kg	U
		11SS006D				NA
		11SD203, 11SD204, 11SS004, 11SS006, 11SS006D, 11SS014, 11SSBG1	METHOXYCHLOR	1.5	ug/Kg	CRQL
	PBLK4	11TS02	DIELDRIN	6.1	ug/Kg	U
			4,4'-DDT	31	ug/Kg	U
			METHOXYCHLOR	1.2	ug/Kg	CRQL
	PBLK5	11SD202DRE, 11SD202RE, 11SS006RE	METHOXYCHLOR	0.68	ug/Kg	
		11SD202DRE, 11SD202RE, 11SS006RE	4,4'-DDT	0.68	ug/Kg	CRQL
	PBLK6	11TS02RE	ALDRIN	0.28	ug/Kg	CRQL
			DIELDRIN	0.64	ug/Kg	CRQL
			4,4'-DDT	4.8	ug/Kg	
			METHOXYCHLOR	1.3	ug/Kg	
K1030	PBLANK	11SD205	NO CONTAMINATION FOUND			
	PBLANK	11SSBG2	NO CONTAMINATION FOUND			
	PBLANK	11SS021	NO CONTAMINATION FOUND			
K2123	PBLANK	11TS08	NO CONTAMINATION FOUND			
	PBLANK	11TL08	NO CONTAMINATION FOUND			
K1044	PBLANK	11SW205	NO CONTAMINATION FOUND			

TABLE A-266
ORGANOPHOSPHOROUS PESTICIDES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
11TB02	BLANK	BS605ER	NO CONTAMINATION FOUND			
K1030	BLANK	11SD205, 11SD205MS, 11SD205MSD, 11SD205D	NO CONTAMINATION FOUND			
	BLANK	BS603ER	NO CONTAMINATION FOUND			
	BLANK	11SSBG2, 11SSBG2MS, 11SSBG2MSD, 11SS021, 11SS021D	NO CONTAMINATION FOUND			
K2123	BLANK	11TL08, 11TL08MS, 11TL08MSD, 11TL08D	NO CONTAMINATION FOUND			
	BLANK	11TS08, 11TS08MS, 11TS08MSD, 11TS08D	NO CONTAMINATION FOUND			
K1044	BLANK	BS601ER, BS601FB, BS602ER	NO CONTAMINATION FOUND			
	BLANK	11SW205, 11SW205MS, 11SW205MSD, 11SW205D	NO CONTAMINATION FOUND			
	BLANK	BS602FB	NO CONTAMINATION FOUND			

TABLE A-267
CHLORINATED HERBICIDES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
11TB02	BLANK	BS605ER	NO CONTAMINATION FOUND			
K1030	BLANK	11SD205, 11SD205MS, 11SD205MSD, 11SD205D, 11SSBG2, 11SSBG2MS, 11SSBG2MSD, 11SS021, 11SS021D	NO CONTAMINATION FOUND			
	BLANK	BS603ER	NO CONTAMINATION FOUND			
K2123	BLANK	11TL08, 11TL08MS, 11TL08MSD, 11TL08D	NO CONTAMINATION FOUND			
	BLANK	11TS08, 11TS08MS, 11TS08MSD, 11TS08D	NO CONTAMINATION FOUND			
K1044	BLANK	BS601ER, BS601FB, BS602ER	NO CONTAMINATION FOUND			
	BLANK	11SW205, 11SW205MS, 11SW205MSD, 11SW205D	NO CONTAMINATION FOUND			
	BLANK	BS602FB	NO CONTAMINATION FOUND			

TABLE A-268
TOTAL METALS AND CYANIDE DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
11TB02	PBW	BS605ER, BS606ER, 11TL07	ALUMINUM	29.6	ug/L	U
		BS605ER, BS606ER	CALCIUM	51.1	ug/L	U
		BS605ER, 11TL04, 11TL07, 11TL07D, 11TL11	COBALT	2.39	ug/L	U
		BS605ER	MAGNESIUM	22.8	ug/L	U
		BS605ER, BS606ER	MANGANESE	1.01	ug/L	U
		BS605ER, BS606ER	SODIUM	147	ug/L	U
		BS605ER, 11TL07, 11TL07D	ZINC	33.4	ug/L	U
		BS605ER, BS606ER, 11TL04, 11TL07, 11TL07D, 11TL11	THALLIUM	-8.5	ug/L	J/UJ
	PBS	11TS07, 11TS07D, 11TS12	ZINC	2.61	mg/Kg	U
		11TS04, 11TS07, 11TS07D, 11TS11, 11TS12	CALCIUM	0.22	mg/Kg	
			MANGANESE	11	mg/Kg	
			SODIUM	2.61	mg/Kg	
		11TS04, 11TS07, 11TS07D, 11TS11, 11TS12	COPPER	-0.49	mg/Kg	J/UJ
BS601	PBW	BS601FB	CALCIUM	41.8	ug/L	U
		BS601FB, BS602FB	MAGNESIUM	18.6	ug/L	U
		11SW201, 11SW202, 11SW202D, 11SW203, 11SW204, BS601FB, BS602FB	ZINC	1.95	ug/L	U
		11SW201, 11SW202, 11SW202D, 11SW203, 11SW204, BS601FB, BS602FB	LEAD	-1.64	ug/L	J/UJ
11SD201	PBS	11SD201, 11SD202, 11SD202D, 11SD204, 11SS012, 11SS014	ARSENIC	0.65	mg/Kg	U
		11TS02	CALCIUM	44.5	mg/Kg	U
		11SSBG1, 11SS006, 11SS006D, 11SS014, 11TS02	POTASSIUM	5.99	mg/Kg	U
		11SD203, 11SD204, 11SSBG1, 11SS014, 11TS02	ZINC	0.77	mg/Kg	U
		11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SSBG1, 11SS004, 11SS006, 11SS006D, 11SS012, 11SS014, 11TS02	SODIUM	80.8	mg/Kg	U
		11SD201, 11SD202, 11SD202D, 11SD203, 11SD204, 11SSBG1, 11SS004, 11SS006, 11SS006D, 11SS012, 11SS014, 11TS02	ALUMINUM	9.23	mg/Kg	
			IRON	6.44	mg/Kg	
			MAGNESIUM	4.50	mg/Kg	
			MANGANESE	0.28	mg/Kg	
			LEAD	0.33	mg/Kg	
	PBW	BS603ER	CALCIUM	60.9	ug/L	U
			IRON	847	ug/L	U
			SODIUM	29.8	ug/L	U
			ZINC	2.02	ug/L	
K2123	PBW	11TL08	NO CONTAMINATION FOUND			
	PBS	11TS08	NO CONTAMINATION FOUND			
K1030	PBS	11SD205, 11SS021, 11SSBG2	NO CONTAMINATION FOUND			
K1044	PBW	11SW205	NO CONTAMINATION FOUND			

TABLE A-269
TO-14 AIR TOXICS DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
G55819	BLK1	11AIRFB1, 11AIR102D, 11AIR105, 11AIR108, 11AIR107, 11AIR107, 11AIR104, 11AIR106, 11AIR102	CHLOROMETHANE	0.19	PPBV	U
		11AIRFB1, 11AIR102D, 11AIR105, 11AIR108, 11AIR107, 11AIR107, 11AIR104, 11AIR106, 11AIR102	METHYLENE CHLORIDE	0.44	PPBV	U
G55820	BLK1	11AIR108D, 11AIR104D, 11AIR101, 11AIR109, 11AIR108DD	CHLOROMETHANE	0.21	PPBV	U
G56173	BLK1	11AIR103, 11AIR111, 11AIR111D, 11AIR112, 11AIR112D, 11AIR113, 11AIR114, 11AIR114D, 11AIR115	DICHLORODIFLUOROMETHANE	0.40	PPBV	U
		11AIR103, 11AIR111, 11AIR111D, 11AIR112, 11AIR112D, 11AIR113, 11AIR114, 11AIR114D, 11AIR115	CHLOROMETHANE	0.18	PPBV	U
		11AIR103, 11AIR111, 11AIR111D, 11AIR112, 11AIR112D, 11AIR113, 11AIR114, 11AIR114D, 11AIR115	METHYLENE CHLORIDE	0.41	PPBV	U
		11AIR103, 11AIR112, 11AIR112D, 11AIR113, 11AIR114D, 11AIR115	TOLUENE	0.18	PPBV	U
G56520	BLK1	11AIR117D, 11AIR117, 11AIR119, 11AIR119D, 11AIR116, 11AIR118, 11AIR121	CHLOROMETHANE	0.20	PPBV	U
		11AIR116, 11AIR21	METHYLENE CHLORIDE	0.28	PPBV	U
G56847	BLK1	11AIRFB2	CHLOROMETHANE	0.17	PPBV	U
			METHYLENE CHLORIDE	0.05	PPBV	U

TABLE A-270
VOLATILE ORGANIC COMPOUNDS
SOIL BORING SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
G8387	11SB20103	SOIL	10	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		10						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
10.0%	1	0	100.0%

TABLE A-271
SEMIVOLATILE ORGANIC COMPOUNDS
SOIL BORING SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
G8387	11SB20103	WATER	10	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		10						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
10.0%	0	0	#DIV/0!

TABLE A-272
PESTICIDE/PCB ORGANIC COMPOUNDS
SOIL BORING SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
G8387	11SB20103	WATER	10	NO COMPOUNDS DETECTED					0
	TOTAL SAMPLES		10						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
10.0%	0	0	#DIV/0!

TABLE A-273
METALS ANALYTES
SOIL BORING SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
G8387	11SB20103	SOIL	10	ALUMINUM	2110	2830	35%	29%	0
				ARSENIC	0.5	0.4	35%	17%	0
				BARIUM	2.5	3.6	35%	36%	1
				CALCIUM	31.7	37.6	35%	17%	0
				CHROMIUM	2.5	2.8	35%	11%	0
				COBALT	0	0.82	35%	ND	0
				COPPER	0	0.54	35%	ND	0
				IRON	890	875	35%	2%	0
				LEAD	2.4	2.2	35%	9%	0
				MAGNESIUM	57.9	91.3	35%	45%	1
				MANGANESE	3.5	5.5	35%	44%	1
				MERCURY	0.01	0.01	35%	0%	0
				POTASSIUM	0	185	35%	ND	0
				VANADIUM	2.2	1.8	35%	20%	0
				ZINC	1.3	1.9	35%	38%	1
	TOTAL SAMPLES		10						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
10.0%	11	4	73%

ND - INDICATES RPD CALCULATION NOT REQUIRED BECAUSE ONE (1) RESULT IS NON-DETECT AND THE OTHER RESULT IS BELOW THE CRDL.

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TABLE A-274
CYANIDE
SOIL BORING SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
G8387	11SB20103	SOIL	10	NO COMPOUND DETECTED					
	TOTAL SAMPLES		10						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
10.0%	0	0	100.0%

Table A-275
SULFIDE
SOIL BORING SAMPLE AND DUPLICATE PRECISION
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	MATRIX	NO. ASSC. SAMPLES	COMPOUND	SAMPLE CONC.	DUP CONC	MAX RPD	RPD	RPD OUT
G8387	11SB20103	SOIL	10	SULFIDE	72.9	20.1	20%	114%	1
	TOTAL SAMPLES		10						

% OF DUPLICATES COLLECTED	RPD IN	RPD OUT	% WITHIN RPD LIMIT
10.0%	0	1	100.0%

TABLE A-276

VOLATILE ORGANICS COMPOUNDS

SOIL BORING SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES

NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SB20103* SDG G8387 MSD = MATRIX SPIKE DUPLICATE RPD = RELATIVE PERCENT DIFFERENCE		MS	MSD	
		%R	%R	%RPD
VOA COMPOUNDS	UNITS			
1,1-DICHLOROETHENE	ug/Kg	98	103	5
BENZENE	ug/Kg	102	106	4
TRICHLOROETHENE	ug/Kg	94	97	3
TOLUENE	ug/Kg	100	105	5
CHLOROBENZENE	ug/Kg	97	102	5

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

G8387: 11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003

COMPOUND	ADVISORY LIMITS	RPD
	%R SOIL	SOIL
1,1-DICHLOROETHENE	59%-172%	22
BENZENE	66%-142%	21
TRICHLOROETHENE	62%-137%	24
TOLUENE	59%-139%	21
CHLOROBENZENE	60%-133%	21

TABLE A-277
SEMIVOLATILE ORGANICS COMPOUNDS
SOIL BORING SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SB20103*		SDG G8387		
MSD = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
SVOA COMPOUNDS	UNITS			
PHENOL	ug/Kg	70	73	4
2-CHLOROPHENOL	ug/Kg	67	70	4
1,4-DICHLOROBENZENE	ug/Kg	70	75	7
N-NITROSO-DI-N-PROPYLAMINE	ug/Kg	80	95	17
1,2,4-TRICHLOROBENZENE	ug/Kg	65	75	14
4-CHLORO-3-METHYLPHENOL	ug/Kg	73	80	9
ACENAPHTHENE	ug/Kg	70	80	13
4-NITROPHENOL	ug/Kg	90	87	3
2,4-DINITROTOLUENE	ug/Kg	80	90*	12
PENTACHLOROPHENOL	ug/Kg	77	87	12
PYRENE	ug/Kg	60	70	15

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

G8387: 11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003

COMPOUND	ADVISORY LIMITS	RPD
	% R SOIL	SOIL
PHENOL	26%-90%	35
2-CHLOROPHENOL	25%-102%	50
1,4-DICHLOROBENZENE	28%-104%	27
N-NITROSO-DI-N-PROP.(1)	41%-126%	38
1,2,4-TRICHLOROBENZENE	38%-107%	23
4-CHLORO-3-METHYLPHENOL	26%-103%	33
ACENAPHTHENE	31%-137%	19
4-NITROPHENOL	11%-114%	50
2,4-DINITROTOLUENE	28%-89%	47
PENTACHLOROPHENOL	17%-109%	47
PYRENE	35%-142%	36

TABLE A-278
PESTICIDES/PCBS
SOIL BORING SAMPLE MATRIX SPIKE/MATRIX SPIKE DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SB20103*		SDG G8387		
D = MATRIX SPIKE DUPLICATE		MS	MSD	
RPD = RELATIVE PERCENT DIFFERENCE		%R	%R	%RPD
PEST COMPOUNDS	UNITS			
GAMMA-BHC (LINDANE)	ug/Kg	95	95	0
HEPTACHLOR	ug/Kg	92	92	0
ALDRIN	ug/Kg	95	96	1
DIELDRIN	ug/Kg	95	96	1
ENDRIN	ug/Kg	105	108	3
4,4'-DDT	ug/Kg	99	100	1

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

CORRESPONDING SDG AND ASSOCIATED SAMPLES

G8387: 11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003

COMPOUND	ADVISORY LIMITS	RPD
	% R SOIL	SOIL
GAMMA-BHC (LINDANE)	46%-127%	50
HEPTACHLOR	35%-130%	31
ALDRIN	34%-132%	43
DIELDRIN	31%-134%	38
ENDRIN	42%-139%	45
4,4'-DDT	23%-134%	50

TABLE A-279
TOTAL METALS
SOIL BORING SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SB20103*		SDG G8387	
MD = MATRIX DUPLICATE		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
METALS ANALYTES	UNITS		
ALUMINUM	mg/Kg	NR	22.6*
ANTIMONY	mg/Kg	87.9	NC
ARSENIC	mg/Kg	90.5	200
BARIUM	mg/Kg	98.2	23.7
BERYLLIUM	mg/Kg	97.6	NC
CADMIUM	mg/Kg	103	NC
CALCIUM	mg/Kg	NR	35.6
CHROMIUM	mg/Kg	101	14.7
COBALT	mg/Kg	96.5	200
COPPER	mg/Kg	97.7	200
IRON	mg/Kg	NR	0.4
LEAD	mg/Kg	97.5	5.6
MAGNESIUM	mg/Kg	NR	31.1
MANGANESE	mg/Kg	96.2	21.1
MERCURY	mg/Kg	97.2	15.1
NICKEL	mg/Kg	103	NC
POTASSIUM	mg/Kg	NR	NC
SELENIUM	mg/Kg	106	NC
SILVER	mg/Kg	92.7	NC
SODIUM	mg/Kg	NR	14.9
THALLIUM	mg/Kg	97.4	NC
VANADIUM	mg/Kg	91.9	0.1
ZINC	mg/Kg	97.9	4.4

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

G8387: 11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003

ANALYTES	ADVISORY LIMITS		RPD
	%R SOIL		SOIL
ALL ANALYTES	75%-125%		+/-20 OR +/-CRDL

Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)
NOTE: SOME VALUES WERE ROUNDED TO LIMIT SIGNIFICANT FIGURES TO THREE (3).

TABLE A-280
CYANIDE
SOIL BORING SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SB20103*		SDG G8387	
MD = MATRIX DUPLICATE		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
CN COMPOUND	UNITS		
CYANIDE	mg/Kg	104	NC

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE RECOVERY CALCULATION IS NOT REQUIRED.

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

G8387: 11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003

COMPOUND	ADVISORY LIMITS		RPD
	%R SOIL		SOIL
CYANIDE	75%-125%		+/-20 OR +/-CRDL

D Limits applicable only on values 5 times the Contract Required Detection Limit (CRDL)
NOTE: SOME VALUES WERE ROUNDED TO LIMIT SIGNIFICANT FIGURES TO THREE (3).

TABLEA-281
SULFIDE
SOIL BORING SAMPLE MATRIX SPIKE/ DUPLICATES
NSB KINGSBAY SUPPLEMENTAL RFI

MS = MATRIX SPIKE *SAMPLE 11SB20103*		SDG G8387	
MD = MATRIX DUPLICATE		MS	MD
RPD = RELATIVE PERCENT DIFFERENCE		%R	RPD
COMPOUND	UNITS		
SULFIDE	mg/Kg	NR	51*

*** DENOTES VALUE NOT WITHIN QA/QC ADVISORY LIMITS**

NC DENOTES THAT BOTH SAMPLES ARE NON-DETECT AND A RPD CANNOT BE CALCULATED.
NR DENOTES THAT A MATRIX SPIKE WAS NOT PERFORMED

CORRESPONDING SDG'S AND ASSOCIATED SAMPLES

G8387: 11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003

QC LIMITS WERE NOT PROVIDED. REVIEWER DEEMED RPD TO BE OUT OF CONTROL.

TABLE A-282
SURROGATE % RECOVERIES
VOLATILE SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	SMC1	SMC2	SMC3	TOTAL OUT
G8387	BT801FB	102	101	99	0
	BS801FB	104	99	100	0
	BS801ER	104	96	99	0
	11SB20103	98	101	98	0
	11SB20103MS	97	100	97	0
	11SB20103MSD	97	101	96	0
	11SB20203	97	104	93	0
	11SB20303	101	104	96	0
	11SB20403	102	105	93	0
	11SB20503	101	105	95	0
	11SB20603	100	101	99	0
	11SB20703	103	102	98	0
	11SB20803	101	103	97	0
	11SB20103D	104	99	98	0
	11SB20903	99	101	101	0
	11SB21003	103	99	99	0

WATERS:

SMC1 = 1,2-DICHLOROETHANE-D4 QC LIMITS 76% - 114%

SMC2 = TOLUENE-D8 QC LIMITS 88% - 110%

SMC3 = BROMOFLUOROBENZENE QC LIMITS 86% - 115%

SOILS:

SMC1 = 1,2-DICHLOROETHANE-D4 QC LIMITS 70% - 121%

SMC2 = TOLUENE-D8 QC LIMITS 84% - 138%

SMC3 = BROMOFLUOROBENZENE QC LIMITS 59% - 113%

D - INDICATES SURROGATE DILUTED OUT

* - INDICATES VALUE OUTSIDE QC LIMITS

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
16	48	0	100.0%

TABLE A-283
SURROGATE % RECOVERIES
SEMIVOLATILE SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	S1	S2	S3	S4	S5	S6	S7	S8	TOTAL OUT
G8387	BS801FB	76	83	75	81	91	77	63	84	0
	BS801ER	75	84	75	80	86	80	71	70	0
	11SB20103	68	76	67	70	79	79	71	87	0
	11SB20103MS	73	78	67	76	73	67	75	72	0
	11SB20103MSD	81	85	72	82	83	76	81	89	0
	11SB20103D	73	84	73	73	78	78	80	85	0
	11SB20203	69	79	70	71	78	79	85	81	0
	11SB20303	75	87	76	76	81	77	81	82	0
	11SB20403	73	79	71	75	86	86	84	83	0
	11SB20503	76	88	75	76	83	79	83	90	0
	11SB20603	73	87	74	69	81	76	86	91	0
	11SB20703	81	85	74	77	79	75	82	62	0
	11SB20803	73	85	74	72	76	78	86	83	0
	11SB20903	75	79	76	75	801	78	82	78	0
	11SB21003	68	77	67	68	70	72	79	80	0

WATERS:

S1 = 2-FLUOROPHENOL	QC LIMITS 21% - 110%	
S2 = PHENOL-D5	QC LIMITS 10% - 110%	
S3 = 2-CHLOROPHENOL-D4	QC LIMITS 33% - 110%	ADVISORY
S4 = 1,2-DICHLOROBENZENE-D4	QC LIMITS 16% - 110%	ADVISORY
S5 = NITROBENZENE-D5	QC LIMITS 35% - 114%	
S6 = 2-FLUOROBIPHENYL	QC LIMITS 43% - 116%	
S7 = 2,4,6-TRIBROMOPHENOL	QC LIMITS 10% - 123%	
S8 = TERPHENYL-D14	QC LIMITS 33% - 141%	

SOILS:

S1 = 2-FLUOROPHENOL	QC LIMITS 25% - 121%	
S2 = PHENOL-D5	QC LIMITS 24% - 113%	
S3 = 2-CHLOROPHENOL-D4	QC LIMITS 20% - 130%	ADVISORY
S4 = 1,2-DICHLOROBENZENE-D4	QC LIMITS 20% - 130%	ADVISORY
S5 = NITROBENZENE-D5	QC LIMITS 23% - 120%	
S6 = 2-FLUOROBIPHENYL	QC LIMITS 30% - 115%	
S7 = 2,4,6-TRIBROMOPHENOL	QC LIMITS 19% - 122%	
S8 = TERPHENYL-D14	QC LIMITS 18% - 137%	

D - INDICATES SURROGATE DILUTED OUT
* - INDICATES VALUE OUTSIDE QC LIMITS
NA - INDICATES SURROGATE SPIKE NOT REQUIRED FOR METHOD UTILIZED.

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
15	120	0	100.0%

TABLE A-284
SURROGATE % RECOVERIES
PESTICIDE/PCB SAMPLES
NSB KINGSBAY SUPPLEMENTAL RFI

SDG	SAMPLE ID	TCX 1	TCX2	DCB 1	DCB2	TOTAL OUT
G8387	BS801FB	74	78	92	92	0
	BS801ER	78	82	66	66	0
	11SB20103	81	76	107	101	0
	11SB20103MS	85	79	102	101	0
	11SB20103MSD	82	76	107	102	0
	11SB20103D	85	80	112	102	0
	11SB20203	90	84	100	102	0
	11SB20303	76	72	96	95	0
	11SB20403	83	79	94	96	0
	11SB20503	87	82	97	99	0
	11SB20603	80	76	98	101	0
	11SB20703	82	77	103	104	0
	11SB20803	82	77	110	112	0
	11SB20903	74	71	96	98	0
	11SB21003	82	78	100	101	0

WATERS AND SOILS

TCMX QC LIMITS 60% - 150%

DCB QC LIMITS 60% - 150%

D - INDICATES SURROGATE DILUTED OUT

* - INDICATES VALUE OUTSIDE QC LIMITS

NA - INDICATES SURROGATE SPIKE NOT REQUIRED FOR METHOD UTILIZED.

# SAMPLES	% REC IN	%REC OUT	% TOTAL IN
15	60	0	100.0%

TABLE A-285
VOLATILES DETECTED IN TRIP BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	TB CONC.	UNITS	VALIDATION QUALIFIER
G8387	BT801FB	11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003	ACETONE	5	ug/L	

TABLE A-286
VOLATILES DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
G8387	BS801ER	11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003	NO CONTAMINATION FOUND			

TABLE A-287
SEMIVOLATILES DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
G8387	BS801ER	11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003	1,4-DICHLOROBENZENE	2	ug/L	

TABLE A-288
PESTICIDES/PCBS DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
G8387	BS801ER	11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003	NO CONTAMINATION FOUND			

TABLE A-289
TOTAL METALS DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
G8387	BS801FB	11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003	CADMIUM	3.6	ug/L	

TABLE A-290
CYANIDE DETECTED IN RINSEATE BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	RB CONC.	UNITS	VALIDATION QUALIFIER
G8387	BS801ER	11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003	NO CONTAMINATION FOUND			

TABLE A-291
VOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
G8387	BS801FB	11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003	NO CONTAMINATION FOUND			

TABLE A-292
SEMIVOLATILES DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
G8387	BS801FB	11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003	1,4-DICHLOROBENZENE	2	ug/L	

TABLE A-293
PESTICIDES/PCBS DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
G8387	BS801FB	11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003	NO CONTAMINATION FOUND			

TABLE A-294
TOTAL METALS DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
G8387	BS801FB	11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003	ALUMINUM ZINC	26 3.4	ug/L ug/L	

TABLE A-295
CYANIDE DETECTED IN FIELD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	FB CONC.	UNITS	VALIDATION QUALIFIER
G8387	BS801FB	11SB20103, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20703, 11SB20803, 11SB20903, 11SB21003	NO CONTAMINATION FOUND			

TABLE A-296
VOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
G8387	VBLKLL	BT801FB, BS801FB, BS801ER	BENZENE	3	ug/L	
	VBLKLH	11SB20103	ACETONE	3	ug/L	CRQL
		11SB20103MS, 11SB20103MSD, 11SB20203				
	VBLKLJ	11SB20303, 11SB20403, 11SB20503, 11SB20603, 11SB20803	ACETONE	6	ug/L	CRQL
		11SB20703				U
	VBLKLK	11SB20103D, 11SB20903, 11SB21003	NO CONTAMINATION FOUND			

TABLE A-297
SEMIVOLATILES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
G8387	SBLK3E	BS801FB, BS801ER	NO CONTAMINATION FOUND			
	SBLK3C	11SB20103, 11SB20103MS, 11SB20103MSD, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603	NO CONTAMINATION FOUND			
	SBLK3D	11SB20803, 11SB20903, 11SB21003	NO CONTAMINATION FOUND			
	SBLK3F	11SB20703	NO CONTAMINATION FOUND			

TABLE A-298
PESTICIDES/PCBS DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
G8387	PBLK15	BS801FB, BS801ER	NO CONTAMINATION FOUND			
	PBLK18	11SB20103, 11SB20103MS, 11SB20103MSD, 11SB20103D, 11SB20203, 11SB20303, 11SB20403, 11SB20503, 11SB20603	NO CONTAMINATION FOUND			
		11SB20703, 11SB20803, 11SB20903, 11SB21003				

TABLE A-299
SULFIDES DETECTED IN METHOD BLANKS
NSB KINGSBAY SUPPLEMENTAL RFI

SDG NUMBER	BLANK ID	RELATED ENVIRONMENTAL SAMPLES	CONTAMINANT	MB CONC.	UNITS	VALIDATION QUALIFIER
KB01	BLANK	02GW04, 03AGW04, 18GW04, 18GW04D, 20GW04, 21GW04, RW1GW04, RW2GW04, RW3GW04, RW4GW04, RW5GW04	NO CONTAMINATION FOUND			
KB02	BLANK	PS3GW04, PS5GW04, PS7GW04, PS9GW04, PS10GW04, PD8GW04, PD6GW04	NO CONTAMINATION FOUND			

APPENDIX B

SUMMARY TABLES OF ANALYTICAL DATA

Summary of Organic Analytes Detected in Sediment Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

	SITE:	SD201	SD202	SD202	SD203	SD204	SD205
	SAMPLE ID:	11SD201	11SD202	11SD202D	11SD203	11SD204	11SD205
CONSTITUENT:	DATE:	11/08/94	11/08/94	11/08/94	11/09/94	11/09/94	11/09/94
(Units in ug/kg)	DEPTH (ft bls):	5.6	6.7	6.7	5.0	5.7	5.3
Volatile Organic Compound							
Pentachloroethane		---	---	---	---	---	170 J
Semivolatile Organic Compounds							
Anthracene		32 J	610 U	600 U	420 U	460 U	480 U
1,4-Dichlorobenzene		580 U	610 U	600 U	33 J	460 U	480 U
Diethyl phthalate		580 U	610 U	49 J	420 U	460 U	480 U
Phenanthrene		580 U	610 U	39 J	420 U	460 U	480 U
Phenol		130 J	130 J	130 J	420 U	460 U	480 U
Pesticides							
4,4'-DDE		5.9 UJ	6.1 UJ	6 UJ	4.2 UJ	0.26 J	23 U

Notes: ug/kg = micrograms per kilogram.
ID = identification.
ft bls = feet below land surface.
--- = not analyzed.
D = duplicate sample.
J = estimated concentration.
U = not detected, sample quantiation limit reported.
DDE = dichlorodiphenyl dichloroethylene.

Summary of Organic Analytes Detected in Surface Water Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT: (Units in ug/l)	SITE: / SAMPLE ID: / DATE:	SW201 / 11SW201 / 11/08/94	SW202 / 11SW202 / 11/08/94	SW202 / 11SW202D / 11/08/94	SW203 / 11SW203 / 11/09/94	SW204 / 11SW204 / 11/09/94	SW205 / 11SW205 / 11/09/94
Volatile Organic Compound							
Chloroform		4	4	4	4	4	4

Notes: ug/l = micrograms per liter.
ID = identification.
D = duplicate.

Summary of Organic Analytes Detected in Onsite Groundwater Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT: (Units in ug/l)	SITE: / AMPLE ID: / DATE:	KBA-11-10A 10AGW01 01/07/94	KBA-11-10A 10AGW02 04/07/94	KBA-11-10A 10AGW02D 04/07/94	KBA-11-10A 10AGW03 09/15/94	KBA-11-10B 10BGW01 01/08/94
Volatile Organic Compounds						
Acetone		5 UR	5 UR	5 UR	5 UR	11 UR
Benzene		0.4 J	0.4 J	0.5 J	0.4 J	2
Carbon disulfide		0.8 J	1 U	1 U	17	3
Chlorobenzene		1 U	1	2	1	2
1,4-Dichlorobenzene (VOA)		1 U	4	4	4	2
1,1-Dichloroethane		1 U	1 U	1 U	1 U	0.8 J
cis-1,2-Dichloroethene		1 U	1 U	1 U	1 U	4
Ethylbenzene		1 U	1 U	1 U	1 U	19
Toluene		1 U	1 U	1 U	1 U	0.5 J
Trichloroethene		1 U	1 U	1 U	1 U	1 U
Xylenes (total)		1 U	1 U	1 U	1 U	0.4 J
Semivolatile Organic Compounds						
bis(2-Ethylhexyl)phthalate		6 J	10 U	10 U	0.7 J	1 J
1,4-Dichlorobenzene		3 J	3 J	3 J	3 J	2 J
Diethyl phthalate		10 U	0.5 J	0.5 J	10 U	6 J
Dimethyl phthalate		10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene		0.6 J	0.5 J	0.5 J	0.7 J	10 U
4-Methylphenol		10 U	10 U	10 U	10 U	10 U
Naphthalene		2 J	3 J	3 J	3 J	3 J
Phenol		10 U	10 U	10 U	10 U	10 U
Pesticides						
gamma-BHC (Lindane)		0.05 UJ	0.05 UJ	0.05 UJ	---	0.05 UJ
alpha-Chlordane		0.05 UJ	0.05 UJ	0.05 UJ	---	0.05 UJ
gamma-Chlordane		0.05 UJ	0.05 UJ	0.05 UJ	---	0.05 UJ
Heptachlor		0.05 UJ	0.05 UJ	0.05 UJ	---	0.05 UJ
Heptachlor epoxide		0.05 UJ	0.05 UJ	0.05 UJ	---	0.05 UJ

Summary of Organic Analytes Detected in Onsite Groundwater Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT: (Units in ug/l)	SITE:	KBA-11-10B	KBA-11-10B	KBA-11-10C	KBA-11-10C	KBA-11-10C
	AMPLE ID:	10BGW02	10BGW03	10CGW01	10CGW02	10CGW03
	DATE:	04/05/94	09/16/94	01/08/94	04/07/94	09/16/94
Acetone		10 UR	5 UR	12 UR	5 UR	5 UR
Benzene		1	2	1 U	1 U	1 U
Carbon disulfide		1 U	14	2	1 U	2
Chlorobenzene		1	1	1 U	1 U	1 U
1,4-Dichlorobenzene (VOA)		2	2	1 U	1 U	1 U
1,1-Dichloroethane		0.6 J	0.9 J	1 U	1 U	1 U
cis-1,2-Dichloroethene		2	2	1 U	1 U	1 U
Ethylbenzene		12	12	1 U	1 U	1 U
Toluene		0.7 J	1 U	1 U	1 U	1 U
Trichloroethene		1 U	1 U	1 U	1 U	1 U
Xylenes (total)		3	0.8 J	1 U	1 U	1 U
Semivolatile Organic Compounds						
bis(2-Ethylhexyl)phthalate		10 U	8 J	0.9 J	10 U	100
1,4-Dichlorobenzene		2 J	1 J	10 U	10 U	10 U
Diethyl phthalate		4 J	2 J	10 U	10 U	10 U
Dimethyl phthalate		10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene		10 U	10 U	10 U	10 U	10 U
4-Methylphenol		10 U	10 U	10 U	10 U	10 U
Naphthalene		3 J	2 J	10 U	10 U	10 U
Phenol		0.8 J	10 U	10 U	0.9 J	10 U
Pesticides						
gamma-BHC (Lindane)		0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	---
alpha-Chlordane		0.01 J	0.05 UJ	0.05 UJ	0.05 UJ	---
gamma-Chlordane		0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	---
Heptachlor		0.05 UJ	0.05 UJ	0.05 UJ	0.05 UJ	---
Heptachlor epoxide		0.05 UJ	0.042 NJ	0.05 UJ	0.05 UJ	---

Summary of Organic Analytes Detected in Onsite Groundwater Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

	SITE:	KBA-11-22A	KBA-11-22A	KBA-11-22A	KBA-11-22B	KBA-11-22B
CONSTITUENT:	AMPLE ID:	22AGW01	22AGW02	22AGW03	22BGW01	22BGW01D
(Units in ug/l)	DATE:	01/07/94	04/05/94	09/15/94	01/08/94	01/08/94
Acetone		12 UR	5 UR	11 UJ	5 UR	5 UR
Benzene		0.6 J	0.6 J	0.5 J	6	6
Carbon disulfide		0.5 J	1 U	31	2	4
Chlorobenzene		1 U	4	4	1	1
1,4-Dichlorobenzene (VOA)		1 U	5	5	1 U	1 U
1,1-Dichloroethane		1 U	1 U	1 U	0.6 J	0.6 J
cis-1,2-Dichloroethene		1 U	1 U	1 U	19	20
Ethylbenzene		1 U	1 U	1 U	54	56
Toluene		1 U	1 U	1 U	12	12
Trichloroethene		1 U	1 U	1 U	0.5 J	0.5 J
Xylenes (total)		1 U	1 U	1 U	15	14
Semivolatile Organic Compounds						
bis(2-Ethylhexyl)phthalate		1 J	8 J	2 J	1 J	0.6 J
1,4-Dichlorobenzene		4 J	4 J	5 J	10 U	10 U
Diethyl phthalate		0.5 J	0.6 J	10 U	10	11
Dimethyl phthalate		10 U	10 U	10 U	3 J	4 J
2-Methylnaphthalene		10 U	10 U	10 U	10 U	10 U
4-Methylphenol		10 U	10 U	10 U	14	16
Naphthalene		0.6 J	0.8 J	1 J	10 U	10 U
Phenol		10 U	10 U	10 U	10 U	10 U
Pesticides						
gamma-BHC (Lindane)		0.05 U	0.05 UJ	---	0.05 UJ	0.05 UJ
alpha-Chlordane		0.05 U	0.05 UJ	---	0.05 UJ	0.05 UJ
gamma-Chlordane		0.05 U	0.05 UJ	---	0.05 UJ	0.05 UJ
Heptachlor		0.05 U	0.05 UJ	---	0.05 UJ	0.05 UJ
Heptachlor epoxide		0.05 U	0.05 UJ	---	0.05 UJ	0.05 UJ

Summary of Organic Analytes Detected in Onsite Groundwater Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT: (Units in ug/l)	SITE: / AMPLE ID: / DATE:	KBA-11-22B 22BGW02 04/05/94	KBA-11-22B 22BGW02D 04/05/94	KBA-11-22B 22BGW03 09/16/94	KBA-11-22B 22BGW03D 09/16/94
Acetone		82 J	70 J	16 UJ	14 UR
Benzene		4	4	5	5
Carbon disulfide		2 U	2 U	18	17
Chlorobenzene		2 U	2 U	2 J	2 J
1,4-Dichlorobenzene (VOA)		2 U	2 U	3 U	3 U
1,1-Dichloroethane		2 U	2 U	3 U	3 U
cis-1,2-Dichloroethene		18	17	18	19
Ethylbenzene		44	45	62	65
Toluene		4	5	2 J	2 J
Trichloroethene		2 U	2 U	3 U	3 U
Xylenes (total)		5	6	3 U	3 U
Semivolatile Organic Compounds					
bis(2-Ethylhexyl)phthalate		18	10 U	6 J	5 J
1,4-Dichlorobenzene		10 U	10 U	10 U	10 U
Diethyl phthalate		8 J	8 J	6 J	7 J
Dimethyl phthalate		10 U	10 U	10 U	10 U
2-Methylnaphthalene		10 U	10 U	10 U	10 U
4-Methylphenol		6 J	5 J	1 J	2 J
Naphthalene		10 U	10 U	10 U	10 U
Phenol		10 U	10 U	10 U	10 U
Pesticides					
gamma-BHC (Lindane)		0.072 J	0.056 J	0.05 UJ	0.05 U
alpha-Chlordane		0.023 J	0.027 J	0.05 UJ	0.05 U
gamma-Chlordane		0.049 J	0.056 J	0.05 UJ	0.05 U
Heptachlor		0.05 UJ	0.016 J	0.05 UJ	0.05 U
Heptachlor epoxide		0.05 UJ	0.05 UJ	0.027 NJ	0.05 U

Notes: ug/l = micrograms per liter.
ID = identification.
D = duplicate sample.
UR = quantitation limit rejected.
J = estimated concentration.
U = not detected, sample quantitation limit reported.
VOA = volatile organic analyte.
BHC = benzene hexachloride.
UJ =

Summary of Organic Analytes Detected in Offsite Groundwater Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SITE:	KBA-11-1	KBA-11-1	KBA-11-1	KBA-11-2	KBA-11-2	KBA-11-2	KBA-11-3A	KBA-11-3A	KBA-11-3A	KBA-11-3B	KBA-11-3B	KBA-11-3B
CONSTITUENT: SAMPLE ID:	01GW01	01GW02	01GW03	02GW01	02GW02	02GW03	03AGW01	03AGW02	03AGW03	03BGW01	03BGW02	03BGW03
(Units in ug/l) DATE:	01/05/94	04/05/94	09/13/94	01/07/94	04/09/94	09/15/94	01/07/94	04/09/94	09/15/94	01/08/94	04/05/94	09/15/94
Volatile Organic Compounds												
Benzene	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	0.4 J	4	6	6
Carbon disulfide	1 U	1 U	4 U	1 U	2 U	18	1 U	1 U	14	10	1 U	25
Chlorobenzene	1 U	1 U	1 U	1 U	2 U	1 U	1 U	3	3	0.8 J	1 U	1 U
Chloroethane	1 U	1 U	1 U	3	2 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene (VOA)	1 U	1 U	1 U	1 U	0.8 J	1 U	6	7	8	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	1 U	1 U	5	10	1 U	1 U	1 U	1 U	12	18	23
Ethylbenzene	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	14	9	8
2-Butanone	5 UR	5 UR	5 UR	5 UR	8 UR	5 UR	38 J	5 UR	5 UR	5 UR	5 UR	5 UR
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	8 U	5 U	5 U	5 U	5 U	5 U	0.9 J	5 U
Methylene chloride	2 U	2 U	2 U	2 U	3 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U
Toluene	1 U	1 U	1 U	1 U	0.7 J	1 U	0.4 J	1 U	1 U	1	0.8 J	0.6 J
Trichloroethene	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	1 U	0.6 J	0.5 J
Vinyl chloride	1 U	1 U	1 U	25	33	1 U	1 U	1 U	1 U	1	1 U	1 U
Xylene (total)	1 U	1 U	1 U	1 U	2 U	1 U	1 U	1 U	1 U	4	2	1 U
Semivolatile Organic Compounds												
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	0.5 J	10 U	10 U	10 U	10 U	0.7 J	10 U	10 U	2 J
Butyl benzyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 J	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	8 J	8 J	8 J	10 U	10 U	10 U
Diethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.6 J	0.7 J	10	8 J	8 J

SITE:	KBA-11-3C	KBA-11-3C	KBA-11-3C	KBA-11-4	KBA-11-4	KBA-11-4	KBA-11-5	KBA-11-5	KBA-11-5	KBA-11-6	KBA-11-6	KBA-11-6
CONSTITUENT: SAMPLE ID:	03CGW01	03CGW02	03CGW03	04GW01	04GW02	04GW03	05GW01	05GW02	05GW03	06GW01	06GW02	06GW03
(Units in ug/l) DATE:	01/06/94	04/05/94	09/14/94	01/07/94	04/07/94	09/15/94	01/07/94	04/07/94	09/15/94	01/04/94	04/07/94	09/13/94
Volatile Organic Compounds												
Benzene	1 U	1 U	2	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Carbon disulfide	1 U	1 U	1 U	1 U	1 U	11	1 U	1 U	5	1 U	1 U	11
Chloromethane	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzene (VOA)	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.5 J	2
cis-1,2-Dichloroethene	1 U	1 U	10	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	7	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Methylene chloride	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2	2 U	2 U
Xylene (total)	1 U	1 U	0.6 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Semivolatile Organic Compounds												
bis(2-Ethylhexyl)phthalate	3 J	10 U	10 U	10 U	10 U	0.8 J	10 U	10 U	10 U	10 U	10 U	0.8 J
Di-n-butyl phthalate	4 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.9 J
Diethyl phthalate	10 U	10 U	4 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	1 J	10 U	10 U	10 U	10 U	10 U

Summary of Organic Analytes Detected in Offsite Groundwater Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SITE:	KBA-11-7	KBA-11-7	KBA-11-7	KBA-11-8A	KBA-11-8A	KBA-11-8A	KBA-11-8B	KBA-11-8B	KBA-11-8B	KBA-11-8C	KBA-11-8C	KBA-11-8C
CONSTITUENT: SAMPLE ID:	07GW01	07GW02	07GW03	08AGW01	08AGW02	08AGW03	08BGW01	08BGW02	08BGW03	08CGW01	08CGW02	08CGW03
(Units in ug/l) DATE:	01/04/94	04/06/94	09/13/94	01/05/94	04/06/94	09/13/94	01/05/94	04/06/94	09/13/94	01/04/94	04/06/94	09/13/94
Volatile Organic Compounds												
Benzene	1 U	1 U	1 U	1 U	1 U	1 U	0.4 J	0.5 J	0.6 J	1 U	1 U	1 U
Carbon disulfide	1 U	1 U	13	1 U	1 U	19	1 U	1 U	5 U	1 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	1 U	1 U	1 U	1 U	3	3	3	1 U	1 U	1 U
cis-1,2-Dichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	2	2	2	1 U	1 U	1 U
Ethylbenzene	1 U	1 U	1 U	1 U	1 U	1 U	0.9 J	2	2	1 U	1 U	1 U
4-Methyl-2-pentanone	5 U	5 U	5 U	5 U	5 U	5 U	3 J	1 J	5 U	5 U	5 U	5 U
Methylene chloride	3 U	2 U	2 U	2 U	2 U	2 U	2 U	2 U	2	2 U	2 U	2 U
Trichloroethene	1 U	1 U	1 U	1 U	1 U	1 U	0.9 J	1	1	1 U	1 U	1 U
Semivolatile Organic Compounds												
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	14	2 J	10 U	13 J
Di-n-butyl phthalate	10 U	10 U	10 U	10 U	10 U	0.7 J	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	1 J	1 J	1 J	10 U	0.8 J	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	1 J	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2 J	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	3 J	10 U	10 U	10 U

SITE:	KBA-11-9	KBA-11-9	KBA-11-9	KBA-11-11A	KBA-11-11A	KBA-11-11A	KBA-11-11A	KBA-11-11A	KBA-11-11B	KBA-11-11B	KBA-11-11B	KBA-11-11C
CONSTITUENT: SAMPLE ID:	09GW01	09GW02	09GW03	11AGW01	11AGW01D	11AGW02	11AGW03	11AGW03D	11BGW01	11BGW02	11BGW03	11CGW01
(Units in ug/l) DATE:	01/05/94	04/05/94	09/13/94	01/04/94	01/04/94	04/05/94	09/13/94	09/13/94	01/04/94	04/05/94	09/13/94	01/04/94
Volatile Organic Compounds												
Carbon disulfide	1 U	1 U	5 U	1 U	1 U	1 U	10	16	5 U	5 U	1 U	1 U
Semivolatile Organic Compounds												
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	0.5 J	10 U	0.6 J	10 U	10 U	10 U	14 J	5 J
Butyl benzyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.7 J	10 U	10 U	10 U	2 J
Diethyl phthalate	10 U	0.5 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Dimethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	2 J
Pesticides												
gamma-BHC (Lindane)	0.05 UJ	0.008 NJ	0.05 UJ	0.05 U	0.05 UJ	0.05 UJ	---	---	0.02 U	0.05 U	---	0.05 UJ
Heptachlor epoxide	0.05 UJ	0.05 UJ	0.01 NJ	0.05 U	0.05 UJ	0.05 UJ	---	---	0.02 U	0.05 U	---	0.05 UJ

Summary of Organic Analytes Detected in Offsite Groundwater Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT: (Units in ug/l)	SITE:	KBA-11-11C	KBA-11-11C	KBA-11-12	KBA-11-12	KBA-11-12	KBA-11-12	KBA-11-12	KBA-11-13A	KBA-11-13A	KBA-11-13A	KBA-11-13B	KBA-11-13B
	SAMPLE ID:	11CGW02	11CGW03	12GW01	12GW01D	12GW02	12GW03	12GW03D	13AGW01	13AGW02	13AGW03	13BGW01	13BGW02
	DATE:	04/05/94	09/13/94	01/05/94	01/05/94	04/06/94	09/14/94	09/14/94	01/07/94	04/09/94	09/15/94	01/07/94	04/09/94
Volatile Organic Compounds													
1,2-Dichloroethene (total)		---	---	---	---	---	---	---	2900	1800	---	---	---
cis-1,2-Dichloroethene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	---	---	700	1 U	1 U
Ethylbenzene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	130	120	110	1 U	1 U
Tetrachloroethene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	100 U	580	460	1 U	1 U
Toluene		1 U	0.8 J	1 U	1 U	1 U	1 U	1 U	170	89	120	1 U	1 U
Trichloroethene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	300	2400	770	1 U	1 U
Vinyl chloride		1 U	1 U	1 U	1 U	1 U	1 U	1 U	170 J	110 J	50 U	1 U	1 U
Xylene (total)		1 U	1 U	1 U	1 U	1 U	1 U	1 U	240	200	310	1 U	1 U
Semivolatile Organic Compounds													
bis(2-Ethylhexyl)phthalate		12	4 J	10 U	10 U	10 U	32	13	4 J	24	2 J	2 J	80
Di-n-butyl phthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U	13 U	1.1 J	0.6 J	10 U	10 U
Diethyl phthalate		0.8 J	10 U	10 U	10 U	10 U	10 U	10 U	13	7.1 J	25	10 U	10 U
2,4-Dimethylphenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U	54	19	81	10 U	10 U
2-Methylphenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U	5 J	1.5 J	3 J	10 U	10 U
3-&4-Methylphenol		---	---	---	---	---	---	---	54	---	---	---	---
4-Methylphenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U	---	12	13	10 U	10 U
Naphthalene		10 U	10 U	10 U	10 U	10 U	10 U	10 U	34	47	16	10 U	10 U
3-Nitroaniline		25 U	25 U	25 U	25 U	25 U	25 U	25 U	50 U	50 U	1 J	25 U	25 U
Pesticides													
Aldrin		0.01 NJ	0.05 U	0.05 U	0.05 U	0.05 UJ	---	---	0.02 U	0.05 U	---	0.05 U	0.05 UJ
Dieldrin		0.1 UJ	0.012 J	0.1 U	0.1 U	0.1 UJ	---	---	0.02 U	0.1 U	---	0.1 U	0.1 UJ

CONSTITUENT: (Units in ug/l)	SITE:	KBA-11-13B	KBA-11-14	KBA-11-14	KBA-11-14	KBA-11-15	KBA-11-15	KBA-11-15	KBA-11-16	KBA-11-16	KBA-11-16	KBA-11-16	KBA-11-17A
	SAMPLE ID:	13BGW03	14GW01	14GW02	14GW03	15GW01	15GW02	15GW03	16GW01	16GW02	16GW03	16GW03D	17AGW01
	DATE:	09/15/94	01/05/94	04/06/94	09/13/94	01/05/94	04/06/94	09/14/94	01/07/94	04/07/94	09/15/94	09/15/94	01/06/94
Volatile Organic Compounds													
Acetone		11 UJ	5 UR	5 UR	5 UR	5 UR	8 UR	15 UJ	320 J	84	49 UJ	35 UJ	7 UR
Benzene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	2	8.4 U	1 U	1 U	1 U
Carbon disulfide		1 U	1 U	1 U	10	1 U	1 U	1 U	2	8.4 U	11	14	1 U
1,1-Dichloroethane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	13	11	2	3	1 U
1,1-Dichloroethene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.7 J	8.4 U	1 U	1 U	1 U
1,2-Dichloroethene (total)		---	---	---	---	---	---	---	---	4 J	---	---	---
cis-1,2-Dichloroethene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	7	---	1	0.9 J	1 U
1,2-Dichloropropane		1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.8 J	8.4 U	1 U	1 U	1 U
Ethylbenzene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	5	8.4 U	1 U	1 U	1 U
2-Hexanone		5 U	5 UR	5 U	5 U	5 UR	5 U	5 U	6 J	84 U	5 U	5 U	5 UR
2-Butanone		5 UR	57 J	5 UR	5 UR	5 UR	5 UR	5 UR	380 J	200	5 UR	5 UR	6 UR
4-Methyl-2-pentanone		5 U	5 U	5 U	5 U	5 U	5 U	5 U	270	290	2 J	5 U	5 U
Methylene chloride		2 U	2 U	2 U	2 UJ	2 U	2 U	2 UJ	7	11	2 UJ	2 U	4 U
Toluene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	23	24	1 U	1 U	1 U
Trichloroethene		1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.6 J	8.4 U	1 U	1 U	1 U
Xylene (total)		1 U	1 U	1 U	1 U	1 U	1 U	1 U	12	5.4 J	1 U	1 U	1 U

Summary of Organic Analytes Detected in Offsite Groundwater Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

Wells continued from previous page.

SITE:	KBA-11-13B	KBA-11-14	KBA-11-14	KBA-11-14	KBA-11-15	KBA-11-15	KBA-11-15	KBA-11-16	KBA-11-16	KBA-11-16	KBA-11-16	KBA-11-17A
CONSTITUENT: SAMPLE ID:	13BGW03	14GW01	14GW02	14GW03	15GW01	15GW02	15GW03	16GW01	16GW02	16GW03	16GW03D	17AGW01
(Units in ug/l) DATE:	09/15/94	01/05/94	04/06/94	09/13/94	01/05/94	04/06/94	09/14/94	01/07/94	04/07/94	09/15/94	09/15/94	01/06/94
Semivolatile Organic Compounds												
bis(2-Ethylhexyl)phthalate	2 J	10 U	10 U	10 U	20 J	10 U	140	4 J	10 U	23	16	10 U
Diethyl phthalate	10 U	10 U	10 U	10 U	10 U	10 U	10 U	8 J	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	8 J	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	670 270	10 U	0.9 J	10 U
Phenol	10 U	10 U	10 U	10 U	10 U	10 U	10 U	100	40	10 U	10 U	10 U
Pesticides												
beta-BHC	---	0.05 UJ	0.08 J	0.05 UJ	0.05 U	0.05 UJ	---	0.05 U	0.05 U	---	---	0.05 UJ
4,4'-DDD	---	0.1 UJ	0.1 UJ	0.02 NJ	0.1 U	0.1 UJ	---	0.1 U	0.1 U	---	---	0.1 UJ

SITE:	KBA-11-17A	KBA-11-17A	KBA-11-17A	KBA-11-17B	KBA-11-17B	KBA-11-17B	KBA-11-17B	KBA-11-17C	KBA-11-17C	KBA-11-17C	KBA-11-18	KBA-11-18
CONSTITUENT: SAMPLE ID:	17AGW02	17AGW02D	17AGW03	17BGW01	17BGW01D	17BGW02	17BGW03	17CGW01	17CGW02	17CGW03	18GW01	18GW02
(Units in ug/l) DATE:	04/06/94	04/06/94	09/14/94	01/07/94	01/07/94	04/07/94	09/15/94	01/06/94	04/06/94	09/14/94	01/05/94	04/06/94
Volatile Organic Compounds												
Acetone	5 UR	8 UR	11 UJ	100 J	14 UR	7 UR	5 UR	5 UR	11 UR	630 J	8 UR	9 UR
Benzene	1 U	1 U	2 U	0.5 J	1 U	1 U	1 U	1 U	1 U	6 U	1 U	1 U
Carbon disulfide	1 U	1 U	30	0.7 J	1 U	1 U	0.7 J	1 U	1 U	6 U	1 U	1 U
Chloromethane	1 U	1 U	2 U	0.6 J	1 U	1 U	1 U	1 U	1 U	6 U	1 U	1 U
1,1-Dichloroethane	1 U	1 U	2 U	1	1 U	1 U	1 U	1 U	1 U	6 U	0.6 J	1 U
2-Butanone	5 UR	5 UR	8 UR	61 J	5 UR	5 UR	5 UR	16 U	5 UR	31 UR	5 UR	5 UR
4-Methyl-2-pentanone	5 U	5 U	8 U	78	10	6	4 J	5 U	5 U	31 U	34	10
Methylene chloride	2 U	2 U	3 UJ	3 U	2 U	0.5 J	2 U	2 U	2 U	12 U	3 U	2 U
Semivolatile Organic Compounds												
bis(2-Ethylhexyl)phthalate	10 U	10 U	6 J	29	12	10 U	11	2 J	8 J	19	10 U	15
4-Methylphenol	10 U	10 U	10 U	3 J	4 J	4 J	10 U	10 U	10 U	10 U	10 U	10 U
Phenol	10 U	10 U	10 U	10 U	10 U	2 J	10 U	10 U	10 U	10 U	10 U	10 U

Summary of Organic Analytes Detected in Offsite Groundwater Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT: (Units in ug/l)	SITE: / SAMPLE ID: / DATE:	KBA-11-18 18GW03 09/14/94	KBA-11-19A 19AGW01 01/06/94	KBA-11-19A 19AGW02 04/07/94	KBA-11-19A 19AGW03 09/14/94	KBA-11-19B 19BGW01 01/06/94	KBA-11-19B 19BGW02 04/06/94	KBA-11-19B 19BGW03 09/14/94	KBA-11-20 20GW01 01/06/94	KBA-11-20 20GW02 04/06/94	KBA-11-20 20GW03 09/14/94	KBA-11-21 21GW01 01/06/94	KBA-11-21 21GW02 04/06/94	KBA-11-21 21GW03 09/14/94
Volatile Organic Compounds														
Acetone		160 J	10 U	5 UR	5 UR	5 UR	120 J	660 J	8 UR	7 UR	82 UJ	12 UR	14 UR	21 UJ
Benzene		2 U	5 U	1 U	1 U	1 U	1 U	8 U	1 U	1 U	1 U	1 U	1 U	0.9 J
Carbon disulfide		2 U	5 U	1 U	15	1 U	1 U	8 U	1 U	1 U	2 U	0.4 J	1 U	6
cis-1,2-Dichloroethene		2 U		0.8 J	1	0.7 J	1 U	8 U	1 U	2 U	1 U	1 U	1 U	1 U
Toluene		2 U	5 U	1 U	1 U	1 U	1 U	8 U	1 U	1 U	1 U	1 U	1 U	3
Xylene (total)		2 U	5 U	1 U	1 U	1 U	1 U	8 U	1 U	1 U	1 U	1 U	1 U	2
Semivolatile Organic Compounds														
bis(2-Ethylhexyl)phthalate		11	10 U	10 U	2 J	10 U	10 U	570	1 J	10 U	5 J	3 J	12	6 J
Butyl benzyl phthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.6 J	10 U
Di-n-butyl phthalate		10 U	3 J	10 U	10 U	4 J	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Diethyl phthalate		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.5 J	10 U
4-Methylphenol		2 J	---	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U
Phenol		10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.8 J	10 U

Notes:
ug/l = micrograms per liter.
ID = identification.
U = not detected.
J = estimated concentration.
VOA = volatile organic analyte.
UR = not detected, sample rejected.
UJ = not detected, sample estimated.

Summary of Organic Analytes Detected in Onsite Subsurface Soil Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

	SITE:	KBA-11-10C	KBA-11-22A
	SAMPLE ID:	SB11412	SB11512
CONSTITUENT:	DATE:	11/06/94	11/17/93
(Units in ug/kg)	DEPTH (ft bls):	12.0	12.0
Volatile Organic Compound			
Toluene		6 J	13 U

Note: Samples were collected in 2-foot intervals. Sample depth shown is the depth of the top of each sample.

ug/kg = micrograms per kilogram.
ID = identification.
ft bls = feet below land surface.
J = estimated concentration.
U = not detected, sample quantitation limit reported.

Summary of Organic Analytes Detected in Offsite Subsurface Soil Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SITE:	KBA-11-11C	KBA-11-11C	KBA-11-11C	KBA-11-11C	KBA-11-13A	KBA-11-13A	KBA-11-13A
SAMPLE ID:	SB10125	SB10125D	SB10145	SB10175	SB10425	SB10425D	SB10440
CONSTITUENT: DATE:	10/23/93	10/23/93	10/23/93	10/23/93	11/20/93	11/20/93	11/20/93
(Units in ug/kg) DEPTH (ft bls):	25	25	45	75	25	25	40
Volatile Organic Compounds							
Acetone	48 U	66 U	55 U	35 U	35 U	37 U	19 U
Carbon disulfide	4 J	10 J	8 J	12 U	8 J	7 J	13 U
1,1-Dichloroethane	12 U	12 U	13 U	12 U	12 U	12 U	13 U
1,2-Dichloroethene (total)	12 U	12 U	13 U	12 U	12 U	12 U	13 U
Ethylbenzene	12 U	12 U	13 U	12 U	4 J	8 J	13 U
2-Hexanone	12 U	12 U	13 U	12 U	12 U	12 U	13 U
2-Butanone	15	14	13	17	12 U	12 U	13 U
4-Methyl-2-pentanone	12 U	12 U	13 U	12 U	12 U	12 U	13 U
Toluene	5 J	7 J	18	9 J	12 J	7 J	13 U
Xylenes, total	3 J	3 J	13 U	12 U	23	44	13 U
Semivolatile Organic Compounds							
bis(2-Ethylhexyl)phthalate	410 U	410 U	420 U	430 U	400 U	630	410 U
4-Methylphenol	410 U	410 U	420 U	430 U	400 U	400 U	410 U

SITE:	KBA-11-16	KBA-11-19A	KBA-PS-10	KBA-PS-10	KBA-PS-9	KBA-PS-9
SAMPLE ID:	SB10840	SB11220	SBPS1015	SBPS1025	SBPS915	SBPS925
CONSTITUENT: DATE:	11/18/93	11/18/93	11/19/93	11/19/93	11/03/93	11/03/93
(Units in ug/kg) DEPTH (ft bls):	40	20	15	25	15	25
Volatile Organic Compounds						
Acetone	180 U	43 U	24 U	17 U	30	320
Carbon disulfide	12 J	6 J	2 J	13 U	13 U	13 U
1,1-Dichloroethane	12 U	13 U	14 U	3 J	13 U	13 U
1,2-Dichloroethene (total)	12 U	13 U	14 U	13 U	13 U	4 J
Ethylbenzene	12 U	13 U	14 U	13 U	13 U	13 U
2-Hexanone	5 J	13 U	14 U	13 U	13 U	13 U
Methyl ethyl ketone	190	13 U	14 U	13 U	13 U	13 U
4-Methyl-2-pentanone	99	4 J	14 U	27	13 U	13 U
Toluene	4 J	13 U	14 U	13 U	13 U	4 J
Xylenes, total	12 U	13 U	14 U	13 U	13 U	13 U
Semivolatile Organic Compounds						
bis(2-Ethylhexyl)phthalate	420 U	430 U	430 U	420 U	430 UJ	420 UJ
4-Methylphenol	180 J	430 U	430 U	420 U	430 UJ	420 UJ

Note: Samples were collected in 2-foot intervals. Sample depth shown is the depth of the top of each sample.

ug/kg = micrograms per kilogram.
ft bls = feet below land surface.
ID = identification.
U = not detected, sample quantification limit reported.
J = estimated concentration.

Summary of Organic Analytes Detected in Trench Soil Samples

Supplemental RFI
Site 11, Old Camden County Landfille
Naval Submarine Base, Kings Bay, Georgia

SITE:	TRENCH-2	TRENCH-4	TRENCH-7	TRENCH-7	TRENCH-8	TRENCH-11	TRENCH-12
SAMPLE ID:	11TS02	11TS04	11TS07	11TS07D	11TS08	11TS11	11TS12
CONSTITUENT: DATE:	11/16/94	11/17/94	11/18/94	11/18/94	11/19/94	11/22/94	11/22/94
(Units in ug/kg) DEPTH (ft bls):	4	5	6	6	4	4	4
Volatile Organic Compound							
2-Butanone	11 U	13 U	12 U	12 U	3 J	12 UJ	11 U
Semivolatile Organic Compounds							
Acenaphthene	360 U	420 U	400 U	400 U	410 U	24 J	360 U
Anthracene	360 U	420 U	400 U	400 U	410 U	34 J	360 U
Benzo(b)fluoranthene	360 U	420 U	400 U	400 U	410 U	74 J	360 U
Benzo(k)fluoranthene	360 U	420 U	400 U	400 U	410 U	30 J	360 U
Benzo(ghi)perylene	360 U	420 U	400 U	400 U	410 U	36 J	360 U
Benzo(a)pyrene	360 U	420 U	400 U	400 U	410 U	54 J	360 U
Di-n-butyl phthalate	64 J	420 U	400 U	400 U	410 U	360 U	360 U
Fluoranthene	360 U	420 U	400 U	400 U	410 U	220 J	360 U
Fluorene	360 U	420 U	400 U	400 U	410 U	22 J	360 U
Indeno(1,2,3-cd)pyrene	360 U	420 U	400 U	400 U	410 U	37 J	360 U
Naphthalene	360 U	420 U	400 U	400 U	410 U	180 J	360 U
Phenanthrene	360 U	420 U	400 U	400 U	410 U	150 J	360 U
Pyrene	360 U	420 U	400 U	400 U	410 U	160 J	360 U
Pesticides							
4,4'-DDD	3.5 UJ	3.4 J	3.9 UJ	4.1 UJ	20 U	4 UJ	3.6 UJ
4,4'-DDE	3.5 UJ	2.3 J	3.9 UJ	4.1 UJ	20 U	4 UJ	3.6 UJ
4,4'-DDT	31 UJ	4.2 UJ	3.9 UJ	4.1 UJ	20 U	25 UJ	32 J
Endrin ketone	0.25 NJ	4.2 UJ	3.9 UJ	41 UJ	---	4 UJ	0.41 NJ

Notes: ug/kg = micrograms per kilogram.
ID = identification.
ft bls = feet below land surface.
D = duplicate.
J = estimated concentration.
U = not detected, sample quantitation limit reported.
DDD = dichlorodiphenyl dichloroethane.
DDE = dichlorodiphenyltrichloroethane.
DDT = dichlorodiphenyltrichloroethane.
NJ = presumptively present at estimated concentration.
--- = not analyzed.

Summary of Organic Analytes Detected in Trench Liquid Samples

Supplemental RFI
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT: (Units in ug/l)	SITE: / SAMPLE ID: / DATE:	TRENCH-11 / 11TL11 / 11/22/94	TRENCH-2 / 11TL02 / 11/16/94	TRENCH-4 / 11TL04 / 11/17/94	TRENCH-7 / 11TL07 / 11/18/94	TRENCH-7 / 11TL07D / 11/18/94	TRENCH-8 / 11TL08 / 11/19/94
Volatile Organic Compounds							
Chlorobenzene		3	<2,500 U	<1 U	14	14	<1 U
1,4-Dichlorobenzene (VOA)		3	<2,500 U	0.4 J	6	6	---
Dichlorodifluoromethane		---	---	---	---	---	7
Ethylbenzene		30	<2,500 U	<1 U	73	70	2
2-Hexanone		<8 U	<12,000 U	<5 U	<25 U	<25 U	2 J
Methylene chloride		<3 U	<5,000 U	<2 U	17	18	1
2-Butanone		<8 UR	16,000 J	<5 UR	<25 UR	<25 UR	3 J
4-Methyl-2-pentanone		<8 U	210,000	<5 U	<25 U	7 J	4 J
Toluene		6	<2,500 U	0.5 J	13	14	2
Trichlorofluoromethane		---	---	---	---	---	2
Xylenes (total)		10	4,000	<1 U	42	43	16
Semivolatile Organic Compounds							
1,4-Dichlorobenzene		3 J	<100 U	<10 U	4 J	4 J	<10 U
Diethyl phthalate		2 J	<100 U	0.5 J	4 J	5 J	<10 U
2,4-Dimethylphenol		<10 U	16 J	<10 U	<40 U	<40 U	<10 U
Di-n-octyl phthalate		0.6 J	<100 U	<10 U	<40 U	<40 U	<10 U
Isophorone		<10 U	<100 U	<10 U	<40 U	<40 U	24
2-Methylnaphthalene		2 J	<100 U	<10 U	6 J	6 J	<10 U
2-Methylphenol		<10 U	100 U	10 U	40 U	40 U	2 J
4-Methylphenol		19	740	1 J	<40 U	2 J	7 J
Naphthalene		58	<100 U	<10 U	190	200	8 J
Phenol		8 J	130	0.8 J	6 J	9 J	1
Pesticides							
alpha-BHC		0.032 J	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
gamma-BHC (Lindane)		0.018 NJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
alpha-Chlordane		<0.05 UJ	0.22 J	<0.05 UJ	<0.05 UJ	<0.05 UJ	---
gamma-Chlordane		<0.05 UJ	0.48 J	<0.05 UJ	<0.05 UJ	<0.05 UJ	---
4,4'-DDD		<0.1 UJ	0.13 J	<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 U
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 UJ	0.011 J	0.012 J	<0.1 U
Endrin ketone		<0.1 UJ	0.015 NJ	<0.1 UJ	<0.1 UJ	<0.1 UJ	---
Methoxychlor		0.17 NJ	<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 U
Organophosphorus Pesticides							
O,O,O-Triethylphosphorothioate		---	---	---	---	---	0.67

Notes: ug/l = micrograms per liter.
ID = identification.
D = duplicate sample.
U = not detected, sample quantitation limit reported.
VOA = volatile organic analyte.
J = estimated concentration.
UR = quantitation limit rejected.
--- = not data.
BHC = benzene hexachloride.
DDD = dichlorodiphenyl dichloroethane.
NJ = presumptively present at estimated concentration.

APPENDIX C

COMPREHENSIVE TABLES OF ANALYTICAL DATA

Validated Analytical Data for Sediment and Surface Water Samples

Validated

Inorganic Analytes
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in mg/kg)	SITE	SD201	SD201	SD202	SD202
	SAMPLE ID	11SD201	11SD201	11SD202	11SD202
	DATE	11/08/94	11/08/94	11/08/94	11/08/94
	DEPTH (ft)	1.00	5.60	1.00	6.70
Aluminum		2520	---	7390	---
Antimony		<0.7 U	---	<0.74 U	---
Arsenic		<1.4 U	---	<1.3 U	---
Barium		10.7 J	---	22.5 J	---
Beryllium		<0.35 U	---	<0.37 U	---
Cadmium		<0.35 U	---	<0.37 U	---
Calcium		1000 J	---	2260 J	---
Chromium		2.6 J	---	5.9	---
Cobalt		<0.7 U	---	<0.74 U	---
Copper		<0.7 U	---	<1.3 U	---
Cyanide		---	<0.94 UJ	---	<0.93 UJ
Iron		929	---	1400	---
Lead		2.8	---	7.3	---
Magnesium		226 J	---	472 J	---
Manganese		7.9	---	14.9	---
Mercury		<0.17 U	---	<0.19 U	---
Nickel		0.75 J	---	1.9 J	---
Potassium		83.1 J	---	105 J	---
Selenium		<1.4 U	---	<1.5 U	---
Silver		<0.35 U	---	<0.37 U	---
Sodium		<251 U	---	<288 U	---
Sulfide		---	320	---	280
Thallium		<2.1 U	---	<2.2 U	---
Tin		---	---	---	---
Vanadium		2.2 J	---	4.5 J	---
Zinc		<5.9 U	---	<11.3 U	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

Validated

Inorganic Analytes
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in mg/kg)	SITE	SD203	SD203	SD204	SD204
	SAMPLE ID	11SD203	11SD203	11SD204	11SD204
	DATE	11/09/94	11/09/94	11/09/94	11/09/94
	DEPTH (ft)	1.00	5.00	1.00	5.70
Aluminum		2220	---	5700	---
Antimony		<0.52 U	---	<0.55 U	---
Arsenic		<0.79 U	---	<0.91 U	---
Barium		4.7 J	---	7 J	---
Beryllium		<0.26 U	---	<0.28 U	---
Cadmium		<0.26 U	---	<0.28 U	---
Calcium		302 J	---	340 J	---
Chromium		3	---	4.4	---
Cobalt		0.82 J	---	<0.55 U	---
Copper		<0.65 U	---	<0.74 U	---
Cyanide		---	<0.56 UJ	---	<0.65 UJ
Iron		499	---	755	---
Lead		2.6	---	3.4	---
Magnesium		94 J	---	121 J	---
Manganese		13.8	---	4.2	---
Mercury		<0.12 U	---	<0.14 U	---
Nickel		1 J	---	1.1 J	---
Potassium		40.8 J	---	61.9 J	---
Selenium		<1 U	---	<1.1 U	---
Silver		<0.26 U	---	<0.28 U	---
Sodium		<151 U	---	<213 U	---
Sulfide		---	130	---	150
Thallium		<1.6 U	---	<1.7 U	---
Tin		---	---	---	---
Vanadium		2.2 J	---	2.6 J	---
Zinc		<2.8 U	---	<4.1 U	---

Values represent total concentrations unless noted *< =Not detected at indicated reporting limit* *--- =Not analyzed*

J = estimated concentration

Validated

Inorganic Analytes
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in mg/kg)	SITE	SD205
	SAMPLE ID	11SD205
	DATE	11/09/94
	DEPTH (ft)	5.30
Aluminum		---
Antimony		<43.5 UJ
Arsenic		<0.72 U
Barium		3.2
Beryllium		<0.72 U
Cadmium		<1.4 U
Calcium		---
Chromium		3.2
Cobalt		<7.2 U
Copper		1.4
Cyanide		<0.36 U
Iron		---
Lead		3.2
Magnesium		---
Manganese		---
Mercury		<0.14 U
Nickel		<5.8 U
Potassium		---
Selenium		<0.72 U
Silver		<1.4 UJ
Sodium		---
Sulfide		<72 U
Thallium		<1.4 U
Tin		<145 U
Vanadium		<7.2 U
Zinc		<7.2 U

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Validated

Volatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD201	SD202	SD203	SD204
	SAMPLE ID	11SD201	11SD202	11SD203	11SD204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
	DEPTH (ft)	5.60	6.70	5.00	5.70
Acetone		<68 U	<54 U	<13 U	<29 U
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<18 U	<18 U	<13 U	<14 U
Bromochloromethane		---	---	---	---
Bromodichloromethane		<18 U	<18 U	<13 U	<14 U
Bromoform		<18 U	<18 U	<13 U	<14 U
Bromomethane		<18 U	<18 U	<13 U	<14 U
2-Butanone		<18 U	<18 U	<13 U	<14 U
Carbon disulfide		<18 U	<18 U	<13 U	<14 U
Carbon tetrachloride		<18 U	<18 U	<13 U	<14 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<18 U	<18 U	<13 U	<14 U
Chloroethane		<18 U	<18 U	<13 U	<14 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<18 U	<18 U	<13 U	<14 U
Chloromethane		<18 U	<18 U	<13 U	<14 U
Chlorodibromomethane		<18 U	<18 U	<13 U	<14 U
1,2-Dibromo-3-chloropropane		---	---	---	---
1,2-Dibromoethane		---	---	---	---
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		---	---	---	---
1,3-Dichlorobenzene (VOA)		---	---	---	---
1,4-Dichlorobenzene (VOA)		---	---	---	---
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<18 U	<18 U	<13 U	<14 U
1,2-Dichloroethane		<18 U	<18 U	<13 U	<14 U
1,1-Dichloroethene		<18 U	<18 U	<13 U	<14 U
1,2-Dichloroethene (total)		<18 U	<18 U	<13 U	<14 U
cis-1,2-Dichloroethene		---	---	---	---
trans-1,2-Dichloroethene		---	---	---	---
1,2-Dichloropropane		<18 U	<18 U	<13 U	<14 U

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Validated

Volatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD201	SD202	SD203	SD204
	SAMPLE ID	11SD201	11SD202	11SD203	11SD204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
	DEPTH (ft)	5.60	6.70	5.00	5.70
cis-1,3-Dichloropropene		<18 U	<18 U	<13 U	<14 U
trans-1,3-Dichloropropene		<18 U	<18 U	<13 U	<14 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<18 U	<18 U	<13 U	<14 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<18 U	<18 U	<13 U	<14 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<18 U	<18 U	<13 U	<14 U
Methylene chloride		<18 U	<18 U	<13 U	<14 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<18 U	<18 U	<13 U	<14 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<18 U	<18 U	<13 U	<14 U
Tetrachloroethene		<18 U	<18 U	<13 U	<14 U
Toluene		<18 U	<18 U	<13 U	<14 U
1,1,1-Trichloroethane		<18 U	<18 U	<13 U	<14 U
1,1,2-Trichloroethane		<18 U	<18 U	<13 U	<14 U
Trichloroethene		<18 U	<18 U	<13 U	<14 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<18 U	<18 U	<13 U	<14 U
Xylene (total)		<18 U	<18 U	<13 U	<14 U

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Volatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD205
	SAMPLE ID	11SD205
	DATE	11/09/94
	DEPTH (ft)	5.30
Acetone		<72 U
Acetonitrile		<72 U
Acrolein		<72 UR
Acrylonitrile		<72 U
3-Chloro-1-propene		<7.2 U
Benzene		<7.2 U
Bromochloromethane		---
Bromodichloromethane		<7.2 U
Bromoform		<7.2 U
Bromomethane		<14 U
2-Butanone		<72 U
Carbon disulfide		<7.2 U
Carbon tetrachloride		<7.2 U
2-Chloro-1,3-butadiene		<7.2 U
Chlorobenzene		<7.2 U
Chloroethane		<14 U
2-Chloroethylvinylether		---
Chloroform		<7.2 U
Chloromethane		<14 U
Chlorodibromomethane		<7.2 U
1,2-Dibromo-3-chloropropane		<14 U
1,2-Dibromoethane		<7.2 U
Dibromomethane		<7.2 U
1,2-Dichlorobenzene (VOA)		---
1,3-Dichlorobenzene (VOA)		---
1,4-Dichlorobenzene (VOA)		---
trans-1,4-Dichloro-2-butene		<7.2 U
1,1-Dichloroethane		<7.2 U
1,2-Dichloroethane		<7.2 U
1,1-Dichloroethene		<7.2 U
1,2-Dichloroethene (total)		<7.2 U
cis-1,2-Dichloroethene		---
trans-1,2-Dichloroethene		---
1,2-Dichloropropane		<7.2 U

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Volatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD205
	SAMPLE ID	11SD205
	DATE	11/09/94
	DEPTH (ft)	5.30
cis-1,3-Dichloropropene		<7.2 U
trans-1,3-Dichloropropene		<7.2 U
1,4-Dioxane		<1400 UR
Ethylbenzene		<7.2 U
Ethyl methacrylate		<7.2 U
2-Hexanone		<72 U
Iodomethane		<14 U
Isobutyl alcohol		<720 UR
Methacrylonitrile		<29 U
Methyl methacrylate		<7.2 U
4-Methyl-2-pentanone		<72 U
Methylene chloride		<7.2 U
Pentachloroethane		170 J
opionitrile		<29 U
Styrene		<7.2 U
1,1,1,2-Tetrachloroethane		<7.2 U
1,1,2,2-Tetrachloroethane		<7.2 U
Tetrachloroethene		<7.2 U
Toluene		<7.2 U
1,1,1-Trichloroethane		<7.2 U
1,1,2-Trichloroethane		<7.2 U
Trichloroethene		<7.2 U
Trichlorofluoromethane		<7.2 U
1,2,3-Trichloropropane		<7.2 U
Vinyl acetate		<72 UJ
Vinyl chloride		<14 U
Xylene (total)		<7.2 U

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Semivolatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD201	SD202	SD203	SD204
	SAMPLE ID	11SD201	11SD202	11SD203	11SD204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
	DEPTH (ft)	5.60	6.70	5.00	5.70
Acenaphthene		<580 U	<610 U	<420 U	<460 U
Acenaphthylene		<580 U	<610 U	<420 U	<460 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		32 J	<610 U	<420 U	<460 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<580 U	<610 U	<420 U	<460 U
Benzo(b)fluoranthene		<580 U	<610 U	<420 U	<460 U
Benzo(k)fluoranthene		<580 U	<610 U	<420 U	<460 U
Benzo(ghi)perylene		<580 U	<610 U	<420 U	<460 U
Benzo(a)pyrene		<580 U	<610 U	<420 U	<460 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<580 U	<610 U	<420 U	<460 U
bis(2-Chloroethyl) ether		<580 U	<610 U	<420 U	<460 U
bis(2-Chloroisopropyl)ether		<580 U	<610 U	<420 U	<460 U
bis(2-Ethylhexyl)phthalate		<580 U	<610 U	<420 U	<460 U
4-Bromophenyl phenyl ether		<580 U	<610 U	<420 U	<460 U
Butyl benzyl phthalate		<580 U	<610 U	<420 U	<460 U
Carbazole		<580 UJ	<610 UJ	<420 UJ	<460 UJ
4-Chloro-3-methylphenol		<580 U	<610 U	<420 U	<460 U
4-Chloroaniline		<580 U	<610 U	<420 U	<460 U
2-Chloronaphthalene		<580 U	<610 U	<420 U	<460 U
2-Chlorophenol		<580 U	<610 U	<420 U	<460 U
4-Chlorophenyl phenyl ether		<580 U	<610 U	<420 U	<460 U
Chrysene		<580 U	<610 U	<420 U	<460 U
Dibenz(a,h)anthracene		<580 U	<610 U	<420 U	<460 U
Dibenzofuran		<580 U	<610 U	<420 U	<460 U
Di-n-butyl phthalate		<780 U	<610 U	<420 U	<510 U
Di-n-octyl phthalate		<580 U	<610 U	<420 U	<460 U
1,2-Dichlorobenzene		<580 U	<610 U	<420 U	<460 U

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Semivolatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD201	SD202	SD203	SD204
	SAMPLE ID	11SD201	11SD202	11SD203	11SD204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
	DEPTH (ft)	5.60	6.70	5.00	5.70
1,3-Dichlorobenzene		<580 U	<610 U	<420 U	<460 U
1,4-Dichlorobenzene		<580 U	<610 U	33 J	<460 U
3,3'-Dichlorobenzidine		<580 U	<610 U	<420 U	<460 U
2,4-Dichlorophenol		<580 U	<610 U	<420 U	<460 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<580 U	<610 U	<420 U	<460 U
Dimethyl phthalate		<580 U	<610 U	<420 U	<460 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<580 U	<610 U	<420 U	<460 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<1400 U	<1500 U	<1000 U	<1100 U
,4-Dinitrophenol		<1400 U	<1500 U	<1000 U	<1100 U
2,4-Dinitrotoluene		<580 U	<610 U	<420 U	<460 U
2,6-Dinitrotoluene		<580 U	<610 U	<420 U	<460 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<580 U	<610 U	<420 U	<460 U
Fluorene		<580 U	<610 U	<420 U	<460 U
Hexachlorobenzene		<580 U	<610 U	<420 U	<460 U
Hexachlorobutadiene		<580 U	<610 U	<420 U	<460 U
Hexachlorocyclopentadiene		<580 U	<610 U	<420 U	<460 U
Hexachloroethane		<580 U	<610 U	<420 U	<460 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<580 U	<610 U	<420 U	<460 U
Isophorone		<580 U	<610 U	<420 U	<460 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
Methylnaphthalene		<580 U	<610 U	<420 U	<460 U

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Semivolatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD201	SD202	SD203	SD204
	SAMPLE ID	11SD201	11SD202	11SD203	11SD204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
	DEPTH (ft)	5.60	6.70	5.00	5.70
2-Methylphenol		<580 U	<610 U	<420 U	<460 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<580 U	<610 U	<420 U	<460 U
Naphthalene		<580 U	<610 U	<420 U	<460 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<1400 U	<1500 U	<1000 U	<1100 U
3-Nitroaniline		<1400 U	<1500 U	<1000 U	<1100 U
4-Nitroaniline		<1400 U	<1500 U	<1000 U	<1100 U
Nitrobenzene		<580 U	<610 U	<420 U	<460 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<580 U	<610 U	<420 U	<460 U
4-Nitrophenol		<1400 U	<1500 U	<1000 U	<1100 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<580 U	<610 U	<420 U	<460 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<580 U	<610 U	<420 U	<460 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<1400 U	<1500 U	<1000 U	<1100 U
Phenacetin		---	---	---	---
Phenanthrene		<580 U	<610 U	<420 U	<460 U
Phenol		130 J	130 J	<420 U	<460 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD201	SD202	SD203	SD204
	SAMPLE ID	11SD201	11SD202	11SD203	11SD204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
	DEPTH (ft)	5.60	6.70	5.00	5.70
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<580 U	<610 U	<420 U	<460 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<580 U	<610 U	<420 U	<460 U
2,4,5-Trichlorophenol		<1400 U	<1500 U	<1000 U	<1100 U
2,4,6-Trichlorophenol		<580 U	<610 U	<420 U	<460 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD205
	SAMPLE ID	11SD205
	DATE	11/09/94
	DEPTH (ft)	5.30
Acenaphthene		<480 U
Acenaphthylene		<480 U
Acetophenone		<480 U
2-Acetylaminofluorene		<960 U
4-Aminobiphenyl		<2300 U
Aniline		<480 U
Anthracene		<480 U
Aramite, total		<2300 UR
Benzidine		---
Benzo(a)anthracene		<480 U
Benzo(b)fluoranthene		<480 U
Benzo(k)fluoranthene		<480 U
Benzo(ghi)perylene		<480 U
Benzo(a)pyrene		<480 U
Benzoic acid		---
Benzyl alcohol		<480 U
bis(2-Chloroethoxy)methane		<480 U
bis(2-Chloroethyl) ether		<480 U
bis(2-Chloroisopropyl)ether		<480 U
bis(2-Ethylhexyl)phthalate		<480 U
4-Bromophenyl phenyl ether		<480 U
Butyl benzyl phthalate		<480 U
Carbazole		---
4-Chloro-3-methylphenol		<480 U
4-Chloroaniline		<480 U
2-Chloronaphthalene		<480 U
2-Chlorophenol		<480 U
4-Chlorophenyl phenyl ether		<480 U
Chrysene		<480 U
Dibenz(a,h)anthracene		<480 U
Dibenzofuran		<480 U
Di-n-butyl phthalate		<480 U
Di-n-octyl phthalate		<480 U
1,2-Dichlorobenzene		<480 U

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Semivolatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD205
	SAMPLE ID	11SD205
	DATE	11/09/94
	DEPTH (ft)	5.30
1,3-Dichlorobenzene		<480 U
1,4-Dichlorobenzene		<480 U
3,3'-Dichlorobenzidine		<960 U
2,4-Dichlorophenol		<480 U
2,6-Dichlorophenol		<480 U
Diethyl phthalate		<480 U
Dimethyl phthalate		<480 U
7,12-Dimethybenz(a)anthracene		<4800 U
p-(Dimethylamino)azobenzene		<960 U
3,3'-Dimethylbenzidine		<2300 U
2,4-Dimethylphenol		<480 U
1,3-Dinitrobenzene		<480 U
4,6-Dinitro-2-methylphenol		<2300 U
4-Dinitrophenol		<2300 U
2,4-Dinitrotoluene		<480 U
2,6-Dinitrotoluene		<480 U
Diphenylamine		<480 U
1,2-Diphenylhydrazine		---
Ethyl methanesulfonate		<480 U
Fluoranthene		<480 U
Fluorene		<480 U
Hexachlorobenzene		<480 U
Hexachlorobutadiene		<480 U
Hexachlorocyclopentadiene		<480 U
Hexachloroethane		<480 U
Hexachlorophene		---
Hexachloropropene		<4800 U
Indeno(1,2,3-cd)pyrene		<480 U
Isophorone		<480 U
Isosafrole, total		<480 U
Methapyrilene		<4800 UR
Methyl methanesulfonate		<480 U
3-Methylcholanthrene		<2200 U
Methylnaphthalene		<480 U

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Semivolatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD205
	SAMPLE ID	11SD205
	DATE	11/09/94
	DEPTH (ft)	5.30
2-Methylphenol		<480 U
3-Methylphenol		<480 U
3-&4-Methylphenol		---
4-Methylphenol		<480 U
Naphthalene		<480 U
1,4-Naphthoquinone		<9600 U
1-Naphthylamine		<480 U
2-Naphthylamine		<480 U
2-Nitroaniline		<2300 U
3-Nitroaniline		<2300 U
4-Nitroaniline		<2300 U
Nitrobenzene		<480 U
5-Nitro-o-toluidine		<480 U
4-Nitroquinoline-1-oxide		<4800 U
2-Nitrophenol		<480 U
4-Nitrophenol		<2300 U
N-Nitrosodi-n-butylamine		<480 U
N-Nitrosodiethylamine		<480 U
N-Nitrosodimethylamine		<480 U
N-Nitrosodiphenylamine		<480 U
N-Nitrosodiphenylamine and diphenylamine		---
N-Nitrosodi-n-propylamine		<480 U
N-Nitrosomethylethylamine		<480 U
N-Nitrosomorpholine		<480 U
N-Nitrosopiperidine		<480 U
N-Nitrosopyrrolidine		<480 U
2,2'-oxybis(1-chloropropane)		---
Pentachlorobenzene		<480 U
Pentachloronitrobenzene		<2300 U
Pentachlorophenol		<2300 U
Phenacetin		<2300 U
Phenanthrene		<480 U
Phenol		<480 U
Phenyl-tert-butylamine		---

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J = estimated concentration

R = rejected

Semivolatile Organic Compounds
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD205
	SAMPLE ID	11SD205
	DATE	11/09/94
	DEPTH (ft)	5.30
p-Phenylene diamine		<2300 U
2-Picoline		<960 U
Pronamide		<960 U
Pyrene		<480 U
Pyridine		<480 U
Safrole, total		<480 U
1,2,4,5-Tetrachlorobenzene		<480 U
2,3,4,6-Tetrachlorophenol		<2300 U
o-Toluidine		<480 U
1,2,4-Trichlorobenzene		<480 U
2,4,5-Trichlorophenol		<480 U
2,4,6-Trichlorophenol		<480 U
1,3,5-Trinitrobenzene		<2300 UR

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

R = rejected

Validated

Date: 12/23/95

Pesticides/PCBs
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD201	SD202	SD203	SD204
	SAMPLE ID	11SD201	11SD202	11SD203	11SD204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
	DEPTH (ft)	5.60	6.70	5.00	5.70
Aldrin		<3 UJ	<3.1 UJ	<2.2 UJ	<2.4 UJ
alpha-BHC		<3 UJ	<3.1 UJ	<2.2 UJ	<2.4 UJ
beta-BHC		<3 UJ	<3.1 UJ	<2.2 UJ	<2.4 UJ
delta-BHC		<3 UJ	<3.1 UJ	<2.2 UJ	<2.4 UJ
gamma-BHC (Lindane)		<3 UJ	<3.1 UJ	<2.2 UJ	<2.4 UJ
alpha-Chlordane		<3 UJ	<3.1 UJ	<2.2 UJ	<2.4 UJ
gamma-Chlordane		<3 UJ	<3.1 UJ	<2.2 UJ	<2.4 UJ
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<5.9 UJ	<6.1 UJ	<4.2 UJ	<4.6 UJ
4,4'-DDE		<5.9 UJ	<6.1 UJ	<4.2 UJ	0.26 J
4,4'-DDT		<73 UJ	<88 UJ	<6 UJ	<7.3 UJ
Diallate		---	---	---	---
Dieldrin		<9.1 UJ	<14 UJ	<9.2 UJ	<4.6 UJ
Endosulfan I		<3 UJ	<3.1 UJ	<2.2 UJ	<2.4 UJ
Endosulfan II		<5.9 UJ	<6.1 UJ	<4.2 UJ	<4.6 UJ
Endosulfan sulfate		<5.9 UJ	<6.1 UJ	<4.2 UJ	<4.6 UJ
Endrin		<5.9 UJ	<6.1 UJ	<4.2 UJ	<4.6 UJ
Endrin aldehyde		<5.9 UJ	<6.1 UJ	<4.2 UJ	<4.6 UJ
Endrin ketone		<3 UJ	<6.1 UJ	<4.2 UJ	<4.6 UJ
Heptachlor		<3 UJ	<3.1 UJ	<2.2 UJ	<2.4 UJ
Heptachlor epoxide		<3 UJ	<3.1 UJ	<2.2 UJ	<2.4 UJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<30 UJ	<31 UJ	<22 UJ	<46 UJ
Toxaphene		<300 UJ	<310 UJ	<220 UJ	<240 UJ
Aroclor-1016		<59 UJ	<61 UJ	<42 UJ	<46 UJ
Aroclor-1221		<120 UJ	<120 UJ	<86 UJ	<93 UJ
Aroclor-1232		<59 UJ	<61 UJ	<42 UJ	<46 UJ
Aroclor-1242		<59 UJ	<61 UJ	<42 UJ	<46 UJ
Aroclor-1248		<59 UJ	<61 UJ	<42 UJ	<46 UJ
Aroclor-1254		<59 UJ	<61 UJ	<42 UJ	<46 UJ
Aroclor-1260		<59 UJ	<61 UJ	<42 UJ	<46 UJ

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Validated

Pesticides/PCBs
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD205
	SAMPLE ID	11SD205
	DATE	11/09/94
	DEPTH (ft)	5.30
Aldrin		<12 U
alpha-BHC		<12 U
beta-BHC		<12 U
delta-BHC		<12 U
gamma-BHC (Lindane)		<12 U
alpha-Chlordane		---
gamma-Chlordane		---
Chlordane		<120 U
Chlorobenzilate		<480 U
4,4'-DDD		<23 U
4,4'-DDE		<23 U
4,4'-DDT		<23 U
Diallate		<480 U
ieldrin		<23 U
Endosulfan I		<12 U
Endosulfan II		<23 U
Endosulfan sulfate		<23 U
Endrin		<23 U
Endrin aldehyde		<23 U
Endrin ketone		---
Heptachlor		<12 U
Heptachlor epoxide		<12 U
Isodrin		<12 U
Kepone		<120 U
Methoxychlor		<120 U
Toxaphene		<230 U
Aroclor-1016		<120 U
Aroclor-1221		<120 U
Aroclor-1232		<120 U
Aroclor-1242		<120 U
Aroclor-1248		<120 U
Aroclor-1254		<230 U
Aroclor-1260		<230 U

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Validated

Date: 12/23/95

Organophosphorous Pesticides
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD205
	SAMPLE ID	11SD205
	DATE	11/09/94
	DEPTH (ft)	5.30
Dimethoate		<25 U
Disulfoton		<25 U
Ethyl parathion		<25 U
Famphur		<25 U
Methyl parathion		<25 U
Phorate		<25 U
Sulfotepp		<25 U
Thionazin		<25 U
Triethylphosphorothioate		<25 U

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Validated

Date: 12/23/95

Herbicides
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	SD205
	SAMPLE ID	11SD205
	DATE	11/09/94
	DEPTH (ft)	5.30
2,4-D		<720 U
Dinoseb		<1000 UJ
2,4,5-T		<290 U
Silvex		<140 U

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Validated

Date: 12/23/95

Total Organic Carbon
SEDIMENT SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in %)	SITE	SD201	SD202	SD203	SD204
	SAMPLE ID	11SD201	11SD202	11SD203	11SD204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
	DEPTH (ft)	5.60	6.70	5.00	5.70
Carbon, total organic		1.5	2.1	0.4	0.86

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Validated

Date: 12/23/95

Inorganic Analytes
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW201	SW202	SW203	SW204
	SAMPLE ID	11SW201	11SW202	11SW203	11SW204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
Aluminum		64.9 J	<35 U	<32.8 U	<38.7 U
Antimony		<2 U	<2 U	3.3 J	<2 U
Arsenic		<3 U	4.7 J	<3 U	4.3 J
Barium		18.7 J	18.8 J	19.5 J	18.6 J
Beryllium		<1 U	<1 U	<1 U	<1 U
Cadmium		<1 U	<1 U	<1 U	<1 U
Calcium		29300	30700	30700	29200
Chromium		<2 U	<2 U	<2 U	<2 U
Cobalt		<2 U	<2 U	<2 U	<2 U
Copper		<2.9 U	<2 U	<2 U	<4.1 U
Cyanide		<10 U	<10 U	<10 U	<10 U
Iron		7560	100	142	154
Lead		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Magnesium		12400	13000	12900	12400
Manganese		43.5	3.4 J	4.4 J	5.5 J
Mercury		<0.2 U	<0.2 U	<0.2 U	<0.2 U
Nickel		<2.2 U	<2 U	<2 U	<2 U
Potassium		1920 J	1970 J	1950 J	1980 J
Selenium		<4 U	<4 U	<4 U	<4 U
Silver		<1 U	<1 U	<1 U	<1 U
Sodium		11000	11700	11600	11300
Sulfide		<1000 U	<1000 U	4000 J	<1000 UR
Thallium		<6 U	<6 U	<6 U	<6 U
Tin		---	---	---	---
Vanadium		<1 U	<1 U	<1 U	<1 U
Zinc		<3.1 U	<5.6 U	<3 U	<6.8 U

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Validated

Date: 12/23/95

Inorganic Analytes
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

		SITE	SW205
		SAMPLE ID	11SW205
CONSTITUENT	(Units in ug/l)	DATE	11/09/94
Aluminum			---
Antimony			<300 U
Arsenic			<5 U
Barium			17
Beryllium			<5 U
Cadmium			<10 U
Calcium			---
Chromium			<20 U
Cobalt			<50 U
Copper			<10 U
Cyanide			<5 U
Iron			---
Lead			<3 U
Magnesium			---
Manganese			---
Mercury			<0.2 U
Nickel			<40 U
Potassium			---
Selenium			<5 U
Silver			<10 U
Sodium			---
Sulfide			<1000 UR
Thallium			<10 U
Tin			<1000 U
Vanadium			<50 U
Zinc			66

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Validated

Volatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW201	SW202	SW203	SW204
	SAMPLE ID	11SW201	11SW202	11SW203	11SW204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
Acetone		<5 UR	<5 UR	<5 U	<5 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	<1 U	<1 U	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<1 U	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		4	4	4	4
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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R = rejected

Validated

Volatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW201	SW202	SW203	SW204
	SAMPLE ID	11SW201	11SW202	11SW203	11SW204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	<1 U	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<5 U	<5 U	<5 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	<1 U	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	<1 U	<1 U

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R = rejected

Validated

Volatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW205
	SAMPLE ID	11SW205
	DATE	11/09/94
Acetone		<10 U
Acetonitrile		<100 U
Acrolein		<10 UR
Acrylonitrile		<10 UR
3-Chloro-1-propene		<1 U
Benzene		<1 U
Bromochloromethane		---
Bromodichloromethane		<1 U
Bromoform		<1 U
Bromomethane		<1 U
2-Butanone		<10 U
Carbon disulfide		<1 U
Carbon tetrachloride		<1 U
Chloro-1,3-butadiene		<1 UR
Chlorobenzene		<1 U
Chloroethane		<1 U
2-Chloroethylvinylether		<10 UR
Chloroform		4
Chloromethane		<1 U
Chlorodibromomethane		<1 U
1,2-Dibromo-3-chloropropane		<20 UR
1,2-Dibromoethane		<1 U
Dibromomethane		<1 U
1,2-Dichlorobenzene (VOA)		---
1,3-Dichlorobenzene (VOA)		---
1,4-Dichlorobenzene (VOA)		---
trans-1,4-Dichloro-2-butene		<1 UR
1,1-Dichloroethane		<1 U
1,2-Dichloroethane		<1 U
1,1-Dichloroethene		<1 U
1,2-Dichloroethene (total)		<1 U
cis-1,2-Dichloroethene		---
trans-1,2-Dichloroethene		---
2-Dichloropropane		<1 U

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R = rejected

Validated

Date: 01/12/96

Volatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW205
	SAMPLE ID	11SW205
	DATE	11/09/94
cis-1,3-Dichloropropene		<1 U
trans-1,3-Dichloropropene		<1 U
1,4-Dioxane		<500 UR
Ethylbenzene		<1 U
Ethyl methacrylate		<1 U
2-Hexanone		<10 U
Iodomethane		<10 U
Isobutyl alcohol		<500 UR
Methacrylonitrile		<20 U
Methyl methacrylate		<1 U
4-Methyl-2-pentanone		<10 U
Methylene chloride		<1 U
Pentachloroethane		<50 U
Propionitrile		<100 UR
Styrene		<1 U
1,1,1,2-Tetrachloroethane		<1 U
1,1,2,2-Tetrachloroethane		<1 U
Tetrachloroethene		<1 U
Toluene		<1 U
1,1,1-Trichloroethane		<1 U
1,1,2-Trichloroethane		<1 U
Trichloroethene		<1 U
Trichlorofluoromethane		<1 U
1,2,3-Trichloropropane		<1 U
Vinyl acetate		<10 UR
Vinyl chloride		<1 U
Xylene (total)		<1 U

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

R = rejected

Validated

Semivolatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW201	SW202	SW203	SW204
	SAMPLE ID	11SW201	11SW202	11SW203	11SW204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	<10 U	<10 U	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 UJ	<10 UJ	<10 UJ	<10 UJ
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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J = estimated concentration

R = rejected

Validated

Semivolatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	SW201 11SW201 11/08/94	SW202 11SW202 11/08/94	SW203 11SW203 11/09/94	SW204 11SW204 11/09/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

Values represent total concentrations unless noted < =Not detected at indicated reporting limit ---=Not analyzed

J = estimated concentration

R = rejected

Validated

Semivolatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW201	SW202	SW203	SW204
	SAMPLE ID	11SW201	11SW202	11SW203	11SW204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW201	SW202	SW203	SW204
	SAMPLE ID	11SW201	11SW202	11SW203	11SW204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Validated

Semivolatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW205
	SAMPLE ID	11SW205
	DATE	11/09/94
Acenaphthene		<10 U
Acenaphthylene		<10 U
Acetophenone		<10 U
2-Acetylaminofluorene		<20 U
4-Aminobiphenyl		<50 U
Aniline		<10 U
Anthracene		<10 U
Aramite, total		<50 UR
Benzidine		---
Benzo(a)anthracene		<10 U
Benzo(b)fluoranthene		<10 U
Benzo(k)fluoranthene		<10 U
Benzo(ghi)perylene		<10 U
enzo(a)pyrene		<10 U
Benzoic acid		---
Benzyl alcohol		<10 U
bis(2-Chloroethoxy)methane		<10 U
bis(2-Chloroethyl) ether		<10 U
bis(2-Chloroisopropyl)ether		<10 U
bis(2-Ethylhexyl)phthalate		<10 U
4-Bromophenyl phenyl ether		<10 U
Butyl benzyl phthalate		<10 U
Carbazole		---
4-Chloro-3-methylphenol		<10 U
4-Chloroaniline		<10 U
2-Chloronaphthalene		<10 U
2-Chlorophenol		<10 U
4-Chlorophenyl phenyl ether		<10 U
Chrysene		<10 U
Dibenz(a,h)anthracene		<10 U
Dibenzofuran		<10 U
Di-n-butyl phthalate		<10 U
Di-n-octyl phthalate		<10 U
2-Dichlorobenzene		<10 U

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Validated

Semivolatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW205
	SAMPLE ID	11SW205
	DATE	11/09/94
1,3-Dichlorobenzene		<10 U
1,4-Dichlorobenzene		<10 U
3,3'-Dichlorobenzidine		<20 U
2,4-Dichlorophenol		<10 U
2,6-Dichlorophenol		<10 U
Diethyl phthalate		<10 U
Dimethyl phthalate		<10 U
7,12-Dimethybenz(a)anthracene		<100 U
p-(Dimethylamino)azobenzene		<20 U
3,3'-Dimethylbenzidine		<50 U
2,4-Dimethylphenol		<10 U
1,3-Dinitrobenzene		<10 U
4,6-Dinitro-2-methylphenol		<50 U
2,4-Dinitrophenol		<50 U
2,4-Dinitrotoluene		<10 U
2,6-Dinitrotoluene		<10 U
Diphenylamine		<10 U
1,2-Diphenylhydrazine		---
Ethyl methanesulfonate		<10 U
Fluoranthene		<10 U
Fluorene		<10 U
Hexachlorobenzene		<10 U
Hexachlorobutadiene		<10 U
Hexachlorocyclopentadiene		<10 U
Hexachloroethane		<10 U
Hexachlorophene		---
Hexachloropropene		<100 U
Indeno(1,2,3-cd)pyrene		<10 U
Isophorone		<10 U
Isosafrole, total		<10 U
Methapyrilene		<100 UR
Methyl methanesulfonate		<10 U
3-Methylcholanthrene		<100 U
2-Methylnaphthalene		<10 U

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Validated

Semivolatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW205
	SAMPLE ID	11SW205
	DATE	11/09/94
2-Methylphenol		<10 U
3-Methylphenol		<10 U
3-&4-Methylphenol		---
4-Methylphenol		<10 U
Naphthalene		<10 U
1,4-Naphthoquinone		<200 U
1-Naphthylamine		<10 U
2-Naphthylamine		<10 U
2-Nitroaniline		<50 U
3-Nitroaniline		<50 U
4-Nitroaniline		<50 U
Nitrobenzene		<10 U
5-Nitro-o-toluidine		<10 U
Nitroquinoline-1-oxide		<100 U
2-Nitrophenol		<10 U
4-Nitrophenol		<50 U
N-Nitrosodi-n-butylamine		<10 U
N-Nitrosodiethylamine		<10 U
N-Nitrosodimethylamine		<10 U
N-Nitrosodiphenylamine		<10 U
N-Nitrosodiphenylamine and diphenylamine		---
N-Nitrosodi-n-propylamine		<10 U
N-Nitrosomethylethylamine		<10 U
N-Nitrosomorpholine		<10 U
N-Nitrosopiperidine		<10 U
N-Nitrosopyrrolidine		<10 U
2,2'-oxybis(1-chloropropane)		---
Pentachlorobenzene		<10 U
Pentachloronitrobenzene		<50 U
Pentachlorophenol		<50 U
Phenacetin		<50 U
Phenanthrene		<10 U
Phenol		<10 U
Phenyl-tert-butylamine		---

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Validated

Semivolatile Organic Compounds
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW205
	SAMPLE ID	11SW205
	DATE	11/09/94
p-Phenylene diamine		<50 U
2-Picoline		<20 U
Pronamide		<20 U
Pyrene		<10 U
Pyridine		<10 U
Safrole, total		<10 U
1,2,4,5-Tetrachlorobenzene		<10 U
2,3,4,6-Tetrachlorophenol		<50 U
o-Toluidine		<10 U
1,2,4-Trichlorobenzene		<10 U
2,4,5-Trichlorophenol		<10 U
2,4,6-Trichlorophenol		<10 U
1,3,5-Trinitrobenzene		<50 UR

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Validated

Date: 12/23/95

Pesticides/PCBs
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW201	SW202	SW203	SW204
	SAMPLE ID	11SW201	11SW202	11SW203	11SW204
	DATE	11/08/94	11/08/94	11/09/94	11/09/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Diallate		---	---	---	---
eldrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin ketone		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 UJ
Toxaphene		<5 UJ	<5 UJ	<5 UJ	<5 UJ
Aroclor-1016		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1221		<2 UJ	<2 UJ	<2 UJ	<2 UJ
Aroclor-1232		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1242		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1248		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1254		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1260		<1 UJ	<1 UJ	<1 UJ	<1 UJ

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J = estimated concentration

Validated

Date: 12/23/95

Pesticides/PCBs
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW205
	SAMPLE ID	11SW205
	DATE	11/09/94
Aldrin		<0.05 U
alpha-BHC		<0.05 U
beta-BHC		<0.05 U
delta-BHC		<0.05 U
gamma-BHC (Lindane)		<0.05 U
alpha-Chlordane		---
gamma-Chlordane		---
Chlordane		<0.5 U
Chlorobenzilate		<10 U
4,4'-DDD		<0.1 U
4,4'-DDE		<0.1 U
4,4'-DDT		<0.1 U
Diallate		<10 U
Dieldrin		<0.1 U
Endosulfan I		<0.05 U
Endosulfan II		<0.1 U
Endosulfan sulfate		<0.1 U
Endrin		<0.1 U
Endrin aldehyde		<0.1 U
Endrin ketone		---
Heptachlor		<0.05 U
Heptachlor epoxide		<0.05 U
Isodrin		<0.05 U
Kepone		<0.5 U
Methoxychlor		<0.5 U
Toxaphene		<1 U
Aroclor-1016		<0.5 U
Aroclor-1221		<0.5 U
Aroclor-1232		<0.5 U
Aroclor-1242		<0.5 U
Aroclor-1248		<0.5 U
Aroclor-1254		<1 U
Aroclor-1260		<1 U

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Validated

Date: 12/23/95

Organophosphorous Pesticides
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW205
	SAMPLE ID	11SW205
	DATE	11/09/94
Dimethoate		<0.5 U
Disulfoton		<0.5 U
Ethyl parathion		<0.5 U
Famphur		<0.5 U
Methyl parathion		<0.5 U
Phorate		<0.5 U
Sulfotepp		<0.5 U
Thionazin		<0.5 U
Triethylphosphorothioate		<0.5 U

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

Validated

Date: 12/23/95

Herbicides
SURFACE WATER SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	SW205
	SAMPLE ID	11SW205
	DATE	11/09/94
2,4-D		<0.5 U
Dinoseb		<0.7 UJ
2,4,5-T		<0.2 U
Silvex		<0.1 U

Values represent total concentrations unless noted < =Not detected at indicated reporting limit ---=Not analyzed

J = estimated concentration

Validated Analytical Data for Groundwater Samples

January 1994

Validated

Date: 12/28/95

Inorganic Analytes
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10B
	SAMPLE ID	01GW01	10AGW01	10BGW01	10BGW01
	DATE	01/06/94	01/07/94	01/07/94	01/08/94
Aluminum		1590 J	10100 J	---	3750 J
Antimony		2.3 J	<2.1 U	---	<1.8 U
Arsenic		<1.3 U	2.8 J	---	3.4 J
Barium		16 J	61.1 J	---	21 J
Beryllium		<0.14 U	<0.12 UJ	---	<0.12 UJ
Cadmium		<3.1 U	<3.2 U	---	<3.2 U
Calcium		1520 J	73900 J	---	1950 J
Chromium		<2.3 U	<2.9 U	---	13.7
Cobalt		<1.6 U	<2.1 U	---	<2.1 U
Copper		<1.7 U	<2.9 U	---	<6.2 U
Cyanide		<1.2 U	<1.2 U	---	<1.2 U
Iron		81.4 J	41800 J	---	1460 J
Lead		<2 U	<2 U	---	2.1 J
Magnesium		1010 J	16600	---	6410
Manganese		5.8 J	415	---	8.2 J
Mercury		<0.13 U	<0.13 U	---	<0.13 U
Nickel		<7.3 U	<3.9 U	---	11.1 J
Potassium		<738 U	10500	---	19200
Selenium		<1.5 U	<1.5 UJ	---	<1.5 U
Silver		<2.5 UJ	<2.5 UR	---	<2.5 UR
Sodium		5360 J	10300 J	---	21100 J
Sulfide		<100 UJ	200 J	900 J	---
Thallium		<1.3 UJ	<1.3 UJ	---	<1.3 UJ
Tin		---	---	---	---
Vanadium		<2.3 U	4.6 J	---	12.1 J
Zinc		3.8 J	51	---	24.6

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J = estimated concentration

R = rejected

Validated

Inorganic Analytes
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-10C	KBA-11-10C	KBA-11-11A	KBA-11-11B
	SAMPLE ID	10CGW01	10CGW01	11AGW01	11BGW01
	DATE	01/07/94	01/08/94	01/04/94	01/04/94
Aluminum		---	191 J	569 J	---
Antimony		---	<2.6 U	<4.4 UJ	<10.1 U
Arsenic		---	1.3 J	<1 UJ	<1 UJ
Barium		---	52.5 J	35.9 J	45 J
Beryllium		---	<0.12 UJ	0.16 J	0.51 J
Cadmium		---	<3.2 U	<3.2 U	<3.2 U
Calcium		---	42200 J	3550 J	---
Chromium		---	5 J	6.9 J	9.7 J
Cobalt		---	<2.1 U	<2.1 U	<2.1 U
Copper		---	16.5 J	14.9 J	19.1 J
Cyanide		---	<1.2 U	<1.2 U	<1.2 U
Iron		---	2370 J	5140	---
Lead		---	6.8	8.1 J	3.4
Magnesium		---	4600 J	2820 J	---
Manganese		---	58.6	44.5	---
Mercury		---	<0.13 U	<0.13 U	<0.13 U
Nickel		---	20.3 J	9 J	8.4 J
Potassium		---	3000 J	3760 J	---
Selenium		---	<1.5 UJ	<1.5 U	<1.5 U
Silver		---	<2.5 UR	<2.2 U	<2.2 U
Sodium		---	9820 J	17000 J	---
Sulfide		<100 UJ	---	1600 J	200 J
Thallium		---	<1.3 UJ	<1.4 U	<1.4 U
Tin		---	---	---	<12.4 U
Vanadium		---	<1.5 U	<1.5 U	1.9 J
Zinc		---	44.8	62.4 J	<28.4 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

R = rejected

Validated

Inorganic Analytes
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11C	KBA-11-12	KBA-11-13A	KBA-11-13B
	SAMPLE ID	11CGW01	12GW01	13AGW01	13BGW01
	DATE	01/04/94	01/05/94	01/07/94	01/07/94
Aluminum		578 J	3930 J	---	1390 J
Antimony		23 J	<2.2 U	2.4 J	3.3 J
Arsenic		<1 UJ	2.7 J	3.9 J	1.6 J
Barium		20.8 J	31.8 J	30.6 J	22.6 J
Beryllium		<0.12 U	0.21 J	<0.12 UJ	<0.12 UJ
Cadmium		<3.2 U	<3.1 U	<3.2 U	<3.2 U
Calcium		64800	1510 J	---	69700 J
Chromium		15	8.2 J	8.1 J	<3.2 U
Cobalt		<2.1 U	2.8 J	<2.1 U	<2.1 U
Copper		24.6 J	3.1 J	4.5 J	45.4
Cyanide		<1.2 U	<1.2 U	<1.2 U	<1.2 U
Iron		1130	3810	---	944 J
Lead		5.1 J	<2 U	<2 U	4.4
agnesium		5750	1350 J	---	9870
Manganese		108	20.2	---	25.4
Mercury		<0.13 U	<0.13 U	<0.13 U	<0.13 U
Nickel		13 J	<7.3 U	17 J	<3.9 U
Potassium		<2340 U	<738 U	---	5690
Selenium		<1.5 UJ	<1.5 U	<1.5 U	<1.5 UJ
Silver		<2.2 U	<2.5 UJ	<2.5 UR	<2.5 UR
Sodium		28200 J	8740 J	---	10500 J
Sulfide		200 J	400 J	900	<100 UJ
Thallium		<1.4 U	<1.3 UJ	<1.3 UJ	<1.3 UJ
Tin		---	---	<12.4 U	---
Vanadium		1.6 J	3.5 J	14.4 J	2.8 J
Zinc		<16.4 UJ	13.7 J	56	23.9

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Validated

Inorganic Analytes
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-14	KBA-11-15	KBA-11-16	KBA-11-17A
	SAMPLE ID	14GW01	15GW01	16GW01	17AGW01
	DATE	01/05/94	01/05/94	01/07/94	01/06/94
Aluminum		6900 J	731 J	2550 J	57800 J
Antimony		<2.1 U	<1.9 U	<1.8 U	1.9 J
Arsenic		<1.3 U	<1.3 U	4.3 J	2.1 J
Barium		51.7 J	68.1 J	70.4 J	432 J
Beryllium		0.45 J	<0.14 U	<0.12 UJ	0.74 J
Cadmium		<3.1 U	<3.1 U	<3.2 U	<3.1 U
Calcium		3960 J	33500	5120 J	50100
Chromium		25.2	30.7	8.7 J	18.6
Cobalt		7 J	<1.6 U	<2.1 U	3.6 J
Copper		20.6 J	7.1 J	<6.8 U	9.6 J
Cyanide		<1.2 U	<1.2 U	<1.2 U	<1.2 U
Iron		7390	1570	2020 J	3690
Lead		<2 U	5.4 J	<2 U	<2 U
Magnesium		2030 J	16500	5680	26700
Manganese		38.3	12.7 J	18.2	19.9
Mercury		<0.13 U	<0.13 U	<0.13 U	<0.13 U
Nickel		48.4	14.2 J	7.5 J	16.6 J
Potassium		<738 U	3790 J	3980 J	<738 U
Selenium		<1.5 U	<1.5 U	<1.5 UJ	<15.2 U
Silver		<2.5 UJ	<2.5 UJ	<2.5 UR	<2.5 UJ
Sodium		20500 J	218000 J	63200 J	152000 J
Sulfide		300 J	1200 J	5300 J	200 J
Thallium		<1.3 UJ	<1.3 UJ	<1.3 UJ	<1.3 UJ
Tin		---	---	---	---
Vanadium		9.8 J	<2.3 U	2.2 J	18.2 J
Zinc		75	9.4 J	<15.5 U	28.8

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Inorganic Analytes
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-17B	KBA-11-17C	KBA-11-18	KBA-11-19A
	SAMPLE ID	17BGW01	17CGW01	18GW01	19AGW01
	DATE	01/07/94	01/06/94	01/05/94	01/06/94
Aluminum		1460 J	94.8 J	12600 J	---
Antimony		<1.8 U	6.1	<1.6 U	<1.8 U
Arsenic		6.3 J	5.2 J	4.5 J	1.3 J
Barium		39.9 J	21.2 J	86.3 J	114 J
Beryllium		<0.12 UJ	<0.14 U	2 J	0.63 J
Cadmium		<3.2 U	<3.1 U	<3.1 U	<3.1 U
Calcium		3220 J	35300	7070	---
Chromium		7.8 J	<2.3 U	44.5	69
Cobalt		<2.1 U	<1.6 U	8.6 J	11.5 J
Copper		16.5 J	5.2 J	26	115
Cyanide		<1.2 U	<1.2 U	<1.2 U	<1.2 U
Iron		1590 J	1250	9250	---
Lead		<2 U	<2 U	12.1	<2 U
Magnesium		1540 J	4620 J	2490 J	---
Manganese		8.6 J	35.2	45.9	---
Mercury		<0.13 U	<0.13 U	<0.13 U	<0.13 U
Nickel		6.3 J	<7.3 U	54.3	55.6
Potassium		1080 J	<738 U	<738 U	---
Selenium		<1.5 U	<1.5 U	1.8 J	<1.5 U
Silver		<2.5 UR	<2.5 UJ	<2.5 UJ	<2.5 UJ
Sodium		13100 J	8370 J	10600 J	---
Sulfide		200 J	<100 UJ	<1000 UJ	1100 J
Thallium		<1.3 UJ	<1.3 UJ	<1.3 UJ	<1.3 U
Tin		---	---	---	9 J
Vanadium		<1.5 U	<2.3 U	18.6 J	30.2 J
Zinc		<13.2 U	29.6	70.1	84.3

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Inorganic Analytes
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-19B	KBA-11-2	KBA-11-20	KBA-11-21
	SAMPLE ID	19BGW01	02GW01	20GW01	21GW01
	DATE	01/06/94	01/07/94	01/06/94	01/06/94
Aluminum		104 J	3010 J	265 J	5530 J
Antimony		2.2 J	3.4 J	<1.8 UJ	3.2 J
Arsenic		<1.3 U	<1 U	2.8 J	2.3 J
Barium		10 J	4.6 J	39 J	211 J
Beryllium		<0.14 U	<0.12 UJ	0.22 J	1.3 J
Cadmium		<3.1 U	<3.2 U	<3.1 U	<3.1 U
Calcium		4450 J	55600 J	7750	52900
Chromium		<2.3 U	<3.1 U	<2.6 U	15.4
Cobalt		<1.6 U	<2.1 U	<1.6 U	1.7 J
Copper		3.1 J	<5.8 U	<1.7 U	4.4 J
Cyanide		<1.2 U	<1.2 U	<1.2 U	<1.2 U
Iron		1060	621 J	2880	7230
Lead		<2 U	<2 U	2 J	<2 U
Magnesium		811 J	4270 J	4360 J	23600
Manganese		16.9	22.3	31.2	29.5
Mercury		<0.13 U	<0.13 U	<0.13 U	<0.13 U
Nickel		<7.3 U	<3.9 U	<7.3 U	<7.3 U
Potassium		<738 U	6260	804 J	2290 J
Selenium		<1.5 UJ	<1.5 U	<15.2 U	<15.2 U
Silver		<2.5 UJ	<2.5 UR	<2.5 UJ	<2.5 UJ
Sodium		8150 J	9410 J	37100 J	25200 J
Sulfide		200 J	<100 UJ	200 J	400 J
Thallium		<1.3 UJ	<1.3 UJ	<1.3 UJ	<1.3 UJ
Tin		---	---	---	---
Vanadium		<2.3 U	2.8 J	<2.3 U	7.4 J
Zinc		7 J	<5.7 U	14.8 J	31.7

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Inorganic Analytes
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-22A	KBA-11-22B	KBA-11-22B	KBA-11-3A
	SAMPLE ID	22AGW01	22BGW01	22BGW01	03AGW01
	DATE	01/07/94	01/07/94	01/08/94	01/07/94
Aluminum		3580 J	---	1770 J	12300 J
Antimony		<2.1 U	---	<1.8 UJ	<1.8 U
Arsenic		1.5 J	---	2.8 J	1.9 J
Barium		15.3 J	---	29.6 J	12.4 J
Beryllium		<0.12 UJ	---	<0.12 UJ	<0.12 UJ
Cadmium		<3.2 U	---	<3.2 U	<3.2 U
Calcium		45800 J	---	7570 J	241000 J
Chromium		9.2 J	---	5.5 J	5 J
Cobalt		2.7 J	---	<2.1 U	<2.1 U
Copper		<6.2 U	---	13.4 J	12.3 J
Cyanide		<1.2 U	---	<1.2 U	<1.2 U
Iron		19400 J	---	931 J	3480 J
Lead		<2 U	---	2.9 J	<2 U
Magnesium		9310	---	1140 J	8160
Manganese		256	---	13.2 J	302
Mercury		<0.13 U	---	<0.13 U	<0.13 U
Nickel		21.4 J	---	5.9 J	<3.9 U
Potassium		12200	---	19100	3780 J
Selenium		<1.5 UJ	---	<1.5 U	<1.5 U
Silver		<2.5 UR	---	<2.5 UR	<2.5 UR
Sodium		8990 J	---	39300 J	5640 J
Sulfide		<100 UJ	2200 J	---	200 J
Thallium		<1.3 UJ	---	<1.3 UJ	<1.3 UJ
Tin		---	---	---	---
Vanadium		3.4 J	---	6.4 J	6.2 J
Zinc		<9.7 U	---	51.6	<8.5 U

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Inorganic Analytes
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-3B 03BGW01 01/07/94	KBA-11-3B 03BGW01 01/08/94	KBA-11-3C 03CGW01 01/06/94	KBA-11-4 04GW01 01/07/94
Aluminum		---	5660 J	130 J	5670 J
Antimony		---	<2.3 UJ	2.1 J	<1.8 U
Arsenic		---	2.3 J	5.8 J	1.2 J
Barium		---	4.9 J	19.8 J	5.1 J
Beryllium		---	<0.12 UJ	<0.14 U	<0.12 UJ
Cadmium		---	<3.2 U	<3.1 U	3.5 J
Calcium		---	85100 J	62300	85800 J
Chromium		---	3.6 J	<2.6 U	5.7 J
Cobalt		---	<2.1 U	<1.6 U	<2.1 U
Copper		---	<3.3 U	4.6 J	<2.9 U
Cyanide		---	<1.2 U	<1.2 U	<1.2 U
Iron		---	160 J	193	161 J
Lead		---	<2 U	3.4	<2 U
Magnesium		---	2880 J	12200	2870 J
Manganese		---	25.3	12.8 J	25.5
Mercury		---	<0.13 U	0.35	<0.13 U
Nickel		---	<3.9 U	<7.3 U	<3.9 U
Potassium		---	1180 J	12000	1180 J
Selenium		---	<1.5 U	<1.5 UJ	<1.5 U
Silver		---	<2.5 UR	<2.5 UJ	<2.5 UR
Sodium		---	3140 J	22100 J	3120 J
Sulfide		1800 J	---	200 J	<100 UJ
Thallium		---	<1.3 UJ	<1.3 UJ	<1.3 U
Tin		---	---	---	---
Vanadium		---	2.2 J	<2.3 U	3.1 J
Zinc		---	<4.3 U	18 J	<4.3 U

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Inorganic Analytes
GROUNDWATER SAMPLES
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Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW01	06GW01	07GW01	08AGW01
	DATE	01/07/94	01/05/94	01/05/94	01/06/94
Aluminum		8970 J	2380 J	28700 J	1810 J
Antimony		<1.8 U	<2.3 U	10.5	2.8 J
Arsenic		<1 U	<1.3 U	<1.3 U	2.4 J
Barium		5.2 J	8.9 J	15.7 J	8.5 J
Beryllium		<0.12 UJ	0.19 J	0.43 J	<0.14 U
Cadmium		<3.2 U	<3.1 U	<3.1 U	<3.1 U
Calcium		5840 J	1690 J	1620 J	72200
Chromium		<3.1 U	<2.3 U	17.2	<2.3 U
Cobalt		<2.1 U	<1.6 U	<1.6 U	<1.6 U
Copper		26.7	1.9 J	2.3 J	<1.7 U
Cyanide		<1.2 U	<1.2 U	<1.2 U	<1.2 U
Iron		632 J	216	331	2700
Lead		<2 U	<2 U	<2 UJ	2.5 J
agnesium		1950 J	457 J	345 J	8220
Manganese		13.1 J	7.9 J	5.4 J	170
Mercury		<0.13 U	<0.13 U	<0.13 U	<0.13 U
Nickel		5.3 J	<7.3 U	<7.3 U	<7.3 U
Potassium		964 J	1030 J	<738 U	9970
Selenium		<1.5 U	<1.5 U	<1.5 U	<1.5 U
Silver		<2.5 UR	<2.5 UJ	<2.5 UJ	<2.5 UJ
Sodium		1390 J	1780 J	3940 J	19200 J
Sulfide		200 J	200 J	200 J	200 J
Thallium		<1.3 UJ	<1.3 UJ	<1.3 UJ	<1.3 UJ
Tin		---	---	---	---
Vanadium		4.1 J	<2.3 U	5.6 J	<2.3 U
Zinc		69.3	4.7 J	34	5.9 J

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Date: 12/28/95

Inorganic Analytes
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW01	08CGW01	09GW01
	DATE	01/05/94	01/04/94	01/06/94
Aluminum		1310 J	1910 J	28900 J
Antimony		<2.5 U	<11 UJ	<1.8 U
Arsenic		<1.3 U	<1 UJ	<1.3 U
Barium		36.9 J	36.1 J	10.8 J
Beryllium		0.18 J	0.25 J	0.94 J
Cadmium		<3.1 U	<3.2 U	<3.1 U
Calcium		5370	2300 J	8030
Chromium		4.4 J	10.9	12.5
Cobalt		<1.6 U	<2.1 U	2.2 J
Copper		<1.7 U	<3.8 U	4.6 J
Cyanide		<1.2 U	<1.2 U	<1.2 U
Iron		10300	2050	563
Lead		<2 U	4.3 J	<2 U
Magnesium		2470 J	962 J	1100 J
Manganese		73.6	17.9	1.5 J
Mercury		<0.13 U	<0.13 U	<0.13 U
Nickel		<7.3 U	<3.9 U	16.8 J
Potassium		3130 J	<784 U	5310
Selenium		<1.5 U	<1.5 U	<1.5 U
Silver		<2.5 UJ	<2.2 U	2.6 J
Sodium		50400 J	7000 J	3100 J
Sulfide		1600 J	1000 J	<100 UJ
Thallium		<1.3 UJ	<1.4 U	<1.3 UJ
Tin		---	---	---
Vanadium		4.2 J	2.1 J	17.4 J
Zinc		9.8 J	<11 UJ	16 J

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW01	10AGW01	10BGW01	10CGW01
	DATE	01/05/94	01/07/94	01/08/94	01/08/94
Acetone		<5 UR	<5 UR	<11 UR	<12 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	0.4 J	2	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		<1 U	0.8 J	3	2
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<1 U	2	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	2	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	0.8 J	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	<1 U	4	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW01	10AGW01	10BGW01	10CGW01
	DATE	01/05/94	01/07/94	01/08/94	01/08/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	19	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 UR	<5 UR	<5 UR	<5 UR
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	0.5 J	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	<1 U	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	0.4 J	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
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Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW01	11BGW01	11CGW01	12GW01
	DATE	01/04/94	01/04/94	01/04/94	01/05/94
Acetone		<5 UR	<12 U	<5 UR	<5 UR
Acetonitrile		---	<5 U	---	---
Acrolein		---	<100 U	---	---
Acrylonitrile		---	<100 U	---	---
3-Chloro-1-propene		---	<5 U	---	---
Benzene		<1 U	<5 U	<1 U	<1 U
Bromochloromethane		<1 U	---	<1 U	<1 U
Bromodichloromethane		<1 U	<5 U	<1 U	<1 U
Bromoform		<1 U	<5 U	<1 U	<1 U
Bromomethane		<1 U	<10 U	<1 U	<1 U
2-Butanone		<5 UR	<10 U	<5 UR	<5 UR
Carbon disulfide		<1 U	<5 U	<1 U	<1 U
Carbon tetrachloride		<1 U	<5 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	<5 U	---	---
Chlorobenzene		<1 U	<5 U	<1 U	<1 U
Chloroethane		<1 U	<10 U	<1 U	<1 U
2-Chloroethylvinylether		---	<10 U	---	---
Chloroform		<1 U	<5 U	<1 U	<1 U
Chloromethane		<1 U	<10 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<5 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<5 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<5 U	<1 U	<1 U
Dibromomethane		---	<5 U	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<5 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<5 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	<5 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	<5 U	---	---
1,1-Dichloroethane		<1 U	<5 U	<1 U	<1 U
1,2-Dichloroethane		<1 U	<5 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<5 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	<5 U	---	---
cis-1,2-Dichloroethene		<1 U	---	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	---	<1 U	<1 U
1,2-Dichloropropane		<1 U	<5 U	<1 U	<1 U

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Validated

Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW01	11BGW01	11CGW01	12GW01
	DATE	01/04/94	01/04/94	01/04/94	01/05/94
cis-1,3-Dichloropropene		<1 U	<5 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<5 U	<1 U	<1 U
1,4-Dioxane		---	<5 UR	---	---
Ethylbenzene		<1 U	<5 U	<1 U	<1 U
Ethyl methacrylate		---	<5 U	---	---
2-Hexanone		<5 UR	<10 U	<5 UR	<5 UR
Iodomethane		---	<10 U	---	---
Isobutyl alcohol		---	<100 UR	---	---
Methacrylonitrile		---	<5 U	---	---
Methyl methacrylate		---	<5 U	---	---
4-Methyl-2-pentanone		<5 U	<10 U	<5 U	<5 U
Methylene chloride		<2 U	<10 U	<2 U	<2 U
Pentachloroethane		---	<5 U	---	---
Propionitrile		---	<5 U	---	---
Styrene		<1 U	<5 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	<5 U	---	---
1,1,2,2-Tetrachloroethane		<1 U	<5 U	<1 U	<1 U
Tetrachloroethene		<1 U	<5 U	<1 U	<1 U
Toluene		<1 U	<5 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<5 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<5 U	<1 U	<1 U
Trichloroethene		<1 U	<5 U	<1 U	<1 U
Trichlorofluoromethane		---	<5 U	---	---
1,2,3-Trichloropropane		---	<5 U	---	---
Vinyl acetate		---	<10 U	---	---
Vinyl chloride		<1 U	<10 U	<1 U	<1 U
Xylene (total)		<1 U	<5 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW01	13BGW01	14GW01	15GW01
	DATE	01/07/94	01/07/94	01/05/94	01/05/94
Acetone		<200 U	<22 UR	<5 UR	<5 UR
Acetonitrile		<100 U	---	---	---
Acrolein		<2000 U	---	---	---
Acrylonitrile		<2000 U	---	---	---
3-Chloro-1-propene		<100 U	---	---	---
Benzene		<100 U	<1 U	<1 U	<1 U
Bromochloromethane		---	<1 U	<1 U	<1 U
Bromodichloromethane		<100 U	<1 U	<1 U	<1 U
Bromoform		<100 U	<1 U	<1 U	<1 U
Bromomethane		<200 U	<1 U	<1 U	<1 U
2-Butanone		<200 U	<5 UR	57 J	<5 UR
Carbon disulfide		<100 U	<1 U	<1 U	<1 U
Carbon tetrachloride		<100 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		<100 U	---	---	---
Chlorobenzene		<100 U	<1 U	<1 U	<1 U
Chloroethane		<200 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		<200 U	---	---	---
Chloroform		<100 U	<1 U	<1 U	<1 U
Chloromethane		<200 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<100 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<100 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<100 U	<1 U	<1 U	<1 U
Dibromomethane		<100 U	---	---	---
1,2-Dichlorobenzene (VOA)		<100 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<100 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<100 U	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		<100 U	---	---	---
1,1-Dichloroethane		<100 U	<1 U	<1 U	<1 U
1,2-Dichloroethane		<100 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<100 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		2900	---	---	---
cis-1,2-Dichloroethene		---	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene		---	<1 U	<1 U	<1 U
1,2-Dichloropropane		<100 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW01	13BGW01	14GW01	15GW01
	DATE	01/07/94	01/07/94	01/05/94	01/05/94
cis-1,3-Dichloropropene		<100 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<100 U	<1 U	<1 U	<1 U
1,4-Dioxane		<100 UR	---	---	---
Ethylbenzene		130	<1 U	<1 U	<1 U
Ethyl methacrylate		<100 U	---	---	---
2-Hexanone		<200 U	<5 UR	<5 UR	<5 UR
Iodomethane		<200 U	---	---	---
Isobutyl alcohol		<2000 UR	---	---	---
Methacrylonitrile		<100 U	---	---	---
Methyl methacrylate		<100 U	---	---	---
4-Methyl-2-pentanone		<200 U	<5 U	<5 U	<5 U
Methylene chloride		<200 U	<2 U	<2 U	<2 U
Pentachloroethane		<100 U	---	---	---
Propionitrile		<100 U	---	---	---
Styrene		<100 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		<100 U	---	---	---
1,1,2,2-Tetrachloroethane		<100 U	<1 U	<1 U	<1 U
Tetrachloroethene		<100 U	<1 U	<1 U	<1 U
Toluene		170	<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<100 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<100 U	<1 U	<1 U	<1 U
Trichloroethene		300	<1 U	<1 U	<1 U
Trichlorofluoromethane		<100 U	---	---	---
1,2,3-Trichloropropane		<100 U	---	---	---
Vinyl acetate		<200 U	---	---	---
Vinyl chloride		170 J	<1 U	<1 U	<1 U
Xylene (total)		240	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW01	17AGW01	17BGW01	17CGW01
	DATE	01/07/94	01/06/94	01/07/94	01/06/94
Acetone		320 J	<7 UR	100 J	<5 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		2	<1 U	0.5 J	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		380 J	<6 UR	61 J	<16 U
Carbon disulfide		2	<1 U	0.7 J	<1 U
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<1 U	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	0.6 J	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		13	<1 U	1	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		0.7 J	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		7	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
2-Dichloropropane		0.8 J	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW01	17AGW01	17BGW01	17CGW01
	DATE	01/07/94	01/06/94	01/07/94	01/06/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		5	<1 U	<1 U	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		6 J	<5 UR	<5 UR	<5 UR
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		270	<5 U	78	<5 U
Methylene chloride		7	<4 U	<3 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		23	<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		0.6 J	<1 U	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		12	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW01	19AGW01	19BGW01	02GW01
	DATE	01/05/94	01/06/94	01/06/94	01/07/94
Acetone		<8 UR	<10 U	<5 UR	<6 UR
Acetonitrile		---	<5 U	---	---
Acrolein		---	<100 U	---	---
Acrylonitrile		---	<100 U	---	---
3-Chloro-1-propene		---	<5 U	---	---
Benzene		<1 U	<5 U	<1 U	<1 U
Bromochloromethane		<1 U	---	<1 U	<1 U
Bromodichloromethane		<1 U	<5 U	<1 U	<1 U
Bromoform		<1 U	<5 U	<1 U	<1 U
Bromomethane		<1 U	<10 U	<1 U	<1 U
2-Butanone		<5 UR	<10 U	<5 UR	<5 UR
Carbon disulfide		<1 U	<5 U	<1 U	<1 U
Carbon tetrachloride		<1 U	<5 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	<5 U	---	---
Chlorobenzene		<1 U	<5 U	<1 U	<1 U
Chloroethane		<1 U	<10 U	<1 U	3
2-Chloroethylvinylether		---	<10 U	---	---
Chloroform		<1 U	<5 U	<1 U	<1 U
Chloromethane		<1 U	<10 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<5 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<5 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<5 U	<1 U	<1 U
Dibromomethane		---	<5 U	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<5 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<5 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	<5 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	<5 U	---	---
1,1-Dichloroethane		0.6 J	<5 U	<1 U	<1 U
1,2-Dichloroethane		<1 U	<5 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<5 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	<5 U	---	---
cis-1,2-Dichloroethene		<1 U	---	0.7 J	5
trans-1,2-Dichloroethene		<1 U	---	<1 U	<1 U
1,2-Dichloropropane		<1 U	<5 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW01	19AGW01	19BGW01	02GW01
	DATE	01/05/94	01/06/94	01/06/94	01/07/94
cis-1,3-Dichloropropene		<1 U	<5 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<5 U	<1 U	<1 U
1,4-Dioxane		---	<5 UR	---	---
Ethylbenzene		<1 U	<5 U	<1 U	<1 U
Ethyl methacrylate		---	<5 U	---	---
2-Hexanone		<5 UR	<10 U	<5 UR	<5 UR
Iodomethane		---	<10 U	---	---
Isobutyl alcohol		---	<100 UR	---	---
Methacrylonitrile		---	<5 U	---	---
Methyl methacrylate		---	<5 U	---	---
4-Methyl-2-pentanone		34	<10 U	<5 U	<5 U
Methylene chloride		<3 U	<10 U	<2 U	<2 U
Pentachloroethane		---	<5 U	---	---
Propionitrile		---	<5 U	---	---
Styrene		<1 U	<5 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	<5 U	---	---
1,1,2,2-Tetrachloroethane		<1 U	<5 U	<1 U	<1 U
Tetrachloroethene		<1 U	<5 U	<1 U	<1 U
Toluene		<1 U	<5 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<5 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<5 U	<1 U	<1 U
Trichloroethene		<1 U	<5 U	<1 U	<1 U
Trichlorofluoromethane		---	<5 U	---	---
1,2,3-Trichloropropane		---	<5 U	---	---
Vinyl acetate		---	<10 U	---	---
Vinyl chloride		<1 U	<10 U	<1 U	25
Xylene (total)		<1 U	<5 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW01	21GW01	22AGW01	22BGW01
	DATE	01/06/94	01/06/94	01/07/94	01/08/94
Acetone		<8 UR	<12 UR	<12 UR	<5 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	<1 U	0.6 J	6
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		<1 U	0.4 J	0.5 J	2
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<1 U	<1 U	1
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	0.6 J
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	<1 U	<1 U	19
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-20 20GW01 01/06/94	KBA-11-21 21GW01 01/06/94	KBA-11-22A 22AGW01 01/07/94	KBA-11-22B 22BGW01 01/08/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	<1 U	54
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 UR	<5 UR	<5 UR	<5 UR
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	<1 U	12
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	<1 U	<1 U	0.5 J
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	<1 U	15

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-3A 03AGW01 01/07/94	KBA-11-3B 03BGW01 01/08/94	KBA-11-3C 03CGW01 01/06/94	KBA-11-4 04GW01 01/07/94
Acetone		<13 UR	<6 UR	<11 UR	<5 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	4	<1 U	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		38 J	<5 UR	<6 UR	<5 UR
Carbon disulfide		<1 U	10	<1 U	<1 U
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	0.8 J	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		6	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	12	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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Validated

Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW01	03BGW01	03CGW01	04GW01
	DATE	01/07/94	01/08/94	01/06/94	01/07/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	14	<1 U	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 UR	<5 UR	<5 UR	<5 UR
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		0.4 J	1	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	<1 U	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	1	<1 U	<1 U
Xylene (total)		<1 U	4	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW01	06GW01	07GW01	08AGW01
	DATE	01/07/94	01/04/94	01/04/94	01/05/94
Acetone		<8 UR	<5 UR	<5 UR	<15 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	<1 U	<1 U	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<1 U	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW01	06GW01	07GW01	08AGW01
	DATE	01/07/94	01/04/94	01/04/94	01/05/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	<1 U	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 UR	<5 UR	<5 UR	<5 UR
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<5 U
Methylene chloride		<2 U	2	<3 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	<1 U	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW01	08CGW01	09GW01
	DATE	01/05/94	01/04/94	01/05/94
Acetone		<5 UR	<5 UR	<6 UR
Acetonitrile		---	---	---
Acrolein		---	---	---
Acrylonitrile		---	---	---
3-Chloro-1-propene		---	---	---
Benzene		0.4 J	<1 U	<1 U
Bromochloromethane		<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR
Carbon disulfide		<1 U	<1 U	<1 U
Carbon tetrachloride		<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---
Chlorobenzene		<1 U	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---
Chloroform		<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U
Dibromomethane		---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---
1,1-Dichloroethane		3	<1 U	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---
cis-1,2-Dichloroethene		2	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-8B 08BGW01 01/05/94	KBA-11-8C 08CGW01 01/04/94	KBA-11-9 09GW01 01/05/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---
Ethylbenzene		0.9 J	<1 U	<1 U
Ethyl methacrylate		---	---	---
2-Hexanone		<5 UR	<5 UR	<5 UR
Iodomethane		---	---	---
Isobutyl alcohol		---	---	---
Methacrylonitrile		---	---	---
Methyl methacrylate		---	---	---
4-Methyl-2-pentanone		3 J	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U
Pentachloroethane		---	---	---
Propionitrile		---	---	---
Styrene		<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U
Trichloroethene		0.9 J	<1 U	<1 U
Trichlorofluoromethane		---	---	---
1,2,3-Trichloropropane		---	---	---
Vinyl acetate		---	---	---
Vinyl chloride		<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	<1 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW01	10AGW01	10BGW01	10CGW01
	DATE	01/05/94	01/07/94	01/08/94	01/08/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	6 J	1 J	0.9 J
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-1 01GW01 01/05/94	KBA-11-10A 10AGW01 01/07/94	KBA-11-10B 10BGW01 01/08/94	KBA-11-10C 10CGW01 01/08/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	3 J	2 J	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	6 J	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<10 U	0.6 J	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-1 01GW01 01/05/94	KBA-11-10A 10AGW01 01/07/94	KBA-11-10B 10BGW01 01/08/94	KBA-11-10C 10CGW01 01/08/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	2 J	3 J	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW01	10AGW01	10BGW01	10CGW01
	DATE	01/05/94	01/07/94	01/08/94	01/08/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW01	11BGW01	11CGW01	12GW01
	DATE	01/04/94	01/04/94	01/04/94	01/05/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	<10 U	---	---
2-Acetylaminofluorene		---	<10 U	---	---
4-Aminobiphenyl		---	<50 U	---	---
Aniline		---	<10 U	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	<50 U	---	---
Benzidine		---	<50 U	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
enzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	<50 U	---	---
Benzyl alcohol		---	<10 U	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	<10 U	5 J	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	2 J	<10 U
Carbazole		<10 U	---	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	---	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW01	11BGW01	11CGW01	12GW01
	DATE	01/04/94	01/04/94	01/04/94	01/05/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<20 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	<10 U	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	2 J	<10 U
7,12-Dimethybenz(a)anthracene		---	<10 U	---	---
p-(Dimethylamino)azobenzene		---	<10 U	---	---
3,3'-Dimethylbenzidine		---	<10 U	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	<10 U	---	---
4,6-Dinitro-2-methylphenol		<25 U	<50 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<50 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	<10 U	---	---
Ethyl methanesulfonate		---	<10 U	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	<50 U	---	---
Hexachloropropene		---	<50 U	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	<50 U	---	---
Methapyrilene		---	<50 U	---	---
Methyl methanesulfonate		---	<10 U	---	---
3-Methylcholanthrene		---	<10 U	---	---
2-Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Validated

Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW01	11BGW01	11CGW01	12GW01
	DATE	01/04/94	01/04/94	01/04/94	01/05/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	<20 U	---	---
4-Methylphenol		<10 U	---	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	<50 U	---	---
1-Naphthylamine		---	<50 U	---	---
2-Naphthylamine		---	<50 U	---	---
2-Nitroaniline		<25 U	<50 U	<25 U	<25 U
3-Nitroaniline		<25 U	<50 U	<25 U	<25 U
4-Nitroaniline		<25 U	<50 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	<10 U	---	---
1-Nitroquinoline-1-oxide		---	<10 U	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<50 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	<10 U	---	---
N-Nitrosodiethylamine		---	<10 U	---	---
N-Nitrosodimethylamine		---	<10 UJ	---	---
N-Nitrosodiphenylamine		<10 U	---	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	<10 U	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	<10 U	---	---
N-Nitrosomorpholine		---	<10 U	---	---
N-Nitrosopiperidine		---	<10 U	---	---
N-Nitrosopyrrolidine		---	<10 U	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	<50 U	---	---
Pentachloronitrobenzene		---	<50 U	---	---
Pentachlorophenol		<25 U	<50 U	<25 U	<25 U
Phenacetin		---	<10 U	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	<50 U	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW01	11BGW01	11CGW01	12GW01
	DATE	01/04/94	01/04/94	01/04/94	01/05/94
p-Phenylene diamine		---	<50 U	---	---
2-Picoline		---	<50 U	---	---
Pronamide		---	<10 U	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	<50 U	---	---
Safrole, total		---	<50 U	---	---
1,2,4,5-Tetrachlorobenzene		---	<50 U	---	---
2,3,4,6-Tetrachlorophenol		---	<10 U	---	---
o-Toluidine		---	<10 U	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<50 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	<10 U	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW01	13BGW01	14GW01	15GW01
	DATE	01/07/94	01/07/94	01/05/94	01/05/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		<10 U	---	---	---
2-Acetylaminofluorene		<10 U	---	---	---
4-Aminobiphenyl		<50 U	---	---	---
Aniline		<10 U	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		<50 U	---	---	---
Benzidine		<50 U	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		<50 U	---	---	---
Benzyl alcohol		<10 U	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		4 J	2 J	<10 U	20 J
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		---	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<13 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-13A 13AGW01 01/07/94	KBA-11-13B 13BGW01 01/07/94	KBA-11-14 14GW01 01/05/94	KBA-11-15 15GW01 01/05/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<20 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		<10 U	---	---	---
Diethyl phthalate		13	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		<10 U	---	---	---
p-(Dimethylamino)azobenzene		<10 U	---	---	---
3,3'-Dimethylbenzidine		<10 U	---	---	---
2,4-Dimethylphenol		54	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		<10 U	---	---	---
4,6-Dinitro-2-methylphenol		<50 U	<25 U	<25 U	<25 U
2,4-Dinitrophenol		<50 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		<10 U	---	---	---
Ethyl methanesulfonate		<10 U	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		<50 U	---	---	---
Hexachloropropene		<50 U	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		<50 U	---	---	---
Methapyrilene		<50 U	---	---	---
Methyl methanesulfonate		<10 U	---	---	---
3-Methylcholanthrene		<10 U	---	---	---
2-Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW01	13BGW01	14GW01	15GW01
	DATE	01/07/94	01/07/94	01/05/94	01/05/94
2-Methylphenol		5 J	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		54	---	---	---
4-Methylphenol		---	<10 U	<10 U	<10 U
Naphthalene		34	<10 U	<10 U	<10 U
1,4-Naphthoquinone		<50 U	---	---	---
1-Naphthylamine		<50 U	---	---	---
2-Naphthylamine		<50 U	---	---	---
2-Nitroaniline		<50 U	<25 U	<25 U	<25 U
3-Nitroaniline		<50 U	<25 U	<25 U	<25 U
4-Nitroaniline		<50 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		<10 U	---	---	---
8-Nitroquinoline-1-oxide		<10 U	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<50 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		<10 U	---	---	---
N-Nitrosodiethylamine		<10 U	---	---	---
N-Nitrosodimethylamine		<10 U	---	---	---
N-Nitrosodiphenylamine		---	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		<10 U	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		<10 U	---	---	---
N-Nitrosomorpholine		<10 U	---	---	---
N-Nitrosopiperidine		<10 U	---	---	---
N-Nitrosopyrrolidine		<10 U	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		<50 U	---	---	---
Pentachloronitrobenzene		<50 U	---	---	---
Pentachlorophenol		<50 U	<25 U	<25 U	<25 U
Phenacetin		<10 U	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		<50 U	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW01	13BGW01	14GW01	15GW01
	DATE	01/07/94	01/07/94	01/05/94	01/05/94
p-Phenylene diamine		<50 U	---	---	---
2-Picoline		<50 U	---	---	---
Pronamide		<10 U	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		<50 U	---	---	---
Safrole, total		<50 U	---	---	---
1,2,4,5-Tetrachlorobenzene		<50 U	---	---	---
2,3,4,6-Tetrachlorophenol		<10 U	---	---	---
o-Toluidine		<10 U	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<50 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		<10 U	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW01	17AGW01	17BGW01	17CGW01
	DATE	01/07/94	01/06/94	01/07/94	01/06/94
Acenaphthene		<50 U	<10 U	<10 U	<10 U
Acenaphthylene		<50 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<50 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<50 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<50 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<50 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<50 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<50 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<50 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<50 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<50 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		4 J	<10 U	29	2 J
4-Bromophenyl phenyl ether		<50 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<50 U	<10 U	<10 U	<10 U
Carbazole		<50 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<50 U	<10 U	<10 U	<10 U
4-Chloroaniline		<50 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<50 U	<10 U	<10 U	<10 U
2-Chlorophenol		<50 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<50 U	<10 U	<10 U	<10 U
Chrysene		<50 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<50 U	<10 U	<10 U	<10 U
Dibenzofuran		<50 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<50 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<50 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<50 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW01	17AGW01	17BGW01	17CGW01
	DATE	01/07/94	01/06/94	01/07/94	01/06/94
1,3-Dichlorobenzene		<50 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<50 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<50 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<50 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		8 J	<10 U	<10 U	<10 U
Dimethyl phthalate		<50 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<50 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<120 U	<25 U	<25 U	<25 U
2,4-Dinitrophenol		<120 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<50 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<50 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<50 U	<10 U	<10 U	<10 U
Fluorene		<50 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<50 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<50 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<50 U	<10 U	<10 U	<10 U
Hexachloroethane		<50 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<50 U	<10 U	<10 U	<10 U
Isophorone		<50 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<50 U	<10 U	<10 U	<10 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-16 16GW01 01/07/94	KBA-11-17A 17AGW01 01/06/94	KBA-11-17B 17BGW01 01/07/94	KBA-11-17C 17CGW01 01/06/94
2-Methylphenol		8 J	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		670	<10 U	3 J	<10 U
Naphthalene		<50 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<120 U	<25 U	<25 U	<25 U
3-Nitroaniline		<120 U	<25 U	<25 U	<25 U
4-Nitroaniline		<120 U	<25 U	<25 U	<25 U
Nitrobenzene		<50 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<50 U	<10 U	<10 U	<10 U
4-Nitrophenol		<120 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<50 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<50 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<120 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<50 U	<10 U	<10 U	<10 U
Phenol		100	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW01	17AGW01	17BGW01	17CGW01
	DATE	01/07/94	01/06/94	01/07/94	01/06/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<50 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<50 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<120 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<50 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW01	19AGW01	19BGW01	02GW01
	DATE	01/05/94	01/06/94	01/06/94	01/07/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	<10 U	---	---
2-Acetylaminofluorene		---	<10 U	---	---
4-Aminobiphenyl		---	<50 U	---	---
Aniline		---	<10 U	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	<50 U	---	---
Benzidine		---	<50 U	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	<50 U	---	---
Benzyl alcohol		---	<10 U	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	<10 U	<10 U	0.5 J
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	---	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	---	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	3 J	4 J	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW01	19AGW01	19BGW01	02GW01
	DATE	01/05/94	01/06/94	01/06/94	01/07/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<20 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	<10 U	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	<10 U	---	---
p-(Dimethylamino)azobenzene		---	<10 U	---	---
3,3'-Dimethylbenzidine		---	<10 U	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	<10 U	---	---
4,6-Dinitro-2-methylphenol		<25 U	<50 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<50 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	<10 U	---	---
Ethyl methanesulfonate		---	<10 U	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	<50 U	---	---
Hexachloropropene		---	<50 U	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	<50 U	---	---
Methapyrilene		---	<50 U	---	---
Methyl methanesulfonate		---	<10 U	---	---
3-Methylcholanthrene		---	<10 U	---	---
2-Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW01	19AGW01	19BGW01	02GW01
	DATE	01/05/94	01/06/94	01/06/94	01/07/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	<10 U	---	---
4-Methylphenol		<10 U	---	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	<50 U	---	---
1-Naphthylamine		---	<50 U	---	---
2-Naphthylamine		---	<50 U	---	---
2-Nitroaniline		<25 U	<50 U	<25 U	<25 U
3-Nitroaniline		<25 U	<50 U	<25 U	<25 U
4-Nitroaniline		<25 U	<50 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	<10 U	---	---
'-Nitroquinoline-1-oxide		---	<10 U	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<50 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	<10 U	---	---
N-Nitrosodiethylamine		---	<10 U	---	---
N-Nitrosodimethylamine		---	<10 U	---	---
N-Nitrosodiphenylamine		<10 U	---	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	<10 UJ	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	<10 U	---	---
N-Nitrosomorpholine		---	<10 U	---	---
N-Nitrosopiperidine		---	<10 U	---	---
N-Nitrosopyrrolidine		---	<10 U	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	<50 U	---	---
Pentachloronitrobenzene		---	<50 U	---	---
Pentachlorophenol		<25 U	<50 U	<25 U	<25 U
Phenacetin		---	<10 U	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
henyl-tert-butylamine		---	<50 U	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW01	19AGW01	19BGW01	02GW01
	DATE	01/05/94	01/06/94	01/06/94	01/07/94
p-Phenylene diamine		---	<50 U	---	---
2-Picoline		---	<50 U	---	---
Pronamide		---	<10 U	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	<50 U	---	---
Safrole, total		---	<50 U	---	---
1,2,4,5-Tetrachlorobenzene		---	<50 U	---	---
2,3,4,6-Tetrachlorophenol		---	<10 U	---	---
o-Toluidine		---	<10 U	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<50 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	<10 U	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW01	21GW01	22AGW01	22BGW01
	DATE	01/06/94	01/06/94	01/07/94	01/08/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		1 J	3 J	1 J	1 J
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW01	21GW01	22AGW01	22BGW01
	DATE	01/06/94	01/06/94	01/07/94	01/08/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	4 J	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	0.5 J	10
Dimethyl phthalate		<10 U	<10 U	<10 U	3 J
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW01	21GW01	22AGW01	22BGW01
	DATE	01/06/94	01/06/94	01/07/94	01/08/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	14
Naphthalene		<10 U	<10 U	0.6 J	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
'-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
henyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW01	21GW01	22AGW01	22BGW01
	DATE	01/06/94	01/06/94	01/07/94	01/08/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW01	03BGW01	03CGW01	04GW01
	DATE	01/07/94	01/08/94	01/06/94	01/07/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	<10 U	3 J	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	4 J	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-3A 03AGW01 01/07/94	KBA-11-3B 03BGW01 01/08/94	KBA-11-3C 03CGW01 01/06/94	KBA-11-4 04GW01 01/07/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		8 J	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	10	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW01	03BGW01	03CGW01	04GW01
	DATE	01/07/94	01/08/94	01/06/94	01/07/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW01	03BGW01	03CGW01	04GW01
	DATE	01/07/94	01/08/94	01/06/94	01/07/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW01	06GW01	07GW01	08AGW01
	DATE	01/07/94	01/04/94	01/04/94	01/05/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	<10 U	<10 U	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW01	06GW01	07GW01	08AGW01
	DATE	01/07/94	01/04/94	01/04/94	01/05/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW01	06GW01	07GW01	08AGW01
	DATE	01/07/94	01/04/94	01/04/94	01/05/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		1 J	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW01	06GW01	07GW01	08AGW01
	DATE	01/07/94	01/04/94	01/04/94	01/05/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW01	08CGW01	09GW01
	DATE	01/05/94	01/04/94	01/05/94
Acenaphthene		<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U
Acetophenone		---	---	---
2-Acetylaminofluorene		---	---	---
4-Aminobiphenyl		---	---	---
Aniline		---	---	---
Anthracene		<10 U	<10 U	<10 U
Aramite, total		---	---	---
Benzidine		---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U
Benzoic acid		---	---	---
Benzyl alcohol		---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	2 J	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-8B 08BGW01 01/05/94	KBA-11-8C 08CGW01 01/04/94	KBA-11-9 09GW01 01/05/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---
Diethyl phthalate		1 J	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---
p-(Dimethylamino)azobenzene		---	---	---
3,3'-Dimethylbenzidine		---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U
Diphenylamine		---	---	---
1,2-Diphenylhydrazine		---	---	---
Ethyl methanesulfonate		---	---	---
Fluoranthene		<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U
Hexachlorophene		---	---	---
Hexachloropropene		---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U
Isosafrole, total		---	---	---
Methapyrilene		---	---	---
Methyl methanesulfonate		---	---	---
3-Methylcholanthrene		---	---	---
2-Methylnaphthalene		<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW01	08CGW01	09GW01
	DATE	01/05/94	01/04/94	01/05/94
2-Methylphenol		<10 U	<10 U	<10 U
3-Methylphenol		---	---	---
3-&4-Methylphenol		---	---	---
4-Methylphenol		<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---
1-Naphthylamine		---	---	---
2-Naphthylamine		---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---
Nitroquinoline-1-oxide		---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---
N-Nitrosodiethylamine		---	---	---
N-Nitrosodimethylamine		---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---
N-Nitrosomorpholine		---	---	---
N-Nitrosopiperidine		---	---	---
N-Nitrosopyrrolidine		---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---
Pentachlorobenzene		---	---	---
Pentachloronitrobenzene		---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U
Phenacetin		---	---	---
Phenanthrene		<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U
enyl-tert-butylamine		---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW01	08CGW01	09GW01
	DATE	01/05/94	01/04/94	01/05/94
p-Phenylene diamine		---	---	---
2-Picoline		---	---	---
Pronamide		---	---	---
Pyrene		<10 U	<10 U	<10 U
Pyridine		---	---	---
Safrole, total		---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---
o-Toluidine		---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---

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Validated

Pesticides/PCBs
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW01	10AGW01	10BGW01	10CGW01
	DATE	01/05/94	01/07/94	01/08/94	01/08/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Diallate		---	---	---	---
Dieldrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin ketone		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 UJ
Toxaphene		<5 UJ	<5 UJ	<5 UJ	<5 UJ
Aroclor-1016		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1221		<2 UJ	<2 UJ	<2 UJ	<2 UJ
Aroclor-1232		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1242		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1248		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1254		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1260		<1 UJ	<1 UJ	<1 UJ	<1 UJ

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Pesticides/PCBs
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW01	11BGW01	11CGW01	12GW01
	DATE	01/04/94	01/04/94	01/04/94	01/05/94
Aldrin		<0.05 U	<0.02 U	<0.05 UJ	<0.05 U
alpha-BHC		<0.05 U	<0.02 U	<0.05 UJ	<0.05 U
beta-BHC		<0.05 U	<0.04 U	<0.05 UJ	<0.05 U
delta-BHC		<0.05 U	<0.02 U	<0.05 UJ	<0.05 U
gamma-BHC (Lindane)		<0.05 U	<0.02 U	<0.05 UJ	<0.05 U
alpha-Chlordane		<0.05 U	<0.02 U	<0.05 UJ	<0.05 U
gamma-Chlordane		<0.05 U	<0.02 U	<0.05 UJ	<0.05 U
Chlordane		---	<0.2 U	---	---
Chlorobenzilate		---	<0.5 U	---	---
4,4'-DDD		<0.1 U	<0.04 U	<0.1 UJ	<0.1 U
4,4'-DDE		<0.1 U	<0.02 U	<0.1 UJ	<0.1 U
4,4'-DDT		<0.1 U	<0.04 U	<0.1 UJ	<0.1 U
Diallate		---	<1 U	---	---
Dieldrin		<0.1 U	<0.02 U	<0.1 UJ	<0.1 U
Endosulfan I		<0.05 U	<0.02 U	<0.05 UJ	<0.05 U
Endosulfan II		<0.1 U	<0.04 U	<0.1 UJ	<0.1 U
Endosulfan sulfate		<0.1 U	<0.04 U	<0.1 UJ	<0.1 U
Endrin		<0.1 U	<0.04 U	<0.1 UJ	<0.1 U
Endrin aldehyde		<0.1 U	<0.04 U	<0.1 UJ	<0.1 U
Endrin ketone		<0.1 U	<0.04 U	<0.1 UJ	<0.1 U
Heptachlor		<0.05 U	<0.02 U	<0.05 UJ	<0.05 U
Heptachlor epoxide		<0.05 U	<0.02 U	<0.05 UJ	<0.05 U
Isodrin		---	<0.02 U	---	---
Kepone		---	<1 U	---	---
Methoxychlor		<0.5 U	<0.08 U	<0.5 UJ	<0.5 U
Toxaphene		<5 U	<1 U	<5 UJ	<5 U
Aroclor-1016		<1 U	<1 U	<1 UJ	<1 U
Aroclor-1221		<2 U	<2 U	<2 UJ	<2 U
Aroclor-1232		<1 U	<2 U	<1 UJ	<1 U
Aroclor-1242		<1 U	<1 U	<1 UJ	<1 U
Aroclor-1248		<1 U	<1 U	<1 UJ	<1 U
Aroclor-1254		<1 U	<0.5 U	<1 UJ	<1 U
Aroclor-1260		<1 U	<0.5 U	<1 UJ	<1 U

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Pesticides/PCBs
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-13A 13AGW01 01/07/94	KBA-11-13B 13BGW01 01/07/94	KBA-11-14 14GW01 01/05/94	KBA-11-15 15GW01 01/05/94
Aldrin		<0.02 U	<0.05 U	<0.05 UJ	<0.05 U
alpha-BHC		<0.02 U	<0.05 U	<0.05 UJ	<0.05 U
beta-BHC		<0.04 U	<0.05 U	<0.05 UJ	<0.05 U
delta-BHC		<0.02 U	<0.05 U	<0.05 UJ	<0.05 U
gamma-BHC (Lindane)		<0.02 U	<0.05 U	<0.05 UJ	<0.05 U
alpha-Chlordane		---	<0.05 U	<0.05 UJ	<0.05 U
gamma-Chlordane		---	<0.05 U	<0.05 UJ	<0.05 U
Chlordane		<0.2 U	---	---	---
Chlorobenzilate		<0.5 U	---	---	---
4,4'-DDD		<0.04 U	<0.1 U	<0.1 UJ	<0.1 U
4,4'-DDE		<0.02 U	<0.1 U	<0.1 UJ	<0.1 U
4,4'-DDT		<0.04 U	<0.1 U	<0.1 UJ	<0.1 U
Diallate		<1 U	---	---	---
Dieldrin		<0.02 U	<0.1 U	<0.1 UJ	<0.1 U
Endosulfan I		<0.02 U	<0.05 U	<0.05 UJ	<0.05 U
Endosulfan II		<0.04 U	<0.1 U	<0.1 UJ	<0.1 U
Endosulfan sulfate		<0.04 U	<0.1 U	<0.1 UJ	<0.1 U
Endrin		<0.04 U	<0.1 U	<0.1 UJ	<0.1 U
Endrin aldehyde		<0.04 U	<0.1 U	<0.1 UJ	<0.1 U
Endrin ketone		<0.04 U	<0.1 U	<0.1 UJ	<0.1 U
Heptachlor		<0.02 U	<0.05 U	<0.05 UJ	<0.05 U
Heptachlor epoxide		<0.02 U	<0.05 U	<0.05 UJ	<0.05 U
Isodrin		<0.02 U	---	---	---
Kepone		<1 U	---	---	---
Methoxychlor		<0.08 U	<0.5 U	<0.5 UJ	<0.5 U
Toxaphene		<1 U	<5 U	<5 UJ	<5 U
Aroclor-1016		<1 U	<1 U	<1 UJ	<1 U
Aroclor-1221		<2 U	<2 U	<2 UJ	<2 U
Aroclor-1232		<2 U	<1 U	<1 UJ	<1 U
Aroclor-1242		<1 U	<1 U	<1 UJ	<1 U
Aroclor-1248		<1 U	<1 U	<1 UJ	<1 U
Aroclor-1254		<0.5 U	<1 U	<1 UJ	<1 U
Aroclor-1260		<0.5 U	<1 U	<1 UJ	<1 U

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Pesticides/PCBs
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW01	17AGW01	17BGW01	17CGW01
	DATE	01/07/94	01/06/94	01/07/94	01/06/94
Aldrin		<0.05 U	<0.05 UJ	<0.05 U	<0.05 U
alpha-BHC		<0.05 U	<0.05 UJ	<0.05 U	<0.05 U
beta-BHC		<0.05 U	<0.05 UJ	<0.05 U	<0.05 U
delta-BHC		<0.05 U	<0.05 UJ	<0.05 U	<0.05 U
gamma-BHC (Lindane)		<0.05 U	<0.05 UJ	<0.05 U	<0.05 U
alpha-Chlordane		<0.05 U	<0.05 UJ	<0.05 U	<0.05 U
gamma-Chlordane		<0.05 U	<0.05 UJ	<0.05 U	<0.05 U
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 U	<0.1 UJ	<0.1 U	<0.1 U
4,4'-DDE		<0.1 U	<0.1 UJ	<0.1 U	<0.1 U
4,4'-DDT		<0.1 U	<0.1 UJ	<0.1 U	<0.1 U
Diallate		---	---	---	---
Dieldrin		<0.1 U	<0.1 UJ	<0.1 U	<0.1 U
Endosulfan I		<0.05 U	<0.05 UJ	<0.05 U	<0.05 U
Endosulfan II		<0.1 U	<0.1 UJ	<0.1 U	<0.1 U
Endosulfan sulfate		<0.1 U	<0.1 UJ	<0.1 U	<0.1 U
Endrin		<0.1 U	<0.1 UJ	<0.1 U	<0.1 U
Endrin aldehyde		<0.1 U	<0.1 UJ	<0.1 U	<0.1 U
Endrin ketone		<0.1 U	<0.1 UJ	<0.1 U	<0.1 U
Heptachlor		<0.05 U	<0.05 UJ	<0.05 U	<0.05 U
Heptachlor epoxide		<0.05 U	<0.05 UJ	<0.05 U	<0.05 U
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.5 U	<0.5 UJ	<0.5 U	<0.5 U
Toxaphene		<5 U	<5 UJ	<5 U	<5 U
Aroclor-1016		<1 U	<1 UJ	<1 U	<1 U
Aroclor-1221		<2 U	<2 UJ	<2 U	<2 U
Aroclor-1232		<1 U	<1 UJ	<1 U	<1 U
Aroclor-1242		<1 U	<1 UJ	<1 U	<1 U
Aroclor-1248		<1 U	<1 UJ	<1 U	<1 U
Aroclor-1254		<1 U	<1 UJ	<1 U	<1 U
Aroclor-1260		<1 U	<1 UJ	<1 U	<1 U

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Pesticides/PCBs
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW01	19AGW01	19BGW01	02GW01
	DATE	01/05/94	01/06/94	01/06/94	01/07/94
Aldrin		<0.05 U	<0.02 UJ	<0.05 UR	<0.05 UJ
alpha-BHC		<0.05 U	<0.02 UJ	<0.05 UR	<0.05 UJ
beta-BHC		<0.05 U	<0.04 UJ	<0.05 UR	<0.05 UJ
delta-BHC		<0.05 U	<0.02 UJ	<0.05 UR	<0.05 UJ
gamma-BHC (Lindane)		<0.05 U	<0.02 UJ	<0.05 UR	<0.05 UJ
alpha-Chlordane		<0.05 U	---	<0.05 UR	<0.05 UJ
gamma-Chlordane		<0.05 U	---	<0.05 UR	<0.05 UJ
Chlordane		---	<0.2 UJ	---	---
Chlorobenzilate		---	<0.5 UJ	---	---
4,4'-DDD		<0.1 U	<0.04 UJ	<0.1 UR	<0.1 UJ
4,4'-DDE		<0.1 U	<0.02 UJ	<0.1 UR	<0.1 UJ
4,4'-DDT		<0.1 U	<0.04 UJ	<0.1 UR	<0.1 UJ
Diallate		---	<1 UJ	---	---
Dieldrin		<0.1 U	<0.02 UJ	<0.1 UR	<0.1 UJ
Endosulfan I		<0.05 U	<0.02 UJ	<0.05 UR	<0.05 UJ
Endosulfan II		<0.1 U	<0.04 UJ	<0.1 UR	<0.1 UJ
Endosulfan sulfate		<0.1 U	<0.04 UJ	<0.1 UR	<0.1 UJ
Endrin		<0.1 U	<0.04 UJ	<0.1 UR	<0.1 UJ
Endrin aldehyde		<0.1 U	<0.04 UJ	<0.1 UR	<0.1 UJ
Endrin ketone		<0.1 U	<0.04 UJ	<0.1 UR	<0.1 UJ
Heptachlor		<0.05 U	<0.02 UJ	<0.05 UR	<0.05 UJ
Heptachlor epoxide		<0.05 U	<0.02 UJ	<0.05 UR	<0.05 UJ
Isodrin		---	<0.02 UJ	---	---
Kepone		---	<1 U	---	---
Methoxychlor		<0.5 U	<0.08 UJ	<0.5 UR	<0.5 UJ
Toxaphene		<5 U	<1 UJ	<5 UR	<5 UJ
Aroclor-1016		<1 U	<1 UJ	<1 UR	<1 UJ
Aroclor-1221		<2 U	<2 UJ	<2 UR	<2 UJ
Aroclor-1232		<1 U	<2 UJ	<1 UR	<1 UJ
Aroclor-1242		<1 U	<1 UJ	<1 UR	<1 UJ
Aroclor-1248		<1 U	<1 UJ	<1 UR	<1 UJ
Aroclor-1254		<1 U	<0.5 UJ	<1 UR	<1 UJ
Aroclor-1260		<1 U	<0.5 UJ	<1 UR	<1 UJ

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Pesticides/PCBs
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW01	21GW01	22AGW01	22BGW01
	DATE	01/06/94	01/06/94	01/07/94	01/08/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 UJ
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 UJ
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 UJ
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 UJ
alpha-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 UJ
gamma-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 UJ
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 UJ
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 UJ
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 UJ
Diallate		---	---	---	---
Dieldrin		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 UJ
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 UJ
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 UJ
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 UJ
Endrin		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 UJ
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 UJ
Endrin ketone		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 UJ
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 UJ
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 UJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.5 UJ	<0.5 UJ	<0.5 U	<0.5 UJ
Toxaphene		<5 UJ	<5 UJ	<5 U	<5 UJ
Aroclor-1016		<1 UJ	<1 UJ	<1 U	<1 UJ
Aroclor-1221		<2 UJ	<2 UJ	<2 U	<2 UJ
Aroclor-1232		<1 UJ	<1 UJ	<1 U	<1 UJ
Aroclor-1242		<1 UJ	<1 UJ	<1 U	<1 UJ
Aroclor-1248		<1 UJ	<1 UJ	<1 U	<1 UJ
Aroclor-1254		<1 UJ	<1 UJ	<1 U	<1 UJ
Aroclor-1260		<1 UJ	<1 UJ	<1 U	<1 UJ

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Pesticides/PCBs
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW01	03BGW01	03CGW01	04GW01
	DATE	01/07/94	01/08/94	01/06/94	01/07/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 U
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 U
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 U
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 U
gamma-BHC (Lindane)		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 U
alpha-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 U
gamma-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 U
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 U
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 U
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 U
Diallate		---	---	---	---
Dieldrin		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 U
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 U
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 U
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 U
Endrin		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 U
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 U
Endrin ketone		<0.1 UJ	<0.1 UJ	<0.1 U	<0.1 U
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 U
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 U	<0.05 U
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.5 UJ	<0.5 UJ	<0.5 U	<0.5 U
Toxaphene		<5 UJ	<5 UJ	<5 U	<5 U
Aroclor-1016		<1 UJ	<1 UJ	<1 U	<1 U
Aroclor-1221		<2 UJ	<2 UJ	<2 U	<2 U
Aroclor-1232		<1 UJ	<1 UJ	<1 U	<1 U
Aroclor-1242		<1 UJ	<1 UJ	<1 U	<1 U
Aroclor-1248		<1 UJ	<1 UJ	<1 U	<1 U
Aroclor-1254		<1 UJ	<1 UJ	<1 U	<1 U
Aroclor-1260		<1 UJ	<1 UJ	<1 U	<1 U

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Pesticides/PCBs
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW01	06GW01	07GW01	08AGW01
	DATE	01/07/94	01/04/94	01/04/94	01/05/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
gamma-BHC (Lindane)		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
alpha-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
gamma-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 U
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 U
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 U
Diallate		---	---	---	---
Dieldrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 U
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 U
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 U
Endrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 U
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 U
Endrin ketone		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 U
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 U
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 U
Toxaphene		<5 UJ	<5 UJ	<5 UJ	<5 U
Aroclor-1016		<1 UJ	<1 UJ	<1 UJ	<1 U
Aroclor-1221		<2 UJ	<2 UJ	<2 UJ	<2 U
Aroclor-1232		<1 UJ	<1 UJ	<1 UJ	<1 U
Aroclor-1242		<1 UJ	<1 UJ	<1 UJ	<1 U
Aroclor-1248		<1 UJ	<1 UJ	<1 UJ	<1 U
Aroclor-1254		<1 UJ	<1 UJ	<1 UJ	<1 U
Aroclor-1260		<1 UJ	<1 UJ	<1 UJ	<1 U

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Validated

Date: 12/28/95

Pesticides/PCBs
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-8B 08BGW01 01/05/94	KBA-11-8C 08CGW01 01/04/94	KBA-11-9 09GW01 01/05/94
Aldrin		<0.05 U	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.05 U	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 U	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 U	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.05 U	<0.05 UJ	<0.05 UJ
alpha-Chlordane		<0.05 U	<0.05 UJ	<0.05 UJ
gamma-Chlordane		<0.05 U	<0.05 UJ	<0.05 UJ
Chlordane		---	---	---
Chlorobenzilate		---	---	---
4,4'-DDD		<0.1 U	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.1 U	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.1 U	<0.1 UJ	<0.1 UJ
Diallate		---	---	---
Dieldrin		<0.1 U	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.05 U	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.1 U	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.1 U	<0.1 UJ	<0.1 UJ
Endrin		<0.1 U	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.1 U	<0.1 UJ	<0.1 UJ
Endrin ketone		<0.1 U	<0.1 UJ	<0.1 UJ
Heptachlor		<0.05 U	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.05 U	<0.05 UJ	<0.05 UJ
Isodrin		---	---	---
Kepone		---	---	---
Methoxychlor		<0.5 U	<0.5 UJ	<0.5 UJ
Toxaphene		<5 U	<5 UJ	<5 UJ
Aroclor-1016		<1 U	<1 UJ	<1 UJ
Aroclor-1221		<2 U	<2 UJ	<2 UJ
Aroclor-1232		<1 U	<1 UJ	<1 UJ
Aroclor-1242		<1 U	<1 UJ	<1 UJ
Aroclor-1248		<1 U	<1 UJ	<1 UJ
Aroclor-1254		<1 U	<1 UJ	<1 UJ
Aroclor-1260		<1 U	<1 UJ	<1 UJ

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Validated

Date: 12/28/95

Organophosphorous Pesticides
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11B	KBA-11-13A	KBA-11-19A
	SAMPLE ID	11BGW01	13AGW01	19AGW01
	DATE	01/04/94	01/07/94	01/06/94
Dimethoate		<2 U	<2 U	<2 U
Disulfoton		<1 U	<1 U	<1 U
Ethyl parathion		<1 U	<1 U	<1 U
Famphur		<1 U	<1 U	<1 U
Methyl parathion		<1 U	<1 U	<1 U
Phorate		<1 U	<1 U	<1 U
Sulfotepp		<1 U	<1 U	<1 U
Thionazin		<1 U	<1 U	<1 U
Triethylphosphorothioate		<1 U	<1 U	<1 U

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Validated

Date: 12/28/95

Herbicides
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11B	KBA-11-13A	KBA-11-19A
	SAMPLE ID	11BGW01	13AGW01	19AGW01
	DATE	01/04/94	01/07/94	01/06/94
2,4-D		<2.5 U	<2.5 U	<2.5 U
Dinoseb		<0.5 UJ	<0.5 UJ	<0.5 UJ
2,4,5-T		<0.5 U	<0.5 U	<0.5 U
Silvex		<0.5 U	<0.5 U	<0.5 U

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Validated

Date: 12/28/95

Dibenzofurans and Dioxins
GROUNDWATER SAMPLES
January 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ng/l)	SITE	KBA-11-11B	KBA-11-13A	KBA-11-19A
	SAMPLE ID	11BGW01	13AGW01	19AGW01
	DATE	02/22/94	02/23/94	02/23/94
2,3,7,8-TCDD		<0.17 U	<0.20 U	<0.24 U
2,3,7,8-TCDF		<0.52 U	<0.66 U	<0.64 U
1,2,3,7,8-PeCDD		<0.71 U	<0.54 U	<0.89 U
1,2,3,7,8-PeCDF		<0.30 U	<0.29 U	<0.37 U
2,3,4,7,8-PeCDF		<0.30 U	<0.29 U	<0.37 U
1,2,3,4,7,8-HxCDD		<0.55 U	<0.50 U	<0.72 U
1,2,3,6,7,8-HxCDD		<0.55 U	<0.50 U	<0.72 U
1,2,3,7,8,9-HxCDD		<0.55 U	<0.50 U	<0.72 U
1,2,3,4,7,8-HxCDF		<0.41 U	<0.32 U	<0.42 U
1,2,3,6,7,8-HxCDF		<0.41 U	<0.32 U	<0.42 U
2,3,4,6,7,8-HxCDF		<0.41 U	<0.32 U	<0.42 U
1,2,3,7,8,9-HxCDF		<0.41 U	<0.32 U	<0.42 U
1,2,3,4,6,7,8-HpCDD		<0.41 U	<0.43 U	<0.51 U
1,2,3,4,6,7,8-HpCDF		<0.33 U	<0.33 U	<0.58 U
1,2,3,4,7,8,9-HpCDF		<0.33 U	<0.33 U	<0.58 U
OCDD		<0.67 U	<0.80 U	<0.97 U
OCDF		<2.3 U	<1.9 U	<2.1 U

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Validated Analytical Data for Groundwater Samples

April 1994

Validated

Inorganic Analytes
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW02	10AGW02	10BGW02	10CGW02
	DATE	04/05/94	04/07/94	04/05/94	04/07/94
Aluminum		16700 J	37500	23300 J	191 J
Antimony		<3.0 U	<3.0 U	<3.0 U	<3.0 U
Arsenic		<1.0 U	2.4 J	15.7	1.0 J
Barium		31.9 J	71.8 J	51.2 J	20.6 J
Beryllium		<2.0 U	<2.0 U	2.1 J	<2.0 U
Cadmium		<3.0 U	<3.0 UJ	<3.0 U	<3.0 UJ
Calcium		2790 J	67600	2190 J	38700
Chromium		24.6	19.4	147	48.2
Cobalt		<9.0 U	<9.0 U	18.2 J	<9.0 U
Copper		11.9 J	<7.0 UJ	50.2	15.4 J
Cyanide		<10.0 U	<10.0 U	<10.0 U	<10.0 U
Iron		968	45300	7390	1080
Lead		16.3	13.9 J	12.6	2.6 J
Magnesium		1220 J	17700	6850	2880 J
Manganese		8.2 J	401	38.6	24.6
Mercury		<0.20 U	0.24	<0.20 U	<0.20 U
Nickel		<12.6 U	<12.0 U	135	25.0 J
Potassium		685 J	10100	18300	3060 J
Selenium		<2.0 U	2.7 J	<2.0 UJ	<2.0 U
Silver		<3.0 U	<3.0 UJ	<3.0 U	<3.0 UJ
Sodium		9090	10500	20800	9820
Sulfide		<1000 U	<1000 U	2000	<1000 U
Thallium		<1.0 U	<1.0 UJ	<1.0 U	<1.0 UJ
Tin		---	<13 U	---	<13 U
Vanadium		<5.0 U	18.6 J	40.0 J	<5.0 UJ
Zinc		<34.2 U	132	96.3	<42.5 U

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Validated

Inorganic Analytes
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW02	11BGW02	11CGW02	12GW02
	DATE	04/05/94	04/05/94	04/05/94	04/06/94
Aluminum		2120 J	---	---	7860
Antimony		<3.0 U	<6 U	<3.0 U	<3.0 U
Arsenic		<1.0 U	8.0	1.6 J	14.9
Barium		32.0 J	81	21.0 J	73.7 J
Beryllium		<2.0 U	<5 U	<2.0 U	<2.0 U
Cadmium		<3.0 U	<5 U	<3.0 U	<3.0 UJ
Calcium		2540 J	---	30600	2090 J
Chromium		18.1	41	18.2	13.9
Cobalt		<9.0 U	<50 U	<9.0 U	<9.0 U
Copper		10.7 J	18	27.2	<8.1 UJ
Cyanide		<10.0 U	<5 U	<10 U	<10.0 U
Iron		1880	---	1200	6040
Lead		<1.0 U	10 J	4.7 J	4.0 J
Magnesium		1740 J	---	2590 J	1690 J
Manganese		14.9 J	---	49.0	27.1
Mercury		<0.20 U	<0.2 U	<0.20 U	<0.20 U
Nickel		<19.8 U	<40 U	<15.5 U	<12.0 U
Potassium		4150 J	---	3370 J	1360 J
Selenium		<2.0 U	<5 UJ	<2.0 U	<2.0 U
Silver		<3.0 U	<10 U	<3.0 U	<3.0 UJ
Sodium		15200	---	40600	8540
Sulfide		<1000 U	<1000 U	<1000 U	<1000 U
Thallium		<1.0 U	<10 U	<1.0 U	<1.0 UJ
Tin		<13 U	<1000 U	---	<13 U
Vanadium		<5.0 U	<50 U	<5.0 U	6.4 J
Zinc		<25.5 U	59 J	<33.6 U	<29.4 U

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Validated

Inorganic Analytes
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW02	13BGW02	14GW02	15GW02
	DATE	04/09/94	04/09/94	04/06/94	04/06/94
Aluminum		---	1830	---	21800
Antimony		<6 U	<3.0 U	<3.0 U	<3.0 U
Arsenic		8.6	<1.0 U	12.3	19.5
Barium		70	23.5 J	70.1 J	163 J
Beryllium		<5 U	<2.0 U	<2.0 U	<2.0 U
Cadmium		<5 U	<3.0 U	<3.0 U	<3.0 UJ
Calcium		---	71200	3630 J	34200
Chromium		47	12.0	47.4	40.3
Cobalt		<50 U	<9.0 UJ	<9.0 U	<9.0 U
Copper		20	26.2	29.0	13.6 J
Cyanide		<5 U	<10.0 U	<10 U	<10.0 U
Iron		---	1900	11500	10000
Lead		4.4 J	1.0 J	5.9 J	7.3 J
Magnesium		---	12200	2040 J	15700
Manganese		---	51.2	28.1	63.6
Mercury		<0.2 U	<0.20 U	<0.20 U	<0.20 U
Nickel		<40 U	<12.0 U	<50.4 U	<12.0 U
Potassium		---	2240 J	1180 J	5310
Selenium		<5 UJ	<2.0 U	<2.0 U	11.9 J
Silver		<10 U	<3.0 U	<3.0 U	<3.0 UJ
Sodium		---	9950	18100	198000
Sulfide		<1000 U	<1000 U	<1000 U	2000
Thallium		<10 U	<1.0 U	<1.0 U	1.8 J
Tin		<1000 U	16.1 J	---	<13 U
Vanadium		<50 U	<5.0 U	16.8 J	19.6 J
Zinc		73 J	83.7 J	56.8	<36.8 U

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Inorganic Analytes
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW02	17AGW02	17BGW02	17CGW02
	DATE	04/07/94	04/06/94	04/07/94	04/06/94
Aluminum		---	68100	3920	195 J
Antimony		<6 U	<3.0 U	<3.0 U	<3.0 U
Arsenic		6.1	5.2 J	6.6 J	<1.0 U
Barium		61	524	65.5 J	22.9 J
Beryllium		<5 U	<2.0 U	<2 U	<2.0 U
Cadmium		<5 U	<3.0 UJ	<3 UJ	<3.0 UJ
Calcium		---	38600	4200 J	16800
Chromium		22	76.4	26.5	<5.0 U
Cobalt		<50 U	9.0 J	<9 U	<9.0 U
Copper		39	35.9	39.1	34.7 J
Cyanide		<5 U	<10.0 U	<10.0 U	<10.0 U
Iron		---	17300	3380	970
Lead		<3 UJ	15.2 J	2.3 J	1.6 J
Magnesium		---	21100	1780 J	1500 J
Manganese		---	64.4	21.7	20.7
Mercury		<0.2 U	<0.20 U	<0.2 U	<0.20 U
Nickel		<40 U	22.1 J	29 J	<12.0 U
Potassium		---	4070 J	825 J	849 J
Selenium		<5 UJ	<10.0 U	<2 U	<2.0 UJ
Silver		<10 U	<3.0 UJ	<3 UJ	<3.0 UJ
Sodium		---	112000	14700	7790
Sulfide		4000	<1000 U	<1000 U	<1000 U
Thallium		<10 U	1.1 J	<1 UJ	<1.0 UJ
Tin		<1000 U	14.2 J	<13 U	14.6 J
Vanadium		<50 U	63.6 J	<5 UJ	<5.0 UJ
Zinc		<50 UJ	<76.2 U	<24.2 U	<50.5 U

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Inorganic Analytes
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW02	19AGW02	19BGW02	02GW02
	DATE	04/06/94	04/07/94	04/06/94	04/05/94
Aluminum		2670	13900	440	20700 J
Antimony		<3.0 U	<3.0 U	<3.0 U	<3.0 U
Arsenic		2.8 J	4.7 J	<1.0 U	2.3 J
Barium		42.1 J	57.4 J	14.4 J	28.5 J
Beryllium		<2.0 U	<2.0 U	<2.0 U	<2.0 U
Cadmium		<3.0 UJ	<3.0 UJ	<3.0 UJ	<3.0 U
Calcium		2850 J	12000	3650 J	48700
Chromium		8.5 J	35.2	<5.0 U	26.5
Cobalt		<9.0 U	<9.0 U	<9.0 U	<9.0 U
Copper		<7.8 UJ	29.9 J	18.1 J	4.1 J
Cyanide		<10.0 U	<10.0 U	<10.0 U	<10.0 U
Iron		2180	4900	1170	3550
Lead		1.3 J	4.3 J	<1.0 UJ	19.2
Magnesium		1470 J	3800 J	738 J	3870 J
Manganese		13.8 J	22.0	18.0	24.6
Mercury		<0.20 U	<0.20 U	<0.20 U	<0.20 U
Nickel		<12.0 U	26.0 J	<12.0 U	<12.0 U
Potassium		642 J	2400 J	1150 J	3760 J
Selenium		<2.0 U	4.5 J	<2.0 UJ	<2.0 U
Silver		<3.0 UJ	<3.0 UJ	<3.0 UJ	<3.0 U
Sodium		10200	5540	8550	7130
Sulfide		<1000 U	<1000 U	<1000 U	<1000 U
Thallium		<1.0 UJ	<1.0 UJ	<1.0 UJ	<1.0 U
Tin		<13 U	<13 U	<13 U	---
Vanadium		<5.0 UJ	12.5 J	<5.0 UJ	6.0 J
Zinc		<17.4 U	<44.7 U	<42.3 U	<14.5 U

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Inorganic Analytes
GROUNDWATER SAMPLES
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Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW02	21GW02	22AGW02	22BGW02
	DATE	04/06/94	04/06/94	04/05/94	04/05/94
Aluminum		4290	7590	3150 J	450 J
Antimony		<3.0 U	<3.0 U	<3.0 U	<3.0 U
Arsenic		2.9 J	7.1 J	1.2 J	1.5 J
Barium		63.7 J	198 J	16.7 J	25.7 J
Beryllium		<2.0 U	<2.0 U	<2.0 U	<2.0 U
Cadmium		<3.0 UJ	<3.0 UJ	<3.0 U	<3.0 U
Calcium		9310	32900	32900	4310 J
Chromium		40.6	16.5	20.1	9.1 J
Cobalt		<9.0 U	<9.0 U	<9.0 U	<9.0 U
Copper		20.3 J	<5.7 UJ	8.4 J	11.5 J
Cyanide		<10.0 U	<10.0 U	<10.0 U	<10.0 U
Iron		3120	9610	8770	689
Lead		7.7 J	3.4 J	1.1 J	1.3 J
Magnesium		4730 J	17800	10600	835 J
Manganese		29.2	69.3	129	12.1 J
Mercury		<0.20 U	<0.20 U	<0.20 U	<0.20 U
Nickel		13.0 J	<12.0 U	<12.0 U	<13.7 U
Potassium		1040 J	1610 J	11800	17200
Selenium		<2.0 U	<2.0 U	<2.0 U	<2.0 U
Silver		<3.0 UJ	<3.0 UJ	<3.0 U	<3.0 U
Sodium		35300	23900	8390	35700
Sulfide		<1000 U	3000	<1000 U	<1000 U
Thallium		<1.0 UJ	<1.0 UJ	<1.0 U	<1.0 U
Tin		<13 U	<13 U	---	---
Vanadium		<5.0 UJ	<5.0 UJ	<5.0 U	5.5 J
Zinc		<38.4 U	<43.8 U	<19.0 U	41.3

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Inorganic Analytes
GROUNDWATER SAMPLES
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Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW02	03BGW02	03CGW02	04GW02
	DATE	04/05/94	04/05/94	04/05/94	04/07/94
Aluminum		12200 J	13100 J	162 J	2960
Antimony		<3.0 U	<3.0 U	<3.0 U	<3.0 U
Arsenic		<1.0 U	10.9	<1.0 U	1.2 J
Barium		24.2 J	99.1 J	11.4 J	6.7 J
Beryllium		<2.0 U	<2.0 U	<2.0 U	<2.0 U
Cadmium		<3.0 U	<3.0 U	<3.3 U	<3.0 UJ
Calcium		230000	1620 J	50100	125000
Chromium		5.6 J	73.1	8.7 J	<5.0 U
Cobalt		<9.0 U	9.6 J	10.3 J	<9.0 U
Copper		<3.0 U	21.3 J	3.2 J	<6.6 UJ
Cyanide		<10.0 U	<10.0 U	<10.0 U	<10.0 U
Iron		5870	9200	<194 U	388
Lead		4.1	8.1	<1.0 U	<1.0 UJ
Magnesium		7710	793 J	6640	3480 J
Manganese		371	59.9	7.2 J	39.7
Mercury		<0.20 U	<0.20 U	<0.20 U	<0.20 U
Nickel		<12.0 U	46.6	<12.0 U	<12.0 U
Potassium		3710 J	8360	8000	1850 J
Selenium		<2.0 U	<2.0 U	<2.0 UJ	<2.0 U
Silver		<3.0 U	<3.0 U	<3.0 U	<3.0 UJ
Sodium		5890	34700	25400	3840 J
Sulfide		<1000 U	<1000 U	<1000 U	<1000 U
Thallium		<1.0 U	<1.0 U	<1.0 U	<1.0 UJ
Tin		---	---	---	<13 U
Vanadium		<5.0 U	18.4 J	<5.0 U	<5.0 UJ
Zinc		<29.6 U	57.8	<11.4 U	<64.7 U

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Inorganic Analytes
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-5 05GW02 04/07/94	KBA-11-6 06GW02 04/07/94	KBA-11-7 07GW02 04/06/94	KBA-11-8A 08AGW02 04/06/94
Aluminum		64100	6060	12100	35700 J
Antimony		<3.0 U	<3.0 U	<3.0 U	<3.0 U
Arsenic		2.7 J	<1.0 U	<1.0 U	3.1 J
Barium		81.4 J	13.4 J	31.0 J	40.2 J
Beryllium		<2.0 U	<2.0 U	<2.0 U	<2.0 U
Cadmium		<3.0 UJ	<3.0 UJ	<3.0 UJ	3.7 J
Calcium		6170	3320 J	2780 J	71600
Chromium		63.9	6.3 J	10.4	44.7
Cobalt		<9.0 U	<9.0 U	<9.0 U	<9.0 U
Copper		42.4	<3.0 UJ	16.9 J	15.9 J
Cyanide		<10.0 U	<10.0 U	<10.0 U	<10.0 U
Iron		7890	812	542	18700
Lead		27.3 J	3.4 J	5.3 J	9.6
Magnesium		4130 J	950 J	444 J	13100
Manganese		37.0	15.9	8.9 J	196
Mercury		0.44	<0.20 U	<0.20 U	0.26
Nickel		<12.0 U	<12.0 U	<12.0 U	<17.2 U
Potassium		2940 J	1340 J	1410 J	12000
Selenium		<2.0 UJ	<2.0 U	2.5 J	2.0 J
Silver		<3.0 UJ	<3.0 UJ	<3.0 UJ	<3.0 U
Sodium		2810 J	2780 J	5150	18400
Sulfide		<1000 U	<1000 U	<1000 U	<1000 U
Thallium		<1.0 UJ	<1.0 UJ	<1.0 UJ	<1.0 U
Tin		<13 U	<13 U	<13 U	---
Vanadium		46.8 J	<5.0 UJ	<5.0 UJ	19.1 J
Zinc		164	<18.8 U	<34.6 U	<30.5 U

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Inorganic Analytes
GROUNDWATER SAMPLES
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Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW02	08CGW02	09GW02
	DATE	04/06/94	04/06/94	04/05/94
Aluminum		1060 J	5630 J	48500 J
Antimony		<3.0 U	<3.0 U	<3.0 U
Arsenic		2.4 J	2.0 J	1.3 J
Barium		47.5 J	45.8 J	51.0 J
Beryllium		<2.0 U	<2.0 U	<2.0 U
Cadmium		<3.0 U	4.8 J	<3.0 U
Calcium		5050	5310	10700
Chromium		10.5	17.8	53.9
Cobalt		<9.0 U	<9.0 U	<9.0 U
Copper		<3.0 U	11.8 J	14.3 J
Cyanide		<10.0 U	<10.0 U	<10.0 U
Iron		4910	3810	2470
Lead		<1.0 U	3.6 J	13.7
Magnesium		2180 J	1140 J	2400 J
Manganese		43.6	20.6	9.9 J
Mercury		<0.20 U	<0.20 U	0.28
Nickel		<12.0 U	<12.0 U	<12.0 U
Potassium		5420	1270 J	4700 J
Selenium		<2.0 U	<2.0 U	2.1 J
Silver		<3.0 U	<3.0 U	6.4 J
Sodium		43700	7420	4410 J
Sulfide		<1000 U	<1000 U	<1000 U
Thallium		<1.0 U	<1.0 U	<1.0 U
Tin		---	---	---
Vanadium		<5.0 U	6.6 J	25.3 J
Zinc		57.9	68.1	<18.3 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
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Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW02	10AGW02	10BGW02	10CGW02
	DATE	04/05/94	04/07/94	04/05/94	04/07/94
Acetone		<5 UR	<5 UR	<10 UR	<5 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	0.4 J	1	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	1	1	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 UR	<1 U	<1 UR	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	4	2	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	0.6 J	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	<1 U	2	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW02	10AGW02	10BGW02	10CGW02
	DATE	04/05/94	04/07/94	04/05/94	04/07/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	12	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<5 U	<5 U	<5 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	0.7 J	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	<1 U	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	3	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW02	11BGW02	11CGW02	12GW02
	DATE	04/05/94	04/05/94	04/05/94	04/06/94
Acetone		<26 UR	<50 U	<15 UR	<5 UR
Acetonitrile		---	<50 U	---	---
Acrolein		---	<50 UR	---	---
Acrylonitrile		---	<50 U	---	---
3-Chloro-1-propene		---	<5.0 U	---	---
Benzene		<1 U	<5.0 U	<1 U	<1 U
Bromochloromethane		<1 U	---	<1 U	<1 U
Bromodichloromethane		<1 U	<5.0 U	<1 U	<1 U
Bromoform		<1 U	<5.0 U	<1 U	<1 U
Bromomethane		<1 U	<10 U	<1 U	<1 U
2-Butanone		<5 UR	<50 U	<5 UR	<5 UR
Carbon disulfide		<1 U	<5.0 U	<1 U	<1 U
Carbon tetrachloride		<1 U	<5.0 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	<5.0 U	---	---
Chlorobenzene		<1 U	<5.0 U	<1 U	<1 U
Chloroethane		<1 U	<10 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<5.0 U	<1 U	<1 U
Chloromethane		<1 U	<10 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<5.0 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 UR	<10 U	<1 UR	<1 UR
1,2-Dibromoethane		<1 U	<5.0 U	<1 U	<1 U
Dibromomethane		---	<5.0 U	---	---
1,2-Dichlorobenzene (VOA)		<1 U	---	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	---	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	---	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	<5.0 U	---	---
1,1-Dichloroethane		<1 U	<5.0 U	<1 U	<1 U
1,2-Dichloroethane		<1 U	<5.0 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<5.0 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	<5.0 U	---	---
cis-1,2-Dichloroethene		<1 U	---	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	---	<1 U	<1 U
1,2-Dichloropropane		<1 U	<5.0 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW02	11BGW02	11CGW02	12GW02
	DATE	04/05/94	04/05/94	04/05/94	04/06/94
cis-1,3-Dichloropropene		<1 U	<5.0 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<5.0 U	<1 U	<1 U
1,4-Dioxane		---	<1000 UR	---	---
Ethylbenzene		<1 U	<5.0 U	<1 U	<1 U
Ethyl methacrylate		---	<5.0 U	---	---
2-Hexanone		<5 U	<50 U	<5 U	<5 U
Iodomethane		---	<10 U	---	---
Isobutyl alcohol		---	<500 UR	---	---
Methacrylonitrile		---	<20 U	---	---
Methyl methacrylate		---	<5.0 U	---	---
4-Methyl-2-pentanone		<5 U	<50 U	<5 U	<5 U
Methylene chloride		<2 U	<5.0 U	<2 U	<2 U
Pentachloroethane		---	<50 U	---	---
Propionitrile		---	<20 U	---	---
Styrene		<1 U	<5.0 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	<5.0 U	---	---
1,1,2,2-Tetrachloroethane		<1 U	<5.0 U	<1 U	<1 U
Tetrachloroethene		<1 U	<5.0 U	<1 U	<1 U
Toluene		<1 U	<5.0 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<5.0 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<5.0 U	<1 U	<1 U
Trichloroethene		<1 U	<5.0 U	<1 U	<1 U
Trichlorofluoromethane		---	<5.0 UJ	---	---
1,2,3-Trichloropropane		---	<5.0 U	---	---
Vinyl acetate		---	<50 UJ	---	---
Vinyl chloride		<1 U	<10 U	<1 U	<1 U
Xylene (total)		<1 U	<5.0 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
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Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW02	13BGW02	14GW02	15GW02
	DATE	04/09/94	04/09/94	04/06/94	04/06/94
Acetone		<830 U	<5 UR	<5 UR	<8 UR
Acetonitrile		<830 U	---	---	---
Acrolein		<830 UR	---	---	---
Acrylonitrile		<830 UJ	---	---	---
3-Chloro-1-propene		<83 U	---	---	---
Benzene		<83 U	<1 U	<1 U	<1 U
Bromochloromethane		---	<1 U	<1 U	<1 U
Bromodichloromethane		<83 U	<1 U	<1 U	<1 U
Bromoform		<83 U	<1 U	<1 U	<1 U
Bromomethane		<170 U	<1 U	<1 U	<1 U
2-Butanone		<830 U	<5 UR	<5 UR	<5 UR
Carbon disulfide		<83 U	<1 U	<1 U	<1 U
Carbon tetrachloride		<83 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		<83 U	---	---	---
Chlorobenzene		<83 U	<1 U	<1 U	<1 U
Chloroethane		<170 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<83 U	<1 U	<1 U	<1 U
Chloromethane		<170 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<83 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<170 U	<1 UR	<1 UR	<1 UR
1,2-Dibromoethane		<83 U	<1 U	<1 U	<1 U
Dibromomethane		<83 U	---	---	---
1,2-Dichlorobenzene (VOA)		---	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		---	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		---	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		<83 U	---	---	---
1,1-Dichloroethane		<83 U	<1 U	<1 U	<1 U
1,2-Dichloroethane		<83 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<83 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		1800	---	---	---
cis-1,2-Dichloroethene		---	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene		---	<1 U	<1 U	<1 U
1,2-Dichloropropane		<83 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW02	13BGW02	14GW02	15GW02
	DATE	04/09/94	04/09/94	04/06/94	04/06/94
cis-1,3-Dichloropropene		<83 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<83 U	<1 U	<1 U	<1 U
1,4-Dioxane		<17000 U	---	---	---
Ethylbenzene		120	<1 U	<1 U	<1 U
Ethyl methacrylate		<83 U	---	---	---
2-Hexanone		<830 U	<5 U	<5 U	<5 U
Iodomethane		<170 U	---	---	---
Isobutyl alcohol		<8300 U	---	---	---
Methacrylonitrile		<330 U	---	---	---
Methyl methacrylate		<83 U	---	---	---
4-Methyl-2-pentanone		<830 U	<5 U	<5 U	<5 U
Methylene chloride		<83 U	<2 U	<2 U	<2 U
Pentachloroethane		<50 U	---	---	---
ropionitrile		<330 U	---	---	---
Styrene		<83 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		<83 U	---	---	---
1,1,2,2-Tetrachloroethane		<83 U	<1 U	<1 U	<1 U
Tetrachloroethene		580	<1 U	<1 U	<1 U
Toluene		89	<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<83 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<83 U	<1 U	<1 U	<1 U
Trichloroethene		2400	<1 U	<1 U	<1 U
Trichlorofluoromethane		<83 U	---	---	---
1,2,3-Trichloropropane		<83 U	---	---	---
Vinyl acetate		<830 UR	---	---	---
Vinyl chloride		110 J	<1 U	<1 U	<1 U
Xylene (total)		200	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW02	17AGW02	17BGW02	17CGW02
	DATE	04/07/94	04/06/94	04/07/94	04/06/94
Acetone		84	<5 UR	<7 UR	<11 UR
Acetonitrile		<84 U	---	---	---
Acrolein		<84 UR	---	---	---
Acrylonitrile		<84 UJ	---	---	---
3-Chloro-1-propene		<8.4 U	---	---	---
Benzene		<8.4 U	<1 U	<1 U	<1 U
Bromochloromethane		---	<1 U	<1 U	<1 U
Bromodichloromethane		<8.4 U	<1 U	<1 U	<1 U
Bromoform		<8.4 U	<1 U	<1 U	<1 U
Bromomethane		<17 U	<1 U	<1 U	<1 U
2-Butanone		200	<5 UR	<5 UR	<5 UR
Carbon disulfide		<8.4 U	<1 U	<1 U	<1 U
Carbon tetrachloride		<8.4 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		<8.4 U	---	---	---
Chlorobenzene		<8.4 U	<1 U	<1 U	<1 U
Chloroethane		<17 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<8.4 U	<1 U	<1 U	<1 U
Chloromethane		<17 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<8.4 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<17 U	<1 UR	<1 U	<1 U
1,2-Dibromoethane		<8.4 U	<1 U	<1 U	<1 U
Dibromomethane		<8.4 U	---	---	---
1,2-Dichlorobenzene (VOA)		---	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		---	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		---	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		<8.4 U	---	---	---
1,1-Dichloroethane		11	<1 U	<1 U	<1 U
1,2-Dichloroethane		<8.4 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<8.4 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		4.0 J	---	---	---
cis-1,2-Dichloroethene		---	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene		---	<1 U	<1 U	<1 U
1,2-Dichloropropane		<8.4 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW02	17AGW02	17BGW02	17CGW02
	DATE	04/07/94	04/06/94	04/07/94	04/06/94
cis-1,3-Dichloropropene		<8.4 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<8.4 U	<1 U	<1 U	<1 U
1,4-Dioxane		<1700 U	---	---	---
Ethylbenzene		<8.4 U	<1 U	<1 U	<1 U
Ethyl methacrylate		<8.4 U	---	---	---
2-Hexanone		<84 U	<5 U	<5 U	<5 U
Iodomethane		<17 U	---	---	---
Isobutyl alcohol		<840 U	---	---	---
Methacrylonitrile		<33 U	---	---	---
Methyl methacrylate		<8.4 U	---	---	---
4-Methyl-2-pentanone		290	<5 U	6	<5 U
Methylene chloride		11	<2 U	0.5 J	<2 U
Pentachloroethane		<50 U	---	---	---
Propionitrile		<33 U	---	---	---
Styrene		<8.4 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		<8.4 U	---	---	---
1,1,2,2-Tetrachloroethane		<8.4 U	<1 U	<1 U	<1 U
Tetrachloroethene		<8.4 U	<1 U	<1 U	<1 U
Toluene		24	<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<8.4 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<8.4 U	<1 U	<1 U	<1 U
Trichloroethene		<8.4 U	<1 U	<1 U	<1 U
Trichlorofluoromethane		<8.4 U	---	---	---
1,2,3-Trichloropropane		<8.4 U	---	---	---
Vinyl acetate		<84 UR	---	---	---
Vinyl chloride		<17 U	<1 U	<1 U	<1 U
Xylene (total)		5.4 J	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW02	19AGW02	19BGW02	02GW02
	DATE	04/06/94	04/07/94	04/06/94	04/09/94
Acetone		<9 UR	<5 UR	120 J	<8 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	<1 U	<1 U	<2 U
Bromochloromethane		<1 U	<1 U	<1 U	<2 U
Bromodichloromethane		<1 U	<1 U	<1 U	<2 U
Bromoform		<1 U	<1 U	<1 U	<2 U
Bromomethane		<1 U	<1 U	<1 U	<2 U
2-Butanone		<5 UR	<5 UR	<6 UR	<8 UR
Carbon disulfide		<1 U	<1 U	<1 U	<2 U
Carbon tetrachloride		<1 U	<1 U	<1 U	<2 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<1 U	<1 U	<2 U
Chloroethane		<1 U	<1 U	<1 U	<2 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<2 U
Chloromethane		<1 U	<1 U	<1 U	<2 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<2 U
1,2-Dibromo-3-chloropropane		<1 UR	<1 U	<1 U	<2 UR
1,2-Dibromoethane		<1 U	<1 U	<1 U	<2 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<2 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<2 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	0.8 J
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	<2 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<2 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<2 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	0.8 J	<1 U	10
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<2 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<2 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW02	19AGW02	19BGW02	02GW02
	DATE	04/06/94	04/07/94	04/06/94	04/09/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<2 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<2 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	<1 U	<2 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<5 U	<6 U	<8 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		10	<5 U	<6 U	<8 U
Methylene chloride		<2 U	<2 U	<2 U	<3 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<2 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<2 U
Tetrachloroethene		<1 U	<1 U	<1 U	<2 U
Toluene		<1 U	<1 U	<1 U	0.7 J
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<2 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<2 U
Trichloroethene		<1 U	<1 U	<1 U	<2 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	33
Xylene (total)		<1 U	<1 U	<1 U	<2 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW02	21GW02	22AGW02	22BGW02
	DATE	04/06/94	04/06/94	04/05/94	04/05/94
Acetone		<7 UR	<14 UR	<5 UR	82 J
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	<1 U	0.6 J	4
Bromochloromethane		<1 U	<1 U	<1 U	<2 U
Bromodichloromethane		<1 U	<1 U	<1 U	<2 U
Bromoform		<1 U	<1 U	<1 U	<2 U
Bromomethane		<1 U	<1 U	<1 U	<2 U
2-Butanone		<5 UR	<5 UR	<5 UR	<12 UR
Carbon disulfide		<1 U	<1 U	<1 U	<2 U
Carbon tetrachloride		<1 U	<1 U	<1 U	<2 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<1 U	4	<2 U
Chloroethane		<1 U	<1 U	<1 U	<2 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<2 U
Chloromethane		<1 U	<1 U	<1 U	<2 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<2 U
1,2-Dibromo-3-chloropropane		<1 UR	<1 UR	<1 UR	<2 UR
1,2-Dibromoethane		<1 U	<1 U	<1 U	<2 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<2 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<2 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	5	<2 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	<2 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<2 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<2 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<2 U	<1 U	<1 U	18
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<2 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<2 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW02	21GW02	22AGW02	22BGW02
	DATE	04/06/94	04/06/94	04/05/94	04/05/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<2 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<2 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	<1 U	44
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<5 U	<5 U	<12 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<12 U
Methylene chloride		<2 U	<2 U	<2 U	<5 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<2 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<2 U
Tetrachloroethene		<1 U	<1 U	<1 U	<2 U
Toluene		<1 U	<1 U	<1 U	4
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<2 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<2 U
Trichloroethene		<1 U	<1 U	<1 U	<2 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<2 U
Xylene (total)		<1 U	<1 U	<1 U	5

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW02	03BGW02	03CGW02	04GW02
	DATE	04/09/94	04/05/94	04/05/94	04/07/94
Acetone		<5 UR	<5 UR	<5 UR	<5 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	6	<1 U	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		3	<1 U	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 UR	<1 UR	<1 UR	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		7	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	18	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW02	03BGW02	03CGW02	04GW02
	DATE	04/09/94	04/05/94	04/05/94	04/07/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	9	<1 U	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<5 U	<5 U	<5 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	0.9 J	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		<1 U	0.8 J	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	0.6 J	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	2	<1 U	<1 U

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Validated

Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW02	06GW02	07GW02	08AGW02
	DATE	04/07/94	04/07/94	04/06/94	04/06/94
Acetone		<5 UR	<5 UR	<5 UR	<5 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	<1 U	<1 U	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		<1 U	<1 U	<1 U	<1 U
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<1 U	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 UR	<1 UR
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	0.5 J	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW02	06GW02	07GW02	08AGW02
	DATE	04/07/94	04/07/94	04/06/94	04/06/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	<1 U	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<5 U	<5 U	<5 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	<1 U	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW02	08CGW02	09GW02
	DATE	04/06/94	04/06/94	04/05/94
Acetone		<11 UR	<5 UR	<5 UR
Acetonitrile		---	---	---
Acrolein		---	---	---
Acrylonitrile		---	---	---
3-Chloro-1-propene		---	---	---
Benzene		0.5 J	<1 U	<1 U
Bromochloromethane		<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR
Carbon disulfide		<1 U	<1 U	<1 U
Carbon tetrachloride		<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---
Chlorobenzene		<1 U	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---
Chloroform		<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 UR	<1 UR	<1 UR
1,2-Dibromoethane		<1 U	<1 U	<1 U
Dibromomethane		---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---
1,1-Dichloroethane		3	<1 U	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---
cis-1,2-Dichloroethene		2	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW02	08CGW02	09GW02
	DATE	04/06/94	04/06/94	04/05/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---
Ethylbenzene		2	<1 U	<1 U
Ethyl methacrylate		---	---	---
2-Hexanone		<5 U	<5 U	<5 U
Iodomethane		---	---	---
Isobutyl alcohol		---	---	---
Methacrylonitrile		---	---	---
Methyl methacrylate		---	---	---
4-Methyl-2-pentanone		1 J	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U
Pentachloroethane		---	---	---
opionitrile		---	---	---
Styrene		<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U
Trichloroethene		1	<1 U	<1 U
Trichlorofluoromethane		---	---	---
1,2,3-Trichloropropane		---	---	---
Vinyl acetate		---	---	---
Vinyl chloride		<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	<1 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-1 01GW02 04/05/94	KBA-11-10A 10AGW02 04/07/94	KBA-11-10B 10BGW02 04/05/94	KBA-11-10C 10CGW02 04/07/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	<10 U	<10 U	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-1 01GW02 04/05/94	KBA-11-10A 10AGW02 04/07/94	KBA-11-10B 10BGW02 04/05/94	KBA-11-10C 10CGW02 04/07/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	3 J	2 J	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	0.5 J	4 J	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<10 U	0.5 J	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW02	10AGW02	10BGW02	10CGW02
	DATE	04/05/94	04/07/94	04/05/94	04/07/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	3 J	3 J	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	0.8 J	0.9 J
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW02	10AGW02	10BGW02	10CGW02
	DATE	04/05/94	04/07/94	04/05/94	04/07/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-11A 11AGW02 04/05/94	KBA-11-11B 11BGW02 04/05/94	KBA-11-11C 11CGW02 04/05/94	KBA-11-12 12GW02 04/06/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	<10 U	---	---
2-Acetylaminofluorene		---	<20 U	---	---
4-Aminobiphenyl		---	<50 U	---	---
Aniline		---	<10 U	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	<50 UR	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	<10 U	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	<10 U	12	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	---	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW02	11BGW02	11CGW02	12GW02
	DATE	04/05/94	04/05/94	04/05/94	04/06/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<20 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	<10 U	---	---
Diethyl phthalate		<10 U	<10 U	0.8 J	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	<100 U	---	---
p-(Dimethylamino)azobenzene		---	<20 U	---	---
3,3'-Dimethylbenzidine		---	<50 U	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	<10 U	---	---
4,6-Dinitro-2-methylphenol		<25 U	<50 U	<25 U	<25 U
'-Dinitrophenol		<25 U	<50 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	<10 U	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	<10 U	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	<100 U	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	<10 U	---	---
Methapyrilene		---	<100 U	---	---
Methyl methanesulfonate		---	<10 U	---	---
3-Methylcholanthrene		---	<100 U	---	---
Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW02	11BGW02	11CGW02	12GW02
	DATE	04/05/94	04/05/94	04/05/94	04/06/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	<10 U	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	<200 U	---	---
1-Naphthylamine		---	<10 U	---	---
2-Naphthylamine		---	<10 U	---	---
2-Nitroaniline		<25 U	<50 U	<25 U	<25 U
3-Nitroaniline		<25 U	<50 U	<25 U	<25 U
4-Nitroaniline		<25 U	<50 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	<10 U	---	---
4-Nitroquinoline-1-oxide		---	<100 U	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<50 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	<10 U	---	---
N-Nitrosodiethylamine		---	<10 U	---	---
N-Nitrosodimethylamine		---	<10 U	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	<10 U	---	---
N-Nitrosomorpholine		---	<10 U	---	---
N-Nitrosopiperidine		---	<10 U	---	---
N-Nitrosopyrrolidine		---	<10 U	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	<10 U	---	---
Pentachloronitrobenzene		---	<50 U	---	---
Pentachlorophenol		<25 U	<50 U	<25 U	<25 U
Phenacetin		---	<50 U	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	<50 U	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW02	11BGW02	11CGW02	12GW02
	DATE	04/05/94	04/05/94	04/05/94	04/06/94
p-Phenylene diamine		---	<50 U	---	---
2-Picoline		---	<20 U	---	---
Pronamide		---	<20 U	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	<10 U	---	---
Safrole, total		---	<10 U	---	---
1,2,4,5-Tetrachlorobenzene		---	<10 U	---	---
2,3,4,6-Tetrachlorophenol		---	<50 U	---	---
o-Toluidine		---	<10 U	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<10 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	<50 U	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW02	13BGW02	14GW02	15GW02
	DATE	04/09/94	04/09/94	04/06/94	04/06/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		<10 U	---	---	---
2-Acetylaminofluorene		<20 U	---	---	---
4-Aminobiphenyl		<50 U	---	---	---
Aniline		<10 U	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		<50 U	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		<10 U	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		24	80	<10 U	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		---	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		1.1 J	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW02	13BGW02	14GW02	15GW02
	DATE	04/09/94	04/09/94	04/06/94	04/06/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<20 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		<10 U	---	---	---
Diethyl phthalate		7.1 J	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		<100 U	---	---	---
p-(Dimethylamino)azobenzene		<20 U	---	---	---
3,3'-Dimethylbenzidine		<50 U	---	---	---
2,4-Dimethylphenol		19	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		<10 U	---	---	---
4,6-Dinitro-2-methylphenol		<50 U	<25 U	<25 U	<25 U
4-Dinitrophenol		<50 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		<10 U	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		<10 U	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		<100 U	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		<10 U	---	---	---
Methapyrilene		<100 U	---	---	---
Methyl methanesulfonate		<10 U	---	---	---
3-Methylcholanthrene		<100 U	---	---	---
Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW02	13BGW02	14GW02	15GW02
	DATE	04/09/94	04/09/94	04/06/94	04/06/94
2-Methylphenol		1.5 J	<10 U	<10 U	<10 U
3-Methylphenol		<10 U	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		12	<10 U	<10 U	<10 U
Naphthalene		47	<10 U	<10 U	<10 U
1,4-Naphthoquinone		<200 U	---	---	---
1-Naphthylamine		<10 U	---	---	---
2-Naphthylamine		<10 U	---	---	---
2-Nitroaniline		<50 U	<25 U	<25 U	<25 U
3-Nitroaniline		<50 U	<25 U	<25 U	<25 U
4-Nitroaniline		<50 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		<10 U	---	---	---
4-Nitroquinoline-1-oxide		<100 U	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<50 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		<10 U	---	---	---
N-Nitrosodiethylamine		<10 U	---	---	---
N-Nitrosodimethylamine		<10 U	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		<10 U	---	---	---
N-Nitrosomorpholine		<10 U	---	---	---
N-Nitrosopiperidine		<10 U	---	---	---
N-Nitrosopyrrolidine		<10 U	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		<10 U	---	---	---
Pentachloronitrobenzene		<50 U	---	---	---
Pentachlorophenol		<50 U	<25 U	<25 U	<25 U
Phenacetin		<50 U	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		<50 U	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW02	13BGW02	14GW02	15GW02
	DATE	04/09/94	04/09/94	04/06/94	04/06/94
p-Phenylene diamine		<50 U	---	---	---
2-Picoline		<20 U	---	---	---
Pronamide		<20 U	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		<10 U	---	---	---
Safrole, total		<10 U	---	---	---
1,2,4,5-Tetrachlorobenzene		<10 U	---	---	---
2,3,4,6-Tetrachlorophenol		<50 U	---	---	---
o-Toluidine		<10 UJ	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<10 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		<50 U	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW02	17AGW02	17BGW02	17CGW02
	DATE	04/07/94	04/06/94	04/07/94	04/06/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		<10 U	---	---	---
2-Acetylaminofluorene		<20 U	---	---	---
4-Aminobiphenyl		<50 U	---	---	---
Aniline		<10 U	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		<50 U	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		<10 U	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	<10 U	<10 U	8 J
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		---	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW02	17AGW02	17BGW02	17CGW02
	DATE	04/07/94	04/06/94	04/07/94	04/06/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<20 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		<10 U	---	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		<100 U	---	---	---
p-(Dimethylamino)azobenzene		<20 U	---	---	---
3,3'-Dimethylbenzidine		<50 UR	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		<10 U	---	---	---
4,6-Dinitro-2-methylphenol		<50 U	<25 U	<25 U	<25 U
4-Dinitrophenol		<50 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		<10 U	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		<10 U	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		<100 U	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		<10 U	---	---	---
Methapyrilene		<100 U	---	---	---
Methyl methanesulfonate		<10 U	---	---	---
3-Methylcholanthrene		<100 U	---	---	---
Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-16 16GW02 04/07/94	KBA-11-17A 17AGW02 04/06/94	KBA-11-17B 17BGW02 04/07/94	KBA-11-17C 17CGW02 04/06/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		<10 U	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		270	<10 U	4 J	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		<200 U	---	---	---
1-Naphthylamine		<10 U	---	---	---
2-Naphthylamine		<10 U	---	---	---
2-Nitroaniline		<50 U	<25 U	<25 U	<25 U
3-Nitroaniline		<50 U	<25 U	<25 U	<25 U
4-Nitroaniline		<50 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		<10 U	---	---	---
4-Nitroquinoline-1-oxide		<100 U	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<50 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		<10 U	---	---	---
N-Nitrosodiethylamine		<10 U	---	---	---
N-Nitrosodimethylamine		<10 U	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		<10 U	---	---	---
N-Nitrosomorpholine		<10 U	---	---	---
N-Nitrosopiperidine		<10 U	---	---	---
N-Nitrosopyrrolidine		<10 UJ	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		<10 U	---	---	---
Pentachloronitrobenzene		<50 U	---	---	---
Pentachlorophenol		<50 U	<25 U	<25 U	<25 U
Phenacetin		<50 U	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		40	<10 U	2 J	<10 U
Phenyl-tert-butylamine		<50 U	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW02	17AGW02	17BGW02	17CGW02
	DATE	04/07/94	04/06/94	04/07/94	04/06/94
p-Phenylene diamine		<50 U	---	---	---
2-Picoline		<20 U	---	---	---
Pronamide		<20 U	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		<10 U	---	---	---
Safrole, total		<10 U	---	---	---
1,2,4,5-Tetrachlorobenzene		<10 U	---	---	---
2,3,4,6-Tetrachlorophenol		<50 U	---	---	---
o-Toluidine		<10 UJ	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<10 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		<50 UR	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW02	19AGW02	19BGW02	02GW02
	DATE	04/06/94	04/07/94	04/06/94	04/09/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		15	<10 U	<10 U	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-18 18GW02 04/06/94	KBA-11-19A 19AGW02 04/07/94	KBA-11-19B 19BGW02 04/06/94	KBA-11-2 02GW02 04/09/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW02	19AGW02	19BGW02	02GW02
	DATE	04/06/94	04/07/94	04/06/94	04/09/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW02	19AGW02	19BGW02	02GW02
	DATE	04/06/94	04/07/94	04/06/94	04/09/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW02	21GW02	22AGW02	22BGW02
	DATE	04/06/94	04/06/94	04/05/94	04/05/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	12	8 J	18
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	0.6 J	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW02	21GW02	22AGW02	22BGW02
	DATE	04/06/94	04/06/94	04/05/94	04/05/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	4 J	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	0.5 J	0.6 J	8 J
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Validated

Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW02	21GW02	22AGW02	22BGW02
	DATE	04/06/94	04/06/94	04/05/94	04/05/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	6 J
Naphthalene		<10 U	<10 U	0.8 J	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	0.8 J	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW02	21GW02	22AGW02	22BGW02
	DATE	04/06/94	04/06/94	04/05/94	04/05/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW02	03BGW02	03CGW02	04GW02
	DATE	04/09/94	04/05/94	04/05/94	04/07/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	<10 U	<10 U	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW02	03BGW02	03CGW02	04GW02
	DATE	04/09/94	04/05/94	04/05/94	04/07/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		8 J	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		0.6 J	8 J	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
1-Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Validated

Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW02	03BGW02	03CGW02	04GW02
	DATE	04/09/94	04/05/94	04/05/94	04/07/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW02	03BGW02	03CGW02	04GW02
	DATE	04/09/94	04/05/94	04/05/94	04/07/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW02	06GW02	07GW02	08AGW02
	DATE	04/07/94	04/07/94	04/06/94	04/06/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	<10 U	<10 U	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW02	06GW02	07GW02	08AGW02
	DATE	04/07/94	04/07/94	04/06/94	04/06/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW02	06GW02	07GW02	08AGW02
	DATE	04/07/94	04/07/94	04/06/94	04/06/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW02	06GW02	07GW02	08AGW02
	DATE	04/07/94	04/07/94	04/06/94	04/06/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW02	08CGW02	09GW02
	DATE	04/06/94	04/06/94	04/05/94
Acenaphthene		<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U
Acetophenone		---	---	---
2-Acetylaminofluorene		---	---	---
4-Aminobiphenyl		---	---	---
Aniline		---	---	---
Anthracene		<10 U	<10 U	<10 U
Aramite, total		---	---	---
Benzidine		---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U
Benzoic acid		---	---	---
Benzyl alcohol		---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	<10 U	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW02	08CGW02	09GW02
	DATE	04/06/94	04/06/94	04/05/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---
Diethyl phthalate		1 J	0.8 J	0.5 J
Dimethyl phthalate		<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---
p-(Dimethylamino)azobenzene		---	---	---
3,3'-Dimethylbenzidine		---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U
4-Dinitrophenol		<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U
Diphenylamine		---	---	---
1,2-Diphenylhydrazine		---	---	---
Ethyl methanesulfonate		---	---	---
Fluoranthene		<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U
Hexachlorophene		---	---	---
Hexachloropropene		---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U
Isosafrole, total		---	---	---
Methapyrilene		---	---	---
Methyl methanesulfonate		---	---	---
3-Methylcholanthrene		---	---	---
Methylnaphthalene		<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-8B 08BGW02 04/06/94	KBA-11-8C 08CGW02 04/06/94	KBA-11-9 09GW02 04/05/94
2-Methylphenol		<10 U	<10 U	<10 U
3-Methylphenol		---	---	---
3-&4-Methylphenol		---	---	---
4-Methylphenol		<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---
1-Naphthylamine		---	---	---
2-Naphthylamine		---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---
4-Nitroquinoline-1-oxide		---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---
N-Nitrosodiethylamine		---	---	---
N-Nitrosodimethylamine		---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---
N-Nitrosomorpholine		---	---	---
N-Nitrosopiperidine		---	---	---
N-Nitrosopyrrolidine		---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---
Pentachlorobenzene		---	---	---
Pentachloronitrobenzene		---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U
Phenacetin		---	---	---
Phenanthrene		<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---

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R = rejected

Semivolatile Organic Compounds
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-8B 08BGW02 04/06/94	KBA-11-8C 08CGW02 04/06/94	KBA-11-9 09GW02 04/05/94
p-Phenylene diamine		---	---	---
2-Picoline		---	---	---
Pronamide		---	---	---
Pyrene		<10 U	<10 U	<10 U
Pyridine		---	---	---
Safrole, total		---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---
o-Toluidine		---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---

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Pesticides/PCBs
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW02	10AGW02	10BGW02	10CGW02
	DATE	04/05/94	04/07/94	04/05/94	04/07/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-Chlordane		<0.05 UJ	<0.05 UJ	0.01 J	<0.05 UJ
gamma-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Diallate		---	---	---	---
Dieldrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin ketone		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 UJ
Toxaphene		<5.00 UJ	<5.00 UJ	<5.00 UJ	<5.00 UJ
Aroclor-1016		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1221		<2.00 UJ	<2.00 UJ	<2.00 UJ	<2.00 UJ
Aroclor-1232		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1242		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1248		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1254		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1260		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ

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Pesticides/PCBs
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-11A 11AGW02 04/05/94	KBA-11-11B 11BGW02 04/05/94	KBA-11-11C 11CGW02 04/05/94	KBA-11-12 12GW02 04/06/94
Aldrin		<0.05 UJ	<0.050 U	0.006 NJ	<0.05 UJ
alpha-BHC		<0.05 UJ	<0.050 U	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 UJ	<0.050 U	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 UJ	<0.050 U	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ	<0.050 U	<0.05 UJ	<0.05 UJ
alpha-Chlordane		<0.05 UJ	---	<0.05 UJ	<0.05 UJ
gamma-Chlordane		<0.05 UJ	---	<0.05 UJ	<0.05 UJ
Chlordane		---	<0.50 U	---	---
Chlorobenzilate		---	<10 U	---	---
4,4'-DDD		<0.1 UJ	<0.10 U	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.1 UJ	<0.10 U	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.1 UJ	<0.10 U	<0.1 UJ	<0.1 UJ
Diallate		---	<10 U	---	---
ieldrin		<0.1 UJ	<0.10 U	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.05 UJ	<0.050 U	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.1 UJ	<0.10 U	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.1 UJ	<0.10 U	<0.1 UJ	<0.1 UJ
Endrin		<0.1 UJ	<0.10 U	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.1 UJ	<0.10 U	<0.1 UJ	<0.1 UJ
Endrin ketone		<0.1 UJ	---	<0.1 UJ	<0.1 UJ
Heptachlor		<0.05 UJ	<0.050 U	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.05 UJ	<0.050 U	<0.05 UJ	<0.05 UJ
Isodrin		---	<0.050 U	---	---
Kepone		---	<0.50 U	---	---
Methoxychlor		<0.5 UJ	<0.50 U	<0.5 UJ	<0.5 UJ
Toxaphene		<5.00 UJ	<1.4 U	<5.00 UJ	<5.00 UJ
Aroclor-1016		<1.00 UJ	<0.50 U	<1.00 UJ	<1.00 UJ
Aroclor-1221		<2.00 UJ	<0.50 U	<2.00 UJ	<2.00 UJ
Aroclor-1232		<1.00 UJ	<0.50 U	<1.00 UJ	<1.00 UJ
Aroclor-1242		<1.00 UJ	<0.50 U	<1.00 UJ	<1.00 UJ
Aroclor-1248		<1.00 UJ	<0.50 U	<1.00 UJ	<1.00 UJ
Aroclor-1254		<1.00 UJ	<1.0 U	<1.00 UJ	<1.00 UJ
Aroclor-1260		<1.00 UJ	<1.0 U	<1.00 UJ	<1.00 UJ

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Pesticides/PCBs
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW02	13BGW02	14GW02	15GW02
	DATE	04/09/94	04/09/94	04/06/94	04/06/94
Aldrin		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.050 U	<0.05 UJ	0.084 J	<0.05 UJ
delta-BHC		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-Chlordane		---	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-Chlordane		---	<0.05 UJ	<0.05 UJ	<0.05 UJ
Chlordane		<0.50 U	---	---	---
Chlorobenzilate		<10 U	---	---	---
4,4'-DDD		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Diallate		<10 U	---	---	---
Dieldrin		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin ketone		---	<0.1 UJ	<0.1 UJ	<0.1 UJ
Heptachlor		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
Isodrin		<0.050 U	---	---	---
Kepone		<0.50 U	---	---	---
Methoxychlor		<0.50 U	<0.5 UJ	<0.5 UJ	<0.5 UJ
Toxaphene		<1.3 U	<5.00 UJ	<5.00 UJ	<5.00 UJ
Aroclor-1016		<0.50 U	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1221		<0.50 U	<2.00 UJ	<2.00 UJ	<2.00 UJ
Aroclor-1232		<0.50 U	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1242		<0.50 U	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1248		<0.50 U	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1254		<1.0 U	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1260		<1.0 U	<1.00 UJ	<1.00 UJ	<1.00 UJ

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Validated

Pesticides/PCBs
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW02	17AGW02	17BGW02	17CGW02
	DATE	04/07/94	04/06/94	04/07/94	04/06/94
Aldrin		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
delta-BHC		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-Chlordane		---	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-Chlordane		---	<0.05 UJ	<0.05 UJ	<0.05 UJ
Chlordane		<0.50 U	---	---	---
Chlorobenzilate		<10 U	---	---	---
4,4'-DDD		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Diallate		<10 U	---	---	---
eldrin		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.10 U	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin ketone		---	<0.1 UJ	<0.1 UJ	<0.1 UJ
Heptachlor		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.050 U	<0.05 UJ	<0.05 UJ	<0.05 UJ
Isodrin		<0.050 U	---	---	---
Kepone		<0.50 U	---	---	---
Methoxychlor		<0.50 U	<0.5 UJ	<0.5 UJ	<0.5 UJ
Toxaphene		<1.4 U	<5.00 UJ	<5.00 UJ	<5.00 UJ
Aroclor-1016		<0.50 U	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1221		<0.50 U	<2.00 UJ	<2.00 UJ	<2.00 UJ
Aroclor-1232		<0.50 U	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1242		<0.50 U	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1248		<0.50 U	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1254		<1.0 U	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1260		<1.0 U	<1.00 UJ	<1.00 UJ	<1.00 UJ

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Validated

Pesticides/PCBs
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW02	19AGW02	19BGW02	02GW02
	DATE	04/06/94	04/07/94	04/06/94	04/09/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Diallate		---	---	---	---
Dieldrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin ketone		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 UJ
Toxaphene		<5.00 UJ	<5.00 UJ	<5.00 UJ	<5.00 UJ
Aroclor-1016		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1221		<2.00 UJ	<2.00 UJ	<2.00 UJ	<2.00 UJ
Aroclor-1232		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1242		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1248		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1254		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1260		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ

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J = *estimated concentration*

N = presumptively present

Validated

Pesticides/PCBs
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-20 20GW02 04/06/94	KBA-11-21 21GW02 04/06/94	KBA-11-22A 22AGW02 04/05/94	KBA-11-22B 22BGW02 04/05/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ	<0.05 UJ	<0.05 UJ	0.072 J
alpha-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	0.023 J
gamma-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	0.049 J
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Diallate		---	---	---	---
Dieldrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin ketone		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 UJ
Toxaphene		<5.00 UJ	<5.00 UJ	<5.00 UJ	<5.00 UJ
Aroclor-1016		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1221		<2.00 UJ	<2.00 UJ	<2.00 UJ	<2.00 UJ
Aroclor-1232		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1242		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1248		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1254		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1260		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ

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Validated

Pesticides/PCBs
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW02	03BGW02	03CGW02	04GW02
	DATE	04/09/94	04/05/94	04/05/94	04/07/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Diallate		---	---	---	---
Dieldrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin ketone		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 UJ
Toxaphene		<5.00 UJ	<5.00 UJ	<5.00 UJ	<5.00 UJ
Aroclor-1016		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1221		<2.00 UJ	<2.00 UJ	<2.00 UJ	<2.00 UJ
Aroclor-1232		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1242		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1248		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1254		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1260		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ

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Validated

Pesticides/PCBs
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW02	06GW02	07GW02	08AGW02
	DATE	04/07/94	04/07/94	04/06/94	04/06/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Diallate		---	---	---	---
Dieldrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin ketone		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.5 UJ	<0.5 UJ	<0.5 UJ	<0.5 UJ
Toxaphene		<5.00 UJ	<5.00 UJ	<5.00 UJ	<5.00 UJ
Aroclor-1016		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1221		<2.00 UJ	<2.00 UJ	<2.00 UJ	<2.00 UJ
Aroclor-1232		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1242		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1248		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1254		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1260		<1.00 UJ	<1.00 UJ	<1.00 UJ	<1.00 UJ

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Pesticides/PCBs
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW02	08CGW02	09GW02
	DATE	04/06/94	04/06/94	04/05/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ	<0.05 UJ	0.008 NJ
alpha-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-Chlordane		<0.05 UJ	<0.05 UJ	<0.05 UJ
Chlordane		---	---	---
Chlorobenzilate		---	---	---
4,4'-DDD		<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 UJ
Diallate		---	---	---
Dieldrin		<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin		<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin ketone		<0.1 UJ	<0.1 UJ	<0.1 UJ
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 UJ
Isodrin		---	---	---
Kepone		---	---	---
Methoxychlor		<0.5 UJ	<0.5 UJ	<0.5 UJ
Toxaphene		<5.00 UJ	<5.00 UJ	<5.00 UJ
Aroclor-1016		<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1221		<2.00 UJ	<2.00 UJ	<2.00 UJ
Aroclor-1232		<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1242		<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1248		<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1254		<1.00 UJ	<1.00 UJ	<1.00 UJ
Aroclor-1260		<1.00 UJ	<1.00 UJ	<1.00 UJ

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Validated

Organophosphorous Pesticides
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11B	KBA-11-13A	KBA-11-16
	SAMPLE ID	11BGW02	13AGW02	16GW02
	DATE	04/05/94	04/09/94	04/07/94
Dimethoate		<0.50 U	<0.50 U	<0.50 U
Disulfoton		<0.50 U	<0.50 U	<0.50 U
Ethyl parathion		<0.50 U	<0.50 U	<0.50 U
Famphur		<0.50 U	<0.50 U	<0.50 U
Methyl parathion		<0.50 U	<0.50 U	<0.50 U
Phorate		<0.50 U	<0.50 U	<0.50 U
Sulfotepp		<0.50 U	<0.50 U	<0.50 U
Thionazin		<0.50 U	<0.50 U	<0.50 U
Triethylphosphorothioate		<0.50 U	<0.50 U	<0.50 U

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Validated

Date: 12/28/95

Herbicides
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11B	KBA-11-13A	KBA-11-16
	SAMPLE ID	11BGW02	13AGW02	16GW02
	DATE	04/05/94	04/09/94	04/07/94
2,4-D		<0.50 U	<0.50 U	<0.50 UJ
Dinoseb		<50 U	<50 U	<50 U
2,4,5-T		<0.20 U	<0.20 U	<0.20 UJ
Silvex		<0.10 U	<0.10 U	<0.10 UJ

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Validated

Dibenzofurans and Dioxins
GROUNDWATER SAMPLES
April 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ng/l)	SITE	KBA-11-11B	KBA-11-13A	KBA-11-16
	SAMPLE ID	11BGW02	13AGW02	16GW02
	DATE	04/05/94	04/09/94	04/07/94
Tetrachlorodibenzofurans		<.53 U	<.5 U	<.37 U
Pentachlorodibenzofurans		<.43 U	<.39 U	<.29 U
Hexachlorodibenzofurans		<.72 U	<.41 U	<.38 U
Tetrachlorodibenzo-p-dioxins		<.27 U	<.13 U	<.16 U
2,3,7,8-Tetrachlorodibenzo-p-dioxin		<.27 U	<.13 U	<.16 U
Pentachlorodibenzo-p-dioxins		<1.1 U	<.72 U	<.71 U
Hexachlorodibenzo-p-dioxins		<.99 U	<.53 U	<.62 U

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Validated Analytical Data for Groundwater Samples

September 1994

Validated

Inorganic Analytes
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-1 01GW03 09/13/94	KBA-11-10A 10AGW03 09/15/94	KBA-11-10B 10BGW03 09/16/94	KBA-11-10C 10CGW03 09/16/94
Aluminum		41100	42100	<248 U	<88 U
Antimony		<2 U	16.5 J	2.6 J	<2 U
Arsenic		<3 U	<3 UJ	<3 U	<3 U
Barium		59.6 J	64.7 J	24.4 J	18.2 J
Beryllium		1.2 J	1.1 J	<1 U	<1 U
Cadmium		<3 U	<3 U	13.5	8.3
Calcium		2340 J	67500 J	6860	42600
Chromium		45.5	37.6	14.2	16.4
Cobalt		<14 U	<14 U	<2 U	<2 U
Copper		14.2 J	14.3 J	<3.6 U	<3.4 U
Cyanide		<10 U	<10 U	<10 UJ	<10 UJ
Iron		2630	38000 J	344	1170
Lead		34.4	17.6	<1 UJ	<1 UJ
agnesium		1050 J	16500	3410 J	3000 J
Manganese		9.8 J	346	4.4 J	35.1
Mercury		0.31	0.23	<0.2 U	<0.2 U
Nickel		9.5 J	11.9 J	8.1 J	11.9 J
Potassium		747 J	10100	17300	3510 J
Selenium		<4 U	8	<4 U	<4 U
Silver		<5 U	<5 U	<1 U	<1 U
Sodium		7660	10600 J	18200	9870
Sulfide		<1000 U	<1000 U	<1000 U	<1000 U
Thallium		<6 U	<6 U	<6 U	<6 U
Tin		---	---	---	---
Vanadium		13.7 J	24.3 J	3.4 J	<1 U
Zinc		39	167	21.2	43.1

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J = estimated concentration

Inorganic Analytes
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-11A 11AGW03 09/13/94	KBA-11-11B 11BGW03 09/13/94	KBA-11-11C 11CGW03 09/13/94	KBA-11-12 12GW03 09/14/94
Aluminum		616	701	<105 U	<359 U
Antimony		<2 U	<2 U	<2 U	<2 U
Arsenic		<3 U	<3 U	<3 U	<3 U
Barium		20 J	23.4 J	21 J	14.2 J
Beryllium		<1 U	<1 U	<1 U	<1 U
Cadmium		<3 U	<3 U	9.4	9.8
Calcium		1610 J	2480 J	33300	1530 J
Chromium		<8 U	12	9 J	17.2
Cobalt		<14 U	<14 U	<14 U	<14 U
Copper		4.4 J	9.1 J	6.6 J	24.3 J
Cyanide		<10 U	<10 U	<10 U	<10 U
Iron		672	749	356	755
Lead		<1 U	<1 U	<1 U	<1 U
Magnesium		979 J	789 J	2740 J	1300 J
Manganese		7.4 J	13.2 J	29.5	6.6 J
Mercury		<0.2 U	<0.2 U	<0.2 U	<0.2 U
Nickel		<6 U	11.7 J	7.3 J	13.7 J
Potassium		4450 J	2380 J	3520 J	1090 J
Selenium		<4 U	<4 U	<4 U	<4 U
Silver		<5 U	<5 U	<5 U	<5 U
Sodium		13100	8890	29200	7190
Sulfide		<1000 U	<1000 U	<1000 U	<1000 U
Thallium		<6 U	<6 U	<6 U	<6 U
Tin		---	---	---	---
Vanadium		<7 U	<7 U	<7 U	<7 U
Zinc		14.1 J	88	41.4	53.8

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Validated

Inorganic Analytes
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW03	13BGW03	14GW03	15GW03
	DATE	09/15/94	09/15/94	09/13/94	09/14/94
Aluminum		<198 U	<120 U	1300	<116 U
Antimony		<13 U	15.2 J	<2 U	<2 U
Arsenic		<3 UJ	<3 UJ	<3 U	<3 U
Barium		17.5 J	11.3 J	17.3 J	21.1 J
Beryllium		<1 U	<1 U	<1 U	<1 U
Cadmium		28.2	3.3 J	<3 U	20.6
Calcium		1430 J	37600 J	4310 J	15900
Chromium		<8 U	<8 U	<8 U	51.6
Cobalt		<14 U	<14 U	<14 U	<14 U
Copper		5.3 J	<4.7 U	8.1 J	61.5
Cyanide		<10 U	<10 U	<10 U	<10 U
Iron		1190 J	246 J	1710	568
Lead		<1 UJ	<1 UJ	<1 U	<1 U
Magnesium		392 J	5390	1340 J	7400
Manganese		<2 U	11.5 J	11 J	28.3
Mercury		<0.2 U	<0.2 U	<0.2 U	<0.2 U
Nickel		8.3 J	10.8 J	9.7 J	53.2
Potassium		11900	1930 J	279 J	8820
Selenium		<4 U	<4 U	<4 U	<4 U
Silver		5.5 J	6.3 J	<5 U	<5 U
Sodium		46500 J	9130 J	15200	113000
Sulfide		2000 J	<1000 U	<1000 U	<1000 U
Thallium		<6 U	<9.4 U	<6 U	<6 U
Tin		---	---	---	---
Vanadium		14.5 J	<7 U	<7 U	<7 U
Zinc		21.1	9.1 J	31.2	79.6

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Validated

Date: 12/28/95

Inorganic Analytes
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW03	17AGW03	17BGW03	17CGW03
	DATE	09/15/94	09/14/94	09/15/94	09/14/94
Aluminum		508	2660	644	<138 U
Antimony		<13 U	<13 U	<13 U	14.3 J
Arsenic		<3 UJ	<3 UJ	<3 UJ	<3 UJ
Barium		40.1 J	77.2 J	24.7 J	22 J
Beryllium		<1 U	<1 U	<1 U	<1 U
Cadmium		40.1	26.5	6.2	13.6
Calcium		11400 J	8610 J	4620 J	18200 J
Chromium		21.3	8.2 J	10.3	11.2
Cobalt		<14 U	<14 U	<14 U	<14 U
Copper		59.8	15.5 J	15.3 J	21.1 J
Cyanide		<10 U	<10 U	<10 U	<10 U
Iron		884 J	1070 J	796 J	587 J
Lead		<1 UJ	<1 UJ	<1 UJ	1.6 J
Magnesium		2820 J	3460 J	1640 J	1310 J
Manganese		8.2 J	6.2 J	6.7 J	20.2
Mercury		<0.2 U	<0.2 U	<0.2 U	<0.2 U
Nickel		19.1 J	10.4 J	<6.2 U	10.6 J
Potassium		3560 J	671 J	648 J	963 J
Selenium		<4 U	<4 U	<4 U	<4 U
Silver		<5 U	5 J	<5 U	5.6 J
Sodium		18300 J	31700 J	9700 J	7510 J
Sulfide		<1000 U	<1000 U	<1000 U	<1000 U
Thallium		<7.2 U	<6 U	<7.8 U	<7 U
Tin		---	---	---	---
Vanadium		<7 U	<7 U	<7 U	<7 U
Zinc		68.8	41.3	36.1	79.2

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Validated

Inorganic Analytes
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW03	19AGW03	19BGW03	02GW03
	DATE	09/14/94	09/14/94	09/14/94	09/15/94
Aluminum		<176 U	6430	<74.3 U	18200
Antimony		<2 U	<13 U	<13 U	<13 U
Arsenic		<3 U	<3 UJ	<3 UJ	3.6 J
Barium		15 J	28.5 J	14.2 J	28.1 J
Beryllium		<1 U	<1 U	<1 U	<1 U
Cadmium		10	<3 U	6	<3 U
Calcium		2130 J	9360 J	3350 J	42700 J
Chromium		18	22.6	8.2 J	20.7
Cobalt		<14 U	<14 U	<14 U	<14 U
Copper		63	9.9 J	41	10.3 J
Cyanide		<10 U	<10 U	<10 U	<10 U
Iron		336	2590 J	740 J	4450 J
Lead		4.5	1 J	1.4 J	14.4
Magnesium		995 J	2760 J	685 J	3200 J
Manganese		7 J	9.2 J	13.6 J	33
Mercury		<0.2 U	<0.2 U	<0.2 U	<0.2 U
Nickel		7 J	11.6 J	<6 U	10.7 J
Potassium		1260 J	2450 J	2880 J	4210 J
Selenium		<4 U	<4 U	<4 U	<4 U
Silver		<5 U	<5 U	<5 U	<5 U
Sodium		6400	4920 J	8490 J	6670 J
Sulfide		<1000 U	<1000 U	<1000 U	1000 J
Thallium		<6 U	<8.2 U	<8.5 U	<8.5 U
Tin		---	---	---	---
Vanadium		<7 U	<7 U	<7 U	11.5 J
Zinc		94	38.1	94.9	27.9

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Validated

Inorganic Analytes
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW03	21GW03	22AGW03	22BGW03
	DATE	09/14/94	09/14/94	09/15/94	09/16/94
Aluminum		<154 U	277	8840	360
Antimony		<2 U	<13 U	15.4 J	2.9 J
Arsenic		<3 U	<3 UJ	<3 UJ	<3 U
Barium		33 J	78.9 J	17.1 J	22.8 J
Beryllium		1 J	<1 U	<1 U	<1 U
Cadmium		14	25.8	<3 U	12.3
Calcium		7400	14200 J	35200 J	2980 J
Chromium		16	<8 U	29.6	12
Cobalt		<14 U	<14 U	<14 U	<2 U
Copper		28	15.5 J	10.3 J	5.5 J
Cyanide		<10 U	<10 U	<10 U	<10 UJ
Iron		574	1300 J	6680 J	569
Lead		3.4	<1 UJ	1.4 J	<1 UJ
Magnesium		3150 J	3380 J	10300	726 J
Manganese		32	13.1 J	115	12.2 J
Mercury		<0.2 U	<0.2 U	<0.2 U	<0.2 U
Nickel		<6 U	<6 U	16.9 J	9.8 J
Potassium		1350 J	1930 J	8260	19300
Selenium		<4 U	<4 U	<4 U	<4 U
Silver		<5 U	<5 U	5.3 J	<1 U
Sodium		18800	25900 J	6920 J	36000
Sulfide		<1000 U	<1000 U	<1000 U	<1000 U
Thallium		<6 U	<6 U	<6 U	<6 U
Tin		---	---	---	---
Vanadium		<7 U	<7 U	<7 U	6.9 J
Zinc		73	77.4	52	27.8

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Inorganic Analytes
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW03	03BGW03	03CGW03	04GW03
	DATE	09/15/94	09/15/94	09/14/94	09/15/94
Aluminum		31300	<248 U	<125 U	29500
Antimony		17.6 J	<2 U	<13 U	<13 U
Arsenic		4.2 J	<3 U	<3 UJ	<3 UJ
Barium		36.1 J	17.8 J	14.8 J	27 J
Beryllium		<1 U	<1 U	<1 U	<1 U
Cadmium		3.2 J	17.7	<3 U	<3 U
Calcium		274000 J	939 J	1320 J	102000 J
Chromium		28.3	5.3 J	10.6	29.7
Cobalt		<14 U	<2 U	<14 U	<14 U
Copper		10.8 J	<3 U	16.6 J	9.7 J
Cyanide		<10 U	<10 UJ	<10 U	<10 U
Iron		9080 J	309	234 J	3400 J
Lead		9.9 J	<1 UJ	<1 UJ	14.5
Magnesium		7860	261 J	230 J	2860 J
Manganese		412	3.2 J	2.2 J	42.6
Mercury		<0.2 U	<0.2 U	<0.2 U	<0.2 U
Nickel		11.4 J	<3.4 U	10.5 J	10.8 J
Potassium		4080 J	5050	4980 J	1340 J
Selenium		4.3 J	<4 U	<4 U	<4 U
Silver		6.1 J	<1 U	<5 U	<5 U
Sodium		5750 J	55900	34400 J	3150 J
Sulfide		<1000 U	<1000 U	<1000 U	<1000 U
Thallium		<8.1 U	<6 U	<9.8 U	<8.5 U
Tin		---	---	---	---
Vanadium		18.3 J	10.7 J	<7 U	16 J
Zinc		39.5	19.5 J	33.5	36

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Inorganic Analytes
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW03	06GW03	07GW03	08AGW03
	DATE	09/15/94	09/13/94	09/13/94	09/13/94
Aluminum		57700	14700	29100	20800
Antimony		20.7 J	<2 U	<2 U	<2 U
Arsenic		3.2 J	<3 U	<3 U	<3 U
Barium		84.4 J	24.1 J	39.8 J	26 J
Beryllium		1.2 J	<1 U	<1 U	<1 U
Cadmium		3 J	<3 U	<3 U	<3 U
Calcium		6400 J	3400 J	2290 J	86000
Chromium		74.3	19.3	41	27.2
Cobalt		<14 U	<14 U	<14 U	<14 U
Copper		84	6.6 J	8.5 J	13 J
Cyanide		<10 U	<10 U	<10 U	<10 U
Iron		8340 J	1420	1300	15400
Lead		39.8	8.9	18.3	14.4
Magnesium		3900 J	1440 J	498 J	14800
Manganese		40.6	21.5	9.6 J	213
Mercury		0.34	<0.2 U	0.33	<0.2 U
Nickel		23.7 J	<6 U	<6 U	<6 U
Potassium		2750 J	4080 J	708 J	15400
Selenium		<4 U	<4 U	<4 U	<4 U
Silver		<5 U	<5 U	<5 U	<5 U
Sodium		2380 J	3480 J	2560 J	21200
Sulfide		2000 J	<1000 U	<1000 U	<1000 U
Thallium		<6 U	<6 U	<6 U	<6 U
Tin		---	---	---	---
Vanadium		40 J	<7 U	12 J	16.1 J
Zinc		209	36.2	41.9	28.8

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Date: 12/28/95

Inorganic Analytes
GROUNDWATER SAMPLES
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Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW03	08CGW03	09GW03
	DATE	09/13/94	09/13/94	09/13/94
Aluminum		<240 U	2410	246000
Antimony		<2 U	<2 U	2.1 J
Arsenic		<3 U	<3 U	6.7 J
Barium		46.2 J	36.9 J	222
Beryllium		<1 U	<1 U	6.1
Cadmium		74.9	<3 U	7.4
Calcium		6230	3510 J	15700
Chromium		39.7	10.8	252
Cobalt		<14 U	<14 U	<14 U
Copper		4.3 J	11.4 J	50.5
Cyanide		<10 U	<10 U	<10 U
Iron		2650	2060	7990
Lead		<1 U	1.5 J	77
Magnesium		2580 J	821 J	2820 J
Manganese		37	14.5 J	29.6
Mercury		<0.2 U	<0.2 U	1.6
Nickel		23.6 J	6.9 J	28.1 J
Potassium		8750	1690 J	5890
Selenium		<4 U	<4 U	23.4
Silver		<5 U	<5 U	<5 U
Sodium		42500	6720	2520 J
Sulfide		<1000 U	<1000 U	<1000 U
Thallium		<6 U	<6 U	<6 U
Tin		---	---	---
Vanadium		<7 U	<7 U	135
Zinc		45.2	53.3	55.4

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Volatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW03	10AGW03	10BGW03	10CGW03
	DATE	09/13/94	09/15/94	09/16/94	09/16/94
Acetone		<5 UJ	<5 UR	<5 UR	<5 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	0.4 J	2	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		<4 U	17	14	2
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	1	1	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	4	2	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	0.9 J	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	<1 U	2	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW03	10AGW03	10BGW03	10CGW03
	DATE	09/13/94	09/15/94	09/16/94	09/16/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	12	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<5 U	<5 U	<5 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U	<2 U
Pentachloroethane		---	---	---	---
opionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	<1 U	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	0.8 J	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW03	11BGW03	11CGW03	12GW03
	DATE	09/13/94	09/13/94	09/13/94	09/14/94
Acetone		<5 UR	<5 UR	<5 UR	<5 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	<1 U	<1 U	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		10	<1 U	<1 U	<5 U
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<1 U	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW03	11BGW03	11CGW03	12GW03
	DATE	09/13/94	09/13/94	09/13/94	09/14/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	<1 U	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<5 U	<5 U	<5 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U	<2 UJ
Pentachloroethane		---	---	---	---
opionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	0.8 J	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	<1 U	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
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Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW03	13BGW03	14GW03	15GW03
	DATE	09/15/94	09/15/94	09/13/94	09/14/94
Acetone		<250 UR	<11 UJ	<5 UR	<15 UJ
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<50 U	<1 U	<1 U	<1 U
Bromochloromethane		<50 U	<1 U	<1 U	<1 U
Bromodichloromethane		<50 U	<1 U	<1 U	<1 U
Bromoform		<50 U	<1 U	<1 U	<1 U
Bromomethane		<50 U	<1 U	<1 U	<1 U
2-Butanone		<250 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		<50 U	<1 U	10	<1 U
Carbon tetrachloride		<50 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<50 U	<1 U	<1 U	<1 U
Chloroethane		<50 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<50 U	<1 U	<1 U	<1 U
Chloromethane		<50 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<50 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<50 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<50 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<50 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<50 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<50 U	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<50 U	<1 U	<1 U	<1 U
1,2-Dichloroethane		<50 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<50 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		700	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene		<50 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<50 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW03	13BGW03	14GW03	15GW03
	DATE	09/15/94	09/15/94	09/13/94	09/14/94
cis-1,3-Dichloropropene		<50 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<50 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		110	<1 U	<1 U	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<250 U	<5 U	<5 U	<5 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<250 U	<5 U	<5 U	<5 U
Methylene chloride		<100 U	<2 U	<2 UJ	<2 UJ
Pentachloroethane		---	---	---	---
opionitrile		---	---	---	---
Styrene		<50 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<50 U	<1 U	<1 U	<1 U
Tetrachloroethene		460	<1 U	<1 U	<1 U
Toluene		120	<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<50 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<50 U	<1 U	<1 U	<1 U
Trichloroethene		770	<1 U	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<50 U	<1 U	<1 U	<1 U
Xylene (total)		310	<1 U	<1 U	<1 U

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Volatile Organic Compounds
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Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-16 16GW03 09/15/94	KBA-11-17A 17AGW03 09/14/94	KBA-11-17B 17BGW03 09/15/94	KBA-11-17C 17CGW03 09/14/94
Acetone		<49 UJ	<11 UJ	<5 UR	630 J
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	<2 U	<1 U	<6 U
Bromochloromethane		<1 U	<2 U	<1 U	<6 U
Bromodichloromethane		<1 U	<2 U	<1 U	<6 U
Bromoform		<1 U	<2 U	<1 U	<6 U
Bromomethane		<1 U	<2 U	<1 U	<6 U
2-Butanone		<5 UR	<8 UR	<5 UR	<31 UR
Carbon disulfide		11	30	0.7 J	<6 U
Carbon tetrachloride		<1 U	<2 U	<1 U	<6 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<2 U	<1 U	<6 U
Chloroethane		<1 U	<2 U	<1 U	<6 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<2 U	<1 U	<6 U
Chloromethane		<1 U	<2 U	<1 U	<6 U
Chlorodibromomethane		<1 U	<2 U	<1 U	<6 U
1,2-Dibromo-3-chloropropane		<1 U	<2 U	<1 U	<6 U
1,2-Dibromoethane		<1 U	<2 U	<1 U	<6 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<2 U	<1 U	<6 U
1,3-Dichlorobenzene (VOA)		<1 U	<2 U	<1 U	<6 U
1,4-Dichlorobenzene (VOA)		<1 U	<2 U	<1 U	<6 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		2	<2 U	<1 U	<6 U
1,2-Dichloroethane		<1 U	<2 U	<1 U	<6 U
1,1-Dichloroethene		<1 U	<2 U	<1 U	<6 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		1	<2 U	<1 U	<6 U
trans-1,2-Dichloroethene		<1 U	<2 U	<1 U	<6 U
1,2-Dichloropropane		<1 U	<2 U	<1 U	<6 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW03	17AGW03	17BGW03	17CGW03
	DATE	09/15/94	09/14/94	09/15/94	09/14/94
cis-1,3-Dichloropropene		<1 U	<2 U	<1 U	<6 U
trans-1,3-Dichloropropene		<1 U	<2 U	<1 U	<6 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<2 U	<1 U	<6 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<8 U	<5 U	<31 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		2 J	<8 U	4 J	<31 U
Methylene chloride		<2 UJ	<3 UJ	<2 U	<12 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<2 U	<1 U	<6 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<2 U	<1 U	<6 U
Tetrachloroethene		<1 U	<2 U	<1 U	<6 U
Toluene		<1 U	<2 U	<1 U	<6 U
1,1,1-Trichloroethane		<1 U	<2 U	<1 U	<6 U
1,1,2-Trichloroethane		<1 U	<2 U	<1 U	<6 U
Trichloroethene		<1 U	<2 U	<1 U	<6 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<2 U	<1 U	<6 U
Xylene (total)		<1 U	<2 U	<1 U	<6 U

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Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-18 18GW03 09/14/94	KBA-11-19A 19AGW03 09/14/94	KBA-11-19B 19BGW03 09/14/94	KBA-11-2 02GW03 09/15/94
Acetone		160 J	<5 UR	660 J	<5 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<2 U	<1 U	<8 U	<1 U
Bromochloromethane		<2 U	<1 U	<8 U	<1 U
Bromodichloromethane		<2 U	<1 U	<8 U	<1 U
Bromoform		<2 U	<1 U	<8 U	<1 U
Bromomethane		<2 U	<1 U	<8 U	<1 U
2-Butanone		<8 UR	<5 UR	<42 UR	<5 UR
Carbon disulfide		<2 U	15	<8 U	18
Carbon tetrachloride		<2 U	<1 U	<8 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<2 U	<1 U	<8 U	<1 U
Chloroethane		<2 U	<1 U	<8 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<2 U	<1 U	<8 U	<1 U
Chloromethane		<2 U	<1 U	<8 U	<1 U
Chlorodibromomethane		<2 U	<1 U	<8 U	<1 U
1,2-Dibromo-3-chloropropane		<2 U	<1 U	<8 U	<1 U
1,2-Dibromoethane		<2 U	<1 U	<8 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<2 U	<1 U	<8 U	<1 U
1,3-Dichlorobenzene (VOA)		<2 U	<1 U	<8 U	<1 U
1,4-Dichlorobenzene (VOA)		<2 U	<1 U	<8 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<2 U	<1 U	<8 U	<1 U
1,2-Dichloroethane		<2 U	<1 U	<8 U	<1 U
1,1-Dichloroethene		<2 U	<1 U	<8 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<2 U	1	<8 U	<1 U
trans-1,2-Dichloroethene		<2 U	<1 U	<8 U	<1 U
1,2-Dichloropropane		<2 U	<1 U	<8 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW03	19AGW03	19BGW03	02GW03
	DATE	09/14/94	09/14/94	09/14/94	09/15/94
cis-1,3-Dichloropropene		<2 U	<1 U	<8 U	<1 U
trans-1,3-Dichloropropene		<2 U	<1 U	<8 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<2 U	<1 U	<8 U	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<8 U	<5 U	<42 U	<5 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<8 U	<5 U	<42 U	<5 U
Methylene chloride		<2 UJ	<2 UJ	<17 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<2 U	<1 U	<8 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<2 U	<1 U	<8 U	<1 U
Tetrachloroethene		<2 U	<1 U	<8 U	<1 U
Toluene		<2 U	<1 U	<8 U	<1 U
1,1,1-Trichloroethane		<2 U	<1 U	<8 U	<1 U
1,1,2-Trichloroethane		<2 U	<1 U	<8 U	<1 U
Trichloroethene		<2 U	<1 U	<8 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<2 U	<1 U	<8 U	<1 U
Xylene (total)		<2 U	<1 U	<8 U	<1 U

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Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW03	21GW03	22AGW03	22BGW03
	DATE	09/14/94	09/14/94	09/15/94	09/16/94
Acetone		<82 UJ	<21 UJ	<11 UJ	<16 UJ
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	0.9 J	0.5 J	5
Bromochloromethane		<1 U	<1 U	<1 U	<3 U
Bromodichloromethane		<1 U	<1 U	<1 U	<3 U
Bromoform		<1 U	<1 U	<1 U	<3 U
Bromomethane		<1 U	<1 U	<1 U	<3 U
2-Butanone		<5 UR	<5 UR	<6 UR	<16 UR
Carbon disulfide		<2 U	6	31	18
Carbon tetrachloride		<1 U	<1 U	<1 U	<3 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<1 U	4	2 J
Chloroethane		<1 U	<1 U	<1 U	<3 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<3 U
Chloromethane		<1 U	<1 U	<1 U	<3 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<3 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U	<3 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<3 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<3 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<3 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	5	<3 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	<3 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<3 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<3 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	<1 U	<1 U	18
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<3 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<3 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW03	21GW03	22AGW03	22BGW03
	DATE	09/14/94	09/14/94	09/15/94	09/16/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<3 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<3 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	<1 U	62
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<5 U	<6 U	<16 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<6 U	<16 U
Methylene chloride		<2 UJ	<2 UJ	<2 U	<6 U
Pentachloroethane		---	---	---	---
opionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<3 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<3 U
Tetrachloroethene		<1 U	<1 U	<1 U	<3 U
Toluene		<1 U	3	<1 U	2 J
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<3 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<3 U
Trichloroethene		<1 U	<1 U	<1 U	<3 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<3 U
Xylene (total)		<1 U	2	<1 U	<3 U

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CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW03	03BGW03	03CGW03	04GW03
	DATE	09/15/94	09/15/94	09/14/94	09/15/94
Acetone		<5 UJ	<5 UR	<7 UJ	<5 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		0.4 J	6	2	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		14	25	<1 U	11
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		3	<1 U	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		8	<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	23	10	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW03	03BGW03	03CGW03	04GW03
	DATE	09/15/94	09/15/94	09/14/94	09/15/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	8	7	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<5 U	<5 U	<5 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		<1 U	0.6 J	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	0.5 J	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	0.6 J	<1 U

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CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-5 05GW03 09/15/94	KBA-11-6 06GW03 09/13/94	KBA-11-7 07GW03 09/13/94	KBA-11-8A 08AGW03 09/13/94
Acetone		<5 UR	<7 UJ	<5 UR	<5 UJ
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<1 U	<1 U	<1 U	<1 U
Bromochloromethane		<1 U	<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR	<5 UR
Carbon disulfide		5	11	13	19
Carbon tetrachloride		<1 U	<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<1 U	<1 U	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<1 U	<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U	<1 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	2	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-5 05GW03 09/15/94	KBA-11-6 06GW03 09/13/94	KBA-11-7 07GW03 09/13/94	KBA-11-8A 08AGW03 09/13/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<1 U	<1 U	<1 U	<1 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<5 U	<5 U	<5 U	<5 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U	<5 U
Methylene chloride		<2 U	<2 U	<2 U	<2 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<1 U	<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	<1 U	<1 U	<1 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	<1 U	<1 U

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Validated

Volatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-8B 08BGW03 09/13/94	KBA-11-8C 08CGW03 09/13/94	KBA-11-9 09GW03 09/13/94
Acetone		<6 UJ	<5 UR	<5 UR
Acetonitrile		---	---	---
Acrolein		---	---	---
Acrylonitrile		---	---	---
3-Chloro-1-propene		---	---	---
Benzene		0.6 J	<1 U	<1 U
Bromochloromethane		<1 U	<1 U	<1 U
Bromodichloromethane		<1 U	<1 U	<1 U
Bromoform		<1 U	<1 U	<1 U
Bromomethane		<1 U	<1 U	<1 U
2-Butanone		<5 UR	<5 UR	<5 UR
Carbon disulfide		<5 U	<1 U	<5 U
Carbon tetrachloride		<1 U	<1 U	<1 U
2-Chloro-1,3-butadiene		---	---	---
Chlorobenzene		<1 U	<1 U	<1 U
Chloroethane		<1 U	<1 U	<1 U
2-Chloroethylvinylether		---	---	---
Chloroform		<1 U	<1 U	<1 U
Chloromethane		<1 U	<1 U	<1 U
Chlorodibromomethane		<1 U	<1 U	<1 U
1,2-Dibromo-3-chloropropane		<1 U	<1 U	<1 U
1,2-Dibromoethane		<1 U	<1 U	<1 U
Dibromomethane		---	---	---
1,2-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U
1,3-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U
1,4-Dichlorobenzene (VOA)		<1 U	<1 U	<1 U
trans-1,4-Dichloro-2-butene		---	---	---
1,1-Dichloroethane		3	<1 U	<1 U
1,2-Dichloroethane		<1 U	<1 U	<1 U
1,1-Dichloroethene		<1 U	<1 U	<1 U
1,2-Dichloroethene (total)		---	---	---
cis-1,2-Dichloroethene		2	<1 U	<1 U
trans-1,2-Dichloroethene		<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U

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Volatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW03	08CGW03	09GW03
	DATE	09/13/94	09/13/94	09/13/94
cis-1,3-Dichloropropene		<1 U	<1 U	<1 U
trans-1,3-Dichloropropene		<1 U	<1 U	<1 U
1,4-Dioxane		---	---	---
Ethylbenzene		2	<1 U	<1 U
Ethyl methacrylate		---	---	---
2-Hexanone		<5 U	<5 U	<5 U
Iodomethane		---	---	---
Isobutyl alcohol		---	---	---
Methacrylonitrile		---	---	---
Methyl methacrylate		---	---	---
4-Methyl-2-pentanone		<5 U	<5 U	<5 U
Methylene chloride		2	<2 U	<2 U
Pentachloroethane		---	---	---
Propionitrile		---	---	---
Styrene		<1 U	<1 U	<1 U
1,1,1,2-Tetrachloroethane		---	---	---
1,1,2,2-Tetrachloroethane		<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U
Toluene		<1 U	<1 U	<1 U
1,1,1-Trichloroethane		<1 U	<1 U	<1 U
1,1,2-Trichloroethane		<1 U	<1 U	<1 U
Trichloroethene		1	<1 U	<1 U
Trichlorofluoromethane		---	---	---
1,2,3-Trichloropropane		---	---	---
Vinyl acetate		---	---	---
Vinyl chloride		<1 U	<1 U	<1 U
Xylene (total)		<1 U	<1 U	<1 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW03	10AGW03	10BGW03	10CGW03
	DATE	09/13/94	09/15/94	09/16/94	09/16/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	0.7 J	8 J	100
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW03	10AGW03	10BGW03	10CGW03
	DATE	09/13/94	09/15/94	09/16/94	09/16/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	3 J	1 J	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	2 J	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
Methylnaphthalene		<10 U	0.7 J	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW03	10AGW03	10BGW03	10CGW03
	DATE	09/13/94	09/15/94	09/16/94	09/16/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	3 J	2 J	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 UJ	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-1	KBA-11-10A	KBA-11-10B	KBA-11-10C
	SAMPLE ID	01GW03	10AGW03	10BGW03	10CGW03
	DATE	09/13/94	09/15/94	09/16/94	09/16/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW03	11BGW03	11CGW03	12GW03
	DATE	09/13/94	09/13/94	09/13/94	09/14/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		0.6 J	14 J	4 J	32
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW03	11BGW03	11CGW03	12GW03
	DATE	09/13/94	09/13/94	09/13/94	09/14/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW03	11BGW03	11CGW03	12GW03
	DATE	09/13/94	09/13/94	09/13/94	09/14/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 UJ	<25 U	<25 U	<25 UJ
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-11A	KBA-11-11B	KBA-11-11C	KBA-11-12
	SAMPLE ID	11AGW03	11BGW03	11CGW03	12GW03
	DATE	09/13/94	09/13/94	09/13/94	09/14/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW03	13BGW03	14GW03	15GW03
	DATE	09/15/94	09/15/94	09/13/94	09/14/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		2 J	2 J	<10 U	140
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		0.6 J	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW03	13BGW03	14GW03	15GW03
	DATE	09/15/94	09/15/94	09/13/94	09/14/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		25	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		81	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW03	13BGW03	14GW03	15GW03
	DATE	09/15/94	09/15/94	09/13/94	09/14/94
2-Methylphenol		3 J	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		13	<10 U	<10 U	<10 U
Naphthalene		16	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		1 J	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 UJ	<25 UJ
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-13B	KBA-11-14	KBA-11-15
	SAMPLE ID	13AGW03	13BGW03	14GW03	15GW03
	DATE	09/15/94	09/15/94	09/13/94	09/14/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW03	17AGW03	17BGW03	17CGW03
	DATE	09/15/94	09/14/94	09/15/94	09/14/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		23	6 J	11	19
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW03	17AGW03	17BGW03	17CGW03
	DATE	09/15/94	09/14/94	09/15/94	09/14/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
',4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
-Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW03	17AGW03	17BGW03	17CGW03
	DATE	09/15/94	09/14/94	09/15/94	09/14/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-16	KBA-11-17A	KBA-11-17B	KBA-11-17C
	SAMPLE ID	16GW03	17AGW03	17BGW03	17CGW03
	DATE	09/15/94	09/14/94	09/15/94	09/14/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW03	19AGW03	19BGW03	02GW03
	DATE	09/14/94	09/14/94	09/14/94	09/15/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		11	2 J	570	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW03	19AGW03	19BGW03	02GW03
	DATE	09/14/94	09/14/94	09/14/94	09/15/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-18 18GW03 09/14/94	KBA-11-19A 19AGW03 09/14/94	KBA-11-19B 19BGW03 09/14/94	KBA-11-2 02GW03 09/15/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		2 J	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 UJ	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-18	KBA-11-19A	KBA-11-19B	KBA-11-2
	SAMPLE ID	18GW03	19AGW03	19BGW03	02GW03
	DATE	09/14/94	09/14/94	09/14/94	09/15/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW03	21GW03	22AGW03	22BGW03
	DATE	09/14/94	09/14/94	09/15/94	09/16/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		5 J	6 J	2 J	6 J
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW03	21GW03	22AGW03	22BGW03
	DATE	09/14/94	09/14/94	09/15/94	09/16/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	5 J	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	6 J
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW03	21GW03	22AGW03	22BGW03
	DATE	09/14/94	09/14/94	09/15/94	09/16/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	1 J
Naphthalene		<10 U	<10 U	1 J	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 UJ	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-20	KBA-11-21	KBA-11-22A	KBA-11-22B
	SAMPLE ID	20GW03	21GW03	22AGW03	22BGW03
	DATE	09/14/94	09/14/94	09/15/94	09/16/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW03	03BGW03	03CGW03	04GW03
	DATE	09/15/94	09/15/94	09/14/94	09/15/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		0.7 J	2 J	<10 U	0.8 J
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		1 J	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW03	03BGW03	03CGW03	04GW03
	DATE	09/15/94	09/15/94	09/14/94	09/15/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		8 J	<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		0.7 J	8 J	4 J	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW03	03BGW03	03CGW03	04GW03
	DATE	09/15/94	09/15/94	09/14/94	09/15/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 UJ	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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J = estimated concentration

Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-3A	KBA-11-3B	KBA-11-3C	KBA-11-4
	SAMPLE ID	03AGW03	03BGW03	03CGW03	04GW03
	DATE	09/15/94	09/15/94	09/14/94	09/15/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW03	06GW03	07GW03	08AGW03
	DATE	09/15/94	09/13/94	09/13/94	09/13/94
Acenaphthene		<10 U	<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U	<10 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<10 U	<10 U	<10 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U	<10 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		<10 U	0.8 J	<10 U	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U	0.7 J
Di-n-octyl phthalate		<10 U	<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U

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Validated

Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW03	06GW03	07GW03	08AGW03
	DATE	09/15/94	09/13/94	09/13/94	09/13/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	0.9 J	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<10 U	<10 U	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U	<25 U
4-Dinitrophenol		<25 U	<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U	<10 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U	<10 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U	<10 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
Methylnaphthalene		<10 U	<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW03	06GW03	07GW03	08AGW03
	DATE	09/15/94	09/13/94	09/13/94	09/13/94
2-Methylphenol		<10 U	<10 U	<10 U	<10 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<10 U	<10 U	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 U	<25 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U	<25 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<10 U	<10 U	<10 U
Phenol		<10 U	<10 U	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-5	KBA-11-6	KBA-11-7	KBA-11-8A
	SAMPLE ID	05GW03	06GW03	07GW03	08AGW03
	DATE	09/15/94	09/13/94	09/13/94	09/13/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<10 U	<10 U	<10 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-8B 08BGW03 09/13/94	KBA-11-8C 08CGW03 09/13/94	KBA-11-9 09GW03 09/13/94
Acenaphthene		<10 U	<10 U	<10 U
Acenaphthylene		<10 U	<10 U	<10 U
Acetophenone		---	---	---
2-Acetylaminofluorene		---	---	---
4-Aminobiphenyl		---	---	---
Aniline		---	---	---
Anthracene		<10 U	<10 U	<10 U
Aramite, total		---	---	---
Benzidine		---	---	---
Benzo(a)anthracene		<10 U	<10 U	<10 U
Benzo(b)fluoranthene		<10 U	<10 U	<10 U
Benzo(k)fluoranthene		<10 U	<10 U	<10 U
Benzo(ghi)perylene		<10 U	<10 U	<10 U
Benzo(a)pyrene		<10 U	<10 U	<10 U
Benzoic acid		---	---	---
Benzyl alcohol		---	---	---
bis(2-Chloroethoxy)methane		<10 U	<10 U	<10 U
bis(2-Chloroethyl) ether		<10 U	<10 U	<10 U
bis(2-Chloroisopropyl)ether		<10 U	<10 U	<10 U
bis(2-Ethylhexyl)phthalate		14	13 J	<10 U
4-Bromophenyl phenyl ether		<10 U	<10 U	<10 U
Butyl benzyl phthalate		<10 U	<10 U	<10 U
Carbazole		<10 U	<10 U	<10 U
4-Chloro-3-methylphenol		<10 U	<10 U	<10 U
4-Chloroaniline		<10 U	<10 U	<10 U
2-Chloronaphthalene		<10 U	<10 U	<10 U
2-Chlorophenol		<10 U	<10 U	<10 U
4-Chlorophenyl phenyl ether		<10 U	<10 U	<10 U
Chrysene		<10 U	<10 U	<10 U
Dibenz(a,h)anthracene		<10 U	<10 U	<10 U
Dibenzofuran		<10 U	<10 U	<10 U
Di-n-butyl phthalate		<10 U	<10 U	<10 U
Di-n-octyl phthalate		<10 U	<10 U	<10 U
1,2-Dichlorobenzene		<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	KBA-11-8B 08BGW03 09/13/94	KBA-11-8C 08CGW03 09/13/94	KBA-11-9 09GW03 09/13/94
1,3-Dichlorobenzene		<10 U	<10 U	<10 U
1,4-Dichlorobenzene		<10 U	<10 U	<10 U
3,3'-Dichlorobenzidine		<10 U	<10 U	<10 U
2,4-Dichlorophenol		<10 U	<10 U	<10 U
2,6-Dichlorophenol		---	---	---
Diethyl phthalate		1 J	<10 U	<10 U
Dimethyl phthalate		<10 U	<10 U	<10 U
7,12-Dimethybenz(a)anthracene		---	---	---
p-(Dimethylamino)azobenzene		---	---	---
3,3'-Dimethylbenzidine		---	---	---
2,4-Dimethylphenol		<10 U	<10 U	<10 U
1,3-Dinitrobenzene		---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<25 U	<25 U
4-Dinitrophenol		<25 U	<25 U	<25 U
2,4-Dinitrotoluene		<10 U	<10 U	<10 U
2,6-Dinitrotoluene		<10 U	<10 U	<10 U
Diphenylamine		---	---	---
1,2-Diphenylhydrazine		---	---	---
Ethyl methanesulfonate		---	---	---
Fluoranthene		<10 U	<10 U	<10 U
Fluorene		<10 U	<10 U	<10 U
Hexachlorobenzene		<10 U	<10 U	<10 U
Hexachlorobutadiene		<10 U	<10 U	<10 U
Hexachlorocyclopentadiene		<10 U	<10 U	<10 U
Hexachloroethane		<10 U	<10 U	<10 U
Hexachlorophene		---	---	---
Hexachloropropene		---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<10 U	<10 U
Isophorone		<10 U	<10 U	<10 U
Isosafrole, total		---	---	---
Methapyrilene		---	---	---
Methyl methanesulfonate		---	---	---
3-Methylcholanthrene		---	---	---
Methylnaphthalene		<10 U	<10 U	<10 U

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW03	08CGW03	09GW03
	DATE	09/13/94	09/13/94	09/13/94
2-Methylphenol		1 J	<10 U	<10 U
3-Methylphenol		---	---	---
3-&4-Methylphenol		---	---	---
4-Methylphenol		2 J	<10 U	<10 U
Naphthalene		<10 U	<10 U	<10 U
1,4-Naphthoquinone		---	---	---
1-Naphthylamine		---	---	---
2-Naphthylamine		---	---	---
2-Nitroaniline		<25 U	<25 U	<25 U
3-Nitroaniline		<25 U	<25 U	<25 U
4-Nitroaniline		<25 U	<25 U	<25 U
Nitrobenzene		<10 U	<10 U	<10 U
5-Nitro-o-toluidine		---	---	---
4-Nitroquinoline-1-oxide		---	---	---
2-Nitrophenol		<10 U	<10 U	<10 U
4-Nitrophenol		<25 U	<25 U	<25 UJ
N-Nitrosodi-n-butylamine		---	---	---
N-Nitrosodiethylamine		---	---	---
N-Nitrosodimethylamine		---	---	---
N-Nitrosodiphenylamine		<10 U	<10 U	<10 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---
N-Nitrosodi-n-propylamine		<10 U	<10 U	<10 U
N-Nitrosomethylethylamine		---	---	---
N-Nitrosomorpholine		---	---	---
N-Nitrosopiperidine		---	---	---
N-Nitrosopyrrolidine		---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---
Pentachlorobenzene		---	---	---
Pentachloronitrobenzene		---	---	---
Pentachlorophenol		<25 U	<25 U	<25 U
Phenacetin		---	---	---
Phenanthrene		<10 U	<10 U	<10 U
Phenol		3 J	<10 U	<10 U
Phenyl-tert-butylamine		---	---	---

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Semivolatile Organic Compounds
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	KBA-11-8B	KBA-11-8C	KBA-11-9
	SAMPLE ID	08BGW03	08CGW03	09GW03
	DATE	09/13/94	09/13/94	09/13/94
p-Phenylene diamine		---	---	---
2-Picoline		---	---	---
Pronamide		---	---	---
Pyrene		<10 U	<10 U	<10 U
Pyridine		---	---	---
Safrole, total		---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---
o-Toluidine		---	---	---
1,2,4-Trichlorobenzene		<10 U	<10 U	<10 U
2,4,5-Trichlorophenol		<25 U	<25 U	<25 U
2,4,6-Trichlorophenol		<10 U	<10 U	<10 U
1,3,5-Trinitrobenzene		---	---	---

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

J = estimated concentration

Validated

Date: 12/28/95

Pesticides/PCBs
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgi

CONSTITUENT (Units in ug/l)	SITE	KBA-11-10B	KBA-11-11C	KBA-11-14	KBA-11-22B
	SAMPLE ID	10BGW03	11CGW03	14GW03	22BGW03
	DATE	09/16/94	09/13/94	09/13/94	09/16/94
Aldrin		<0.05 UJ	<0.05 U	<0.05 UJ	<0.05 UJ
alpha-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 UJ	<0.05 U	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ	<0.05 U	<0.05 UJ	<0.05 UJ
alpha-Chlordane		<0.05 UJ	<0.05 U	<0.05 UJ	<0.05 UJ
gamma-Chlordane		<0.05 UJ	<0.05 U	<0.05 UJ	<0.05 UJ
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.10 UJ	<0.10 U	0.02 NJ	<0.10 UJ
4,4'-DDE		<0.10 UJ	<0.10 U	<0.10 UJ	<0.10 UJ
4,4'-DDT		<0.10 UJ	<0.10 U	<0.10 UJ	<0.10 UJ
Diallate		---	---	---	---
Dieldrin		<0.10 UJ	0.012 J	<0.10 UJ	<0.10 UJ
Endosulfan I		<0.05 UJ	<0.05 U	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.10 UJ	<0.10 U	<0.10 UJ	<0.10 UJ
Endosulfan sulfate		<0.10 UJ	<0.10 U	<0.10 UJ	<0.10 UJ
Endrin		<0.10 UJ	<0.10 U	<0.10 UJ	<0.10 UJ
Endrin aldehyde		<0.10 UJ	<0.10 U	<0.10 UJ	<0.10 UJ
Endrin ketone		<0.10 UJ	<0.10 U	<0.10 UJ	<0.10 UJ
Heptachlor		<0.05 UJ	<0.05 U	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		0.042 NJ	<0.05 U	<0.05 UJ	0.027 NJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<0.05 UJ	<0.50 U	<0.50 UJ	<0.05 UJ
Toxaphene		<5.0 UJ	<5.0 U	<5.0 UJ	<5.0 UJ
Aroclor-1016		<1.0 UJ	<1.0 U	<1.0 UJ	<1.0 UJ
Aroclor-1221		<1.0 UJ	<2.0 U	<2.0 UJ	<1.0 UJ
Aroclor-1232		<1.0 UJ	<1.0 U	<1.0 UJ	<1.0 UJ
Aroclor-1242		<1.0 UJ	<1.0 U	<1.0 UJ	<1.0 UJ
Aroclor-1248		<1.0 UJ	<1.0 U	<1.0 UJ	<1.0 UJ
Aroclor-1254		<1.0 UJ	<1.0 U	<1.0 UJ	<1.0 UJ
Aroclor-1260		<1.0 UJ	<1.0 U	<1.0 UJ	<1.0 UJ

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

N = presumptively present

Validated

Date: 12/28/95

Pesticides/PCBs
GROUNDWATER SAMPLES
September 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgi

CONSTITUENT (Units in ug/l)	SITE	KBA-11-9
	SAMPLE ID	09GW03
	DATE	09/13/94
Aldrin		<0.05 UJ
alpha-BHC		<0.05 UJ
beta-BHC		<0.05 UJ
delta-BHC		<0.05 UJ
gamma-BHC (Lindane)		<0.05 UJ
alpha-Chlordane		<0.05 UJ
gamma-Chlordane		<0.05 UJ
Chlordane		---
Chlorobenzilate		---
4,4'-DDD		<0.10 UJ
4,4'-DDE		<0.10 UJ
4,4'-DDT		<0.10 UJ
Diallate		---
ieldrin		<0.10 UJ
Endosulfan I		<0.05 UJ
Endosulfan II		<0.10 UJ
Endosulfan sulfate		<0.10 UJ
Endrin		<0.10 UJ
Endrin aldehyde		<0.10 UJ
Endrin ketone		<0.10 UJ
Heptachlor		<0.05 UJ
Heptachlor epoxide		0.01 NJ
Isodrin		---
Kepone		---
Methoxychlor		<0.50 UJ
Toxaphene		<5.0 UJ
Aroclor-1016		<1.0 UJ
Aroclor-1221		<2.0 UJ
Aroclor-1232		<1.0 UJ
Aroclor-1242		<1.0 UJ
Aroclor-1248		<1.0 UJ
Aroclor-1254		<1.0 UJ
Aroclor-1260		<1.0 UJ

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N = presumptively present

Validated Analytical Data for Subsurface Soil Samples

Validated

Inorganic Analytes
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in mg/kg)	SITE	KBA-11-10C	KBA-11-11C	KBA-11-11C	KBA-11-11C
	SAMPLE ID	SB11412	SB10125	SB10145	SB10175
	DATE	11/06/93	10/23/93	10/23/93	10/23/93
	DEPTH (ft)	12.00	25.00	45.00	75.00
Aluminum		3030	3620	2030	896
Antimony		<5.2 U	<5.1 U	<5.6 U	<4.8 U
Arsenic		<0.41 U	2.5	2.1 J	0.84 J
Barium		3.9 J	14.9 J	9.1 J	3.5 J
Beryllium		<0.09 U	0.13 J	0.14 J	0.06 J
Cadmium		<0.80 U	<0.79 U	<0.87 U	<0.74 U
Calcium		135 J	76.8 J	121 J	326000
Chromium		4.7	4.7	3.3	3.5
Cobalt		<1.0 U	1.1 J	<1.1 U	<0.95 U
Copper		1.2 J	0.70 J	<0.57 U	<0.49 U
Cyanide		<0.21 U	<0.21 U	<0.23 U	<0.20 U
Iron		718 J	2330 J	1490 J	927 J
Lead		<1.0 U	1.5	2.3	0.40 J
agnesium		79.4 J	234 J	165 J	3340
Manganese		5.4 J	14.7 J	16.3 J	35.5 J
Mercury		0.05	<0.04 U	<0.04 U	<0.03 U
Nickel		<2.3 U	<2.2 U	2.6 J	<2.1 U
Potassium		<154 U	197 J	176 J	161 J
Selenium		0.73 J	<0.49 U	<0.53 U	<0.46 UJ
Silver		<0.68 U	<0.67 U	<0.73 U	<0.63 U
Sodium		9.4 J	21.4 J	16.2 J	140 J
Sulfide		115	78.1	34.4	39.9
Thallium		<0.22 U	<0.22 U	<0.24 U	<0.20 U
Tin		---	---	---	---
Vanadium		2.0 J	4.4 J	2.8 J	3.1 J
Zinc		1.7 J	6.7	5.2 J	3.0 J

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Validated

Inorganic Analytes
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in mg/kg)	SITE	KBA-11-13A	KBA-11-13A	KBA-11-16	KBA-11-19A
	SAMPLE ID	SB10425	SB10440	SB10840	SB11220
	DATE	11/20/93	11/20/93	11/18/93	11/18/93
	DEPTH (ft)	25.00	40.00	40.00	20.00
Aluminum		1600	1330	953	1550
Antimony		<5.0 U	<5.0 U	<5.2 U	<5.2 U
Arsenic		4.4	1.8 J	1.6 J	2.8
Barium		8.8 J	6.0 J	4.2 J	7.5 J
Beryllium		<0.05 U	<0.05 U	<0.05 U	<0.05 U
Cadmium		<0.77 U	<0.78 U	<0.81 U	<0.81 U
Calcium		22.8 J	34.6 J	31.3 J	149 J
Chromium		2.8	2.4	2.1 J	2.7
Cobalt		0.99 J	<1.0 U	<1.0 U	2.3 J
Copper		0.61 J	<0.51 U	<0.53 U	<0.53 U
Cyanide		0.30 J	0.29 J	<0.22 U	<0.22 U
Iron		924 J	834 J	629 J	1440 J
Lead		1.2	0.74	0.98	1.4
Magnesium		94.4 J	62.3 J	47.6 J	86.1 J
Manganese		4.8	5.7	4.4	4.5
Mercury		1.3	<0.04 U	<0.04 U	<0.04 U
Nickel		<2.6 U	<2.2 U	<2.3 U	<2.4 U
Potassium		<148 U	<149 U	<155 U	<155 U
Selenium		<0.58 UJ	<0.49 U	<0.50 U	<0.50 U
Silver		<0.65 U	<0.66 U	<0.68 U	<0.68 U
Sodium		<13.8 U	<14.9 U	<32.7 U	<9.2 U
Sulfide		68	68	54	30
Thallium		0.36 J	<0.21 U	<0.22 U	0.44 J
Tin		---	---	---	---
Vanadium		1.6 J	1.2 J	0.83 J	1.7 J
Zinc		4.2 J	3.1 J	2.5 J	7.2

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Validated

Inorganic Analytes
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in mg/kg)	SITE	KBA-11-22A	KBA-PS-10	KBA-PS-10	KBA-PS-9
	SAMPLE ID	SB11512	SBPS1015	SBPS1025	SBPS915
	DATE	11/17/93	11/19/93	11/19/93	11/03/93
	DEPTH (ft)	12.00	15.00	25.00	15.00
Aluminum		2070 J	1880	2840	1690
Antimony		<5.2 U	<5.1 U	<5.2 U	<5.3 U
Arsenic		0.51 J	<0.41 U	0.45 J	<2.1 U
Barium		2.5 J	3.6 J	17.1 J	4.2 J
Beryllium		0.07 J	<0.05 U	0.07 J	<0.09 U
Cadmium		<0.80 U	<0.80 U	<0.80 U	<0.83 U
Calcium		80.4 J	49.5 J	54.4 J	30.5 J
Chromium		2.0 J	3.3	4.2	3.2
Cobalt		<1.0 U	<1.0 U	<1.0 U	<1.1 U
Copper		0.64 J	<0.52 U	<0.52 U	0.63 J
Cyanide		0.23 J	<0.21 U	0.23 J	<0.22 U
Iron		236 J	469 J	848 J	998 J
Lead		1.3	0.90	1.4	<0.91 U
agnesium		63.3 J	63.3 J	133 J	48.4 J
Manganese		1.5 J	2.4 J	6.8	6.0 J
Mercury		<0.04 U	<0.04 U	<0.04 U	<0.04 U
Nickel		<2.3 U	<2.2 U	<2.4 U	<2.3 U
Potassium		<154 U	<152 U	<153 U	<159 U
Selenium		<0.49 U	0.50 J	<0.49 U	<0.51 U
Silver		<0.68 U	<0.67 U	<0.67 U	<0.70 U
Sodium		<10.1 U	<11.9 U	<23.1 U	8.2 J
Sulfide		59.8	31.1	90.3	180
Thallium		<0.22 U	<0.22 U	<0.22 U	<0.23 U
Tin		---	---	---	---
Vanadium		1.7 J	1.3 J	2.3 J	2.2 J
Zinc		0.64 J	<1.3 U	<6.0 U	1.1 J

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Inorganic Analytes
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in mg/kg)	SITE	KBA-PS-9
	SAMPLE ID	SBPS925
	DATE	11/03/93
	DEPTH (ft)	25.00
Aluminum		1310
Antimony		<5.2 U
Arsenic		<0.42 U
Barium		2.8 J
Beryllium		<0.09 U
Cadmium		<0.81 U
Calcium		36.2 J
Chromium		2.1 J
Cobalt		<1.0 U
Copper		<0.53 U
Cyanide		<0.22 U
Iron		273 J
Lead		1.5
Magnesium		33.9 J
Manganese		1.6 J
Mercury		<0.06 U
Nickel		<2.3 U
Potassium		<155 U
Selenium		<0.50 U
Silver		<0.68 U
Sodium		7.9 J
Sulfide		90
Thallium		<0.22 U
Tin		---
Vanadium		1.4 J
Zinc		1.0 J

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Validated

Volatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-10C	KBA-11-11C	KBA-11-11C	KBA-11-11C
	SAMPLE ID	SB11412	SB10125	SB10145	SB10175
	DATE	11/06/93	10/23/93	10/23/93	10/23/93
	DEPTH (ft)	12.00	25.00	45.00	75.00
Acetone		<48 U	<48 U	<55 U	<35 U
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<13 U	<12 U	<13 U	<12 U
Bromochloromethane		---	---	---	---
Bromodichloromethane		<13 U	<12 U	<13 U	<12 U
Bromoform		<13 U	<12 U	<13 U	<12 U
Bromomethane		<13 U	<12 U	<13 U	<12 U
2-Butanone		<13 U	15	13	17
Carbon disulfide		<13 U	4 J	8 J	<12 U
Carbon tetrachloride		<13 U	<12 U	<13 U	<12 U
Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<13 U	<12 U	<13 U	<12 U
Chloroethane		<13 U	<12 U	<13 U	<12 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<13 U	<12 U	<13 U	<12 U
Chloromethane		<13 U	<12 U	<13 U	<12 U
Chlorodibromomethane		<13 U	<12 U	<13 U	<12 U
1,2-Dibromo-3-chloropropane		---	---	---	---
1,2-Dibromoethane		---	---	---	---
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		---	---	---	---
1,3-Dichlorobenzene (VOA)		---	---	---	---
1,4-Dichlorobenzene (VOA)		---	---	---	---
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<13 U	<12 U	<13 U	<12 U
1,2-Dichloroethane		<13 U	<12 U	<13 U	<12 U
1,1-Dichloroethene		<13 U	<12 U	<13 U	<12 U
1,2-Dichloroethene (total)		<13 U	<12 U	<13 U	<12 U
cis-1,2-Dichloroethene		---	---	---	---
trans-1,2-Dichloroethene		---	---	---	---
2-Dichloropropane		<13 U	<12 U	<13 U	<12 U

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Validated

Volatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-10C	KBA-11-11C	KBA-11-11C	KBA-11-11C
	SAMPLE ID	SB11412	SB10125	SB10145	SB10175
	DATE	11/06/93	10/23/93	10/23/93	10/23/93
	DEPTH (ft)	12.00	25.00	45.00	75.00
cis-1,3-Dichloropropene		<13 U	<12 U	<13 U	<12 U
trans-1,3-Dichloropropene		<13 U	<12 U	<13 U	<12 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<13 U	<12 U	<13 U	<12 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<13 U	<12 U	<13 U	<12 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<13 U	<12 U	<13 U	<12 U
Methylene chloride		<13 U	<12 U	<13 U	<12 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<13 U	<12 U	<13 U	<12 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<13 U	<12 U	<13 U	<12 U
Tetrachloroethene		<13 U	<12 U	<13 U	<12 U
Toluene		6 J	5 J	18	9 J
1,1,1-Trichloroethane		<13 U	<12 U	<13 U	<12 U
1,1,2-Trichloroethane		<13 U	<12 U	<13 U	<12 U
Trichloroethene		<13 U	<12 U	<13 U	<12 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<13 U	<12 U	<13 U	<12 U
Xylene (total)		<13 U	3 J	<13 U	<12 U

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Validated

Volatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-13A	KBA-11-13A	KBA-11-16	KBA-11-19A
	SAMPLE ID	SB10425	SB10440	SB10840	SB11220
	DATE	11/20/93	11/20/93	11/18/93	11/18/93
	DEPTH (ft)	25.00	40.00	40.00	20.00
Acetone		<35 U	<19 U	<180 U	<43 U
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<12 U	<13 U	<12 U	<13 U
Bromochloromethane		---	---	---	---
Bromodichloromethane		<12 U	<13 U	<12 U	<13 U
Bromoform		<12 U	<13 U	<12 U	<13 U
Bromomethane		<12 U	<13 U	<12 U	<13 U
2-Butanone		<12 U	<13 U	190	<13 U
Carbon disulfide		8 J	<13 U	12 J	6 J
Carbon tetrachloride		<12 U	<13 U	<12 U	<13 U
Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<12 U	<13 U	<12 U	<13 U
Chloroethane		<12 U	<13 U	<12 U	<13 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<12 U	<13 U	<12 U	<13 U
Chloromethane		<12 U	<13 U	<12 U	<13 U
Chlorodibromomethane		<12 U	<13 U	<12 U	<13 U
1,2-Dibromo-3-chloropropane		---	---	---	---
1,2-Dibromoethane		---	---	---	---
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		---	---	---	---
1,3-Dichlorobenzene (VOA)		---	---	---	---
1,4-Dichlorobenzene (VOA)		---	---	---	---
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<12 U	<13 U	<12 U	<13 U
1,2-Dichloroethane		<12 U	<13 U	<12 U	<13 U
1,1-Dichloroethene		<12 U	<13 U	<12 U	<13 U
1,2-Dichloroethene (total)		<12 U	<13 U	<12 U	<13 U
cis-1,2-Dichloroethene		---	---	---	---
trans-1,2-Dichloroethene		---	---	---	---
2-Dichloropropane		<12 U	<13 U	<12 U	<13 U

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Validated

Volatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-13A	KBA-11-13A	KBA-11-16	KBA-11-19A
	SAMPLE ID	SB10425	SB10440	SB10840	SB11220
	DATE	11/20/93	11/20/93	11/18/93	11/18/93
	DEPTH (ft)	25.00	40.00	40.00	20.00
cis-1,3-Dichloropropene		<12 U	<13 U	<12 U	<13 U
trans-1,3-Dichloropropene		<12 U	<13 U	<12 U	<13 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		4 J	<13 U	<12 U	<13 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<12 U	<13 U	5 J	<13 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<12 U	<13 U	99	4 J
Methylene chloride		<12 U	<13 U	<14 U	<13 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<12 U	<13 U	<12 U	<13 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<12 U	<13 U	<12 U	<13 U
Tetrachloroethene		<12 U	<13 U	<12 U	<13 U
Toluene		12 J	<13 U	4 J	<13 U
1,1,1-Trichloroethane		<12 U	<13 U	<12 U	<13 U
1,1,2-Trichloroethane		<12 U	<13 U	<12 U	<13 U
Trichloroethene		<12 U	<13 U	<12 U	<13 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<12 U	<13 U	<12 U	<13 U
Xylene (total)		23	<13 U	<12 U	<13 U

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Validated

Volatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-22A	KBA-PS-10	KBA-PS-10	KBA-PS-9
	SAMPLE ID	SB11512	SBPS1015	SBPS1025	SBPS915
	DATE	11/17/93	11/19/93	11/19/93	11/03/93
	DEPTH (ft)	12.00	15.00	25.00	15.00
Acetone		<25 U	<24 U	<17 U	30
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<13 U	<14 U	<13 U	<13 U
Bromochloromethane		---	---	---	---
Bromodichloromethane		<13 U	<14 U	<13 U	<13 U
Bromoform		<13 U	<14 U	<13 U	<13 U
Bromomethane		<13 U	<14 U	<13 U	<13 U
2-Butanone		<13 U	<14 U	<13 U	<13 U
Carbon disulfide		<13 U	2 J	<13 U	<13 U
Carbon tetrachloride		<13 U	<14 U	<13 U	<13 U
-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<13 U	<14 U	<13 U	<13 U
Chloroethane		<13 U	<14 U	<13 U	<13 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<13 U	<14 U	<13 U	<13 U
Chloromethane		<13 U	<14 U	<13 U	<13 U
Chlorodibromomethane		<13 U	<14 U	<13 U	<13 U
1,2-Dibromo-3-chloropropane		---	---	---	---
1,2-Dibromoethane		---	---	---	---
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		---	---	---	---
1,3-Dichlorobenzene (VOA)		---	---	---	---
1,4-Dichlorobenzene (VOA)		---	---	---	---
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<13 U	<14 U	3 J	<13 U
1,2-Dichloroethane		<13 U	<14 U	<13 U	<13 U
1,1-Dichloroethene		<13 U	<14 U	<13 U	<13 U
1,2-Dichloroethene (total)		<13 U	<14 U	<13 U	<13 U
cis-1,2-Dichloroethene		---	---	---	---
trans-1,2-Dichloroethene		---	---	---	---
2-Dichloropropane		<13 U	<14 U	<13 U	<13 U

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Validated

Volatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-22A	KBA-PS-10	KBA-PS-10	KBA-PS-9
	SAMPLE ID	SB11512	SBPS1015	SBPS1025	SBPS915
	DATE	11/17/93	11/19/93	11/19/93	11/03/93
	DEPTH (ft)	12.00	15.00	25.00	15.00
cis-1,3-Dichloropropene		<13 U	<14 U	<13 U	<13 U
trans-1,3-Dichloropropene		<13 U	<14 U	<13 U	<13 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<13 U	<14 U	<13 U	<13 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<13 U	<14 U	<13 U	<13 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<13 U	<14 U	27	<13 U
Methylene chloride		<16 U	<14 U	<13 U	<13 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<13 U	<14 U	<13 U	<13 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<13 U	<14 U	<13 U	<13 U
Tetrachloroethene		<13 U	<14 U	<13 U	<13 U
Toluene		<13 U	<14 U	<13 U	<13 U
1,1,1-Trichloroethane		<13 U	<14 U	<13 U	<13 U
1,1,2-Trichloroethane		<13 U	<14 U	<13 U	<13 U
Trichloroethene		<13 U	<14 U	<13 U	<13 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<13 U	<14 U	<13 U	<13 U
Xylene (total)		<13 U	<14 U	<13 U	<13 U

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Volatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-PS-9
	SAMPLE ID	SBPS925
	DATE	11/03/93
	DEPTH (ft)	25.00
Acetone		320
Acetonitrile		---
Acrolein		---
Acrylonitrile		---
3-Chloro-1-propene		---
Benzene		<13 U
Bromochloromethane		---
Bromodichloromethane		<13 U
Bromoform		<13 U
Bromomethane		<13 U
2-Butanone		<13 U
Carbon disulfide		<13 U
Carbon tetrachloride		<13 U
2-Chloro-1,3-butadiene		---
Chlorobenzene		<13 U
Chloroethane		<13 U
2-Chloroethylvinylether		---
Chloroform		<13 U
Chloromethane		<13 U
Chlorodibromomethane		<13 U
1,2-Dibromo-3-chloropropane		---
1,2-Dibromoethane		---
Dibromomethane		---
1,2-Dichlorobenzene (VOA)		---
1,3-Dichlorobenzene (VOA)		---
1,4-Dichlorobenzene (VOA)		---
trans-1,4-Dichloro-2-butene		---
1,1-Dichloroethane		<13 U
1,2-Dichloroethane		<13 U
1,1-Dichloroethene		<13 U
1,2-Dichloroethene (total)		4 J
cis-1,2-Dichloroethene		---
trans-1,2-Dichloroethene		---
1,2-Dichloropropane		<13 U

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Volatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-PS-9
	SAMPLE ID	SBPS925
	DATE	11/03/93
	DEPTH (ft)	25.00
cis-1,3-Dichloropropene		<13 U
trans-1,3-Dichloropropene		<13 U
1,4-Dioxane		---
Ethylbenzene		<13 U
Ethyl methacrylate		---
2-Hexanone		<13 U
Iodomethane		---
Isobutyl alcohol		---
Methacrylonitrile		---
Methyl methacrylate		---
4-Methyl-2-pentanone		<13 U
Methylene chloride		<16 U
Pentachloroethane		---
Propionitrile		---
Styrene		<13 U
1,1,1,2-Tetrachloroethane		---
1,1,2,2-Tetrachloroethane		<13 U
Tetrachloroethene		<13 U
Toluene		4 J
1,1,1-Trichloroethane		<13 U
1,1,2-Trichloroethane		<13 U
Trichloroethene		<13 U
Trichlorofluoromethane		---
1,2,3-Trichloropropane		---
Vinyl acetate		---
Vinyl chloride		<13 U
Xylene (total)		<13 U

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-10C	KBA-11-11C	KBA-11-11C	KBA-11-11C
	SAMPLE ID	SB11412	SB10125	SB10145	SB10175
	DATE	11/06/93	10/23/93	10/23/93	10/23/93
	DEPTH (ft)	12.00	25.00	45.00	75.00
Acenaphthene		<420 U	<410 U	<420 U	<430 U
Acenaphthylene		<420 U	<410 U	<420 U	<430 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<420 U	<410 U	<420 U	<430 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<420 U	<410 U	<420 U	<430 U
Benzo(b)fluoranthene		<420 U	<410 U	<420 U	<430 U
Benzo(k)fluoranthene		<420 U	<410 U	<420 U	<430 U
Benzo(ghi)perylene		<420 U	<410 U	<420 U	<430 U
Benzo(a)pyrene		<420 U	<410 U	<420 U	<430 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<420 U	<410 U	<420 U	<430 U
bis(2-Chloroethyl) ether		<420 U	<410 U	<420 U	<430 U
bis(2-Chloroisopropyl)ether		<420 U	<410 U	<420 U	<430 U
bis(2-Ethylhexyl)phthalate		<420 U	<410 U	<420 U	<430 U
4-Bromophenyl phenyl ether		<420 U	<410 U	<420 U	<430 U
Butyl benzyl phthalate		<420 U	<410 U	<420 U	<430 U
Carbazole		<420 U	<410 U	<420 U	<430 U
4-Chloro-3-methylphenol		<420 U	<410 U	<420 U	<430 U
4-Chloroaniline		<420 U	<410 U	<420 U	<430 U
2-Chloronaphthalene		<420 U	<410 U	<420 U	<430 U
2-Chlorophenol		<420 U	<410 U	<420 U	<430 U
4-Chlorophenyl phenyl ether		<420 U	<410 U	<420 U	<430 U
Chrysene		<420 U	<410 U	<420 U	<430 U
Dibenz(a,h)anthracene		<420 U	<410 U	<420 U	<430 U
Dibenzofuran		<420 U	<410 U	<420 U	<430 U
Di-n-butyl phthalate		<980 U	<410 U	<420 U	<430 U
Di-n-octyl phthalate		<420 U	<410 U	<420 U	<430 U
2-Dichlorobenzene		<420 U	<410 U	<420 U	<430 U

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-10C	KBA-11-11C	KBA-11-11C	KBA-11-11C
	SAMPLE ID	SB11412	SB10125	SB10145	SB10175
	DATE	11/06/93	10/23/93	10/23/93	10/23/93
	DEPTH (ft)	12.00	25.00	45.00	75.00
1,3-Dichlorobenzene		<420 U	<410 U	<420 U	<430 U
1,4-Dichlorobenzene		<420 U	<410 U	<420 U	<430 U
3,3'-Dichlorobenzidine		<420 U	<410 U	<420 U	<430 U
2,4-Dichlorophenol		<420 U	<410 U	<420 U	<430 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<420 U	<410 U	<420 U	<430 U
Dimethyl phthalate		<420 U	<410 U	<420 U	<430 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<420 U	<410 U	<420 U	<430 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<1000 U	<990 U	<1000 U	<1000 U
2,4-Dinitrophenol		<1000 U	<990 U	<1000 U	<1000 U
2,4-Dinitrotoluene		<420 U	<410 U	<420 U	<430 U
2,6-Dinitrotoluene		<420 U	<410 U	<420 U	<430 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<420 U	<410 U	<420 U	<430 U
Fluorene		<420 U	<410 U	<420 U	<430 U
Hexachlorobenzene		<420 U	<410 U	<420 U	<430 U
Hexachlorobutadiene		<420 U	<410 U	<420 U	<430 U
Hexachlorocyclopentadiene		<420 U	<410 U	<420 U	<430 U
Hexachloroethane		<420 U	<410 U	<420 U	<430 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<420 U	<410 U	<420 U	<430 U
Isophorone		<420 U	<410 U	<420 U	<430 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<420 U	<410 U	<420 U	<430 U

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-10C	KBA-11-11C	KBA-11-11C	KBA-11-11C
	SAMPLE ID	SB11412	SB10125	SB10145	SB10175
	DATE	11/06/93	10/23/93	10/23/93	10/23/93
	DEPTH (ft)	12.00	25.00	45.00	75.00
2-Methylphenol		<420 U	<410 U	<420 U	<430 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<420 U	<410 U	<420 U	<430 U
Naphthalene		<420 U	<410 U	<420 U	<430 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<1000 U	<990 U	<1000 U	<1000 U
3-Nitroaniline		<1000 U	<990 U	<1000 U	<1000 U
4-Nitroaniline		<1000 U	<990 U	<1000 U	<1000 U
Nitrobenzene		<420 U	<410 U	<420 U	<430 U
5-Nitro-o-toluidine		---	---	---	---
Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<420 U	<410 U	<420 U	<430 U
4-Nitrophenol		<1000 U	<990 U	<1000 U	<1000 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<420 U	<410 U	<420 U	<430 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<420 U	<410 U	<420 U	<430 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<1000 U	<990 U	<1000 U	<1000 U
Phenacetin		---	---	---	---
Phenanthrene		<420 U	<410 U	<420 U	<430 U
Phenol		<420 U	<410 U	<420 U	<430 U
enyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-10C	KBA-11-11C	KBA-11-11C	KBA-11-11C
	SAMPLE ID	SB11412	SB10125	SB10145	SB10175
	DATE	11/06/93	10/23/93	10/23/93	10/23/93
	DEPTH (ft)	12.00	25.00	45.00	75.00
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<420 U	<410 U	<420 U	<430 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<420 U	<410 U	<420 U	<430 U
2,4,5-Trichlorophenol		<1000 U	<990 U	<1000 U	<1000 U
2,4,6-Trichlorophenol		<420 U	<410 U	<420 U	<430 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-13A	KBA-11-13A	KBA-11-16	KBA-11-19A
	SAMPLE ID	SB10425	SB10440	SB10840	SB11220
	DATE	11/20/93	11/20/93	11/18/93	11/18/93
	DEPTH (ft)	25.00	40.00	40.00	20.00
Acenaphthene		<400 U	<410 U	<420 U	<430 U
Acenaphthylene		<400 U	<410 U	<420 U	<430 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<400 U	<410 U	<420 U	<430 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<400 U	<410 U	<420 U	<430 U
Benzo(b)fluoranthene		<400 U	<410 U	<420 U	<430 U
Benzo(k)fluoranthene		<400 U	<410 U	<420 U	<430 U
Benzo(ghi)perylene		<400 U	<410 U	<420 U	<430 U
enzo(a)pyrene		<400 U	<410 U	<420 U	<430 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<400 U	<410 U	<420 U	<430 U
bis(2-Chloroethyl) ether		<400 U	<410 U	<420 U	<430 U
bis(2-Chloroisopropyl)ether		<400 U	<410 U	<420 U	<430 U
bis(2-Ethylhexyl)phthalate		<400 U	<410 U	<420 U	<430 U
4-Bromophenyl phenyl ether		<400 U	<410 U	<420 U	<430 U
Butyl benzyl phthalate		<400 U	<410 U	<420 U	<430 U
Carbazole		<400 U	<410 U	<420 U	<430 U
4-Chloro-3-methylphenol		<400 U	<410 U	<420 U	<430 U
4-Chloroaniline		<400 U	<410 U	<420 U	<430 U
2-Chloronaphthalene		<400 U	<410 U	<420 U	<430 U
2-Chlorophenol		<400 U	<410 U	<420 U	<430 U
4-Chlorophenyl phenyl ether		<400 U	<410 U	<420 U	<430 U
Chrysene		<400 U	<410 U	<420 U	<430 U
Dibenz(a,h)anthracene		<400 U	<410 U	<420 U	<430 U
Dibenzofuran		<400 U	<410 U	<420 U	<430 U
Di-n-butyl phthalate		<400 U	<410 U	<420 U	<430 U
Di-n-octyl phthalate		<400 U	<410 U	<420 U	<430 U
2-Dichlorobenzene		<400 U	<410 U	<420 U	<430 U

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-13A	KBA-11-13A	KBA-11-16	KBA-11-19A
	SAMPLE ID	SB10425	SB10440	SB10840	SB11220
	DATE	11/20/93	11/20/93	11/18/93	11/18/93
	DEPTH (ft)	25.00	40.00	40.00	20.00
1,3-Dichlorobenzene		<400 U	<410 U	<420 U	<430 U
1,4-Dichlorobenzene		<400 U	<410 U	<420 U	<430 U
3,3'-Dichlorobenzidine		<400 U	<410 U	<420 U	<430 U
2,4-Dichlorophenol		<400 U	<410 U	<420 U	<430 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<400 U	<410 U	<420 U	<430 U
Dimethyl phthalate		<400 U	<410 U	<420 U	<430 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<400 U	<410 U	<420 U	<430 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<980 U	<990 U	<1000 U	<1100 U
2,4-Dinitrophenol		<980 U	<990 U	<1000 U	<1100 U
2,4-Dinitrotoluene		<400 U	<410 U	<420 U	<430 U
2,6-Dinitrotoluene		<400 U	<410 U	<420 U	<430 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<400 U	<410 U	<420 U	<430 U
Fluorene		<400 U	<410 U	<420 U	<430 U
Hexachlorobenzene		<400 U	<410 U	<420 U	<430 U
Hexachlorobutadiene		<400 U	<410 U	<420 U	<430 U
Hexachlorocyclopentadiene		<400 U	<410 U	<420 U	<430 U
Hexachloroethane		<400 U	<410 U	<420 U	<430 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<400 U	<410 U	<420 U	<430 U
Isophorone		<400 U	<410 U	<420 U	<430 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<400 U	<410 U	<420 U	<430 U

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-13A	KBA-11-13A	KBA-11-16	KBA-11-19A
	SAMPLE ID	SB10425	SB10440	SB10840	SB11220
	DATE	11/20/93	11/20/93	11/18/93	11/18/93
	DEPTH (ft)	25.00	40.00	40.00	20.00
2-Methylphenol		<400 U	<410 U	<420 U	<430 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<400 U	<410 U	180 J	<430 U
Naphthalene		<400 U	<410 U	<420 U	<430 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<980 U	<990 U	<1000 U	<1100 U
3-Nitroaniline		<980 U	<990 U	<1000 U	<1100 U
4-Nitroaniline		<980 U	<990 U	<1000 U	<1100 U
Nitrobenzene		<400 U	<410 U	<420 U	<430 U
5-Nitro-o-toluidine		---	---	---	---
Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<400 U	<410 U	<420 U	<430 U
4-Nitrophenol		<980 U	<990 U	<1000 U	<1100 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<400 U	<410 U	<420 U	<430 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<400 U	<410 U	<420 U	<430 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<980 U	<990 U	<1000 U	<1100 U
Phenacetin		---	---	---	---
Phenanthrene		<400 U	<410 U	<420 U	<430 U
Phenol		<400 U	<410 U	<420 U	<430 U
enyl-tert-butylamine		---	---	---	---

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J = estimated concentration

Validated

Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-13A	KBA-11-13A	KBA-11-16	KBA-11-19A
	SAMPLE ID	SB10425	SB10440	SB10840	SB11220
	DATE	11/20/93	11/20/93	11/18/93	11/18/93
	DEPTH (ft)	25.00	40.00	40.00	20.00
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<400 U	<410 U	<420 U	<430 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<400 U	<410 U	<420 U	<430 U
2,4,5-Trichlorophenol		<980 U	<990 U	<1000 U	<1100 U
2,4,6-Trichlorophenol		<400 U	<410 U	<420 U	<430 U
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-22A	KBA-PS-10	KBA-PS-10	KBA-PS-9
	SAMPLE ID	SB11512	SBPS1015	SBPS1025	SBPS915
	DATE	11/17/93	11/19/93	11/19/93	11/03/93
	DEPTH (ft)	12.00	15.00	25.00	15.00
Acenaphthene		<410 U	<430 U	<420 U	<430 UJ
Acenaphthylene		<410 U	<430 U	<420 U	<430 UJ
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<410 U	<430 U	<420 U	<430 UJ
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<410 U	<430 U	<420 U	<430 UJ
Benzo(b)fluoranthene		<410 U	<430 U	<420 U	<430 UJ
Benzo(k)fluoranthene		<410 U	<430 U	<420 U	<430 UJ
Benzo(ghi)perylene		<410 U	<430 U	<420 U	<430 UJ
Benzo(a)pyrene		<410 U	<430 U	<420 U	<430 UJ
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<410 U	<430 U	<420 U	<430 UJ
bis(2-Chloroethyl) ether		<410 U	<430 U	<420 U	<430 UJ
bis(2-Chloroisopropyl)ether		<410 U	<430 U	<420 U	<430 UJ
bis(2-Ethylhexyl)phthalate		<410 U	<430 U	<420 U	<430 UJ
4-Bromophenyl phenyl ether		<410 U	<430 U	<420 U	<430 UJ
Butyl benzyl phthalate		<410 U	<430 U	<420 U	<430 UJ
Carbazole		<410 U	<430 U	<420 U	<430 UJ
4-Chloro-3-methylphenol		<410 U	<430 U	<420 U	<430 UJ
4-Chloroaniline		<410 U	<430 U	<420 U	<430 UJ
2-Chloronaphthalene		<410 U	<430 U	<420 U	<430 UJ
2-Chlorophenol		<410 U	<430 U	<420 U	<430 UJ
4-Chlorophenyl phenyl ether		<410 U	<430 U	<420 U	<430 UJ
Chrysene		<410 U	<430 U	<420 U	<430 UJ
Dibenz(a,h)anthracene		<410 U	<430 U	<420 U	<430 UJ
Dibenzofuran		<410 U	<430 U	<420 U	<430 UJ
Di-n-butyl phthalate		<410 U	<430 U	<420 U	<430 UJ
Di-n-octyl phthalate		<410 U	<430 U	<420 U	<430 UJ
2-Dichlorobenzene		<410 U	<430 U	<420 U	<430 UJ

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-22A	KBA-PS-10	KBA-PS-10	KBA-PS-9
	SAMPLE ID	SB11512	SBPS1015	SBPS1025	SBPS915
	DATE	11/17/93	11/19/93	11/19/93	11/03/93
	DEPTH (ft)	12.00	15.00	25.00	15.00
1,3-Dichlorobenzene		<410 U	<430 U	<420 U	<430 UJ
1,4-Dichlorobenzene		<410 U	<430 U	<420 U	<430 UJ
3,3'-Dichlorobenzidine		<410 U	<430 U	<420 U	<430 UJ
2,4-Dichlorophenol		<410 U	<430 U	<420 U	<430 UJ
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<410 U	<430 U	<420 U	<430 UJ
Dimethyl phthalate		<410 U	<430 U	<420 U	<430 UJ
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<410 U	<430 U	<420 U	<430 UJ
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<1000 U	<1100 U	<1000 U	<1000 UJ
2,4-Dinitrophenol		<1000 U	<1100 U	<1000 U	<1000 UJ
2,4-Dinitrotoluene		<410 U	<430 U	<420 U	<430 UJ
2,6-Dinitrotoluene		<410 U	<430 U	<420 U	<430 UJ
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<410 U	<430 U	<420 U	<430 UJ
Fluorene		<410 U	<430 U	<420 U	<430 UJ
Hexachlorobenzene		<410 U	<430 U	<420 U	<430 UJ
Hexachlorobutadiene		<410 U	<430 U	<420 U	<430 UJ
Hexachlorocyclopentadiene		<410 U	<430 U	<420 U	<430 UJ
Hexachloroethane		<410 U	<430 U	<420 U	<430 UJ
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<410 U	<430 U	<420 U	<430 UJ
Isophorone		<410 U	<430 U	<420 U	<430 UJ
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
2-Methylnaphthalene		<410 U	<430 U	<420 U	<430 UJ

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-22A	KBA-PS-10	KBA-PS-10	KBA-PS-9
	SAMPLE ID	SB11512	SBPS1015	SBPS1025	SBPS915
	DATE	11/17/93	11/19/93	11/19/93	11/03/93
	DEPTH (ft)	12.00	15.00	25.00	15.00
2-Methylphenol		<410 U	<430 U	<420 U	<430 UJ
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<410 U	<430 U	<420 U	<430 UJ
Naphthalene		<410 U	<430 U	<420 U	<430 UJ
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<1000 U	<1100 U	<1000 U	<1000 UJ
3-Nitroaniline		<1000 U	<1100 U	<1000 U	<1000 UJ
4-Nitroaniline		<1000 U	<1100 U	<1000 U	<1000 UJ
Nitrobenzene		<410 U	<430 U	<420 U	<430 UJ
5-Nitro-o-toluidine		---	---	---	---
Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<410 U	<430 U	<420 U	<430 UJ
4-Nitrophenol		<1000 U	<1100 U	<1000 U	<1000 UJ
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<410 U	<430 U	<420 U	<430 UJ
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<410 U	<430 U	<420 U	<430 UJ
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<1000 U	<1100 U	<1000 U	<1000 UJ
Phenacetin		---	---	---	---
Phenanthrene		<410 U	<430 U	<420 U	<430 UJ
Phenol		<410 U	<430 U	<420 U	<430 UJ
enyl-tert-butylamine		---	---	---	---

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-22A	KBA-PS-10	KBA-PS-10	KBA-PS-9
	SAMPLE ID	SB11512	SBPS1015	SBPS1025	SBPS915
	DATE	11/17/93	11/19/93	11/19/93	11/03/93
	DEPTH (ft)	12.00	15.00	25.00	15.00
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<410 U	<430 U	<420 U	<430 UJ
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<410 U	<430 U	<420 U	<430 UJ
2,4,5-Trichlorophenol		<1000 U	<1100 U	<1000 U	<1000 UJ
2,4,6-Trichlorophenol		<410 U	<430 U	<420 U	<430 UJ
1,3,5-Trinitrobenzene		---	---	---	---

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-PS-9
	SAMPLE ID	SBPS925
	DATE	11/03/93
	DEPTH (ft)	25.00
Acenaphthene		<420 UJ
Acenaphthylene		<420 UJ
Acetophenone		---
2-Acetylaminofluorene		---
4-Aminobiphenyl		---
Aniline		---
Anthracene		<420 UJ
Aramite, total		---
Benzidine		---
Benzo(a)anthracene		<420 UJ
Benzo(b)fluoranthene		<420 UJ
Benzo(k)fluoranthene		<420 UJ
Benzo(ghi)perylene		<420 UJ
nzo(a)pyrene		<420 UJ
Benzoic acid		---
Benzyl alcohol		---
bis(2-Chloroethoxy)methane		<420 UJ
bis(2-Chloroethyl) ether		<420 UJ
bis(2-Chloroisopropyl)ether		<420 UJ
bis(2-Ethylhexyl)phthalate		<420 UJ
4-Bromophenyl phenyl ether		<420 UJ
Butyl benzyl phthalate		<420 UJ
Carbazole		<420 UJ
4-Chloro-3-methylphenol		<420 UJ
4-Chloroaniline		<420 UJ
2-Chloronaphthalene		<420 UJ
2-Chlorophenol		<420 UJ
4-Chlorophenyl phenyl ether		<420 UJ
Chrysene		<420 UJ
Dibenz(a,h)anthracene		<420 UJ
Dibenzofuran		<420 UJ
Di-n-butyl phthalate		<420 UJ
Di-n-octyl phthalate		<420 UJ
2-Dichlorobenzene		<420 UJ

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-PS-9
	SAMPLE ID	SBPS925
	DATE	11/03/93
	DEPTH (ft)	25.00
1,3-Dichlorobenzene		<420 UJ
1,4-Dichlorobenzene		<420 UJ
3,3'-Dichlorobenzidine		<420 UJ
2,4-Dichlorophenol		<420 UJ
2,6-Dichlorophenol		---
Diethyl phthalate		<420 UJ
Dimethyl phthalate		<420 UJ
7,12-Dimethybenz(a)anthracene		---
p-(Dimethylamino)azobenzene		---
3,3'-Dimethylbenzidine		---
2,4-Dimethylphenol		<420 UJ
1,3-Dinitrobenzene		---
4,6-Dinitro-2-methylphenol		<1000 UJ
2,4-Dinitrophenol		<1000 UJ
2,4-Dinitrotoluene		<420 UJ
2,6-Dinitrotoluene		<420 UJ
Diphenylamine		---
1,2-Diphenylhydrazine		---
Ethyl methanesulfonate		---
Fluoranthene		<420 UJ
Fluorene		<420 UJ
Hexachlorobenzene		<420 UJ
Hexachlorobutadiene		<420 UJ
Hexachlorocyclopentadiene		<420 UJ
Hexachloroethane		<420 UJ
Hexachlorophene		---
Hexachloropropene		---
Indeno(1,2,3-cd)pyrene		<420 UJ
Isophorone		<420 UJ
Isosafrole, total		---
Methapyrilene		---
Methyl methanesulfonate		---
3-Methylcholanthrene		---
2-Methylnaphthalene		<420 UJ

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Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-PS-9
	SAMPLE ID	SBPS925
	DATE	11/03/93
	DEPTH (ft)	25.00
2-Methylphenol		<420 UJ
3-Methylphenol		---
3-&4-Methylphenol		---
4-Methylphenol		<420 UJ
Naphthalene		<420 UJ
1,4-Naphthoquinone		---
1-Naphthylamine		---
2-Naphthylamine		---
2-Nitroaniline		<1000 UJ
3-Nitroaniline		<1000 UJ
4-Nitroaniline		<1000 UJ
Nitrobenzene		<420 UJ
5-Nitro-o-toluidine		---
-Nitroquinoline-1-oxide		---
2-Nitrophenol		<420 UJ
4-Nitrophenol		<1000 UJ
N-Nitrosodi-n-butylamine		---
N-Nitrosodiethylamine		---
N-Nitrosodimethylamine		---
N-Nitrosodiphenylamine		<420 UJ
N-Nitrosodiphenylamine and diphenylamine		---
N-Nitrosodi-n-propylamine		<420 UJ
N-Nitrosomethylethylamine		---
N-Nitrosomorpholine		---
N-Nitrosopiperidine		---
N-Nitrosopyrrolidine		---
2,2'-oxybis(1-chloropropane)		---
Pentachlorobenzene		---
Pentachloronitrobenzene		---
Pentachlorophenol		<1000 UJ
Phenacetin		---
Phenanthrene		<420 UJ
Phenol		<420 UJ
henyl-tert-butylamine		---

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J = estimated concentration

Validated

Semivolatile Organic Compounds
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-PS-9
	SAMPLE ID	SBPS925
	DATE	11/03/93
	DEPTH (ft)	25.00
p-Phenylene diamine		---
2-Picoline		---
Pronamide		---
Pyrene		<420 UJ
Pyridine		---
Safrole, total		---
1,2,4,5-Tetrachlorobenzene		---
2,3,4,6-Tetrachlorophenol		---
o-Toluidine		---
1,2,4-Trichlorobenzene		<420 UJ
2,4,5-Trichlorophenol		<1000 UJ
2,4,6-Trichlorophenol		<420 UJ
1,3,5-Trinitrobenzene		---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

Validated

Date: 12/23/95

Pesticides/PCBs
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-10C	KBA-11-11C	KBA-11-11C	KBA-11-11C
	SAMPLE ID	SB11412	SB10125	SB10145	SB10175
	DATE	11/06/93	10/23/93	10/23/93	10/23/93
	DEPTH (ft)	12.00	25.00	45.00	75.00
Aldrin		<2.2 U	<2.1 U	<2.2 U	<2.0 U
alpha-BHC		<2.2 U	<2.1 U	<2.2 U	<2.0 U
beta-BHC		<2.2 U	<2.1 U	<2.2 U	<2.0 U
delta-BHC		<2.2 U	<2.1 U	<2.2 U	<2.0 U
gamma-BHC (Lindane)		<2.2 U	<2.1 U	<2.2 U	<2.0 U
alpha-Chlordane		<2.2 U	<2.1 U	<2.2 U	<2.0 U
gamma-Chlordane		<2.2 U	<2.1 U	<2.2 U	<2.0 U
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<4.2 U	<4.1 U	<4.2 U	<3.8 U
4,4'-DDE		<4.2 U	<4.1 U	<4.2 U	<3.8 U
4,4'-DDT		<4.2 U	<4.1 U	<4.2 U	<3.8 U
Diallate		---	---	---	---
Dieldrin		<4.2 U	<4.1 U	<4.2 U	<3.8 U
Endosulfan I		<2.2 U	<2.1 U	<2.2 U	<2.0 U
Endosulfan II		<4.2 U	<4.1 U	<4.2 U	<3.8 U
Endosulfan sulfate		<4.2 U	<4.1 U	<4.2 U	<3.8 U
Endrin		<4.2 U	<4.1 U	<4.2 U	<3.8 U
Endrin aldehyde		<4.2 U	<4.1 U	<4.2 U	<3.8 U
Endrin ketone		<4.2 U	<4.1 U	<4.2 U	<3.8 U
Heptachlor		<2.2 U	<2.1 U	<2.2 U	<2.0 U
Heptachlor epoxide		<2.2 U	<2.1 U	<2.2 U	<2.0 U
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<22 U	<21 U	<22 U	<20 U
Toxaphene		<220 U	<210 U	<220 U	<200 U
Aroclor-1016		<42 U	<41 U	<42 U	<38 U
Aroclor-1221		<85 U	<83 U	<86 U	<77 U
Aroclor-1232		<42 U	<41 U	<42 U	<38 U
Aroclor-1242		<42 U	<41 U	<42 U	<38 U
Aroclor-1248		<42 U	<41 U	<42 U	<38 U
Aroclor-1254		<42 U	<41 U	<42 U	<38 U
Aroclor-1260		<42 U	<41 U	<42 U	<38 U

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Validated

Pesticides/PCBs
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-13A	KBA-11-13A	KBA-11-16	KBA-11-19A
	SAMPLE ID	SB10425	SB10440	SB10840	SB11220
	DATE	11/20/93	11/20/93	11/18/93	11/18/93
	DEPTH (ft)	25.00	40.00	40.00	20.00
Aldrin		<2.1 U	<2.1 U	<2.2 U	<2.2 U
alpha-BHC		<2.1 U	<2.1 U	<2.2 U	<2.2 U
beta-BHC		<2.1 U	<2.1 U	<2.2 U	<2.2 U
delta-BHC		<2.1 U	<2.1 U	<2.2 U	<2.2 U
gamma-BHC (Lindane)		<2.1 U	<2.1 U	<2.2 U	<2.2 U
alpha-Chlordane		<2.1 U	<2.1 U	<2.2 U	<2.2 U
gamma-Chlordane		<2.1 U	<2.1 U	<2.2 U	<2.2 U
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<4.0 U	<4.1 U	<4.2 U	<4.3 U
4,4'-DDE		<4.0 U	<4.1 U	<4.2 U	<4.3 U
4,4'-DDT		<4.0 U	<4.1 U	<4.2 U	<4.3 U
Diallate		---	---	---	---
Dieldrin		<4.0 U	<4.1 U	<4.2 U	<4.3 U
Endosulfan I		<2.1 U	<2.1 U	<2.2 U	<2.2 U
Endosulfan II		<4.0 U	<4.1 U	<4.2 U	<4.3 U
Endosulfan sulfate		<4.0 U	<4.1 U	<4.2 U	<4.3 U
Endrin		<4.0 U	<4.1 U	<4.2 U	<4.3 U
Endrin aldehyde		<4.0 U	<4.1 U	<4.2 U	<4.3 U
Endrin ketone		<4.0 U	<4.1 U	<4.2 U	<4.3 U
Heptachlor		<2.1 U	<2.1 U	<2.2 U	<2.2 U
Heptachlor epoxide		<2.1 U	<2.1 U	<2.2 U	<2.2 U
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<21 U	<21 U	<22 U	<22 U
Toxaphene		<210 U	<210 U	<220 U	<220 U
Aroclor-1016		<40 U	<41 U	<42 U	<43 U
Aroclor-1221		<82 U	<83 U	<86 U	<88 U
Aroclor-1232		<40 U	<41 U	<42 U	<43 U
Aroclor-1242		<40 U	<41 U	<42 U	<43 U
Aroclor-1248		<40 U	<41 U	<42 U	<43 U
Aroclor-1254		<40 U	<41 U	<42 U	<43 U
Aroclor-1260		<40 U	<41 U	<42 U	<43 U

Values represent total concentrations unless noted < =Not detected at indicated reporting limit ---=Not analyzed

Validated

Pesticides/PCBs
SUBSURFACE SOIL SAMPLES
October/November 1993
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	KBA-11-22A	KBA-PS-10	KBA-PS-10
	SAMPLE ID	SB11512	SBPS1015	SBPS1025
	DATE	11/17/93	11/19/93	11/19/93
	DEPTH (ft)	12.00	15.00	25.00
Aldrin		<2.1 U	<2.2 U	<2.2 U
alpha-BHC		<2.1 U	<2.2 U	<2.2 U
beta-BHC		<2.1 U	<2.2 U	<2.2 U
delta-BHC		<2.1 U	<2.2 U	<2.2 U
gamma-BHC (Lindane)		<2.1 U	<2.2 U	<2.2 U
alpha-Chlordane		<2.1 U	<2.2 U	<2.2 U
gamma-Chlordane		<2.1 U	<2.2 U	<2.2 U
Chlordane		---	---	---
Chlorobenzilate		---	---	---
4,4'-DDD		<4.1 U	<4.3 U	<4.2 U
4,4'-DDE		<4.1 U	<4.3 U	<4.2 U
4,4'-DDT		<4.1 U	<4.3 U	<4.2 U
Diallate		---	---	---
eldrin		<4.1 U	<4.3 U	<4.2 U
ndosulfan I		<2.1 U	<2.2 U	<2.2 U
Endosulfan II		<4.1 U	<4.3 U	<4.2 U
Endosulfan sulfate		<4.1 U	<4.3 U	<4.2 U
Endrin		<4.1 U	<4.3 U	<4.2 U
Endrin aldehyde		<4.1 U	<4.3 U	<4.2 U
Endrin ketone		<4.1 U	<4.3 U	<4.2 U
Heptachlor		<2.1 U	<2.2 U	<2.2 U
Heptachlor epoxide		<2.1 U	<2.2 U	<2.2 U
Isodrin		---	---	---
Kepone		---	---	---
Methoxychlor		<21 U	<22 U	<22 U
Toxaphene		<210 U	<220 U	<220 U
Aroclor-1016		<41 U	<43 U	<42 U
Aroclor-1221		<84 U	<88 U	<85 U
Aroclor-1232		<41 U	<43 U	<42 U
Aroclor-1242		<41 U	<43 U	<42 U
Aroclor-1248		<41 U	<43 U	<42 U
Aroclor-1254		<41 U	<43 U	<42 U
Aroclor-1260		<41 U	<43 U	<42 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Validated

Inorganic Analytes
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB201	11SB202	11SB203	11SB204
	SAMPLE ID	11SB20103	11SB20203	11SB20303	11SB20403
	DATE	09/12/95	09/12/95	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00	4.00	4.00
Aluminum		2110000	1890000	3370000	3190000
Antimony		<7300 U	<7200 U	<7300 U	<6800 U
Arsenic		520 J	570 J	890 J	360 J
Barium		2500 J	3400 J	2500 J	2700 J
Beryllium		<50 U	<50 U	<50 U	<47 U
Cadmium		<750 U	<740 U	<760 U	<700 U
Calcium		31700 J	36100 J	34200 J	39300 J
Chromium		2500 J	2000 J	3000	2300 J
Cobalt		<480 U	950 J	570 J	470 J
Copper		<450 U	680 J	490 J	<420 U
Cyanide		<80 U	<70 U	<80 U	<70 U
Iron		890000	625000	608000	951000
Lead		2400	2400	2800	3300
Magnesium		57900 J	63600 J	50800 J	44100 J
Manganese		3500 J	3300 J	3700 J	3000 J
Mercury		10 J	<10 U	20 J	10 J
Nickel		<2600 U	3000 J	<2600 U	<2400 U
Potassium		<153000 U	<151000 U	<153000 U	<143000 U
Selenium		<150 U	<150 U	<150 U	<140 U
Silver		<730 U	<720 U	<730 U	<680 U
Sodium		<10600 U	<10400 U	<9000 U	<9900 U
Sulfide		72900 J	90200 J	64000 J	(23500) J
Thallium		<200 U	<200 U	<200 U	<180 U
Vanadium		2200 J	1300 J	2100 J	2500 J
Zinc		1300 J	1400 J	1300 J	940 J

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

() = Less than Detection Limit

J - estimated concentration

Validated

Inorganic Analytes
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB205	11SB206	11SB207	11SB208
	SAMPLE ID	11SB20503	11SB20603	11SB20703	11SB20803
	DATE	09/12/95	09/12/95	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00	4.00	4.00
Aluminum		1700000	1600000	2110000	5040000
Antimony		<7200 U	<7200 U	<7200 U	<7200 U
Arsenic		<370 U	<360 U	770 J	640 J
Barium		3100 J	3400 J	3300 J	3900 J
Beryllium		<50 U	<49 U	<50 U	<50 U
Cadmium		750 J	<740 U	<740 U	<750 U
Calcium		26400 J	18700 J	69300 J	40200 J
Chromium		2200 J	2000	2500	3500
Cobalt		950 J	670 J	920 J	<470 U
Copper		800 J	1000 J	720 J	<450 U
Cyanide		<70 U	<70 U	<70 U	<70 U
Iron		679000	656000	540000	1300000
Lead		1900	1900	2300	2300
Magnesium		63500 J	64500 J	72200 J	88400 J
Manganese		3700 J	3500 J	3400 J	5900
Mercury		<10 U	<8 U	<10 U	10 J
Nickel		<2500 U	<2500 U	<2500 U	<2500 U
Potassium		<151000 U	<150000 U	<151000 U	<152000 U
Selenium		<150 U	<150 U	<150 U	<150 U
Silver		<720 U	<710 U	<720 U	<720 U
Sodium		<9500 U	<15500 U	<13200 U	<10500 U
Sulfide		31800 J	(23200) J	71200 J	75700 J
Thallium		<200 U	<190 U	<190 U	<200 U
Vanadium		1800 J	900 J	2100 J	3500 J
Zinc		1200 J	1400 J	1300 J	1500 J

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U =Less than Detection Limit

J - estimated concentration

Validated

Inorganic Analytes
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB209	11SB210
	SAMPLE ID	11SB20903	11SB21003
	DATE	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00
Aluminum		2770000	3850000
Antimony		<7300 U	<7200 U
Arsenic		400 J	840 J
Barium		3700 J	4000 J
Beryllium		<51 U	<50 U
Cadmium		<760 U	780 J
Calcium		31900 J	27200 J
Chromium		3400	3400
Cobalt		580 J	860 J
Copper		930 J	<450 U
Cyanide		<80 U	150 J
Iron		873000	996000
Lead		2600	2200
Magnesium		76500 J	94700 J
Manganese		4900	9100
Mercury		<8 U	20 J
Nickel		<2600 U	4500 J
Potassium		<154000 U	<152000 U
Selenium		<150 U	<150 U
Silver		<730 U	<720 U
Sodium		<8500 U	<12500 U
Sulfide		68200 J	31900 J
Thallium		<200 U	<200 U
Vanadium		2200 J	2400 J
Zinc		1100 J	1600 J

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J - estimated concentration

Validated

Volatile Organic Compounds
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB201	11SB202	11SB203	11SB204
	SAMPLE ID	11SB20103	11SB20203	11SB20303	11SB20403
	DATE	09/12/95	09/12/95	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00	4.00	4.00
Acetone		<12 U	<12 U	<13 U	<12 U
Benzene		<12 U	<12 U	<13 U	<12 U
Bromodichloromethane		<12 U	<12 U	<13 U	<12 U
Bromoform		<12 U	<12 U	<13 U	<12 U
Bromomethane		<12 U	<12 U	<13 U	<12 U
Carbon disulfide		<12 U	<12 U	<13 U	<12 U
Carbon tetrachloride		<12 U	<12 U	<13 U	<12 U
Chlorobenzene		<12 U	<12 U	<13 U	<12 U
Chlorodibromomethane		<12 U	<12 U	<13 U	<12 U
Chloroethane		<12 U	<12 U	<13 U	<12 U
Chloroform		<12 U	<12 U	<13 U	<12 U
Chloromethane		<12 U	<12 U	<13 U	<12 U
1,1-Dichloroethane		<12 U	<12 U	<13 U	<12 U
1,2-Dichloroethane		<12 U	<12 U	<13 U	<12 U
1,1-Dichloroethene		<12 U	<12 U	<13 U	<12 U
1,2-Dichloroethene (total)		<12 U	<12 U	<13 U	<12 U
1,2-Dichloropropane		<12 U	<12 U	<13 U	<12 U
cis-1,3-Dichloropropene		<12 U	<12 U	<13 U	<12 U
trans-1,3-Dichloropropene		<12 U	<12 U	<13 U	<12 U
Ethylbenzene		<12 U	<12 U	<13 U	<12 U
2-Hexanone		<12 U	<12 U	<13 U	<12 U
2-Butanone		<12 U	<12 U	<13 U	<12 U
4-Methyl-2-pentanone		<12 U	<12 U	<13 U	<12 U
Methylene chloride		<12 U	<12 U	<13 U	<12 U
Styrene		<12 U	<12 U	<13 U	<12 U
1,1,2,2-Tetrachloroethane		<12 U	<12 U	<13 U	<12 U
Tetrachloroethene		<12 U	<12 U	<13 U	<12 U
Toluene		<12 U	<12 U	<13 U	<12 U
1,1,1-Trichloroethane		<12 U	<12 U	<13 U	<12 U
1,1,2-Trichloroethane		<12 U	<12 U	<13 U	<12 U
Trichloroethene		<12 U	<12 U	<13 U	<12 U
Vinyl chloride		<12 U	<12 U	<13 U	<12 U
Xylene (total)		<12 U	<12 U	<13 U	<12 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Validated

Volatile Organic Compounds
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB205	11SB206	11SB207	11SB208
	SAMPLE ID	11SB20503	11SB20603	11SB20703	11SB20803
	DATE	09/12/95	09/12/95	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00	4.00	4.00
Acetone		<12 U	<12 U	<12 U	<12 U
Benzene		<12 U	<12 U	<12 U	<12 U
Bromodichloromethane		<12 U	<12 U	<12 U	<12 U
Bromoform		<12 U	<12 U	<12 U	<12 U
Bromomethane		<12 U	<12 U	<12 U	<12 U
Carbon disulfide		<12 U	<12 U	<12 U	<12 U
Carbon tetrachloride		<12 U	<12 U	<12 U	<12 U
Chlorobenzene		<12 U	<12 U	<12 U	<12 U
Chlorodibromomethane		<12 U	<12 U	<12 U	<12 U
Chloroethane		<12 U	<12 U	<12 U	<12 U
Chloroform		<12 U	<12 U	<12 U	<12 U
Chloromethane		<12 U	<12 U	<12 U	<12 U
1,1-Dichloroethane		<12 U	<12 U	<12 U	<12 U
1,2-Dichloroethane		<12 U	<12 U	<12 U	<12 U
1,1-Dichloroethene		<12 U	<12 U	<12 U	<12 U
1,2-Dichloroethene (total)		<12 U	<12 U	<12 U	<12 U
1,2-Dichloropropane		<12 U	<12 U	<12 U	<12 U
cis-1,3-Dichloropropene		<12 U	<12 U	<12 U	<12 U
trans-1,3-Dichloropropene		<12 U	<12 U	<12 U	<12 U
Ethylbenzene		<12 U	<12 U	<12 U	<12 U
2-Hexanone		<12 U	<12 U	<12 U	<12 U
2-Butanone		<12 U	<12 U	<12 U	<12 U
4-Methyl-2-pentanone		<12 U	<12 U	<12 U	<12 U
Methylene chloride		<12 U	<12 U	<12 U	<12 U
Styrene		<12 U	<12 U	<12 U	<12 U
1,1,2,2-Tetrachloroethane		<12 U	<12 U	<12 U	<12 U
Tetrachloroethene		<12 U	<12 U	<12 U	<12 U
Toluene		<12 U	<12 U	<12 U	<12 U
1,1,1-Trichloroethane		<12 U	<12 U	<12 U	<12 U
1,1,2-Trichloroethane		<12 U	<12 U	<12 U	<12 U
Trichloroethene		<12 U	<12 U	<12 U	<12 U
Vinyl chloride		<12 U	<12 U	<12 U	<12 U
Xylene (total)		<12 U	<12 U	<12 U	<12 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Validated

Volatile Organic Compounds
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB209	11SB210
	SAMPLE ID	11SB20903	11SB21003
	DATE	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00
Acetone		<13 U	<12 U
Benzene		<13 U	<12 U
Bromodichloromethane		<13 U	<12 U
Bromoform		<13 U	<12 U
Bromomethane		<13 U	<12 U
Carbon disulfide		<13 U	<12 U
Carbon tetrachloride		<13 U	<12 U
Chlorobenzene		<13 U	<12 U
Chlorodibromomethane		<13 U	<12 U
Chloroethane		<13 U	<12 U
Chloroform		<13 U	<12 U
Chloromethane		<13 U	<12 U
1,1-Dichloroethane		<13 U	<12 U
2-Dichloroethane		<13 U	<12 U
1,1-Dichloroethene		<13 U	<12 U
1,2-Dichloroethene (total)		<13 U	<12 U
1,2-Dichloropropane		<13 U	<12 U
cis-1,3-Dichloropropene		<13 U	<12 U
trans-1,3-Dichloropropene		<13 U	<12 U
Ethylbenzene		<13 U	<12 U
2-Hexanone		<13 U	<12 U
2-Butanone		<13 U	<12 U
4-Methyl-2-pentanone		<13 U	<12 U
Methylene chloride		<13 U	<12 U
Styrene		<13 U	<12 U
1,1,2,2-Tetrachloroethane		<13 U	<12 U
Tetrachloroethene		<13 U	<12 U
Toluene		<13 U	<12 U
1,1,1-Trichloroethane		<13 U	<12 U
1,1,2-Trichloroethane		<13 U	<12 U
Trichloroethene		<13 U	<12 U
Vinyl chloride		<13 U	<12 U
Xylene (total)		<13 U	<12 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Validated

Semivolatile Organic Compounds
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB201	11SB202	11SB203	11SB204
	SAMPLE ID	11SB20103	11SB20203	11SB20303	11SB20403
	DATE	09/12/95	09/12/95	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00	4.00	4.00
Acenaphthene		<400 U	<400 U	<410 U	<380 U
Acenaphthylene		<400 U	<400 U	<410 U	<380 U
Anthracene		<400 U	<400 U	<410 U	<380 U
Benzo(a)anthracene		<400 U	<400 U	<410 U	<380 U
Benzo(b)fluoranthene		<400 U	<400 U	<410 U	<380 U
Benzo(k)fluoranthene		<400 U	<400 U	<410 U	<380 U
Benzo(ghi)perylene		<400 U	<400 U	<410 U	<380 U
Benzo(a)pyrene		<400 U	<400 U	<410 U	<380 U
bis(2-Chloroethoxy)methane		<400 U	<400 U	<410 U	<380 U
bis(2-Chloroethyl) ether		<400 U	<400 U	<410 U	<380 U
bis(2-Ethylhexyl)phthalate		<400 U	<400 U	<410 U	<380 U
4-Bromophenyl phenyl ether		<400 U	<400 U	<410 U	<380 U
Butyl benzyl phthalate		<400 U	<400 U	<410 U	<380 U
Carbazole		<400 U	<400 U	<410 U	<380 U
4-Chloro-3-methylphenol		<400 U	<400 U	<410 U	<380 U
4-Chloroaniline		<400 U	<400 U	<410 U	<380 U
2-Chloronaphthalene		<400 U	<400 U	<410 U	<380 U
2-Chlorophenol		<400 U	<400 U	<410 U	<380 U
4-Chlorophenyl phenyl ether		<400 U	<400 U	<410 U	<380 U
Chrysene		<400 U	<400 U	<410 U	<380 U
Dibenz(a,h)anthracene		<400 U	<400 U	<410 U	<380 U
Dibenzofuran		<400 U	<400 U	<410 U	<380 U
Di-n-butyl phthalate		<400 U	<400 U	<410 U	<380 U
Di-n-octyl phthalate		<400 U	<400 U	<410 U	<380 U
1,2-Dichlorobenzene		<400 U	<400 U	<410 U	<380 U
1,3-Dichlorobenzene		<400 U	<400 U	<410 U	<380 U
1,4-Dichlorobenzene		<400 U	<400 U	<410 U	<380 U
3,3'-Dichlorobenzidine		<400 U	<400 U	<410 U	<380 U
2,4-Dichlorophenol		<400 U	<400 U	<410 U	<380 U
Diethyl phthalate		<400 U	<400 U	<410 U	<380 U
Dimethyl phthalate		<400 U	<400 U	<410 U	<380 U
2,4-Dimethylphenol		<400 U	<400 U	<410 U	<380 U
4,6-Dinitro-2-methylphenol		<1000 U	<1000 U	<1000 U	<950 U
2,4-Dinitrophenol		<1000 U	<1000 U	<1000 U	<950 U

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

J - estimated concentration

Semivolatile Organic Compounds
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB201	11SB202	11SB203	11SB204
	SAMPLE ID	11SB20103	11SB20203	11SB20303	11SB20403
	DATE	09/12/95	09/12/95	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00	4.00	4.00
2,4-Dinitrotoluene		<400 U	<400 U	<410 U	<380 U
2,6-Dinitrotoluene		<400 U	<400 U	<410 U	<380 U
Fluoranthene		<400 U	<400 U	<410 U	<380 U
Fluorene		<400 U	<400 U	<410 U	<380 U
Hexachlorobenzene		<400 U	<400 U	<410 U	<380 U
Hexachlorobutadiene		<400 U	<400 U	<410 U	<380 U
Hexachlorocyclopentadiene		<400 U	<400 U	<410 U	<380 U
Hexachloroethane		<400 U	<400 U	<410 U	<380 U
Indeno(1,2,3-cd)pyrene		<400 U	<400 U	<410 U	<380 U
Isophorone		<400 U	<400 U	<410 U	<380 U
2-Methylnaphthalene		<400 U	<400 U	<410 U	<380 U
2-Methylphenol		<400 U	<400 U	<410 U	<380 U
4-Methylphenol		<400 U	<400 U	<410 U	<380 U
aphthalene		<400 U	<400 U	<410 U	<380 U
2-Nitroaniline		<1000 U	<1000 U	<1000 U	<950 U
3-Nitroaniline		<1000 U	<1000 U	<1000 U	<950 U
4-Nitroaniline		<1000 U	<1000 U	<1000 U	<950 U
Nitrobenzene		<400 U	<400 U	<410 U	<380 U
2-Nitrophenol		<400 U	<400 U	<410 U	<380 U
4-Nitrophenol		<1000 U	<1000 U	<1000 U	<950 U
N-Nitrosodi-n-propylamine		<400 U	<400 U	<410 U	<380 U
N-Nitrosodiphenylamine		<400 U	<400 U	<410 U	<380 U
2,2'-oxybis(1-chloropropane)		<400 U	<400 U	<410 U	<380 U
Pentachlorophenol		<1000 U	<1000 U	<1000 U	<950 U
Phenanthrene		<400 U	<400 U	<410 U	<380 U
Phenol		<400 U	<400 U	<410 U	<380 U
Pyrene		<400 U	<400 U	<410 U	<380 U
1,2,4-Trichlorobenzene		<400 U	<400 U	<410 U	<380 U
2,4,5-Trichlorophenol		<1000 U	<1000 U	<1000 U	<950 U
2,4,6-Trichlorophenol		<400 U	<400 U	<410 U	<380 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J - estimated concentration

Validated

Semivolatile Organic Compounds
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB205	11SB206	11SB207	11SB208
	SAMPLE ID	11SB20503	11SB20603	11SB20703	11SB20803
	DATE	09/12/95	09/12/95	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00	4.00	4.00
Acenaphthene		<410 U	<410 U	<400 U	<410 U
Acenaphthylene		<410 U	<410 U	<400 U	<410 U
Anthracene		<410 U	<410 U	<400 U	<410 U
Benzo(a)anthracene		<410 U	<410 U	<400 U	<410 U
Benzo(b)fluoranthene		<410 U	<410 U	<400 U	<410 U
Benzo(k)fluoranthene		<410 U	<410 U	<400 U	<410 U
Benzo(ghi)perylene		<410 U	<410 U	<400 U	<410 U
Benzo(a)pyrene		<410 U	<410 U	<400 U	<410 U
bis(2-Chloroethoxy)methane		<410 U	<410 U	<400 U	<410 U
bis(2-Chloroethyl) ether		<410 U	<410 U	<400 U	<410 U
bis(2-Ethylhexyl)phthalate		<410 U	<410 U	<400 U	<410 U
4-Bromophenyl phenyl ether		<410 U	<410 U	<400 U	<410 U
Butyl benzyl phthalate		<410 U	<410 U	<400 U	<410 U
Carbazole		<410 U	<410 U	<400 U	<410 U
4-Chloro-3-methylphenol		<410 U	<410 U	<400 U	<410 U
4-Chloroaniline		<410 U	<410 U	<400 U	<410 U
2-Chloronaphthalene		<410 U	<410 U	<400 U	<410 U
2-Chlorophenol		<410 U	<410 U	<400 U	<410 U
4-Chlorophenyl phenyl ether		<410 U	<410 U	<400 U	<410 U
Chrysene		<410 U	<410 U	<400 U	<410 U
Dibenz(a,h)anthracene		<410 U	<410 U	<400 U	<410 U
Dibenzofuran		<410 U	<410 U	<400 U	<410 U
Di-n-butyl phthalate		<410 U	<410 U	<400 U	<410 U
Di-n-octyl phthalate		<410 U	(210) J	<400 U	530
1,2-Dichlorobenzene		<410 U	<410 U	<400 U	<410 U
1,3-Dichlorobenzene		<410 U	<410 U	<400 U	<410 U
1,4-Dichlorobenzene		<410 U	<410 U	<400 U	<410 U
3,3'-Dichlorobenzidine		<410 U	<410 U	<400 U	<410 U
2,4-Dichlorophenol		<410 U	<410 U	<400 U	<410 U
Diethyl phthalate		<410 U	<410 U	<400 U	<410 U
Dimethyl phthalate		<410 U	<410 U	<400 U	<410 U
2,4-Dimethylphenol		<410 U	<410 U	<400 U	<410 U
4,6-Dinitro-2-methylphenol		<1000 U	<1000 U	<1000 U	<1000 U
2,4-Dinitrophenol		<1000 U	<1000 U	<1000 U	<1000 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

() = Less than Detection Limit

J - estimated concentration

Semivolatile Organic Compounds
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB205	11SB206	11SB207	11SB208
	SAMPLE ID	11SB20503	11SB20603	11SB20703	11SB20803
	DATE	09/12/95	09/12/95	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00	4.00	4.00
2,4-Dinitrotoluene		<410 U	<410 U	<400 U	<410 U
2,6-Dinitrotoluene		<410 U	<410 U	<400 U	<410 U
Fluoranthene		<410 U	<410 U	<400 U	<410 U
Fluorene		<410 U	<410 U	<400 U	<410 U
Hexachlorobenzene		<410 U	<410 U	<400 U	<410 U
Hexachlorobutadiene		<410 U	<410 U	<400 U	<410 U
Hexachlorocyclopentadiene		<410 U	<410 U	<400 U	<410 U
Hexachloroethane		<410 U	<410 U	<400 U	<410 U
Indeno(1,2,3-cd)pyrene		<410 U	<410 U	<400 U	<410 U
Isophorone		<410 U	<410 U	<400 U	<410 U
2-Methylnaphthalene		<410 U	<410 U	<400 U	<410 U
2-Methylphenol		<410 U	<410 U	<400 U	<410 U
4-Methylphenol		<410 U	<410 U	<400 U	<410 U
'aphthalene		<410 U	<410 U	<400 U	<410 U
2-Nitroaniline		<1000 U	<1000 U	<1000 U	<1000 U
3-Nitroaniline		<1000 U	<1000 U	<1000 U	<1000 U
4-Nitroaniline		<1000 U	<1000 U	<1000 U	<1000 U
Nitrobenzene		<410 U	<410 U	<400 U	<410 U
2-Nitrophenol		<410 U	<410 U	<400 U	<410 U
4-Nitrophenol		<1000 U	<1000 U	<1000 U	<1000 U
N-Nitrosodi-n-propylamine		<410 U	<410 U	<400 U	<410 U
N-Nitrosodiphenylamine		<410 U	<410 U	<400 U	<410 U
2,2'-oxybis(1-chloropropane)		<410 U	<410 U	<400 U	<410 U
Pentachlorophenol		<1000 U	<1000 U	<1000 U	<1000 U
Phenanthrene		<410 U	<410 U	<400 U	<410 U
Phenol		<410 U	<410 U	<400 U	<410 U
Pyrene		<410 U	<410 U	<400 U	<410 U
1,2,4-Trichlorobenzene		<410 U	<410 U	<400 U	<410 U
2,4,5-Trichlorophenol		<1000 U	<1000 U	<1000 U	<1000 U
2,4,6-Trichlorophenol		<410 U	<410 U	<400 U	<410 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J - estimated concentration

Validated

Semivolatile Organic Compounds
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB209	11SB210
	SAMPLE ID	11SB20903	11SB21003
	DATE	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00
Acenaphthene		<440 U	<410 U
Acenaphthylene		<440 U	<410 U
Anthracene		<440 U	<410 U
Benzo(a)anthracene		<440 U	<410 U
Benzo(b)fluoranthene		<440 U	<410 U
Benzo(k)fluoranthene		<440 U	<410 U
Benzo(ghi)perylene		<440 U	<410 U
Benzo(a)pyrene		<440 U	<410 U
bis(2-Chloroethoxy)methane		<440 U	<410 U
bis(2-Chloroethyl) ether		<440 U	<410 U
bis(2-Ethylhexyl)phthalate		<440 U	<410 U
4-Bromophenyl phenyl ether		<440 U	<410 U
Butyl benzyl phthalate		<440 U	<410 U
Carbazole		<440 U	<410 U
4-Chloro-3-methylphenol		<440 U	<410 U
4-Chloroaniline		<440 U	<410 U
2-Chloronaphthalene		<440 U	<410 U
2-Chlorophenol		<440 U	<410 U
4-Chlorophenyl phenyl ether		<440 U	<410 U
Chrysene		<440 U	<410 U
Dibenz(a,h)anthracene		<440 U	<410 U
Dibenzofuran		<440 U	<410 U
Di-n-butyl phthalate		<440 U	<410 U
Di-n-octyl phthalate		<440 U	<410 U
1,2-Dichlorobenzene		<440 U	<410 U
1,3-Dichlorobenzene		<440 U	<410 U
1,4-Dichlorobenzene		<440 U	<410 U
3,3'-Dichlorobenzidine		<440 U	<410 U
2,4-Dichlorophenol		<440 U	<410 U
Diethyl phthalate		<440 U	<410 U
Dimethyl phthalate		<440 U	<410 U
2,4-Dimethylphenol		<440 U	<410 U
4,6-Dinitro-2-methylphenol		<1100 U	<1000 U
2,4-Dinitrophenol		<1100 U	<1000 U

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J - estimated concentration

Validated

Semivolatile Organic Compounds
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB209	11SB210
	SAMPLE ID	11SB20903	11SB21003
	DATE	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00
2,4-Dinitrotoluene		<440 U	<410 U
2,6-Dinitrotoluene		<440 U	<410 U
Fluoranthene		<440 U	<410 U
Fluorene		<440 U	<410 U
Hexachlorobenzene		<440 U	<410 U
Hexachlorobutadiene		<440 U	<410 U
Hexachlorocyclopentadiene		<440 U	<410 U
Hexachloroethane		<440 U	<410 U
Indeno(1,2,3-cd)pyrene		<440 U	<410 U
Isophorone		<440 U	<410 U
2-Methylnaphthalene		<440 U	<410 U
2-Methylphenol		<440 U	<410 U
4-Methylphenol		<440 U	<410 U
Naphthalene		<440 U	<410 U
2-Nitroaniline		<1100 U	<1000 U
3-Nitroaniline		<1100 U	<1000 U
4-Nitroaniline		<1100 U	<1000 U
Nitrobenzene		<440 U	<410 U
2-Nitrophenol		<440 U	<410 U
4-Nitrophenol		<1100 U	<1000 U
N-Nitrosodi-n-propylamine		<440 U	<410 U
N-Nitrosodiphenylamine		<440 U	<410 U
2,2'-oxybis(1-chloropropane)		<440 U	<410 U
Pentachlorophenol		<1100 U	<1000 U
Phenanthrene		<440 U	<410 U
Phenol		<440 U	<410 U
Pyrene		<440 U	<410 U
1,2,4-Trichlorobenzene		<440 U	<410 U
2,4,5-Trichlorophenol		<1100 U	<1000 U
2,4,6-Trichlorophenol		<440 U	<410 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J - estimated concentration

Validated

Date: 12/28/95

Pesticides/PCBs
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB201	11SB202	11SB203	11SB204
	SAMPLE ID	11SB20103	11SB20203	11SB20303	11SB20403
	DATE	09/12/95	09/12/95	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00	4.00	4.00
Aldrin		<2 U	<2 U	<2 U	<2 U
alpha-BHC		<2 UJ	<2 UJ	<2 UJ	<2 UJ
beta-BHC		<2 U	<2 U	<2 U	<2 U
delta-BHC		<2 U	<2 U	<2 U	<2 U
gamma-BHC (Lindane)		<2 U	<2 U	<2 U	<2 U
alpha-Chlordane		<2 U	<2 U	<2 U	<2 U
gamma-Chlordane		<2 U	<2 U	<2 U	<2 U
4,4'-DDD		<4 U	<4 U	<4 U	<4 U
4,4'-DDE		<4 U	<4 U	<4 U	<4 U
4,4'-DDT		<4 U	<4 U	<4 U	<4 U
Dieldrin		<4 U	<4 U	<4 U	<4 U
Endosulfan I		<2 U	<2 U	<2 U	<2 U
Endosulfan II		<4 U	<4 U	<4 U	<4 U
Endosulfan sulfate		<4 U	<4 U	<4 U	<4 U
Endrin		<4 U	<4 U	<4 U	<4 U
Endrin aldehyde		<4 U	<4 U	<4 U	<4 U
Endrin ketone		<4 U	<4 U	<4 U	<4 U
Heptachlor		<2 U	<2 U	<2 U	<2 U
Heptachlor epoxide		<2 U	<2 U	<2 U	<2 U
Methoxychlor		<22 U	<21 U	<21 U	<20 U
Toxaphene		<220 U	<210 U	<210 U	<200 U
Aroclor-1016		<42 U	<41 U	<41 U	<38 U
Aroclor-1221		<86 U	<83 U	<84 U	<77 U
Aroclor-1232		<42 U	<41 U	<41 U	<38 U
Aroclor-1242		<42 U	<41 U	<41 U	<38 U
Aroclor-1248		<42 U	<41 U	<41 U	<38 U
Aroclor-1254		<42 U	<41 U	<41 U	<38 U
Aroclor-1260		<42 U	<41 U	<41 U	<38 U

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J - estimated concentration

Validated

Pesticides/PCBs
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB205	11SB206	11SB207	11SB208
	SAMPLE ID	11SB20503	11SB20603	11SB20703	11SB20803
	DATE	09/12/95	09/12/95	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00	4.00	4.00
Aldrin		<2 U	<2 U	<2 U	<2 U
alpha-BHC		<2 UJ	<2 UJ	<2 UJ	<2 UJ
beta-BHC		<2 U	<2 U	<2 U	<2 U
delta-BHC		<2 U	<2 U	<2 U	<2 U
gamma-BHC (Lindane)		<2 U	<2 U	<2 U	<2 U
alpha-Chlordane		<2 U	<2 U	<2 U	<2 U
gamma-Chlordane		<2 U	<2 U	<2 U	<2 U
4,4'-DDD		<4 U	<4 U	<4 U	<4 U
4,4'-DDE		<4 U	<4 U	<4 U	<4 U
4,4'-DDT		<4 U	<4 U	<4 U	<4 U
Dieldrin		<4 U	<4 U	<4 U	<4 U
Endosulfan I		<2 U	<2 U	<2 U	<2 U
Endosulfan II		<4 U	<4 U	<4 U	<4 U
Endosulfan sulfate		<4 U	<4 U	<4 U	<4 U
Endrin		<4 U	<4 U	<4 U	<4 U
Endrin aldehyde		<4 U	<4 U	<4 U	<4 U
Endrin ketone		<4 U	<4 U	<4 U	<4 U
Heptachlor		<2 U	<2 U	<2 U	<2 U
Heptachlor epoxide		<2 U	<2 U	<2 U	<2 U
Methoxychlor		<21 U	<22 U	<21 U	<21 U
Toxaphene		<210 U	<220 U	<210 U	<210 U
Aroclor-1016		<41 U	<42 U	<40 U	<41 U
Aroclor-1221		<83 U	<86 U	<82 U	<83 U
Aroclor-1232		<41 U	<42 U	<40 U	<41 U
Aroclor-1242		<41 U	<42 U	<40 U	<41 U
Aroclor-1248		<41 U	<42 U	<40 U	<41 U
Aroclor-1254		<41 U	<42 U	<40 U	<41 U
Aroclor-1260		<41 U	<42 U	<40 U	<41 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J - estimated concentration

Validated

Pesticides/PCBs
BACKGROUND SUBSURFACE SOIL SAMPLES
September 1995
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	11SB209	11SB210
	SAMPLE ID	11SB20903	11SB21003
	DATE	09/12/95	09/12/95
	DEPTH (ft)	4.00	4.00
Aldrin		<2 U	<2 U
alpha-BHC		<2 UJ	<2 UJ
beta-BHC		<2 U	<2 U
delta-BHC		<2 U	<2 U
gamma-BHC (Lindane)		<2 U	<2 U
alpha-Chlordane		<2 U	<2 U
gamma-Chlordane		<2 U	<2 U
4,4'-DDD		<4 U	<4 U
4,4'-DDE		<4 U	<4 U
4,4'-DDT		<4 U	<4 U
Dieldrin		<4 U	<4 U
Endosulfan I		<2 U	<2 U
Endosulfan II		<4 U	<4 U
Endosulfan sulfate		<4 U	<4 U
Endrin		<4 U	<4 U
Endrin aldehyde		<4 U	<4 U
Endrin ketone		<4 U	<4 U
Heptachlor		<2 U	<2 U
Heptachlor epoxide		<2 U	<2 U
Methoxychlor		<21 U	<21 U
Toxaphene		<210 U	<210 U
Aroclor-1016		<41 U	<41 U
Aroclor-1221		<84 U	<84 U
Aroclor-1232		<41 U	<41 U
Aroclor-1242		<41 U	<41 U
Aroclor-1248		<41 U	<41 U
Aroclor-1254		<41 U	<41 U
Aroclor-1260		<41 U	<41 U

Values represent total concentrations unless noted < =Not detected at indicated reporting limit ---=Not analyzed

J - estimated concentration

Validated Analytical Data for Trench Soil and Liquid Samples

Validated

Inorganic Analytes
TRENCH SOIL SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in mg/kg)	SITE	TRENCH-11	TRENCH-11	TRENCH-12	TRENCH-12
	SAMPLE ID	11TS11	11TS11	11TS12	11TS12
	DATE	11/22/94	11/22/94	11/22/94	11/22/94
	DEPTH (ft)	1.00	4.00	1.00	4.00
Aluminum		---	2780 J	---	1640 J
Antimony		---	<0.48 U	---	<0.44 U
Arsenic		---	<0.72 U	---	<0.66 U
Barium		---	7.1 J	---	4.5 J
Beryllium		---	<0.24 U	---	<0.22 U
Cadmium		---	<0.24 U	---	<0.22 U
Calcium		---	2580	---	545 J
Chromium		---	3.6	---	1.9 J
Cobalt		---	0.78 J	---	0.73 J
Copper		---	0.93 J	---	<0.44 UJ
Cyanide		<0.6 U	---	<0.55 U	---
Iron		---	1140	---	838
Lead		---	7.9	---	3
Magnesium		---	305 J	---	143 J
Manganese		---	14.6 J	---	7.9 J
Mercury		---	<0.13 U	---	<0.1 U
Nickel		---	1.1 J	---	0.85 J
Potassium		---	55.7 J	---	33.6 J
Selenium		---	<0.96 U	---	<0.88 U
Silver		---	<0.24 U	---	<0.22 U
Sodium		---	211 J	---	172 J
Sulfide		---	64 J	---	<54 UJ
Thallium		---	<1.4 U	---	<1.3 U
Tin		---	---	---	---
Vanadium		---	4.8 J	---	2.2 J
Zinc		---	15.7	---	<6.7 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

Validated

Inorganic Analytes
TRENCH SOIL SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in mg/kg)	SITE	TRENCH-2	TRENCH-2	TRENCH-4	TRENCH-4
	SAMPLE ID	11TS02	11TS02	11TS04	11TS04
	DATE	11/16/94	11/16/94	11/17/94	11/17/94
	DEPTH (ft)	1.00	4.00	1.00	5.00
Aluminum		---	1160	---	1980 J
Antimony		---	<0.43 U	---	<0.51 U
Arsenic		---	<0.64 U	---	<0.77 U
Barium		---	2.3 J	---	4.5 J
Beryllium		---	<0.21 U	---	<0.26 U
Cadmium		---	<0.21 U	---	<0.26 U
Calcium		---	<94.6 U	---	274 J
Chromium		---	1.3 J	---	2.2 J
Cobalt		---	<0.43 U	---	0.87 J
Copper		---	<0.43 U	---	<0.51 UJ
Cyanide		<0.54 UJ	---	<0.63 U	---
Iron		---	550	---	607
Lead		---	1.8	---	2.8
Magnesium		---	41.8 J	---	99.5 J
Manganese		---	3.4	---	11.3 J
Mercury		---	<0.11 U	---	<0.13 U
Nickel		---	0.77 J	---	1.1 J
Potassium		---	<22.7 U	---	33.7 J
Selenium		---	<0.86 U	---	<1 U
Silver		---	<0.21 U	---	<0.26 U
Sodium		---	<109 U	---	204 J
Sulfide		---	<55 U	---	<61 UJ
Thallium		---	<1.3 U	---	<1.5 U
Tin		---	---	---	---
Vanadium		---	1.7 J	---	3 J
Zinc		---	<3 U	---	14.9

Values represent total concentrations unless noted < =Not detected at indicated reporting limit ---=Not analyzed

J = estimated concentration

Validated

Date: 12/23/95

Inorganic Analytes
TRENCH SOIL SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in mg/kg)	SITE	TRENCH-7	TRENCH-7	TRENCH-8	TRENCH-8
	SAMPLE ID	11TS07	11TS07	11TS08	11TS08
	DATE	11/18/94	11/18/94	11/19/94	11/19/94
	DEPTH (ft)	1.00	6.00	1.00	4.00
Aluminum		---	1460 J	---	---
Antimony		---	<0.48 U	---	<37.2 U
Arsenic		---	<0.72 U	---	<0.62 U
Barium		---	5.3 J	---	2.5
Beryllium		---	<0.24 U	---	<0.62 U
Cadmium		---	<0.24 U	---	<1.2 U
Calcium		---	216 J	---	---
Chromium		---	2.2 J	---	<2.5 U
Cobalt		---	0.81 J	---	<6.2 U
Copper		---	<0.48 UJ	---	2.6
Cyanide		<0.6 U	---	<0.31 U	---
Iron		---	722	---	---
Lead		---	1.8	---	1.8
Magnesium		---	92.3 J	---	---
Manganese		---	8.9 J	---	---
Mercury		---	<0.12 U	---	<0.12 U
Nickel		---	0.72 J	---	<5 U
Potassium		---	36.3 J	---	---
Selenium		---	<0.96 U	---	<0.62 U
Silver		---	<0.24 U	---	<1.2 UJ
Sodium		---	175 J	---	---
Sulfide		---	<62 UJ	---	<62 U
Thallium		---	<1.4 U	---	<1.2 U
Tin		---	---	---	<124 U
Vanadium		---	2.1 J	---	<6.2 U
Zinc		---	<7.4 U	---	7.4

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

Validated

Volatile Organic Compounds
TRENCH SOIL SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	TRENCH-11	TRENCH-12	TRENCH-2	TRENCH-4
	SAMPLE ID	11TS11	11TS12	11TS02	11TS04
	DATE	11/22/94	11/22/94	11/16/94	11/17/94
	DEPTH (ft)	4.00	4.00	4.00	5.00
Acetone		<12 UJ	<30 UJ	<11 U	<17 UJ
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<12 U	<11 U	<11 U	<13 U
Bromochloromethane		---	---	---	---
Bromodichloromethane		<12 U	<11 U	<11 U	<13 U
Bromoform		<12 U	<11 U	<11 U	<13 U
Bromomethane		<12 U	<11 U	<11 U	<13 U
2-Butanone		<12 UJ	<11 U	<11 U	<13 U
Carbon disulfide		<12 U	<11 U	<11 U	<13 U
Carbon tetrachloride		<12 U	<11 U	<11 U	<13 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		<12 U	<11 U	<11 U	<13 U
Chloroethane		<12 U	<11 U	<11 U	<13 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<12 U	<11 U	<11 U	<13 U
Chloromethane		<12 U	<11 U	<11 U	<13 U
Chlorodibromomethane		<12 U	<11 U	<11 U	<13 U
1,2-Dibromo-3-chloropropane		---	---	---	---
1,2-Dibromoethane		---	---	---	---
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		---	---	---	---
1,3-Dichlorobenzene (VOA)		---	---	---	---
1,4-Dichlorobenzene (VOA)		---	---	---	---
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<12 U	<11 U	<11 U	<13 U
1,2-Dichloroethane		<12 U	<11 U	<11 U	<13 U
1,1-Dichloroethene		<12 U	<11 U	<11 U	<13 U
1,2-Dichloroethene (total)		<12 U	<11 U	<11 U	<13 U
cis-1,2-Dichloroethene		---	---	---	---
trans-1,2-Dichloroethene		---	---	---	---
1,2-Dichloropropane		<12 U	<11 U	<11 U	<13 U

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November 1994
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Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	TRENCH-11	TRENCH-12	TRENCH-2	TRENCH-4
	SAMPLE ID	11TS11	11TS12	11TS02	11TS04
	DATE	11/22/94	11/22/94	11/16/94	11/17/94
	DEPTH (ft)	4.00	4.00	4.00	5.00
cis-1,3-Dichloropropene		<12 U	<11 U	<11 U	<13 U
trans-1,3-Dichloropropene		<12 U	<11 U	<11 U	<13 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		<12 U	<11 U	<11 U	<13 U
Ethyl methacrylate		---	---	---	---
2-Hexanone		<12 U	<11 U	<11 U	<13 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<12 U	<11 U	<11 U	<13 U
Methylene chloride		<12 U	<11 U	<11 U	<13 U
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<12 U	<11 U	<11 U	<13 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<12 U	<11 U	<11 U	<13 U
Tetrachloroethene		<12 U	<11 U	<11 U	<13 U
Toluene		<12 U	<11 U	<11 U	<13 U
1,1,1-Trichloroethane		<12 U	<11 U	<11 U	<13 U
1,1,2-Trichloroethane		<12 U	<11 U	<11 U	<13 U
Trichloroethene		<12 U	<11 U	<11 U	<13 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<12 U	<11 U	<11 U	<13 U
Xylene (total)		<12 U	<11 U	<11 U	<13 U

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Volatile Organic Compounds
TRENCH SOIL SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	TRENCH-7	TRENCH-8
	SAMPLE ID	11TS07	11TS08
	DATE	11/18/94	11/19/94
	DEPTH (ft)	6.00	4.00
Acetone		<12 U	<62 UJ
Acetonitrile		---	<62 U
Acrolein		---	<62 UR
Acrylonitrile		---	<62 U
3-Chloro-1-propene		---	<6 U
Benzene		<12 U	<6 U
Bromochloromethane		---	---
Bromodichloromethane		<12 U	<6 U
Bromoform		<12 U	<6 U
Bromomethane		<12 U	<12 U
2-Butanone		<12 U	3 J
Carbon disulfide		<12 U	<6 U
Carbon tetrachloride		<12 U	<6 U
2-Chloro-1,3-butadiene		---	<6 U
Chlorobenzene		<12 U	<6 U
Chloroethane		<12 U	<12 U
2-Chloroethylvinylether		---	---
Chloroform		<12 U	<6 U
Chloromethane		<12 U	<12 U
Chlorodibromomethane		<12 U	<6 U
1,2-Dibromo-3-chloropropane		---	<12 U
1,2-Dibromoethane		---	<6 U
Dibromomethane		---	<6 U
1,2-Dichlorobenzene (VOA)		---	---
1,3-Dichlorobenzene (VOA)		---	---
1,4-Dichlorobenzene (VOA)		---	---
trans-1,4-Dichloro-2-butene		---	<6 U
1,1-Dichloroethane		<12 U	<6 U
1,2-Dichloroethane		<12 U	<6 U
1,1-Dichloroethene		<12 U	<6 U
1,2-Dichloroethene (total)		<12 U	<6 U
cis-1,2-Dichloroethene		---	---
trans-1,2-Dichloroethene		---	---
1,2-Dichloropropane		<12 U	<6 U

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November 1994
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Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	TRENCH-7	TRENCH-8
	SAMPLE ID	11TS07	11TS08
	DATE	11/18/94	11/19/94
	DEPTH (ft)	6.00	4.00
cis-1,3-Dichloropropene		<12 U	<6 U
trans-1,3-Dichloropropene		<12 U	<6 U
1,4-Dioxane		---	<1200 UR
Ethylbenzene		<12 U	<6 U
Ethyl methacrylate		---	<6 U
2-Hexanone		<12 U	<62 U
Iodomethane		---	<12 U
Isobutyl alcohol		---	<620 UR
Methacrylonitrile		---	<25 U
Methyl methacrylate		---	<6 U
4-Methyl-2-pentanone		<12 U	<62 U
Methylene chloride		<12 U	<6 U
Pentachloroethane		---	<2000 U
Propionitrile		---	<25 U
Styrene		<12 U	<6 U
1,1,1,2-Tetrachloroethane		---	<6 U
1,1,2,2-Tetrachloroethane		<12 U	<6 U
Tetrachloroethene		<12 U	<6 U
Toluene		<12 U	<6 U
1,1,1-Trichloroethane		<12 U	<6 U
1,1,2-Trichloroethane		<12 U	<6 U
Trichloroethene		<12 U	<6 U
Trichlorofluoromethane		---	<6 U
1,2,3-Trichloropropane		---	<6 U
Vinyl acetate		---	<62 UJ
Vinyl chloride		<12 U	<12 U
Xylene (total)		<12 U	<6 U

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Semivolatile Organic Compounds
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November 1994
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Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	TRENCH-11	TRENCH-12	TRENCH-2	TRENCH-4
	SAMPLE ID	11TS11	11TS12	11TS02	11TS04
	DATE	11/22/94	11/22/94	11/16/94	11/17/94
	DEPTH (ft)	4.00	4.00	4.00	5.00
Acenaphthene		24 J	<360 U	<360 U	<420 U
Acenaphthylene		<360 U	<360 U	<360 U	<420 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		34 J	<360 U	<360 U	<420 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<360 U	<360 U	<360 U	<420 U
Benzo(b)fluoranthene		74 J	<360 U	<360 U	<420 U
Benzo(k)fluoranthene		30 J	<360 U	<360 U	<420 U
Benzo(ghi)perylene		36 J	<360 U	<360 U	<420 U
Benzo(a)pyrene		54 J	<360 U	<360 U	<420 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<360 U	<360 U	<360 U	<420 U
bis(2-Chloroethyl) ether		<360 U	<360 U	<360 U	<420 U
bis(2-Chloroisopropyl)ether		<360 U	<360 U	<360 U	<420 U
bis(2-Ethylhexyl)phthalate		<360 U	<360 U	<360 U	<420 U
4-Bromophenyl phenyl ether		<360 U	<360 U	<360 U	<420 U
Butyl benzyl phthalate		<360 U	<360 U	<360 U	<420 U
Carbazole		<360 U	<360 U	<360 UJ	<420 U
4-Chloro-3-methylphenol		<360 U	<360 U	<360 U	<420 U
4-Chloroaniline		<360 U	<360 U	<360 U	<420 U
2-Chloronaphthalene		<360 U	<360 U	<360 U	<420 U
2-Chlorophenol		<360 U	<360 U	<360 U	<420 U
4-Chlorophenyl phenyl ether		<360 U	<360 U	<360 U	<420 U
Chrysene		<360 U	<360 U	<360 U	<420 U
Dibenz(a,h)anthracene		<360 U	<360 U	<360 U	<420 U
Dibenzofuran		<360 U	<360 U	<360 U	<420 U
Di-n-butyl phthalate		<360 U	<360 U	64 J	<420 U
Di-n-octyl phthalate		<360 U	<360 U	<360 U	<420 U
1,2-Dichlorobenzene		<360 U	<360 U	<360 U	<420 U

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CONSTITUENT (Units in ug/kg)	SITE	TRENCH-11	TRENCH-12	TRENCH-2	TRENCH-4
	SAMPLE ID	11TS11	11TS12	11TS02	11TS04
	DATE	11/22/94	11/22/94	11/16/94	11/17/94
	DEPTH (ft)	4.00	4.00	4.00	5.00
1,3-Dichlorobenzene		<360 U	<360 U	<360 U	<420 U
1,4-Dichlorobenzene		<360 U	<360 U	<360 U	<420 U
3,3'-Dichlorobenzidine		<360 UJ	<360 UJ	<360 U	<420 UJ
2,4-Dichlorophenol		<360 U	<360 U	<360 U	<420 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		<360 U	<360 U	<360 U	<420 U
Dimethyl phthalate		<360 U	<360 U	<360 U	<420 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<360 U	<360 U	<360 U	<420 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<870 U	<870 U	<860 U	<1000 U
4-Dinitrophenol		<870 U	<870 U	<860 U	<1000 U
2,4-Dinitrotoluene		<360 U	<360 U	<360 U	<420 U
2,6-Dinitrotoluene		<360 U	<360 U	<360 U	<420 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		220 J	<360 U	<360 U	<420 U
Fluorene		22 J	<360 U	<360 U	<420 U
Hexachlorobenzene		<360 U	<360 U	<360 U	<420 U
Hexachlorobutadiene		<360 U	<360 U	<360 U	<420 U
Hexachlorocyclopentadiene		<360 U	<360 U	<360 U	<420 U
Hexachloroethane		<360 U	<360 U	<360 U	<420 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		37 J	<360 U	<360 U	<420 U
Isophorone		<360 U	<360 U	<360 U	<420 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
Methylnaphthalene		<360 U	<360 U	<360 U	<420 U

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CONSTITUENT (Units in ug/kg)	SITE	TRENCH-11	TRENCH-12	TRENCH-2	TRENCH-4
	SAMPLE ID	11TS11	11TS12	11TS02	11TS04
	DATE	11/22/94	11/22/94	11/16/94	11/17/94
	DEPTH (ft)	4.00	4.00	4.00	5.00
2-Methylphenol		<360 U	<360 U	<360 U	<420 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		<360 U	<360 U	<360 U	<420 U
Naphthalene		180 J	<360 U	<360 U	<420 U
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<870 U	<870 U	<860 U	<1000 U
3-Nitroaniline		<870 U	<870 U	<860 U	<1000 U
4-Nitroaniline		<870 U	<870 U	<860 U	<1000 U
Nitrobenzene		<360 U	<360 U	<360 U	<420 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<360 U	<360 U	<360 U	<420 U
4-Nitrophenol		<870 U	<870 U	<860 U	<1000 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<360 U	<360 U	<360 U	<420 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<360 U	<360 U	<360 U	<420 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<870 U	<870 U	<860 U	<1000 U
Phenacetin		---	---	---	---
Phenanthrene		150 J	<360 U	<360 U	<420 U
Phenol		<360 U	<360 U	<360 U	<420 U
Phenyl-tert-butylamine		---	---	---	---

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CONSTITUENT (Units in ug/kg)	SITE	TRENCH-11	TRENCH-12	TRENCH-2	TRENCH-4
	SAMPLE ID	11TS11	11TS12	11TS02	11TS04
	DATE	11/22/94	11/22/94	11/16/94	11/17/94
	DEPTH (ft)	4.00	4.00	4.00	5.00
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		160 J	<360 U	<360 U	<420 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<360 U	<360 U	<360 U	<420 U
2,4,5-Trichlorophenol		<870 U	<870 U	<860 U	<1000 U
2,4,6-Trichlorophenol		<360 U	<360 U	<360 U	<420 U
1,3,5-Trinitrobenzene		---	---	---	---

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CONSTITUENT (Units in ug/kg)	SITE	TRENCH-7	TRENCH-8
	SAMPLE ID	11TS07	11TS08
	DATE	11/18/94	11/19/94
	DEPTH (ft)	6.00	4.00
Acenaphthene		<400 U	<410 U
Acenaphthylene		<400 U	<410 U
Acetophenone		---	<410 U
2-Acetylaminofluorene		---	<820 U
4-Aminobiphenyl		---	<2000 U
Aniline		---	<410 U
Anthracene		<400 U	<410 U
Aramite, total		---	<2000 UR
Benzidine		---	---
Benzo(a)anthracene		<400 U	<410 U
Benzo(b)fluoranthene		<400 U	<410 U
Benzo(k)fluoranthene		<400 U	<410 U
Benzo(ghi)perylene		<400 U	<410 U
Benzo(a)pyrene		<400 U	<410 U
Benzoic acid		---	---
Benzyl alcohol		---	<410 U
bis(2-Chloroethoxy)methane		<400 U	<410 U
bis(2-Chloroethyl) ether		<400 U	<410 U
bis(2-Chloroisopropyl)ether		<400 U	<410 U
bis(2-Ethylhexyl)phthalate		<400 U	<410 U
4-Bromophenyl phenyl ether		<400 U	<410 U
Butyl benzyl phthalate		<400 U	<410 U
Carbazole		<400 U	---
4-Chloro-3-methylphenol		<400 U	<410 U
4-Chloroaniline		<400 U	<410 U
2-Chloronaphthalene		<400 U	<410 U
2-Chlorophenol		<400 U	<410 U
4-Chlorophenyl phenyl ether		<400 U	<410 U
Chrysene		<400 U	<410 U
Dibenz(a,h)anthracene		<400 U	<410 U
Dibenzofuran		<400 U	<410 U
Di-n-butyl phthalate		<400 U	<410 U
Di-n-octyl phthalate		<400 U	<410 U
1,2-Dichlorobenzene		<400 U	<410 U

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CONSTITUENT (Units in ug/kg)	SITE	TRENCH-7	TRENCH-8
	SAMPLE ID	11TS07	11TS08
	DATE	11/18/94	11/19/94
	DEPTH (ft)	6.00	4.00
1,3-Dichlorobenzene		<400 U	<410 U
1,4-Dichlorobenzene		<400 U	<410 U
3,3'-Dichlorobenzidine		<400 UJ	<820 U
2,4-Dichlorophenol		<400 U	<410 U
2,6-Dichlorophenol		---	<410 U
Diethyl phthalate		<400 U	<410 U
Dimethyl phthalate		<400 U	<410 U
7,12-Dimethybenz(a)anthracene		---	<4100 U
p-(Dimethylamino)azobenzene		---	<820 U
3,3'-Dimethylbenzidine		---	<2000 U
2,4-Dimethylphenol		<400 U	<410 U
1,3-Dinitrobenzene		---	<410 U
4,6-Dinitro-2-methylphenol		<960 U	<2000 U
4-Dinitrophenol		<960 U	<2000 U
2,4-Dinitrotoluene		<400 U	<410 U
2,6-Dinitrotoluene		<400 U	<410 U
Diphenylamine		---	<410 U
1,2-Diphenylhydrazine		---	---
Ethyl methanesulfonate		---	<410 U
Fluoranthene		<400 U	<410 U
Fluorene		<400 U	<410 U
Hexachlorobenzene		<400 U	<410 U
Hexachlorobutadiene		<400 U	<410 U
Hexachlorocyclopentadiene		<400 U	<410 U
Hexachloroethane		<400 U	<410 U
Hexachlorophene		---	---
Hexachloropropene		---	<4100 U
Indeno(1,2,3-cd)pyrene		<400 U	<410 U
Isophorone		<400 U	<410 U
Isosafrole, total		---	<410 U
Methapyrilene		---	<4100 U
Methyl methanesulfonate		---	<410 U
3-Methylcholanthrene		---	<4100 U
Methylnaphthalene		<400 U	<410 U

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CONSTITUENT (Units in ug/kg)	SITE	TRENCH-7	TRENCH-8
	SAMPLE ID	11TS07	11TS08
	DATE	11/18/94	11/19/94
	DEPTH (ft)	6.00	4.00
2-Methylphenol		<400 U	<410 U
3-Methylphenol		---	<410 U
3-&4-Methylphenol		---	---
4-Methylphenol		<400 U	<410 U
Naphthalene		<400 U	<410 U
1,4-Naphthoquinone		---	<8200 U
1-Naphthylamine		---	<410 U
2-Naphthylamine		---	<410 U
2-Nitroaniline		<960 U	<2000 U
3-Nitroaniline		<960 U	<2000 U
4-Nitroaniline		<960 U	<2000 U
Nitrobenzene		<400 U	<410 U
5-Nitro-o-toluidine		---	<410 U
4-Nitroquinoline-1-oxide		---	<4100 U
2-Nitrophenol		<400 U	<410 U
4-Nitrophenol		<960 U	<2000 U
N-Nitrosodi-n-butylamine		---	<410 U
N-Nitrosodiethylamine		---	<410 U
N-Nitrosodimethylamine		---	<410 U
N-Nitrosodiphenylamine		<400 U	<410 U
N-Nitrosodiphenylamine and diphenylamine		---	---
N-Nitrosodi-n-propylamine		<400 U	<410 U
N-Nitrosomethylethylamine		---	<410 U
N-Nitrosomorpholine		---	<410 U
N-Nitrosopiperidine		---	<410 U
N-Nitrosopyrrolidine		---	<410 U
2,2'-oxybis(1-chloropropane)		---	---
Pentachlorobenzene		---	<410 U
Pentachloronitrobenzene		---	<2000 U
Pentachlorophenol		<960 U	<2000 U
Phenacetin		---	<2000 U
Phenanthrene		<400 U	<410 U
Phenol		<400 U	<410 U
Phenyl-tert-butylamine		---	---

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J = estimated concentration

R = rejected

Validated

Semivolatile Organic Compounds
TRENCH SOIL SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	TRENCH-7	TRENCH-8
	SAMPLE ID	11TS07	11TS08
	DATE	11/18/94	11/19/94
	DEPTH (ft)	6.00	4.00
p-Phenylene diamine		---	<2000 U
2-Picoline		---	<820 U
Pronamide		---	<820 U
Pyrene		<400 U	<410 U
Pyridine		---	<410 U
Safrole, total		---	<410 U
1,2,4,5-Tetrachlorobenzene		---	<410 U
2,3,4,6-Tetrachlorophenol		---	<2000 U
o-Toluidine		---	<410 U
1,2,4-Trichlorobenzene		<400 U	<410 U
2,4,5-Trichlorophenol		<960 U	<410 U
2,4,6-Trichlorophenol		<400 U	<410 U
1,3,5-Trinitrobenzene		---	<2000 UR

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Validated

Pesticides/PCBs
TRENCH SOIL SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	TRENCH-11	TRENCH-12	TRENCH-2	TRENCH-4
	SAMPLE ID	11TS11	11TS12	11TS02	11TS04
	DATE	11/22/94	11/22/94	11/16/94	11/17/94
	DEPTH (ft)	4.00	4.00	4.00	5.00
Aldrin		<2 UJ	<1.9 UJ	<1.8 UJ	<2.2 UJ
alpha-BHC		<2 UJ	<1.9 UJ	<1.8 UJ	<2.2 UJ
beta-BHC		<2 UJ	<1.9 UJ	<1.8 UJ	<2.2 UJ
delta-BHC		<2 UJ	<1.9 UJ	<1.8 UJ	<2.2 UJ
gamma-BHC (Lindane)		<2 UJ	<1.9 UJ	<1.8 UJ	<2.2 UJ
alpha-Chlordane		<2 UJ	<1.9 UJ	<1.8 UJ	<2.2 UJ
gamma-Chlordane		<2 UJ	<1.9 UJ	<1.8 UJ	<2.2 UJ
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<4 UJ	<3.6 UJ	<3.5 UJ	3.4 J
4,4'-DDE		<4 UJ	<3.6 UJ	<3.5 UJ	2.3 J
4,4'-DDT		<25 UJ	32 J	<31 UJ	<4.2 UJ
Diallate		---	---	---	---
Dieldrin		<4.1 UJ	<5.3 UJ	<6.1 UJ	<4.2 UJ
Endosulfan I		<2 UJ	<1.9 UJ	<1.8 UJ	<2.2 UJ
Endosulfan II		<4 UJ	<3.6 UJ	<3.5 UJ	<4.2 UJ
Endosulfan sulfate		<4 UJ	<3.6 UJ	<3.5 UJ	<4.2 UJ
Endrin		<4 UJ	<3.6 UJ	<3.5 UJ	<4.2 UJ
Endrin aldehyde		<4 UJ	<3.6 UJ	<3.5 UJ	<4.2 UJ
Endrin ketone		<4 UJ	0.41 NJ	0.25 NJ	<4.2 UJ
Heptachlor		<2 UJ	<1.9 UJ	<1.8 UJ	<2.2 UJ
Heptachlor epoxide		<2 UJ	<1.9 UJ	<1.8 UJ	<2.2 UJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		<20 UJ	<19 UJ	<35 UJ	<22 UJ
Toxaphene		<200 UJ	<190 UJ	<180 UJ	<220 UJ
Aroclor-1016		<40 UJ	<36 UJ	<35 UJ	<42 UJ
Aroclor-1221		<81 UJ	<73 UJ	<72 UJ	<85 UJ
Aroclor-1232		<40 UJ	<36 UJ	<35 UJ	<42 UJ
Aroclor-1242		<40 UJ	<36 UJ	<35 UJ	<42 UJ
Aroclor-1248		<40 UJ	<36 UJ	<35 UJ	<42 UJ
Aroclor-1254		<40 UJ	<36 UJ	<35 UJ	<42 UJ
Aroclor-1260		<40 UJ	<36 UJ	<35 UJ	<42 UJ

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Validated

Pesticides/PCBs
TRENCH SOIL SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	TRENCH-7	TRENCH-8
	SAMPLE ID	11TS07	11TS08
	DATE	11/18/94	11/19/94
	DEPTH (ft)	6.00	4.00
Aldrin		<2 UJ	<9.9 U
alpha-BHC		<2 UJ	<9.9 U
beta-BHC		<2 UJ	<9.9 U
delta-BHC		<2 UJ	<9.9 U
gamma-BHC (Lindane)		<2 UJ	<9.9 U
alpha-Chlordane		<2 UJ	---
gamma-Chlordane		<2 UJ	---
Chlordane		---	<99 U
Chlorobenzilate		---	<410 U
4,4'-DDD		<3.9 UJ	<20 U
4,4'-DDE		<3.9 UJ	<20 U
4,4'-DDT		<3.9 UJ	<20 U
Diallate		---	<410 U
Dieldrin		<3.9 UJ	<20 U
Endosulfan I		<2 UJ	<9.9 U
Endosulfan II		<3.9 UJ	<20 U
Endosulfan sulfate		<3.9 UJ	<20 U
Endrin		<3.9 UJ	<20 U
Endrin aldehyde		<3.9 UJ	<20 U
Endrin ketone		<3.9 UJ	---
Heptachlor		<2 UJ	<9.9 U
Heptachlor epoxide		<2 UJ	<9.9 U
Isodrin		---	<9.9 U
Kepone		---	<99 U
Methoxychlor		<20 UJ	<99 U
Toxaphene		<200 UJ	<200 U
Aroclor-1016		<39 UJ	<99 U
Aroclor-1221		<79 UJ	<99 U
Aroclor-1232		<39 UJ	<99 U
Aroclor-1242		<39 UJ	<99 U
Aroclor-1248		<39 UJ	<99 U
Aroclor-1254		<39 UJ	<200 U
Aroclor-1260		<39 UJ	<200 U

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Validated

Date: 12/23/95

Organophosphorous Pesticides
TRENCH SOIL SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	TRENCH-8
	SAMPLE ID	11TS08
	DATE	11/19/94
	DEPTH (ft)	4.00
Dimethoate		<21 U
Disulfoton		<21 U
Ethyl parathion		<21 U
Famphur		<21 U
Methyl parathion		<21 U
Phorate		<21 U
Sulfotepp		<21 U
Thionazin		<21 U
Triethylphosphorothioate		<21 U

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Validated

Date: 12/23/95

Herbicides
TRENCH SOIL SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/kg)	SITE	TRENCH-8
	SAMPLE ID	11TS08
	DATE	11/19/94
	DEPTH (ft)	1.00
2,4-D		<620 U
Dinoseb		<870 UJ
2,4,5-T		<250 U
Silvex		<120 U

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Validated

Date: 12/23/95

Inorganic Analytes
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-11	TRENCH-2	TRENCH-4	TRENCH-7
	SAMPLE ID	11TL11	11TL02	11TL04	11TL07
	DATE	11/22/94	11/16/94	11/17/94	11/18/94
Aluminum		29800	14600	10800	<128 U
Antimony		2.1 J	18.4 J	<2 U	<2 U
Arsenic		8.2 J	13	3.6 J	<3 U
Barium		165 J	292	136 J	161 J
Beryllium		<1 U	<1 U	<1 U	<1 U
Cadmium		4.2 J	10.5	1.8 J	<1 U
Calcium		165000	117000	123000	136000
Chromium		39.5	39.1	<11.3 U	<2 U
Cobalt		<9 U	12.1 J	<6.2 U	<3.3 U
Copper		52.7	309	67.8	2 J
Cyanide		32.1 J	<10 U	<10 U	<10 U
Iron		53100	48400	72300	44600
Lead		85.4	219	41.2	<1 U
Magnesium		13700	11900	7910	11700
Manganese		536	1080	1250	344
Mercury		0.42	1.1	<0.2 U	<0.2 U
Nickel		22.6 J	64.6	28.3 J	<2 U
Potassium		8600 J	6960 J	2810 J	4440 J
Selenium		4.5 J	<4 U	<4 U	<4 U
Silver		3.4 J	1.4 J	<1 U	<1 U
Sodium		11700	12900	6200	6600
Sulfide		15000	<1000 U	<1000 U	<1000 U
Thallium		<6 UJ	<6 U	<6 UJ	<6 UJ
Tin		---	---	---	---
Vanadium		30.3 J	17.5 J	11.1 J	<1 U
Zinc		838 J	2180	653 J	<30.6 U

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Date: 12/23/95

Inorganic Analytes
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-8
	SAMPLE ID	11TL08
	DATE	11/19/94
Aluminum		---
Antimony		<300 U
Arsenic		10
Barium		120
Beryllium		<5 U
Cadmium		<10 U
Calcium		---
Chromium		<20 U
Cobalt		<50 U
Copper		66
Cyanide		6
Iron		---
Lead		59
Magnesium		---
Manganese		---
Mercury		0.26
Nickel		<40 U
Potassium		---
Selenium		<5 U
Silver		<10 UJ
Sodium		---
Sulfide		10000
Thallium		<10 U
Tin		<1000 U
Vanadium		<50 U
Zinc		730

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Validated

Volatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-11	TRENCH-2	TRENCH-4	TRENCH-7
	SAMPLE ID	11TL11	11TL02	11TL04	11TL07
	DATE	11/22/94	11/16/94	11/17/94	11/18/94
Acetone		<47 UR	<12000 UR	<12 UR	<25 UR
Acetonitrile		---	---	---	---
Acrolein		---	---	---	---
Acrylonitrile		---	---	---	---
3-Chloro-1-propene		---	---	---	---
Benzene		<2 U	<2500 U	<1 U	<5 U
Bromochloromethane		<2 U	<2500 U	<1 U	<5 U
Bromodichloromethane		<2 U	<2500 U	<1 U	<5 U
Bromoform		<2 U	<2500 U	<1 U	<5 U
Bromomethane		<2 U	<2500 U	<1 U	<5 U
2-Butanone		<8 UR	16000 J	<5 UR	<25 UR
Carbon disulfide		<2 U	<2500 U	<1 U	<5 U
Carbon tetrachloride		<2 U	<2500 U	<1 U	<5 U
2-Chloro-1,3-butadiene		---	---	---	---
Chlorobenzene		3	<2500 U	<1 U	14
Chloroethane		<2 U	<2500 U	<1 U	<5 U
2-Chloroethylvinylether		---	---	---	---
Chloroform		<2 U	<2500 U	<1 U	<5 U
Chloromethane		<2 U	<2500 U	<1 U	<5 U
Chlorodibromomethane		<2 U	<2500 U	<1 U	<5 U
1,2-Dibromo-3-chloropropane		<2 U	<2500 U	<1 U	<5 U
1,2-Dibromoethane		<2 U	<2500 U	<1 U	<5 U
Dibromomethane		---	---	---	---
1,2-Dichlorobenzene (VOA)		<2 U	<2500 U	<1 U	<5 U
1,3-Dichlorobenzene (VOA)		<2 U	<2500 U	<1 U	<5 U
1,4-Dichlorobenzene (VOA)		3	<2500 U	0.4 J	6
trans-1,4-Dichloro-2-butene		---	---	---	---
1,1-Dichloroethane		<2 U	<2500 U	<1 U	<5 U
1,2-Dichloroethane		<2 U	<2500 U	<1 U	<5 U
1,1-Dichloroethene		<2 U	<2500 U	<1 U	<5 U
1,2-Dichloroethene (total)		---	---	---	---
cis-1,2-Dichloroethene		<2 U	<2500 U	<1 U	<5 U
trans-1,2-Dichloroethene		<2 U	<2500 U	<1 U	<5 U
1,2-Dichloropropane		<2 U	<2500 U	<1 U	<5 U

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Validated

Volatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-11	TRENCH-2	TRENCH-4	TRENCH-7
	SAMPLE ID	11TL11	11TL02	11TL04	11TL07
	DATE	11/22/94	11/16/94	11/17/94	11/18/94
cis-1,3-Dichloropropene		<2 U	<2500 U	<1 U	<5 U
trans-1,3-Dichloropropene		<2 U	<2500 U	<1 U	<5 U
1,4-Dioxane		---	---	---	---
Ethylbenzene		30	<2500 U	<1 U	73
Ethyl methacrylate		---	---	---	---
2-Hexanone		<8 U	<12000 U	<5 U	<25 U
Iodomethane		---	---	---	---
Isobutyl alcohol		---	---	---	---
Methacrylonitrile		---	---	---	---
Methyl methacrylate		---	---	---	---
4-Methyl-2-pentanone		<8 U	210000	<5 U	<25 U
Methylene chloride		<3 U	<5000 U	<2 U	17
Pentachloroethane		---	---	---	---
Propionitrile		---	---	---	---
Styrene		<2 U	<2500 U	<1 U	<5 U
1,1,1,2-Tetrachloroethane		---	---	---	---
1,1,2,2-Tetrachloroethane		<2 U	<2500 U	<1 U	<5 U
Tetrachloroethene		<2 U	<2500 U	<1 U	<5 U
Toluene		6	<2500 U	0.5 J	13
1,1,1-Trichloroethane		<2 U	<2500 U	<1 U	<5 U
1,1,2-Trichloroethane		<2 U	<2500 U	<1 U	<5 U
Trichloroethene		<2 U	<2500 U	<1 U	<5 U
Trichlorofluoromethane		---	---	---	---
1,2,3-Trichloropropane		---	---	---	---
Vinyl acetate		---	---	---	---
Vinyl chloride		<2 U	<2500 U	<1 U	<5 U
Xylene (total)		10	4000	<1 U	42

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Validated

Volatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-8
	SAMPLE ID	11TL08
	DATE	11/19/94
Acetone		<10 U
Acetonitrile		<100 UR
Acrolein		<10 UR
Acrylonitrile		<10 U
3-Chloro-1-propene		<1 UR
Benzene		<1 U
Bromochloromethane		---
Bromodichloromethane		<1 U
Bromoform		<1 U
Bromomethane		<1 U
2-Butanone		3 J
Carbon disulfide		<1 U
Carbon tetrachloride		<1 U
2-Chloro-1,3-butadiene		<1 UR
Chlorobenzene		<1 U
Chloroethane		<1 U
2-Chloroethylvinylether		---
Chloroform		<1 U
Chloromethane		<1 U
Chlorodibromomethane		<1 U
1,2-Dibromo-3-chloropropane		<20 UR
1,2-Dibromoethane		<1 UR
Dibromomethane		<1 UR
1,2-Dichlorobenzene (VOA)		---
1,3-Dichlorobenzene (VOA)		---
1,4-Dichlorobenzene (VOA)		---
trans-1,4-Dichloro-2-butene		<1 UR
1,1-Dichloroethane		<1 U
1,2-Dichloroethane		<1 U
1,1-Dichloroethene		<1 U
1,2-Dichloroethene (total)		<1 U
cis-1,2-Dichloroethene		---
trans-1,2-Dichloroethene		---
1,2-Dichloropropane		<1 U

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Validated

Volatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-8
	SAMPLE ID	11TL08
	DATE	11/19/94
cis-1,3-Dichloropropene		<1 U
trans-1,3-Dichloropropene		<1 U
1,4-Dioxane		<500 UR
Ethylbenzene		2
Ethyl methacrylate		<1 UR
2-Hexanone		2 J
Iodomethane		<10 UR
Isobutyl alcohol		<500 UR
Methacrylonitrile		<20 UR
Methyl methacrylate		<1 UR
4-Methyl-2-pentanone		4 J
Methylene chloride		1
Pentachloroethane		<50 U
opionitrile		<100 UR
Styrene		<1 U
1,1,1,2-Tetrachloroethane		<1 UR
1,1,2,2-Tetrachloroethane		<1 U
Tetrachloroethene		<1 U
Toluene		2
1,1,1-Trichloroethane		<1 U
1,1,2-Trichloroethane		<1 U
Trichloroethene		<1 U
Trichlorofluoromethane		2
1,2,3-Trichloropropane		<1 UR
Vinyl acetate		<10 UR
Vinyl chloride		<1 U
Xylene (total)		16

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R = rejected

Validated

Semivolatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-11	TRENCH-2	TRENCH-4	TRENCH-7
	SAMPLE ID	11TL11	11TL02	11TL04	11TL07
	DATE	11/22/94	11/16/94	11/17/94	11/18/94
Acenaphthene		<10 U	<100 U	<10 U	<40 U
Acenaphthylene		<10 U	<100 U	<10 U	<40 U
Acetophenone		---	---	---	---
2-Acetylaminofluorene		---	---	---	---
4-Aminobiphenyl		---	---	---	---
Aniline		---	---	---	---
Anthracene		<10 U	<100 U	<10 U	<40 U
Aramite, total		---	---	---	---
Benzidine		---	---	---	---
Benzo(a)anthracene		<10 U	<100 U	<10 U	<40 U
Benzo(b)fluoranthene		<10 U	<100 U	<10 U	<40 U
Benzo(k)fluoranthene		<10 U	<100 U	<10 U	<40 U
Benzo(ghi)perylene		<10 U	<100 U	<10 U	<40 U
Benzo(a)pyrene		<10 U	<100 U	<10 U	<40 U
Benzoic acid		---	---	---	---
Benzyl alcohol		---	---	---	---
bis(2-Chloroethoxy)methane		<10 U	<100 U	<10 U	<40 U
bis(2-Chloroethyl) ether		<10 U	<100 U	<10 U	<40 U
bis(2-Chloroisopropyl)ether		<10 U	<100 U	<10 U	<40 U
bis(2-Ethylhexyl)phthalate		<10 U	<100 U	<10 U	<40 U
4-Bromophenyl phenyl ether		<10 U	<100 U	<10 U	<40 U
Butyl benzyl phthalate		<10 U	<100 U	<10 U	<40 U
Carbazole		<10 U	<100 UJ	<10 U	<40 U
4-Chloro-3-methylphenol		<10 U	<100 U	<10 U	<40 U
4-Chloroaniline		<10 U	<100 U	<10 U	<40 U
2-Chloronaphthalene		<10 U	<100 U	<10 U	<40 U
2-Chlorophenol		<10 U	<100 U	<10 U	<40 U
4-Chlorophenyl phenyl ether		<10 U	<100 U	<10 U	<40 U
Chrysene		<10 U	<100 U	<10 U	<40 U
Dibenz(a,h)anthracene		<10 U	<100 U	<10 U	<40 U
Dibenzofuran		<10 U	<100 U	<10 U	<40 U
Di-n-butyl phthalate		<10 U	<100 U	<10 U	<40 U
Di-n-octyl phthalate		0.6 J	<100 U	<10 U	<40 U
1,2-Dichlorobenzene		<10 U	<100 U	<10 U	<40 U

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R = rejected

Validated

Semivolatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-11	TRENCH-2	TRENCH-4	TRENCH-7
	SAMPLE ID	11TL11	11TL02	11TL04	11TL07
	DATE	11/22/94	11/16/94	11/17/94	11/18/94
1,3-Dichlorobenzene		<10 U	<100 U	<10 U	<40 U
1,4-Dichlorobenzene		3 J	<100 U	<10 U	4 J
3,3'-Dichlorobenzidine		<10 UJ	<100 U	<10 UJ	<40 UJ
2,4-Dichlorophenol		<10 U	<100 U	<10 U	<40 U
2,6-Dichlorophenol		---	---	---	---
Diethyl phthalate		2 J	<100 U	0.5 J	4 J
Dimethyl phthalate		<10 U	<100 U	<10 U	<40 U
7,12-Dimethybenz(a)anthracene		---	---	---	---
p-(Dimethylamino)azobenzene		---	---	---	---
3,3'-Dimethylbenzidine		---	---	---	---
2,4-Dimethylphenol		<10 U	16 J	<10 U	<40 U
1,3-Dinitrobenzene		---	---	---	---
4,6-Dinitro-2-methylphenol		<25 U	<250 U	<25 U	<100 U
4-Dinitrophenol		<25 U	<250 U	<25 U	<100 U
2,4-Dinitrotoluene		<10 U	<100 U	<10 U	<40 U
2,6-Dinitrotoluene		<10 U	<100 U	<10 U	<40 U
Diphenylamine		---	---	---	---
1,2-Diphenylhydrazine		---	---	---	---
Ethyl methanesulfonate		---	---	---	---
Fluoranthene		<10 U	<100 U	<10 U	<40 U
Fluorene		<10 U	<100 U	<10 U	<40 U
Hexachlorobenzene		<10 U	<100 U	<10 U	<40 U
Hexachlorobutadiene		<10 U	<100 U	<10 U	<40 U
Hexachlorocyclopentadiene		<10 U	<100 U	<10 U	<40 U
Hexachloroethane		<10 U	<100 U	<10 U	<40 U
Hexachlorophene		---	---	---	---
Hexachloropropene		---	---	---	---
Indeno(1,2,3-cd)pyrene		<10 U	<100 U	<10 U	<40 U
Isophorone		<10 U	<100 U	<10 U	<40 U
Isosafrole, total		---	---	---	---
Methapyrilene		---	---	---	---
Methyl methanesulfonate		---	---	---	---
3-Methylcholanthrene		---	---	---	---
Methylnaphthalene		2 J	<100 U	<10 U	6 J

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

R = rejected

Validated

Semivolatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-11	TRENCH-2	TRENCH-4	TRENCH-7
	SAMPLE ID	11TL11	11TL02	11TL04	11TL07
	DATE	11/22/94	11/16/94	11/17/94	11/18/94
2-Methylphenol		<10 U	<100 U	<10 U	<40 U
3-Methylphenol		---	---	---	---
3-&4-Methylphenol		---	---	---	---
4-Methylphenol		19	740	1 J	<40 U
Naphthalene		58	<100 U	<10 U	190
1,4-Naphthoquinone		---	---	---	---
1-Naphthylamine		---	---	---	---
2-Naphthylamine		---	---	---	---
2-Nitroaniline		<25 U	<250 U	<25 U	<100 U
3-Nitroaniline		<25 U	<250 U	<25 U	<100 U
4-Nitroaniline		<25 U	<250 U	<25 U	<100 U
Nitrobenzene		<10 U	<100 U	<10 U	<40 U
5-Nitro-o-toluidine		---	---	---	---
4-Nitroquinoline-1-oxide		---	---	---	---
2-Nitrophenol		<10 U	<100 U	<10 U	<40 U
4-Nitrophenol		<25 U	<250 U	<25 U	<100 U
N-Nitrosodi-n-butylamine		---	---	---	---
N-Nitrosodiethylamine		---	---	---	---
N-Nitrosodimethylamine		---	---	---	---
N-Nitrosodiphenylamine		<10 U	<100 U	<10 U	<40 U
N-Nitrosodiphenylamine and diphenylamine		---	---	---	---
N-Nitrosodi-n-propylamine		<10 U	<100 U	<10 U	<40 U
N-Nitrosomethylethylamine		---	---	---	---
N-Nitrosomorpholine		---	---	---	---
N-Nitrosopiperidine		---	---	---	---
N-Nitrosopyrrolidine		---	---	---	---
2,2'-oxybis(1-chloropropane)		---	---	---	---
Pentachlorobenzene		---	---	---	---
Pentachloronitrobenzene		---	---	---	---
Pentachlorophenol		<25 U	<250 U	<25 U	<100 U
Phenacetin		---	---	---	---
Phenanthrene		<10 U	<100 U	<10 U	<40 U
Phenol		8 J	130	0.8 J	6 J
Phenyl-tert-butylamine		---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

R = rejected

Validated

Semivolatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

	SITE	TRENCH-11	TRENCH-2	TRENCH-4	TRENCH-7
	SAMPLE ID	11TL11	11TL02	11TL04	11TL07
CONSTITUENT (Units in ug/l)	DATE	11/22/94	11/16/94	11/17/94	11/18/94
p-Phenylene diamine		---	---	---	---
2-Picoline		---	---	---	---
Pronamide		---	---	---	---
Pyrene		<10 U	<100 U	<10 U	<40 U
Pyridine		---	---	---	---
Safrole, total		---	---	---	---
1,2,4,5-Tetrachlorobenzene		---	---	---	---
2,3,4,6-Tetrachlorophenol		---	---	---	---
o-Toluidine		---	---	---	---
1,2,4-Trichlorobenzene		<10 U	<100 U	<10 U	<40 U
2,4,5-Trichlorophenol		<25 U	<250 U	<25 U	<100 U
2,4,6-Trichlorophenol		<10 U	<100 U	<10 U	<40 U
1,3,5-Trinitrobenzene		---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

R = rejected

Validated

Semivolatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE SAMPLE ID DATE	TRENCH-8 11TL08 11/19/94
Acenaphthene		<10 U
Acenaphthylene		<10 U
Acetophenone		<10 U
2-Acetylaminofluorene		<20 U
4-Aminobiphenyl		<50 U
Aniline		<10 U
Anthracene		<10 U
Aramite, total		<50 UR
Benzidine		---
Benzo(a)anthracene		<10 U
Benzo(b)fluoranthene		<10 U
Benzo(k)fluoranthene		<10 U
Benzo(ghi)perylene		<10 U
Benzo(a)pyrene		<10 U
Benzoic acid		---
Benzyl alcohol		<10 U
bis(2-Chloroethoxy)methane		<10 U
bis(2-Chloroethyl) ether		<10 U
bis(2-Chloroisopropyl)ether		<10 U
bis(2-Ethylhexyl)phthalate		<10 U
4-Bromophenyl phenyl ether		<10 U
Butyl benzyl phthalate		<10 U
Carbazole		---
4-Chloro-3-methylphenol		<10 U
4-Chloroaniline		<10 U
2-Chloronaphthalene		<10 U
2-Chlorophenol		<10 U
4-Chlorophenyl phenyl ether		<10 U
Chrysene		<10 U
Dibenz(a,h)anthracene		<10 U
Dibenzofuran		<10 U
Di-n-butyl phthalate		<10 U
Di-n-octyl phthalate		<10 U
1,2-Dichlorobenzene		<10 U

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

J = estimated concentration

R = rejected

Validated

Semivolatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-8
	SAMPLE ID	11TL08
	DATE	11/19/94
1,3-Dichlorobenzene		<10 U
1,4-Dichlorobenzene		<10 U
3,3'-Dichlorobenzidine		<20 U
2,4-Dichlorophenol		<10 U
2,6-Dichlorophenol		<10 U
Diethyl phthalate		<10 U
Dimethyl phthalate		<10 U
7,12-Dimethybenz(a)anthracene		<100 U
p-(Dimethylamino)azobenzene		<20 U
3,3'-Dimethylbenzidine		<50 U
2,4-Dimethylphenol		<10 U
1,3-Dinitrobenzene		<10 U
4,6-Dinitro-2-methylphenol		<50 U
',4-Dinitrophenol		<50 U
2,4-Dinitrotoluene		<10 U
2,6-Dinitrotoluene		<10 U
Diphenylamine		<10 U
1,2-Diphenylhydrazine		---
Ethyl methanesulfonate		<10 U
Fluoranthene		<10 U
Fluorene		<10 U
Hexachlorobenzene		<10 U
Hexachlorobutadiene		<10 U
Hexachlorocyclopentadiene		<10 U
Hexachloroethane		<10 U
Hexachlorophene		---
Hexachloropropene		<100 U
Indeno(1,2,3-cd)pyrene		<10 U
Isophorone		24
Isosafrole, total		<10 U
Methapyrilene		<100 U
Methyl methanesulfonate		<10 U
3-Methylcholanthrene		<100 U
Methylnaphthalene		<10 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

R = rejected

Validated

Semivolatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-8
	SAMPLE ID	11TL08
	DATE	11/19/94
2-Methylphenol		2 J
3-Methylphenol		---
3-&4-Methylphenol		---
4-Methylphenol		7 J
Naphthalene		8 J
1,4-Naphthoquinone		<200 U
1-Naphthylamine		<10 U
2-Naphthylamine		<10 U
2-Nitroaniline		<50 U
3-Nitroaniline		<50 U
4-Nitroaniline		<50 U
Nitrobenzene		<10 U
5-Nitro-o-toluidine		<10 U
4-Nitroquinoline-1-oxide		<100 U
2-Nitrophenol		<10 U
4-Nitrophenol		<50 U
N-Nitrosodi-n-butylamine		<10 U
N-Nitrosodiethylamine		<10 U
N-Nitrosodimethylamine		<10 U
N-Nitrosodiphenylamine		<10 U
N-Nitrosodiphenylamine and diphenylamine		---
N-Nitrosodi-n-propylamine		<10 U
N-Nitrosomethylethylamine		<10 U
N-Nitrosomorpholine		<10 U
N-Nitrosopiperidine		<10 U
N-Nitrosopyrrolidine		<10 U
2,2'-oxybis(1-chloropropane)		---
Pentachlorobenzene		<10 U
Pentachloronitrobenzene		<50 U
Pentachlorophenol		<50 U
Phenacetin		<50 U
Phenanthrene		<10 U
Phenol		1 J
Phenyl-tert-butylamine		---

Values represent total concentrations unless noted < =Not detected at indicated reporting limit ---=Not analyzed

J = *estimated concentration*

R = rejected

Validated

Semivolatile Organic Compounds
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-8
	SAMPLE ID	11TL08
	DATE	11/19/94
p-Phenylene diamine		<50 U
2-Picoline		<20 U
Pronamide		<20 U
Pyrene		<10 U
Pyridine		<10 U
Safrole, total		<10 U
1,2,4,5-Tetrachlorobenzene		<10 U
2,3,4,6-Tetrachlorophenol		<50 U
o-Toluidine		<10 U
1,2,4-Trichlorobenzene		<10 U
2,4,5-Trichlorophenol		<10 U
2,4,6-Trichlorophenol		<10 U
1,3,5-Trinitrobenzene		<50 UR

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

R = rejected

Validated

Pesticides/PCBs
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-11	TRENCH-2	TRENCH-4	TRENCH-7
	SAMPLE ID	11TL11	11TL02	11TL04	11TL07
	DATE	11/22/94	11/16/94	11/17/94	11/18/94
Aldrin		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-BHC		0.032 J	<0.05 UJ	<0.05 UJ	<0.05 UJ
beta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
delta-BHC		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
gamma-BHC (Lindane)		0.018 NJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
alpha-Chlordane		<0.05 UJ	0.22 J	<0.05 UJ	<0.05 UJ
gamma-Chlordane		<0.05 UJ	0.48 J	<0.05 UJ	<0.05 UJ
Chlordane		---	---	---	---
Chlorobenzilate		---	---	---	---
4,4'-DDD		<0.1 UJ	0.13 J	<0.1 UJ	<0.1 UJ
4,4'-DDE		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
4,4'-DDT		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Diallate		---	---	---	---
Dieldrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endosulfan I		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Endosulfan II		<0.1 UJ	<0.1 UJ	<0.1 UJ	0.011 J
Endosulfan sulfate		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin aldehyde		<0.1 UJ	<0.1 UJ	<0.1 UJ	<0.1 UJ
Endrin ketone		<0.1 UJ	0.015 NJ	<0.1 UJ	<0.1 UJ
Heptachlor		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Heptachlor epoxide		<0.05 UJ	<0.05 UJ	<0.05 UJ	<0.05 UJ
Isodrin		---	---	---	---
Kepone		---	---	---	---
Methoxychlor		0.17 NJ	<0.5 UJ	<0.5 UJ	<0.5 UJ
Toxaphene		<5 UJ	<5 UJ	<5 UJ	<5 UJ
Aroclor-1016		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1221		<2 UJ	<2 UJ	<2 UJ	<2 UJ
Aroclor-1232		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1242		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1248		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1254		<1 UJ	<1 UJ	<1 UJ	<1 UJ
Aroclor-1260		<1 UJ	<1 UJ	<1 UJ	<1 UJ

Values represent total concentrations unless noted < =Not detected at indicated reporting limit ---=Not analyzed

J = estimated concentration N = presumptively present

R = rejected

Validated

Pesticides/PCBs
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-8
	SAMPLE ID	11TL08
	DATE	11/19/94
Aldrin		<0.05 U
alpha-BHC		<0.05 U
beta-BHC		<0.05 U
delta-BHC		<0.05 U
gamma-BHC (Lindane)		<0.05 U
alpha-Chlordane		---
gamma-Chlordane		---
Chlordane		<0.5 U
Chlorobenzilate		<10 U
4,4'-DDD		<0.1 U
4,4'-DDE		<0.1 U
4,4'-DDT		<0.1 U
Diallate		<10 UR
Dieldrin		<0.1 U
Endosulfan I		<0.05 U
Endosulfan II		<0.1 U
Endosulfan sulfate		<0.1 U
Endrin		<0.1 U
Endrin aldehyde		<0.1 U
Endrin ketone		---
Heptachlor		<0.05 U
Heptachlor epoxide		<0.05 U
Isodrin		<0.05 U
Kepone		<0.5 U
Methoxychlor		<0.5 U
Toxaphene		<1 U
Aroclor-1016		<0.5 U
Aroclor-1221		<0.5 U
Aroclor-1232		<0.5 U
Aroclor-1242		<0.5 U
Aroclor-1248		<0.5 U
Aroclor-1254		<1 U
Aroclor-1260		<1 U

Values represent total concentrations unless noted < =Not detected at indicated reporting limit ---=Not analyzed

J = estimated concentration N = presumptively present

R = rejected

Validated

Date: 12/23/95

Organophosphorous Pesticides
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-8
	SAMPLE ID	11TL08
	DATE	11/19/94
Dimethoate		<0.5 U
Disulfoton		<0.5 U
Ethyl parathion		<0.5 U
Famphur		<0.5 U
Methyl parathion		<0.5 U
Phorate		<0.5 U
Sulfotepp		<0.5 U
Thionazin		<0.5 U
Triethylphosphorothioate		0.67

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

Validated

Date: 12/23/95

Herbicides
TRENCH LIQUID SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ug/l)	SITE	TRENCH-8
	SAMPLE ID	11TL08
	DATE	11/19/94
2,4-D		<0.5 U
Dinoseb		<0.7 UJ
2,4,5-T		<0.2 U
Silvex		<0.1 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

J = estimated concentration

Analytical Data for Product Sample

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES, INC

11HS11A 11-22-94

WO #: A1GNQ101
LAB #: A4K230105-001
MATRIX: LIQUID

DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
Acenaphthene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Acenaphthylene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Anthracene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Benzo(a)anthracene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Benzo(b)fluoranthene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Benzo(k)fluoranthene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Benzo(ghi)perylene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Benzo(a)pyrene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Bis(2-chloroethoxy)methane	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Bis(2-chloroethyl)ether	ND	20,000	SW846 8270A	11/28-12/06/94	433212
2,2'-oxybis(1-Chloro-propane)	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Bis(2-ethylhexyl)phthalate	ND	20,000	SW846 8270A	11/28-12/06/94	433212
4-Bromophenyl phenyl ether	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Butyl benzyl phthalate	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Carbazole	ND	20,000	SW846 8270A	11/28-12/06/94	433212
4-Chloroaniline	ND	20,000	SW846 8270A	11/28-12/06/94	433212
2-Chloronaphthalene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
4-Chlorophenyl phenyl ether	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Chrysene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Dibenzo(a,h)anthracene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Dibenzofuran	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Di-n-butyl phthalate	ND	20,000	SW846 8270A	11/28-12/06/94	433212
1,2-Dichlorobenzene	ND	20,000	SW846 8270A	11/28-12/06/94	433212

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	95	(52 - 131)
2-Fluorobiphenyl	98	(43 - 109)
Terphenyl-d14	132	(37 - 150)
Phenol-d5	0.0*	(37 - 117)
2-Fluorophenol	0.0*	(28 - 101)
2,4,6-Tribromophenol	11	(10 - 170)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT
* SURROGATES OUT OF CONTROL

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES, INC

11HS11A 11-22-94

WO #: A1GNQ101
LAB #: A4K230105-001
MATRIX: LIQUID

DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
1,3-Dichlorobenzene	ND	20,000	SW846 8270A	11/28-12/06/94	43321
1,4-Dichlorobenzene	ND	20,000	SW846 8270A	11/28-12/06/94	43321
3,3'-Dichlorobenzidine	ND	40,000	SW846 8270A	11/28-12/06/94	43321
Diethyl phthalate	ND	20,000	SW846 8270A	11/28-12/06/94	43321
Dimethyl phthalate	ND	20,000	SW846 8270A	11/28-12/06/94	43321
2,4-Dinitrotoluene	ND	20,000	SW846 8270A	11/28-12/06/94	43321
2,6-Dinitrotoluene	ND	20,000	SW846 8270A	11/28-12/06/94	43321
Di-n-octyl phthalate	ND	20,000	SW846 8270A	11/28-12/06/94	43321
Fluoranthene	ND	20,000	SW846 8270A	11/28-12/06/94	43321
Fluorene	ND	20,000	SW846 8270A	11/28-12/06/94	43321
Hexachlorobenzene	ND	20,000	SW846 8270A	11/28-12/06/94	43321
Hexachlorobutadiene	ND	20,000	SW846 8270A	11/28-12/06/94	[illegible]21
Hexachlorocyclopentadiene	ND	20,000	SW846 8270A	11/28-12/06/94	43[illegible]1
Hexachloroethane	ND	20,000	SW846 8270A	11/28-12/06/94	43321
Indeno(1,2,3-cd)pyrene	ND	20,000	SW846 8270A	11/28-12/06/94	43321
Isophorone	ND	20,000	SW846 8270A	11/28-12/06/94	43321
2-Methylnaphthalene	ND	20,000	SW846 8270A	11/28-12/06/94	43321
Naphthalene	**8,200 J**	**20,000**	**SW846 8270A**	**11/28-12/06/94**	**43321**
Nitrobenzene	ND	20,000	SW846 8270A	11/28-12/06/94	43321
2-Nitroaniline	ND	100,000	SW846 8270A	11/28-12/06/94	43321
3-Nitroaniline	ND	100,000	SW846 8270A	11/28-12/06/94	43321
4-Nitroaniline	ND	100,000	SW846 8270A	11/28-12/06/94	43321
N-Nitrosodiphenylamine	ND	20,000	SW846 8270A	11/28-12/06/94	43321

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	95	(52 - 131)
2-Fluorobiphenyl	98	(43 - 109)
Terphenyl-d14	132	(37 - 150)
Phenol-d5	0.0*	(37 - 117)
2-Fluorophenol	0.0*	(28 - 101)
2,4,6-Tribromophenol	11	(10 - 170)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT
*** SURROGATES OUT OF CONTROL**
J ESTIMATED VALUE. (DETECTED), BUT BELOW QUANTITATION LIMIT.

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES, INC

11HS11A 11-22-94

WO #: A1GNQ101
LAB #: A4K230105-001
MATRIX: LIQUID

DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
N-Nitrosodi-n-propylamine	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Phenanthrene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
Pyrene	ND	20,000	SW846 8270A	11/28-12/06/94	433212
1,2,4-Trichlorobenzene	ND	20,000	SW846 8270A	11/28-12/06/94	433212

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	95	(52 - 131)
2-Fluorobiphenyl	98	(43 - 109)
Terphenyl-d14	132	(37 - 150)
Phenol-d5	0.0*	(37 - 117)
2-Fluorophenol	0.0*	(28 - 101)
2,4,6-Tribromophenol	11	(10 - 170)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT
* SURROGATES OUT OF CONTROL

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES, INC

11HS11A 11-22-94

WO #: A1GNQ101
LAB #: A4K230105-001
MATRIX: LIQUID

DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94

- - - - - - - - - - - - - - - - - - GC/MS Semi-Volatiles - - - - - - - - - - - - - - - - - -

PARAMETER	RESULT (ug/kg)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
4-Chloro-3-methylphenol	ND	20,000	SW846 8270A	11/28-12/06/94	433212
2-Chlorophenol	ND	20,000	SW846 8270A	11/28-12/06/94	433212
2,4-Dichlorophenol	ND	20,000	SW846 8270A	11/28-12/06/94	433212
2,4-Dimethylphenol	ND	20,000	SW846 8270A	11/28-12/06/94	433212
2,4-Dinitrophenol	ND	100,000	SW846 8270A	11/28-12/06/94	433212
4,6-Dinitro-2-methylphenol	ND	100,000	SW846 8270A	11/28-12/06/94	433212
2-Methylphenol	ND	20,000	SW846 8270A	11/28-12/06/94	433212
4-Methylphenol	ND	20,000	SW846 8270A	11/28-12/06/94	433212
2-Nitrophenol	ND	20,000	SW846 8270A	11/28-12/06/94	433212
4-Nitrophenol	ND	100,000	SW846 8270A	11/28-12/06/94	433212
Pentachlorophenol	ND	100,000	SW846 8270A	11/28-12/06/94	4[illegible]12
Phenol	ND	20,000	SW846 8270A	11/28-12/06/94	4[illegible]2
2,4,5-Trichlorophenol	ND	20,000	SW846 8270A	11/28-12/06/94	433212
2,4,6-Trichlorophenol	ND	20,000	SW846 8270A	11/28-12/06/94	433212

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
Nitrobenzene-d5	95	(52 - 131)
2-Fluorobiphenyl	98	(43 - 109)
Terphenyl-d14	132	(37 - 150)
Phenol-d5	0.0*	(37 - 117)
2-Fluorophenol	0.0*	(28 - 101)
2,4,6-Tribromophenol	11	(10 - 170)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT
* SURROGATES OUT OF CONTROL

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES, INC

11HS11A 11-22-94

WO #: A1GNQ101
LAB #: A4K230105-001
MATRIX: LIQUID

DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94
DATE EXTRACTED: 11/28/94
DATE ANALYZED: 12/06/94

MASS SPECTROMETER/DATA SYSTEM (MSDS) TENTATIVELY IDENTIFIED COMPOUNDS
with their estimated concentrations

PARAMETER	RESULT	UNIT	QC BATCH
Unknown	7,700,000	ug/kg	4332129
Unknown	1,200,000	ug/kg	4332129
Unknown Aromatic	25,000	ug/kg	4332129
Unknown	44,000	ug/kg	4332129
Unknown	12,000	ug/kg	4332129
Unknown	59,000	ug/kg	4332129

OTHER COMPOUNDS

PARAMETER	RESULT	UNIT	QC BATCH
None			4332129

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES,INC

11HS11A 11-22-94

WO #: A1GNQ104
LAB #: A4K230105-001
MATRIX: LIQUID

DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94

GC Volatiles

PARAMETER	RESULT (%)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
o-Cresol	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
m-Cresol	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
p-Cresol	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
2-Butanone	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
Pyridine	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
Nitrobenzene	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
Xylenes, Total	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
Chlorobenzene	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
Ethylbenzene	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
Isobutanol	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
o-Dichlorobenzene	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
Cyclohexanone	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
4-Methyl-2-pentanone	ND	0.010	SW846 8015A	12/02-12/07/94	[illegible]
Toluene	ND	0.010	SW846 8015A	12/02-12/07/94	[illegible]
Benzene	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
2-Ethoxyethanol	ND	0.020	SW846 8015A	12/02-12/07/94	4341C
2-Nitropropane	ND	0.010	SW846 8015A	12/02-12/07/94	4341C
Tetrachloroethene	ND	0.020	SW846 8015A	12/02-12/07/94	4341C
Trichloroethene	ND	0.020	SW846 8015A	12/02-12/07/94	4341C
Ethyl acetate	ND	0.020	SW846 8015A	12/02-12/07/94	4341C
Ethyl ether	ND	0.020	SW846 8015A	12/02-12/07/94	4341C
1,1,1-Trichloroethane	ND	0.020	SW846 8015A	12/02-12/07/94	4341C
Acetone	ND	0.020	SW846 8015A	12/02-12/07/94	4341C

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
n-Butyl acetate	128	(50 - 150)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES, INC

11HS11A 11-22-94

WO #: A1GNQ104
LAB #: A4K230105-001
MATRIX: LIQUID

DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94

GC Volatiles

PARAMETER	RESULT (%)	REPORTING LIMIT	METHOD	EXTRACTION-ANALYSIS DATE	QC BATCH
1,1,2-Trichloroethane	ND	0.020	SW846 8015A	12/02-12/07/94	43410
Methanol	ND	0.050	SW846 8015A	12/02-12/07/94	43410
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	0.050	SW846 8015A	12/02-12/07/94	43410
Methylene chloride	ND	0.050	SW846 8015A	12/02-12/07/94	43410
Carbon tetrachloride	ND	0.10	SW846 8015A	12/02-12/07/94	43410
Trichlorofluoromethane	ND	0.10	SW846 8015A	12/02-12/07/94	43410
Carbon disulfide	ND	0.20	SW846 8015A	12/02-12/07/94	43410
n-Butanol	ND	0.010	SW846 8015A	12/02-12/07/94	43410
Cresylic Acid	ND	0.10	SW846 8015A	12/02-12/07/94	43410

SURROGATE RECOVERY	%	ACCEPTABLE LIMITS
n-Butyl acetate	128	(50 - 150)

NOTE: AS RECEIVED
ND NOT DETECTED AT THE STATED REPORTING LIMIT

Quanterra
Environmental Services

ABB ENVIRONMENTAL SERVICES, INC

11HS11A 11-22-94

WO #: A1GNQ
LAB #: A4K230105-001
MATRIX: LIQUID

DATE SAMPLED: 11/22/94
DATE RECEIVED: 11/23/94

- - - - - - - - - - - - - - - - - - INORGANIC ANALYTICAL REPORT - - - - - - - - - - - - - - - -

PARAMETER	RESULT	REPORTING LIMIT	UNIT	METHOD	PREPARATION - ANALYSIS DATE	QC BATCH
pH Aqueous	*13.0		su	SW846 9040	12/05/94	43391

NOTE: AS RECEIVED
*ANALYZED BY PH PAPER METHOD DUE TO MI.

Validated Analytical Data for Air Samples

Validated

Volatile Organic Compounds
UPWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SAMPLE ID	11AIR103	11AIR106	11AIR107
CONSTITUENT (Units in ppbv) DATE	11/08/94	11/09/94	11/10/94
Benzene	0.19	0.15	2.02
Benzyl chloride	0.05 U	0.05 U	0.05 U
Bromomethane	0.05 U	0.05 U	0.05 U
Carbon tetrachloride	0.14	0.13	0.14
Chlorobenzene	0.05 U	0.05 U	0.05 U
Chloroethane	0.05 U	0.05 U	0.05 U
Chloroform	0.05 U	0.05 U	0.05 U
Chloromethane	0.76 U	0.83 U	0.82 U
1,2-Dibromoethane	0.05 U	0.05 U	0.05 U
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U
1,3-Dichlorobenzene	0.05 U	0.05 U	0.05 U
1,4-Dichlorobenzene	0.05 U	0.05 U	0.05 U
Dichlorodifluoromethane	0.58 U	0.54	0.53
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane	0.05 U	0.05 U	0.05 U
1,1-Dichloroethene	0.05 U	0.05 U	0.05 U
cis-1,2-Dichloroethene	0.05 U	0.05 U	0.05 U
trans-1,2-Dichloroethene	0.05 U	0.05 U	0.05 U
1,2-Dichloropropane	0.05 U	0.05 U	0.05 U
cis-1,3-Dichloropropene	0.05 U	0.05 U	0.05 U
trans-1,3-Dichloropropene	0.05 U	0.05 U	0.05 U
Ethylbenzene	0.05 U	0.05 U	0.18
Freon 113	0.16	0.18 U	0.18 U
Freon 114	0.05 U	0.05 U	0.05 U
Hexachlorobutadiene	0.05 U	0.05 U	0.05 U
Methylene chloride	1.59 U	1.38 U	0.31 U
Styrene	0.05 UR	0.05 UR	0.05 UR
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U
Tetrachloroethene	0.05 U	0.05 U	0.05 U
Toluene	0.20 U	0.23	1.82
1,2,4-Trichlorobenzene	0.05 U	0.05 U	0.05 U

Validated

Volatile Organic Compounds
UPWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SAMPLE ID	11AIR103	11AIR106	11AIR107
CONSTITUENT (Units in ppbv) DATE	11/08/94	11/09/94	11/10/94
1,1,1-Trichloroethane	0.13	0.13	0.13
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U
Trichloroethene	0.05 U	0.05 U	0.05 U
Trichlorofluoromethane	0.38	0.34	0.34
1,2,4-Trimethylbenzene	0.05 U	0.05 U	0.15
1,3,5-Trimethylbenzene	0.05 U	0.05 U	0.10
Vinyl chloride	0.01 U	0.01 U	0.01 U
m,p-Xylene	0.05 U	0.09	0.79
o-Xylene	0.05 U	0.05 U	0.42

ppbv = parts per billion volume.

ID = identificaiton.

U = not detected.

UR = not detected, quantitation limit rejected.

Validated

Volatile Organic Compounds
DOWNWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SAMPLE ID	11AIR101	11AIR102	11AIR102D	11AIR104	11AIR104D
CONSTITUENT (Units in ppbv) DATE	11/08/94	11/08/94	11/08/94	11/09/94	11/10/94
Benzene	0.13	0.18	0.12	0.21	0.13
Benzyl chloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromomethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Carbon tetrachloride	0.12	0.14	0.13	0.12	0.12
Chlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloromethane	0.54 U	0.63 U	0.66 U	0.95 U	0.72 U
1,2-Dibromoethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,3-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,4-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dichlorodifluoromethane	0.55	0.55	0.51	0.56	0.51
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
cis-1,2-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
trans-1,2-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloropropane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
cis-1,3-Dichloropropene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
trans-1,3-Dichloropropene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Ethylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Freon 113	0.16	0.26 U	0.35 U	0.29 U	0.20
Freon 114	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Hexachlorobutadiene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methylene chloride	1.26	0.44 U	0.82 U	0.48 U	0.60
Styrene	0.05 UR	0.05 UR	0.05 UR	0.05 UR	0.05 UR
Tetrachloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Toluene	0.14	0.14	0.23	0.28	0.24
1,2,4-Trichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

Validated

Volatile Organic Compounds
DOWNWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SAMPLE ID / CONSTITUENT (Units in ppbv) / DATE	11AIR101 11/08/94	11AIR102 11/08/94	11AIR102D 11/08/94	11AIR104 11/09/94	11AIR104D 11/10/94
1,1,1-Trichloroethane	0.13	0.13	0.13	0.13	0.13
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Trichloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Trichlorofluoromethane	0.32	0.35	0.34	0.34	0.30
1,2,4-Trimethylbenzene	0.05 U	0.05 U	0.05 U	0.10	0.06
1,3,5-Trimethylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Vinyl chloride	0.01 U	0.01 U	0.01 U	0.01 U	0.01 U
m,p-Xylene	0.05 U	0.05 U	0.05 U	0.17	0.05 U
o-Xylene	0.05 U	0.05 U	0.05 U	0.06	0.05 U

SAMPLE ID / CONSTITUENT (Units in ppbv) / DATE	11AIR105 11/09/94	11AIR108 11/10/94	11AIR108D 11/10/94	11AIR108DD 11/11/94	11AIR109 11/10/94
Benzene	0.16	0.12	0.11	0.12	0.15
Benzyl chloride	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Bromomethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Carbon tetrachloride	0.13	0.12	0.12	0.13	0.13
Chlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U	0.30
Chloromethane	0.88 U	0.80 U	0.68 U	0.55 U	0.66 U
1,2-Dibromoethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,3-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,4-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dichlorodifluoromethane	0.57	0.56	0.53	0.54	0.52
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
cis-1,2-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
trans-1,2-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloropropane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
cis-1,3-Dichloropropene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
trans-1,3-Dichloropropene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Ethylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U

Validated

Volatile Organic Compounds
DOWNWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SAMPLE ID / CONSTITUENT (Units in ppbv)	11AIR105	11AIR108	11AIR108D	111AIR108DD	11AIR109
DATE	11/09/94	11/10/94	11/10/94	11/11/94	11/10/94
Freon 113	0.21 U	0.18 U	0.31	0.15	0.13
Freon 114	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Hexachlorobutadiene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methylene chloride	0.59 U	0.35 U	0.94	0.60 J	0.49
Styrene	0.05 U	0.05 UR	0.05 UR	0.05 UR	0.05 UR
Tetrachloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Toluene	0.24	0.18	0.25	0.29	0.35
1,2,4-Trichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
1,1,1-Trichloroethane	0.13	0.12	0.13	0.14	0.13
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Trichloroethene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Trichlorofluoromethane	0.34	0.34	0.43	0.32	0.32
1,2,4-Trimethylbenzene	0.06	0.05	0.06	0.07	0.07
1,3,5-Trimethylbenzene	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Vinyl chloride	0.01 U	0.01 U	0.01	0.01 U	0.01
m,p-Xylene	0.10	0.09	0.05 U	0.05 U	0.05 U
o-Xylene	0.05 U	0.05 U	0.05	0.06	0.05 U

ppbv = parts per billion volume.

ID = identificaiton.

U = not detected.

UR = not detected, quantitation limit rejected.

J = estimated concentration.

Validated

Volatile Organic Compounds
UPWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SAMPLE ID CONSTITUENT (Units in ppbv) DATE	11AIR112 11/9/1894	11AIR118 11/20/94
Benzene	0.19	0.29
Benzyl chloride	0.05 U	0.08 UR
Bromomethane	0.05 U	0.08 U
Carbon tetrachloride	0.13	0.18
Chlorobenzene	0.05 U	0.08 U
Chloroethane	0.05 U	0.08 U
Chloroform	0.05 U	0.08 U
Chloromethane	0.67 U	1.02 U
1,2-Dibromoethane	0.05 U	0.08 U
1,2-Dichlorobenzene	0.05 U	0.08 U
Dichlorodifluoromethane	0.47 U	0.69
1,1-Dichloroethane	0.05 U	0.08 U
1,2-Dichloroethane	0.05 U	0.08 U
1,1-Dichloroethene	0.05 U	0.08 U
cis-1,2-Dichloroethene	0.05 U	0.08 U
trans-1,2-Dichloroethene	0.05 U	0.08 U
1,2-Dichloropropane	0.05 U	0.08 U
cis-1,3-Dichloropropene	0.05 U	0.08 U
trans-1,3-Dichloropropene	0.05 U	0.08 U
1,3-Dichlorobenzene	0.05 U	0.08 U
1,4-Dichlorobenzene	0.05 U	0.08 U
Ethylbenzene	0.05 U	0.08 U
Freon 113	0.11	0.28
Freon 114	0.05 U	0.08 U
Hexachlorobutadiene	0.05 U	0.08 U
Methylene chloride	0.51 U	12.4 J
Styrene	0.05 UR	0.08 UR
1,1,2,2-Tetrachloroethane	0.05 U	0.08 U
Tetrachloroethene	0.05 U	0.08 U

Validated

Volatile Organic Compounds
UPWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

CONSTITUENT (Units in ppbv)	SAMPLE ID DATE	11AIR112 11/9/1894	11AIR118 11/20/94
Toluene		0.26 U	0.59
1,2,4-Trichlorobenzene		0.05 U	0.08 U
1,1,2-Trichloroethane		0.05 U	0.08 U
1,1,1-Trichloroethane		0.13	0.19
Trichloroethene		0.05 U	0.08 U
Trichlorofluoromethane		0.28	0.44
1,2,4-Trimethylbenzene		0.06	0.09
1,3,5-Trimethylbenzene		0.05 U	0.08 U
Vinyl chloride		0.01 U	0.08 U
m,p-Xylene		0.09	0.29
o-Xylene		0.05 U	0.10

ppbv = parts per billion volume.

ID = identificaiton.

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J = estimated concentration.

UR = not detected, quantitation limit rejected.

Validated

Volatile Organic Compounds
DOWNWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SAMPLE ID / CONSTITUENT (Units in ppbv)	DATE	11AIR116	11AIR117	11AIR117D	11AIR111	11AIR111D
		11/20/94	11/20/94	11/20/94	11/18/94	11/18/94
Benzene		0.24	0.39	0.31	0.18	0.19
Benzyl chloride		0.09 UR	0.10 UR	0.10 UR	0.05 U	0.05 U
Bromomethane		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
Carbon tetrachloride		0.14	0.16	0.21	0.13	0.13
Chlorobenzene		0.09 U	0.36	0.10 U	0.05 U	0.05 U
Chloroethane		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
Chloroform		0.09 U	1.25	0.10 U	0.09	0.05 U
Chloromethane		0.98 U	1.10 U	1.10 U	0.75 U	0.66 U
1,2-Dibromoethane		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
1,2-Dichlorobenzene		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
1,3-Dichlorobenzene		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
1,4-Dichlorobenzene		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
Dichlorodifluoromethane		0.51	0.63	0.73	1.85 U	0.47 U
1,1-Dichloroethane		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
1,2-Dichloroethane		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
1,1-Dichloroethene		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
cis-1,2-Dichloroethene		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
trans-1,2-Dichloroethene		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
1,2-Dichloropropane		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
cis-1,3-Dichloropropene		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
trans-1,3-Dichloropropene		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
Ethylbenzene		0.09 U	0.10 U	0.10 U	0.08	0.08
Freon 113		0.15	0.29	0.29	1.07	0.10
Freon 114		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
Hexachlorobutadiene		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
Methylene chloride		1.94 U	6.89 J	9.34 J	7.84 J	0.36 U
Styrene		0.09 UR	0.10 UR	0.10 UR	0.05 UR	0.05 UR
1,1,2,2-Tetrachloroethane		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
Tetrachloroethene		0.09 U	0.10	0.10 U	0.05 U	0.05 U
Toluene		0.42	0.84	0.42	0.57	0.56
1,2,4-Trichlorobenzene		0.09 U	0.10 U	0.10 U	0.05 U	0.05 U

Validated

Volatile Organic Compounds
DOWNWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SAMPLE ID / CONSTITUENT (Units in ppbv) / DATE	11AIR116 11/20/94	11AIR117 11/20/94	11AIR117D 11/20/94	11AIR111 11/18/94	11AIR111D 11/18/94
1,1,1-Trichloroethane	0.14	0.17	0.23	0.16	0.13
1,1,2-Trichloroethane	0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
Trichloroethene	0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
Trichlorofluoromethane	0.37	0.37	0.42	0.32	0.27
1,2,4-Trimethylbenzene	0.13	0.10 U	0.10 U	0.09	0.07
1,3,5-Trimethylbenzene	0.09 U	0.10 U	0.10 U	0.05 U	0.05 U
Vinyl chloride	0.09 U	0.10 U	0.10 U	0.01	0.01 U
m,p-Xylene	0.21	0.19	0.16	0.28	0.29
o-Xylene	0.09 U	0.10 U	0.10 U	0.10	0.08

ppbv = parts per billion volume.

ID = identificaiton.

U = not detected.

J = estimated concentration.

UR = not detected, quantitation limit rejected.

Validated

Volatile Organic Compounds
DOWNWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SAMPLE ID CONSTITUENT (Units in ppbv) DATE	11AIR113 11/18/94	11AIR114 11/18/94	11AIR114D 11/18/94	11AIR115 11/18/94
Benzene	0.19	0.20	0.19	0.23
Benzyl chloride	0.05 U	0.05 U	0.05 U	0.05 U
Bromomethane	0.05 U	0.05 U	0.05 U	0.05 U
Carbon tetrachloride	0.13	0.13	0.12	0.13
Chlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U
Chloroethane	0.05 U	0.05 U	0.05 U	0.05 U
Chloroform	0.05 U	0.05 U	0.05 U	0.05 U
Chloromethane	0.69 U	0.67 U	0.67 U	0.67 U
1,2-Dibromoethane	0.05 U	0.05 U	0.05 U	0.05 U
1,1-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U
trans-1,2-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U
1,1-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U
1,3-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U
1,4-Dichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloroethane	0.05 U	0.05 U	0.05 U	0.05 U
cis-1,2-Dichloroethene	0.05 U	0.05 U	0.05 U	0.05 U
1,2-Dichloropropane	0.05 U	0.05 U	0.05 U	0.05 U
cis-1,3-Dichloropropene	0.05 U	0.05 U	0.05 U	0.05 U
trans-1,3-Dichloropropene	0.05 U	0.05 U	0.05 U	0.05 U
Dichlorodifluoromethane	0.95 U	0.50 U	0.44 U	0.48 U
Ethylbenzene	0.05 U	0.05 U	0.05 U	0.05 U
Freon 113	0.15	0.12	0.10	0.12
Freon 114	0.05 U	0.05 U	0.05 U	0.05 U
Hexachlorobutadiene	0.05 U	0.05 U	0.05 U	0.05 U
Methylene chloride	0.88 U	0.56 U	0.30 U	0.55 U
Styrene	0.05 UR	0.05 UR	0.05 UR	0.05 UR
Tetrachloroethene	0.05 U	0.05 U	0.05 U	0.05 U
1,1,2,2-Tetrachloroethane	0.05 U	0.05 U	0.05 U	0.05 U
Toluene	0.35 U	1.24	0.35 U	0.35 U
1,2,4-Trichlorobenzene	0.05 U	0.05 U	0.05 U	0.05 U
1,1,1-Trichloroethane	0.14	0.13	0.13	0.13

Validated

Volatile Organic Compounds
DOWNWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SAMPLE ID	11AIR113	11AIR114	11AIR114D	11AIR115
CONSTITUENT (Units in ppbv) DATE	11/18/94	11/18/94	11/18/94	11/18/94
1,1,2-Trichloroethane	0.05 U	0.05 U	0.05 U	0.05 U
1,2,4-Trimethylbenzene	0.06	0.05	0.07	0.06
1,3,5-Trimethylbenzene	0.05 U	0.05 U	0.05 U	0.05 U
Trichloroethene	0.05 U	0.05 U	0.05 U	0.05 U
Trichlorofluoromethane	0.28	0.27	0.31	0.28
Vinyl chloride	0.01 U	0.01 U	0.01 U	0.01 U
m,p-Xylene	0.12	0.14	0.13	0.13
o-Xylene	0.05 U	0.05 U	0.06	0.05 U

SAMPLE ID	11AIR119	11AIR119D	11AIR121
CONSTITUENT (Units in ppbv) DATE	11/20/94	11/22/94	11/20/94
Benzene	1.80	1.80	0.28
Benzyl chloride	0.05 UR	0.08 UR	0.05 UR
Bromomethane	0.05 U	0.08 U	0.05 U
Carbon tetrachloride	0.16	0.16	0.17
Chlorobenzene	0.05 U	0.08 U	0.05 U
Chloroethane	0.05 U	0.08 U	0.05 U
Chloroform	0.78	0.78	0.17
Chloromethane	0.82 U	1.22 U	0.86 U
1,2-Dibromoethane	0.05 U	0.08 U	0.05 U
1,1-Dichloroethane	0.05 U	0.08 U	0.05 U
trans-1,2-Dichloroethene	0.05 U	0.08 U	0.05 U
1,1-Dichloroethene	0.05 U	0.08 U	0.05 U
1,2-Dichlorobenzene	0.05 U	0.08 U	0.05 U
1,3-Dichlorobenzene	0.05 U	0.08 U	0.05 U
1,4-Dichlorobenzene	0.05 U	0.08 U	0.05 U
1,2-Dichloroethane	0.05 U	0.08 U	0.05 U
cis-1,2-Dichloroethene	0.05 U	0.08 U	0.05 U
1,2-Dichloropropane	0.05 U	0.08 U	0.05 U
cis-1,3-Dichloropropene	0.05 U	0.08 U	0.05 U
trans-1,3-Dichloropropene	0.05 U	0.08 U	0.05 U
Dichlorodifluoromethane	1.71	1.71	0.55
Ethylbenzene	0.14	0.14	0.07
Freon 113	4.37	4.37	0.20
Freon 114	0.05 U	0.08 U	0.05 U

Validated

Volatile Organic Compounds
DOWNWIND AIR SAMPLES
November 1994
Site 11, Old Camden County Landfill
Naval Submarine Base, Kings Bay, Georgia

SAMPLE ID CONSTITUENT (Units in ppbv) DATE	11AIR119 11/20/94	11AIR119D 11/22/94	11AIR121 11/20/94
Hexachlorobutadiene	0.05 U	0.08 U	0.05 U
Methylene chloride	33.30 J	33.30 J	2.09 U
Styrene	0.05 UR	0.08 UR	0.05 UR
Tetrachloroethene	0.05 U	0.08 U	0.05 U
1,1,2,2-Tetrachloroethane	0.05 U	0.08 U	0.05 U
Toluene	2.43	2.43	0.69
1,2,4-Trichlorobenzene	0.05 U	0.08 U	0.05 U
1,1,1-Trichloroethane	0.31	0.31	0.16
1,1,2-Trichloroethane	0.05 U	0.08 U	0.05 U
1,2,4-Trimethylbenzene	0.10	0.10	0.07
1,3,5-Trimethylbenzene	0.05 U	0.08 U	0.05 U
Trichloroethene	0.05 U	0.08 U	0.05 U
Trichlorofluoromethane	0.69	0.69	0.37
Vinyl chloride	0.05 U	0.08 U	0.05 U
m,p-Xylene	0.53	0.53	0.26
o-Xylene	0.20	0.20	0.09

ppbv = parts per billion volume.

ID = identificaiton.

U = not detected.

J = estimated concentration.

UR = not detected, quantitation limit rejected.

October 27, 1997

Southern Division
Naval Facilities Engineering Command
ATTN: Mr. Anthony Robinson
P.O. Box 190010
2155 Eagle Drive
North Charleston, SC 29418

SUBJECT: Summary of 1997 Focused Groundwater Investigations, Site 11, Old Camden County Landfill, Naval Submarine Base (NSB), Kings Bay, Georgia; Comprehensive Long-Term Environmental Action, Navy District I, Contract No. N62467-89-D-0317/094

Dear Mr. Robinson:

INTRODUCTION

This letter report presents groundwater chemical data from two groundwater investigations conducted at Site 11 during 1997. Data from this letter report could serve as an addendum to the draft final Supplemental Resource Conservation and Recovery Act (RCRA) Facility Investigation (SRFI) report (ABB Environmental Services, Inc. [ABB-ES], 1997a). The data presented were not collected under an approved SRFI.

The groundwater sample results presented in this letter report indicate that there is an area of high concentrations of tetrachloroethene and its degradation products that extends from the landfill to the western right-of-way of Spur 40. Sample locations hydraulically downgradient of the right-of-way in the eastern part of the subdivision contained much lower levels of contaminants. Groundwater sample results are also presented that provide evidence to support delineation of the plume.

PURPOSE OF FIELD PROGRAMS

Groundwater data from two field programs are presented. Both field programs focused on collection of groundwater samples using direct push equipment and from a limited selection of existing monitoring wells, recovery wells, or piezometers. The groundwater samples were analyzed onsite using a gas chromatography field analytical method. Objectives of these focused field programs are summarized in Table 1 (all tables are located in Attachment B).

The first of these two groundwater sampling programs at Site 11 was conducted March 4 through 12, 1997. The three objectives of this field program were to (1) provide an updated assessment of groundwater contaminant levels in the area that has been the focus of an Interim Measure (IM) corrective action; (2) attempt to locate the source area for tetrachloroethene (PCE) and trichloroethene (TCE) in the vicinity of monitoring well KBA-11-13A; and (3) support selection of additional monitoring well locations. This first field program was not designed to provide delineation of contaminants to background or regulatory levels.

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The second of these two groundwater sampling programs was conducted during the week of September 15, 1997. This program was conducted for two reasons. These being (1) to collect groundwater samples in certain areas where data gaps related to delineation of contaminants were identified and (2) to add to the information collected in March 1997 in an area of high concentrations on the west side of the landfill. A sampling event that included sampling of approximately 20 wells and piezometers located inside the plume was also conducted. These analytical data will be provided to the Navy in a separate report.

The remainder of the letter report is organized into sections that provide the following:

- a generalized summary of the contaminant flow regime, or physical conditions that effect groundwater flow and contaminant distribution;
- a summary of steps taken to identify and address data gaps in defining the extent of the plume, including a summary of the September 1997 groundwater data that were collected for that purpose; and
- a summary of groundwater analytical data from investigations focused within the plume during the March and September 1997 field programs.

CONTAMINANT FLOW REGIME

The Navy secured the services of the U.S. Geological Survey (USGS) to develop a hydrogeologic framework for the site. The information presented herein regarding the hydrogeologic conditions and effect on contaminant distribution are based on ABB-ES' understanding of information conveyed during meeting discussions with USGS and, as such, may not necessarily be reflective of information in the report that the USGS will submit for the site. It is ABB-ES' understanding that the USGS is currently preparing a document that describes the hydrogeologic framework for the site, so the information is considered preliminary.

The water-table water bearing unit is approximately 75 feet thick and underlain by a confining layer. The vertical extent of contamination is defined by the base of the water-table water bearing unit that is approximately 80 feet below land surface (bls). Within the water-table water bearing unit, downward vertical gradients direct shallow groundwater vertically into the intermediate zone of the unit where horizontal flow occurs. The intermediate zone is approximately 30 to 45 feet bls at the landfill, dips to the west, and is comprised of poorly graded fine-grained sand. Anisotropic conditions created by clay lenses in the deep zone of the water-table unit favor horizontal flow in the intermediate zone of the water-table unit.

Based on the current understanding of the hydrogeologic framework, contaminants released into the groundwater preferentially migrate horizontally in the intermediate zone of the water-table unit. Therefore, recent investigations of groundwater contamination discussed in this letter report focus on the intermediate zone of the unit.

EXTENT OF CONTAMINATION

Based on concerns conveyed to the Navy by the Georgia Environmental Protection Department (GEPD) that the plume at Site 11 had not been delineated, steps have been taken by the Navy to identify and address data gaps in delineating the plume. The steps include (1) submittal of an approach

for delineation as an attachment to the SRFI Report; (2) review of existing data and identification of data gaps during the August 12 and 13, 1997, team meeting; (3) planning of a direct push groundwater sampling program to address the data gaps; (4) preparation of a written plan in followup to an August 21, 1997, planning meeting; and (5) execution of the direct push field program during September 1997.

Supplemental RFI Groundwater Data Around the Periphery of the Plume.

Figure 1 (Attachment A) shows the locations of eight monitoring wells screened in the intermediate zone of the water-table unit and situated around the periphery of the groundwater contaminant plume. Table 2 lists organic compounds detected in outermost monitoring locations during three monitoring events conducted during 1994 (within the approved SRFI) and a fourth, abbreviated sampling event conducted in April 1995 (outside the SRFI). Concentrations for the chemicals listed in Table 2 can be found in Table 3, a summary table of the analytical results. More comprehensive data tables showing detailed analytical results for every analyte measured in the SRFI groundwater samples can be found in the draft final SRFI report prepared by ABB-ES and dated August 1997.

Identification of Data Gaps Related to Defining Plume Boundaries. During the August team meeting, attendees reviewed the compounds and concentrations detected in samples from the peripheral monitoring wells to identify potential data gaps. The groundwater analytical data for the SRFI monitoring wells at the periphery of the plume suggested that there were data gaps related to delineation of the extent of contamination at the locations of wells KBA-11-8B and KBA-11-18. A third data gap was defined in the vicinity of well KBA-11-15. This gap was based on detection of methylene chloride in a March 1997 direct push groundwater sample collected from a depth of 50 feet bls at a location generally hydraulically upgradient of KBA-11-15 and near the NSB property line (V222 on Plate 1, Attachment F). On August 21, 1997, team members representing the Navy, USGS, and ABB-ES met to design a direct push field program to address these data gaps.

Another potential data gap associated with the potential for northern or eastern groundwater flow from the landfill was eliminated during discussions on August 12, 1997. Members of the team had expressed concerns that there were insufficient data to assess whether or not releases were migrating to the east and north of the landfill based on the limited monitoring points in those areas. To address these concerns, groundwater analytical data from 1992 direct push samples were reviewed by meeting attendees, including representatives from the GEPD and USGS. The attendees agreed that the data were sufficient to determine that the plume did not extend to the north and east of the landfill. These data are shown on Figure 2. There is no data summary table included for these data because there is only one detection in the whole group of samples.

The low groundwater flow velocities, estimated by the USGS to range from 3 to 6 feet per year in that area, were also considered in the team's decision that there was no potential data gap on the north and east of the landfill. Flow velocities cited are Darcy velocities (Fetter, 1980) and do not account for the effective porosity of the matrix. The USGS did not offer an estimate of the average horizontal velocity, or speed at which a particle would move through a given sediment over a given period of time, because there is no site-specific effective porosity data. However, one could use effective porosity values from the literature to derive an average horizontal velocity by dividing the Darcy velocity by the porosity. ABB-ES typically uses 25 percent as an effective porosity estimate for the poorly graded fine-grained sand (Fetter, 1980).

September 1997 Groundwater Sampling to Address Data Gaps. The direct push program designed to address the data gaps identified during the August team meeting was issued to Navy and USGS on September 2, 1997. The plan provided a logical sampling approach that included (1) collection of groundwater samples from peripheral monitoring wells, (2) sampling at three primary direct push groundwater sampling locations where data gaps were defined (KBA-11-8B, KBA-11-18, and KBA-11-15), and (3) three optional push locations. The optional locations, if used, would be based on the detection of analytes in samples from monitoring wells KBA-11-20 and KBA-11-21, or if more than one push location was needed in the area of monitoring well KBA-11-18. Table 4 provides information on the sampling that was conducted to address the data gaps.

Based on discussions during the August 1997 team meeting, nondetected values at KBA-11-20 and KBA-11-21 did not require additional sampling since no data gaps were identified in the area where these wells are located.

The analytical program included analyses of samples in an onsite laboratory equipped with a gas chromatograph. Samples were analyzed for the volatile organic compounds that had previously been detected in samples from the peripheral monitoring wells, plus tetrachloroethene and vinyl chloride. The analytes were:

acetone	benzene
2-butanone	ethylbenzene
4-methyl-2-pentanone	xylene
tetrachloroethene	toluene
trichloroethene	1,2-dichloroethane
cis-1,2-dichloroethene	1,1-dichloropropane
vinyl chloride	methylene chloride

Prior to discussing the analytical results for the groundwater samples, a brief summary of data quality is summarized below.

- 1,2-Dichloropropane and trichloroethene eluted very close to the same retention time. This problem created difficulty in calibrations. The problems were overcome on September 16, 1997. Separate calibration curves were performed for 1,2-dichloropropane to avoid interference of calibration peaks. Re-analysis of samples critical to this evaluation were performed after the problem was resolved. All holding times for the samples were met.

- All method blank analyses resulted in detection of ketones (acetone, 2-butanone, and 4-methyl-2-pentanone). Acetone and 2-butanone were detected in all nine method blanks. 4-Methyl-2-pentanone was detected in six of nine method blanks. Concentrations of ketones in method blanks ranged from 2.3 to 54 micrograms per liter ($\mu g/\ell$). Other compounds, each detected in one method blank, include methylene chloride (0.6 $\mu g/\ell$), cis-1,2-dichloroethene (0.5 $\mu g/\ell$), and 1,2-dichloropropane (1.4 $\mu g/\ell$). The groundwater data were qualified based on associated method blank contamination.

The plan for the recent field program included sampling of the eight peripheral monitoring wells. Three of these eight monitoring wells, KBA-11-12, KBA-11-11B, and KBA-11-14, were inadvertently omitted from the sampling activities. This error did not effect the ability to address data gaps because

there were no data gaps identified at the areas where KBA-11-12, KBA-11-11B, and KBA-11-14 are located. Previous results from these unsampled wells are provided in Tables 2 and 3. Figure 3 shows locations where monitoring well and direct push sampling was conducted and shows the results of sample analyses at each location.

Groundwater samples from monitoring wells KBA-11-15, KBA-11-18, KBA-11-20, and KBA-11-21 did not contain detectable concentrations of analytes. Therefore, direct push sampling focused on primary sample locations as outlined in the plan. The sample from KBA-11-8B contained detectable concentrations of methylene chloride, 1,1-dichloroethane, and cis-1,2-dichloroethene, consistent with historical data for that well. One analyte previously undetected in groundwater samples from all monitoring wells and piezometers, 1,1,1-trichloroethane, was detected at a concentration of 1 $\mu g/\ell$ by offsite, fixed-based laboratory analysis of the sample from well KBA-11-8B.

Direct push groundwater samples were collected from five locations to address data gaps related to delineation. Sample locations are shown on Figure 3. Analytical data for the direct push groundwater samples are summarized in Table 5. The data are summarized below.

- The analytical results for groundwater samples from direct push location T306 did not contain detectable concentrations of site-related contaminants that have consistently been detected at location KBA-11-8B, thus closing the data gap that was defined during the August 12 and 13, 1997, team meeting.

- Samples from push location T301 did not contain detectable concentrations of analytes, thus closing the data gap for the methylene chloride that was defined during the August team meeting.

- The analytical results for direct push samples from locations T302, T303, and T304 substantially close the data gap in the area of well KBA-11-18. Sample T30242 (location T302, 38 to 42 feet bls) contained detectable concentrations of benzene, toluene, methylene chloride, and 1,1-dichloroethane, similar to historical data from the adjacent well. Two other direct push locations, T303 and T304, were completed downgradient from T302. Data for these locations include sporadic, low-level detection of 4-methyl-2-pentanone, 1,1-dichloroethane, and 1,2-dichloropropane. Although the method blank associated with sample T30443 (location T304, 39 to 43 feet) did not contain 4-methyl-2-pentanone, it is highly likely that the detection in the groundwater sample (6.5 $\mu g/\ell$) is an artifact based on the absence of detections in adjacent push samples and the frequent occurrence in method blanks, in general. As for the detection of 1,1-dichloroethane and 1,2-dichloropropane below the detection limit of 1 $\mu g/\ell$, these low-level detections are isolated and attest to the difficulty associated with proving 'zero' concentrations. The collective analytical results for the three push locations and well KBA-11-18 substantially delineate contamination at well KBA-11-18.

RESULTS OF FOCUSED GROUNDWATER INVESTIGATION IN PLUME

As previously mentioned, two focused field investigations have been conducted during 1997 to assess contamination levels within certain areas of the plume. Table 4 summarizes the sampling that was performed.

The first, and more extensive investigation, was completed in March 1997. This investigation involved collection of direct push samples from three transects located between the western boundary

of the landfill and the western right-of-way of Spur 40. Direct push samples were also collected from locations inside the landfill during March.

The second investigation was conducted in September 1997. This was not an extensive investigation, including only eight sample locations inside the plume. Five sample locations were completed in the landfill to support the Navy's tentative plans for a pilot study involving recirculation wells, a type of remediation technology. Three other locations were sampled in the eastern part of the subdivision. The March 1997 data only extended to the Spur 40 right-of-way, so plans were made to sample just west of the right-of-way in September. The September 1997 sampling was not designed to characterize the interior areas of the plume or closely define any chemicals found during the program.

Plate 1 (Attachment F) shows the sample locations and results of analyses for all of the 1997 direct push samples collected from within the plume. Tables 5 and 6 summarize the analytical results for the September and March groundwater samples, respectively. Comprehensive data tables are included in Attachment C for the 1997 groundwater samples.

The March and September 1997 direct push results showed an area of relatively high tetrachloroethene and trichloroethene concentrations compared to other site groundwater samples (e.g., 1,000 $\mu g/\ell$ of a given chemical versus 50 $\mu g/\ell$ of the same chemical). The area is generally defined as being in the area of location V212 and extending to the west. Degradation of the tetrachloroethene and trichloroethene is apparent, resulting in the production of cis-1,2-dichloroethene and vinyl chloride. The area of high concentrations extends to the western right-of-way of Spur 40, where cis-1,2-dichloroethene and vinyl chloride become more prevalent than the parent compounds. Vertically, the highest concentrations are typically associated with samples collected from approximately 35 feet bls in the intermediate zone of the water-table unit. Concentrations generally decrease towards the west and the area of high concentration does not appear to extend into the subdivision.

As shown on Table 4, certain monitoring wells, piezometers, and recovery wells were also sampled during the field programs. These data are summarized in Tables 7 and 8 and shown on Figures 4 through 6. The data for the recovery wells is generally not used for direct comparison to direct push or monitoring well data because the recovery wells have 40 or 50 feet of well screen and the direct push samples a much smaller interval (6 inches for the March 1997 samples and 4 feet in September 1997). It is convenient to collect the recovery well samples and analyze them in the field laboratory so that the data can be added to the historical database for the wells. Also, the pumping rate for recovery well RW-6 was increased after the March 1997 field program. The pumping rate was increased in an attempt to draw the area of high concentration to this recovery well on Navy property. Comparison of the March and September analytical data for RW-6 show that trichloroethene and tetrachloroethene concentrations have increased since the pumping rate was increased.

In summary, the groundwater sampling programs focused within the plume indicate that there is an area of high concentrations of tetrachloroethene and its degradation products, trichloroethene, cis-1,2-dichloroethene, and vinyl chloride, that extends from the landfill to the western right-of-way of Spur 40. Samples collected from locations downgradient of the right-of-way, in the eastern part of the subdivision, contained much lower levels of contaminants.

CONCLUSION

This letter report presents the results of two groundwater investigations conducted during 1997 at Site 11. Both field programs included collection of groundwater samples from direct push locations. A limited selection of existing monitoring wells, recovery wells, or piezometers were also sampled. The sampling programs focused on certain areas, such as where potential data gaps were identified during the August 1997 team meeting or in the area where the IM is located. The sampling was conducted during two field programs, one in March and the other in September 1997. Groundwater samples were analyzed in the field using a gas chromatography method adapted to field application.

The results of the March field program provide an updated assessment of groundwater contaminant levels in the area that is the focus of the IM. A potential source area for tetrachloroethene and trichloroethene historically detected in samples from monitoring well KBA-11-13A was also found upgradient of the well. The March analytical data were used to tentatively select locations for new monitoring wells, but the Navy recently canceled plans for well installation at this time in favor of incorporating any new well locations as part of the Corrective Action Plan (CAP).

The direct push data indicate that there is an area of high concentrations of tetrachloroethene and its degradation products that extends from the landfill in the area of V212 to the western right-of-way of Spur 40. Sample locations hydraulically downgradient of the right-of-way (T305, T307, and T308) in the eastern part of the subdivision contained much lower levels of contaminants.

Farther to the west, the westernmost sample locations in the subdivision provide evidence supporting delineation of the plume. None of the distal monitoring wells in the subdivision (KBA-11-15, KBA-11-18, KBA-11-20, and KBA-11-21) contained detectable concentrations of analytes. Groundwater samples from direct push locations T304 and T303 contained sporadic detections of analytes at concentrations below the reporting limit. These data, in conjunction with groundwater sample results from peripheral monitoring wells, met the objective of the September direct push program to fill identified data gaps. In addition, the results generally identify the boundary of the area to be addressed by the CAP.

If you should have any questions concerning the above information, please do not hesitate to call Laura Harris at (423) 531-1922.

Sincerely,

ABB ENVIRONMENTAL SERVICES, INC.

William M. Kaschak, P.E.
Project Manager

Laura Harris, P.G.
Technical Lead

pc: Rhonda Bath, SUBASE
Chris Leeth, USGS

[08503-089-97]

Attachments:

Attachment A: Figures
Attachment B: Tables
Attachment C: Comprehensive Data Tables
Attachment D: Glossary
Attachment E: References
Attachment F: Plate

This document, Letter Report for 1997 Focused Groundwater Investigations at Naval Submarine Base, Kings Bay, Georgia, has been prepared under the direction of a Georgia Registered Professional Geologist. The work and professional opinions rendered in this report were conducted or developed in general accordance with commonly accepted procedures and protocols.

If conditions are either discovered or determined to exist that differ from those described, the undersigned geologist should be notified to evaluate the effects of any additional information on the findings, assessment, and conclusion contained in the above referenced document.

This document was prepared to provide the results, findings, and conclusions of groundwater samples collected during two direct push groundwater investigations during March and September 1997.

This document was prepared for Site 11, Old Camden County Landfill, at Naval Submarine Base, Kings Bay, Georgia, and should not be construed to apply for any other purpose or site.

ABB ENVIRONMENTAL SERVICES, INC.
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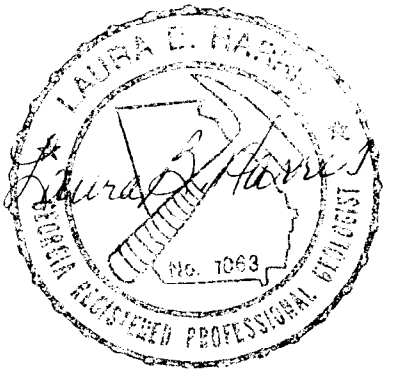

Laura B. Harris
Professional Geologist
State of Georgia License No. 1063

Date: October 27, 1997

ATTACHMENT A

FIGURES

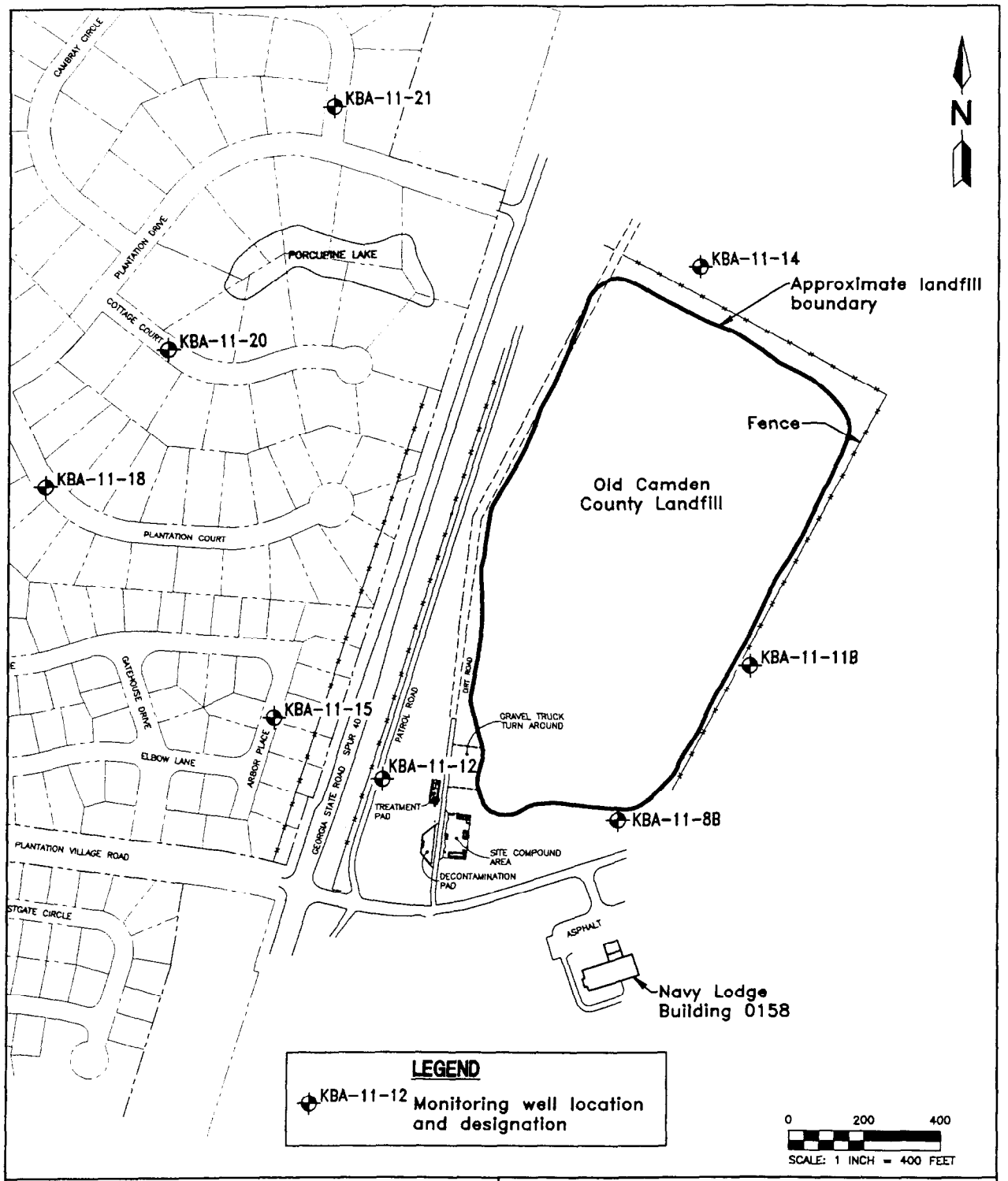

FIGURE 1
SUPPLEMENTAL RESOURCE CONSERVATION AND RECOVERY ACT FACILITY INVESTIGATION MONITORING WELL LOCATIONS AT THE PERIPHERY OF THE PLUME

D:\DWG\ABB\2525.90\SRFI_ADD\FIG_1\DMF\10-23-97

SUMMARY OF 1997 FOCUSED GROUNDWATER INVESTIGATIONS

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

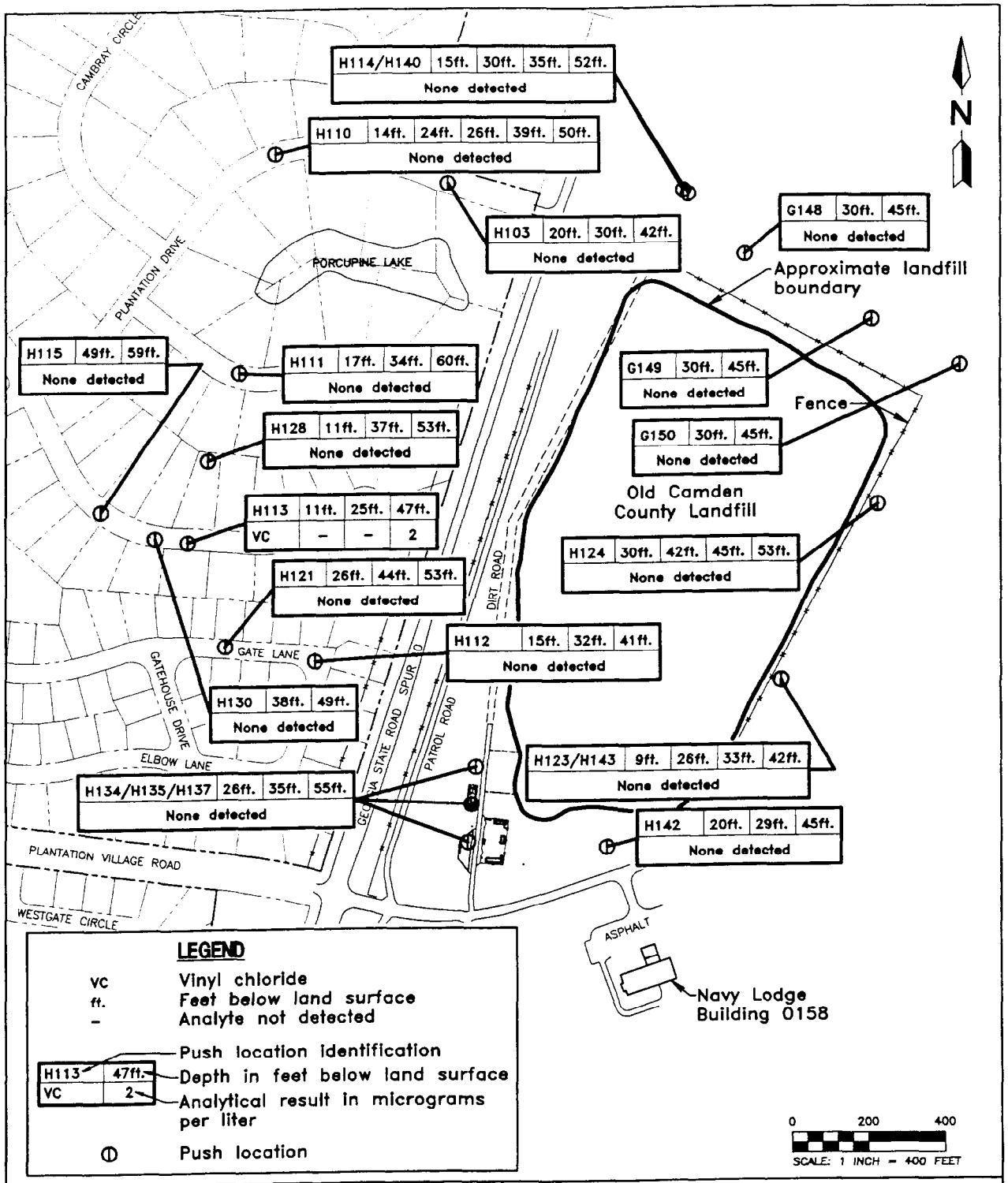

FIGURE 2
DELINEATION OF PLUME BOUNDARIES
NOVEMBER 1992

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SUMMARY OF 1997 FOCUSED GROUNDWATER INVESTIGATIONS

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

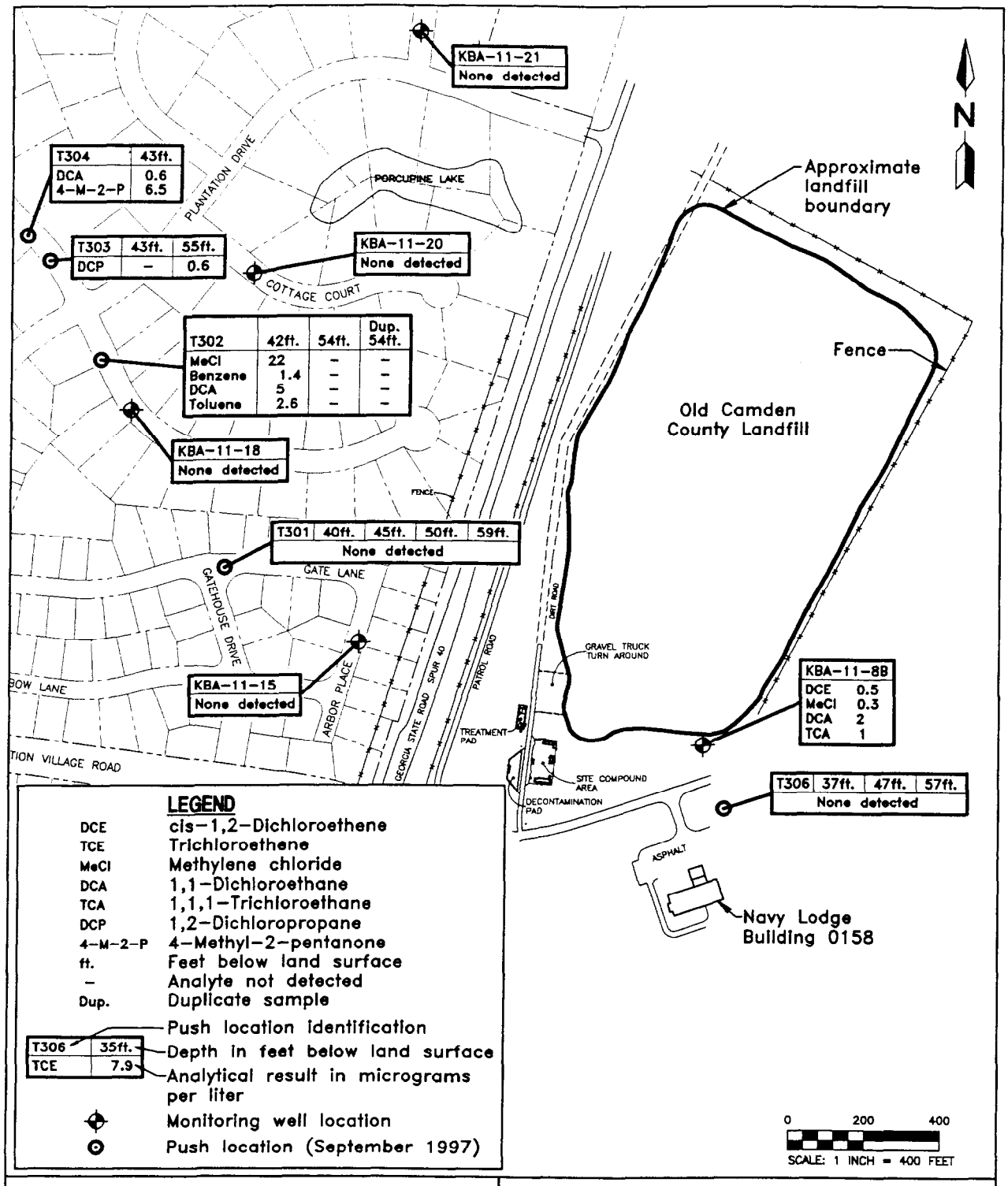

FIGURE 3
SUMMARY OF RESULTS OF 1997 DIRECT PUSH AND MONITORING WELL SAMPLING TO ADDRESS DATA GAPS FOR DELINEATION OF PLUME

SUMMARY OF 1997 FOCUSED GROUNDWATER INVESTIGATIONS

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

D:\DWG\ABB\2525.90\SRFI_ADD\FIG_3A\DMF\10-23-97

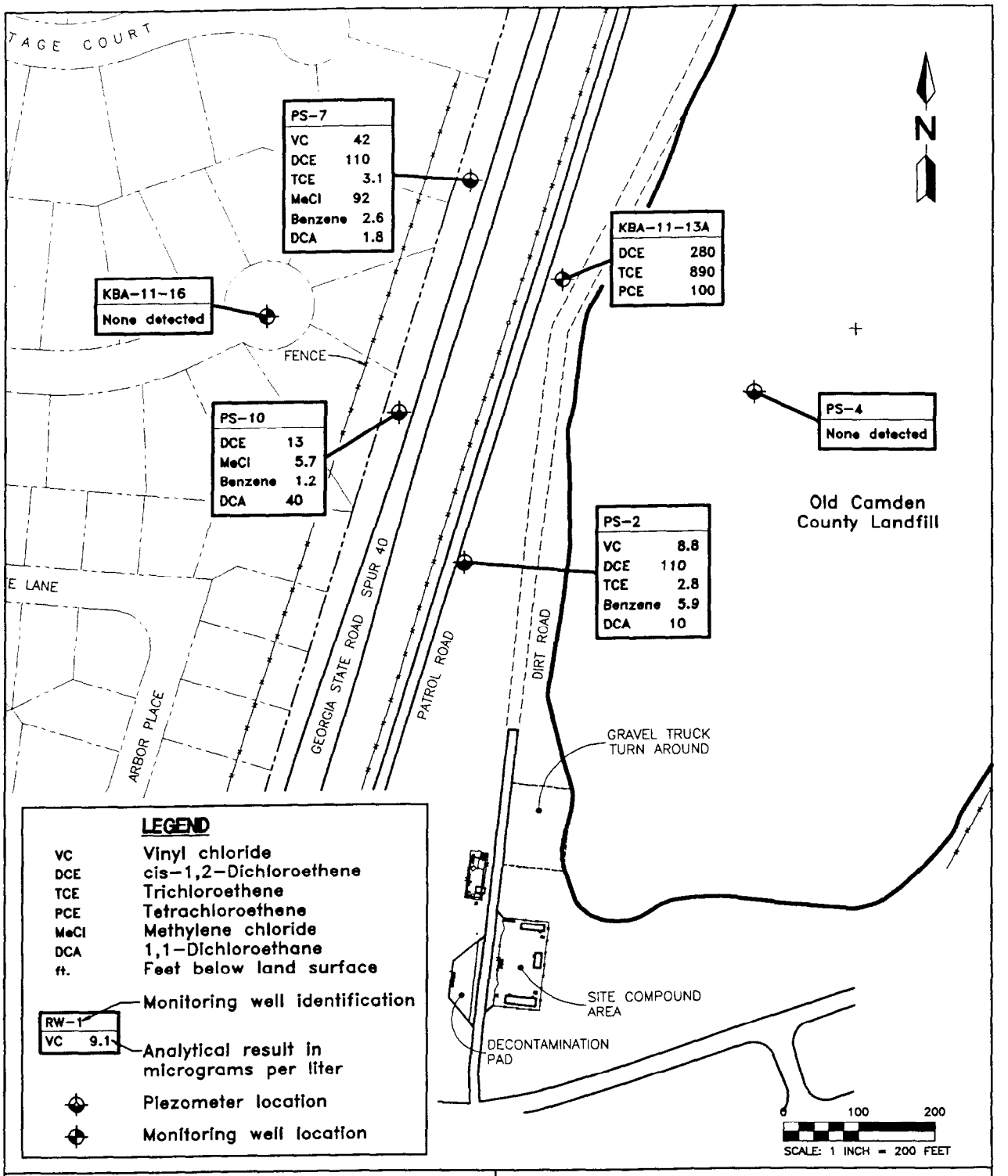

FIGURE 4
SUMMARY OF ANALYTICAL DATA FOR MONITORING WELLS AND PIEZOMETERS SAMPLED MARCH 1997

SUMMARY OF 1997 FOCUSED GROUNDWATER INVESTIGATIONS

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

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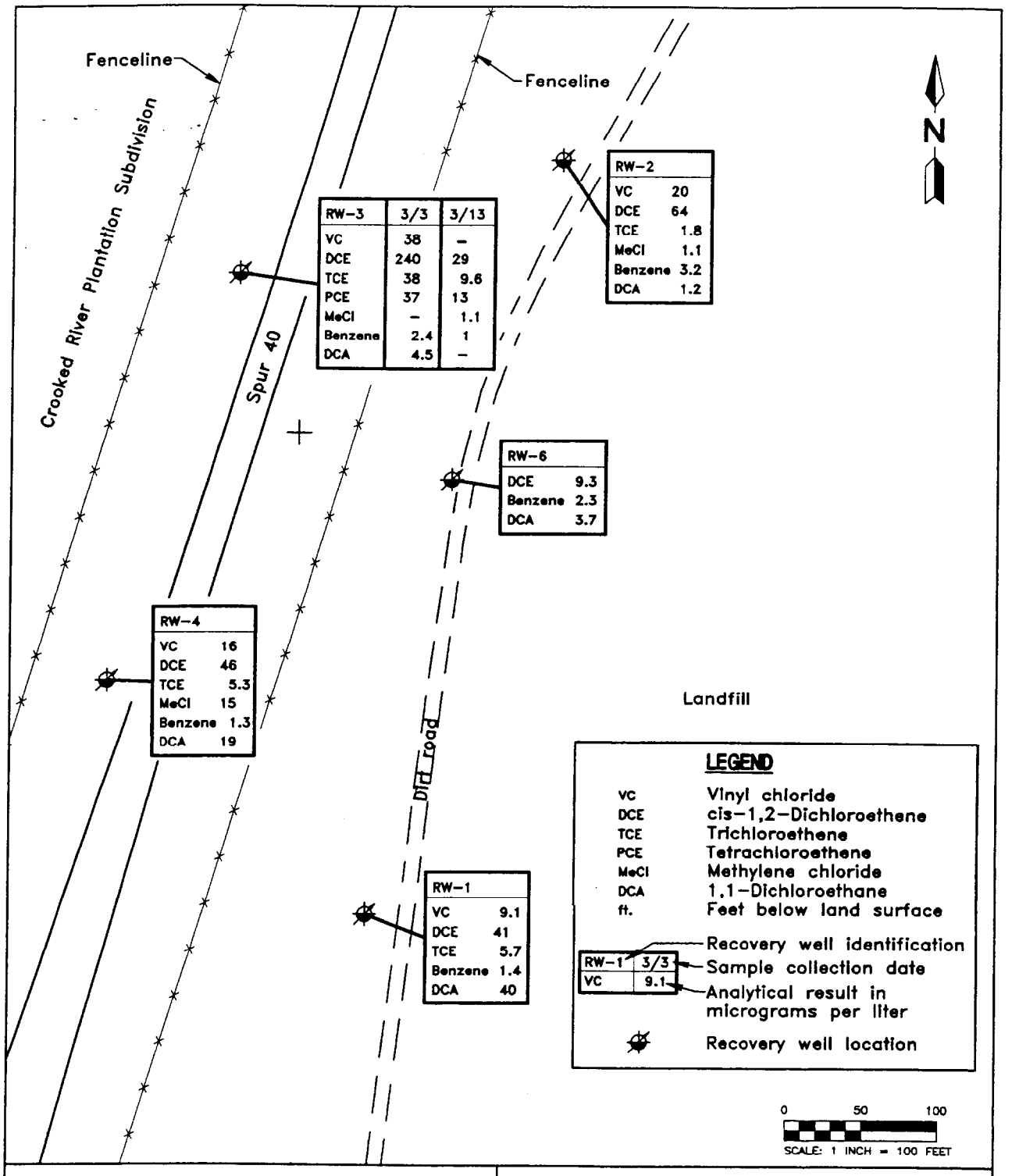

FIGURE 5
SUMMARY OF ANALYTICAL DATA FOR RECOVERY WELLS SAMPLED MARCH 1997

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SUMMARY OF 1997 FOCUSED GROUNDWATER INVESTIGATIONS

NAVAL SUBMARINE BASE
KINGS BAY, GEORGIA

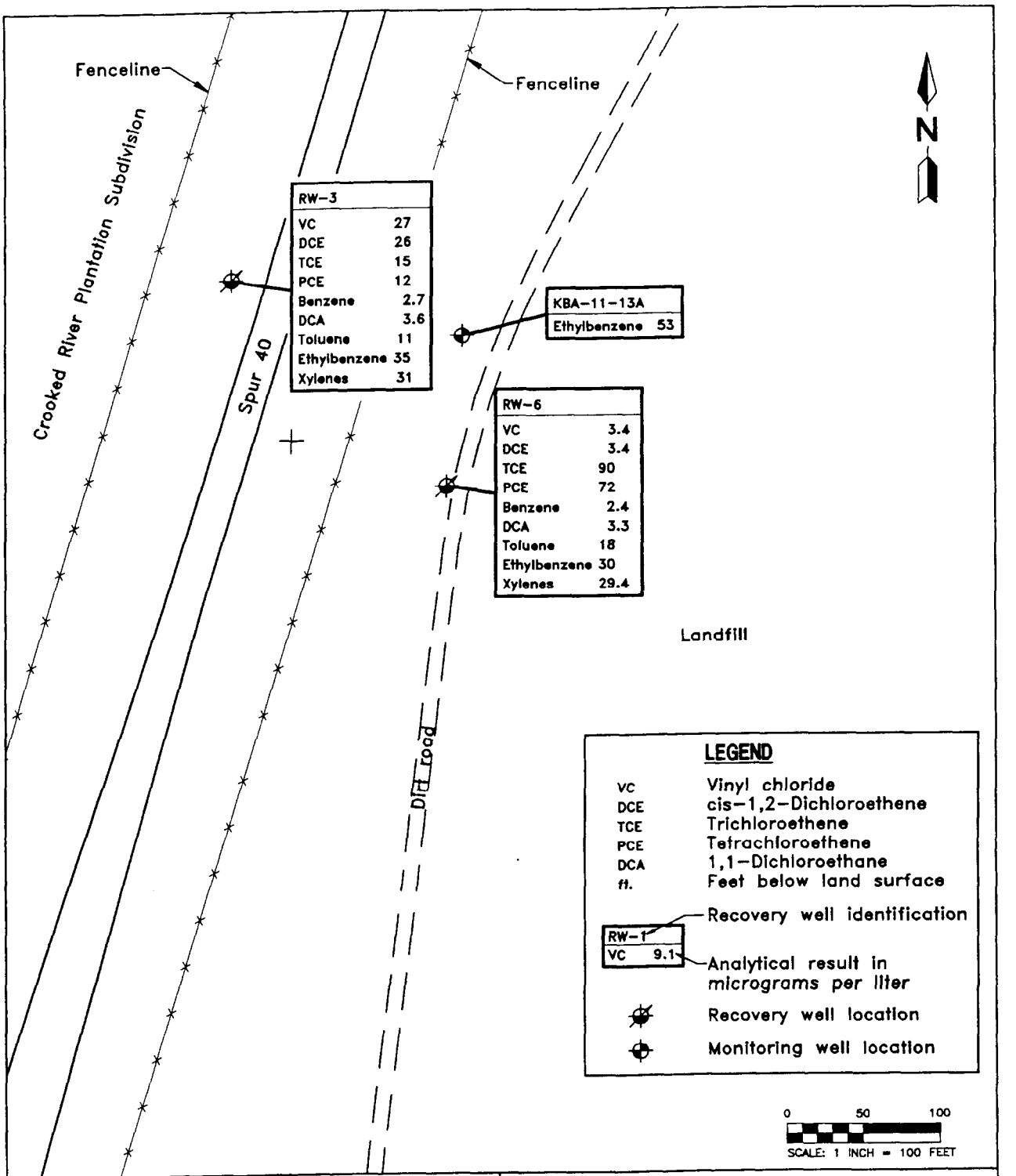

FIGURE 6
SUMMARY OF ANALYTICAL DATA FOR MONITORING WELLS AND RECOVERY WELLS INSIDE PLUME - SEPTEMBER 1997

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SUMMARY OF 1997 FOCUSED GROUNDWATER INVESTIGATIONS

NAVAL SUBMARINE BASE KINGS BAY, GEORGIA

ATTACHMENT B

TABLES

Table 1
Overview of 1997 Field Program Objectives and Sampling

Focus of Investigation	Objectives of Program	Sampling Program	
		March 1997	September 1997
Delineation	To address data gaps related to delineation of contaminants in the area of monitoring wells KBA-11-15, KBA-11-18, and KBA-11-8B.	None	Collection of groundwater samples from 5 direct push locations and 5 monitoring wells. Onsite analysis of samples.
Inside Plume	To provide an updated assessment of contaminant levels in area of Interim Measure. To attempt to find source area for tetrachloro-ethene and trichloroethene detected in samples from well KBA-11-13A. Aid selection of locations for new monitoring wells.	Collection of groundwater samples from 29 direct push locations, 2 monitoring wells, 4 piezometers, and 5 recovery wells. Onsite analysis of groundwater samples.	Collection of groundwater samples from 8 direct push locations, 1 monitoring well, and 2 recovery wells. Onsite analysis of groundwater samples.

Table 2
Summary of Organic Analytes Detected in Samples from the Outermost Supplemental RFI Monitoring Locations

Well ID	January 1994	April 1994	September 1994	April 95
KBA-11-21	Carbon Disulfide Phthalate	Phthalate Phenol	Carbon disulfide Phthalate Benzene Toluene Xylene	Acetone
KBA-11-20	Phthalate	None	Phthalate	Acetone 2-Butanone
KBA-11-18	1,1-Dichloroethane 4-Methyl-2-pentanone	4-Methyl-2-pentanone Phthalate	Phthalate Acetone 4-Methylphenol	1,1-Dichloroethane 4-Methyl-2-pentanone Acetone Benzene 2-Butanone 1,2-Dichloropropane
KBA-11-15	Phthalate	None	Phthalate	Not sampled
KBA-11-12	None	None	Phthalate	Not sampled
KBA-11-11B	None	None	Phthalate	Not sampled
KBA-11-14	2-Butanone	None	Carbon disulfide	Not sampled
KBA-11-8B	Benzene 1,1-Dichloroethane cis-1,2-Dichloroethene Ethylbenzene 4-Methyl-2-pentanone Trichloroethene Phthalate	Benzene 1,1-Dichloroethane cis-1,2-Dichloroethene Ethylbenzene 4-Methyl-2-pentanone Trichloroethene Phthalate	Benzene 1,1-Dichloroethane cis-1,2-Dichloroethene Ethylbenzene 4-Methyl-2-pentanone Trichloroethene Phthalate Methylene chloride 2-Methylphenol 4-Methylphenol Phenol	Not sampled

Note: RFI = Resource Conservation and Recovery Act (RCRA) Facility Investigation.

Table 3
Analytical Summary Table for Supplemental RFI Monitoring Locations

Well ID	Approximate Screened Interval (ft, bls)	Sample Date	Analytes in micrograms per liter (µg/l)						
			Acetone	Benzene	2-Butanone	Carbon disulfide	1,1-Dichloroethane	cis-1,2-Dichloroethene	1,2-Dichloropropane
KBA-11-8B	31 - 41	Jan-94	---	0.4	---	---	3	2	---
		Apr-94	---	0.5	---	---	3	2	---
		Sep-94	---	0.6	---	---	3	2	---
		Apr-95	NS	NS	NS	NS	NS	NS	NS
KBA-11-11B	44 - 54	Jan-94	---	---	---	---	---	---	---
		Apr-94	---	---	---	---	---	---	---
		Sep-94	---	---	---	---	---	---	---
		Apr-95	NS	NS	NS	NS	NS	NS	NS
KBA-11-12	28 - 38	Jan-94	---	---	---	---	---	---	---
		Jan-94 (DUP)	---	---	---	---	---	---	---
		Apr-94	---	---	---	---	---	---	---
		Sep-94	---	---	---	---	---	---	---
		Sep-94 (DUP)	---	---	---	---	---	---	---
		Apr-95	NS	NS	NS	NS	NS	NS	NS
KBA-11-14	24 - 34	Jan-94	---	---	57	---	---	---	---
		Apr-94	---	---	---	---	---	---	---
		Sep-94	---	---	---	10	---	---	---
		Apr-95	NS	NS	NS	NS	NS	NS	NS
KBA-11-15	29 - 39	Jan-94	---	---	---	---	---	---	---
		Apr-94	---	---	---	---	---	---	---
		Sep-94	---	---	---	---	---	---	---
		Apr-95	NS	NS	NS	NS	NS	NS	NS
KBA-11-18	36 - 46	Jan-94	---	---	---	---	0.6	---	---
		Apr-94	---	---	---	---	---	---	---
		Sep-94	160	---	---	---	---	---	---
		Apr-95	48	0.1	9	---	0.8	---	0.2
		Apr-95 (DUP)	74	---	11	---	0.7	---	0.1
KBA-11-20	30 - 40	Jan-94	---	---	---	---	---	---	---
		Apr-94	---	---	---	---	---	---	---
		Sep-94	---	---	---	---	---	---	---
		Apr-95	3	---	0.5	---	---	---	---
KBA-11-21	31 - 41	Jan-94	---	---	---	0.4	---	---	---
		Apr-94	---	---	---	---	---	---	---
		Sep-94	---	0.9	---	6	---	---	---
		Apr-95	2	---	---	---	---	---	---

See notes at end of table.

Table 3 (Continued)
Analytical Summary Table for Supplemental RFI Monitoring Locations

Well ID	Approximate Screened Interval (ft, bls)	Sample Date	Analytes in micrograms per liter (µg/ℓ)						
			Ethylbenzene	4-Methyl-2-pentanone	Methylene chloride	Trichloroethene	Toluene	Xylenes (total)	bis(2-Ethylhexyl)phthalate
KBA-11-8B	31 - 41	Jan-94	0.9	3	---	0.9	---	---	---
		Apr-94	2	1	---	1	---	---	---
		Sep-94	2	---	2	1	---	---	14
		Apr-95	NS	NS	NS	NS	NS	NS	NS
KBA-11-11B	44 - 54	Jan-94	---	---	---	---	---	---	---
		Apr-94	---	---	---	---	---	---	---
		Sep-94	---	---	---	---	---	---	14
		Apr-95	NS	NS	NS	NS	NS	NS	NS
KBA-11-12	28 - 38	Jan-94	---	---	---	---	---	---	---
		Jan-94 (DUP)	---	---	---	---	---	---	---
		Apr-94	---	---	---	---	---	---	---
		Sep-94	---	---	---	---	---	---	32
		Sep-94 (DUP)	---	---	---	---	---	---	13
		Apr-95	NS	NS	NS	NS	NS	NS	NS
KBA-11-14	24 - 34	Jan-94	---	---	---	---	---	---	---
		Apr-94	---	---	---	---	---	---	---
		Sep-94	---	---	---	---	---	---	---
		Apr-95	NS	NS	NS	NS	NS	NS	NS
KBA-11-15	29 - 39	Jan-94	---	---	---	---	---	---	20
		Apr-94	---	---	---	---	---	---	---
		Sep-94	---	---	---	---	---	---	140
		Apr-95	NS	NS	NS	NS	NS	NS	NS
KBA-11-18	36 - 46	Jan-94	---	34	---	---	---	---	---
		Apr-94	---	10	---	---	---	---	15
		Sep-94	---	---	---	---	---	---	11
		Apr-95	---	36	---	---	---	---	NS
		Apr-95 (DUP)	---	69	---	---	---	---	NS
KBA-11-20	30 - 40	Jan-94	---	---	---	---	---	---	1
		Apr-94	---	---	---	---	---	---	---
		Sep-94	---	---	---	---	---	---	5
		Apr-95	---	---	---	---	---	---	NS
KBA-11-21	31 - 41	Jan-94	---	---	---	---	---	---	3
		Apr-94	---	---	---	---	---	---	12
		Sep-94	---	---	---	---	3	2	6
		Apr-95	---	---	---	---	---	---	NS

See notes at end of table.

Table 3 (Continued)
Analytical Summary Table for Supplemental RFI Monitoring Locations

Well ID	Approximate Screened Interval (ft, bls)	Sample Date	Analytes in micrograms per liter (µg/ℓ)				
			Diethyl phthalate	Butyl benzyl phthalate	2-Methylphenol	4-Methylphenol	Phenol
KBA-11-8B	31 - 41	Jan-94	1	---	---	---	---
		Apr-94	1	---	---	---	---
		Sep-94	1	---	1	2	3
		Apr-95	NS	NS	NS	NS	NS
KBA-11-11B	44 - 54	Jan-94	---	---	---	---	---
		Apr-94	---	---	---	---	---
		Sep-94	---	---	---	---	---
		Apr-95	NS	NS	NS	NS	NS
KBA-11-12	28 - 38	Jan-94	---	---	---	---	---
		Jan-94 (DUP)	---	---	---	---	---
		Apr-94	---	---	---	---	---
		Sep-94	---	---	---	---	---
		Sep-94 (DUP)	---	---	---	---	---
		Apr-95	NS	NS	NS	NS	NS
KBA-11-14	24 - 34	Jan-94	---	---	---	---	---
		Apr-94	---	---	---	---	---
		Sep-94	---	---	---	---	---
		Apr-95	NS	NS	NS	NS	NS
KBA-11-15	29 - 39	Jan-94	---	---	---	---	---
		Apr-94	---	---	---	---	---
		Sep-94	---	---	---	---	---
		Apr-95	NS	NS	NS	NS	NS
KBA-11-18	36 - 46	Jan-94	---	---	---	---	---
		Apr-94	---	---	---	---	---
		Sep-94	---	---	---	2	---
		Apr-95	NS	NS	NS	NS	NS
		Apr-95 (DUP)	NS	NS	NS	NS	NS
KBA-11-20	30 - 40	Jan-94	---	---	---	---	---
		Apr-94	---	---	---	---	---
		Sep-94	---	---	---	---	---
		Apr-95	NS	NS	NS	---	---
KBA-11-21	31 - 41	Jan-94	---	---	---	---	---
		Apr-94	0.5	0.6	---	---	0.8
		Sep-94	---	---	---	---	---
		Apr-95	NS	NS	NS	NS	NS

See notes at end of table.

Table 3 (Continued)
Analytical Summary Table for Supplemental RFI Monitoring Locations

Notes: RFI = Resource Conservation and Recovery Act (RCRA) Facility Investigation.
ft., bls = below land surface.
--- = not detected above the reporting limit.
NS = not sampled.
DUP = duplicate sample.

Table 4
Information Related to the 1997 Investigations

	Description	March 1997	September 1997
Focused Inside Plume			
Direct Push	Sample IDs	V201 through V235[1]	T305, T307 through T313
	No. of Locations	29	8
	No. of Samples	75 (including 3 duplicates)	20 (including 2 duplicates)
	Depth Investigated	19.5 to 70 feet bls	31 to 54 feet bls
	Sample Interval	6 inches	4 feet
Monitoring Wells and Piezometers	Sample IDs	KBA-11-13A, KBA-11-16, PS-2, PS-4, PS-7, PS-10	KBA-11-13A
	No. of Locations	6	1
	No. of Samples	6	1
	Depth Investigated	23 to 45 feet bls	31 to 41 feet bls
	Sample Interval	5 feet for piezometers, 10 feet for wells	10 feet
Recovery Wells	Sample IDs	RW-1 through RW-4, RW-6	RW-3, RW-6
	No. of Locations	5	2
	No. of Samples	6	2
	Depth Investigated	21 to 72 feet bls	22 to 72 feet bls
	Sample Interval	40 to 50 feet	40 to 50 feet
Focused on Delineation			
Direct Push	Sample IDs	None	T301 - T304, T306
	No. of Locations	0	5
	No. of Samples	0	13 (including 1 duplicate)
	Depth Investigated	N/A	37 to 59 feet bls
	Sample Interval	N/A	4 feet
Monitoring Wells and Piezometers	Sample IDs	None	KBA-11-8B, KBA-11-15, KBA-11-18, KBA-11-20, KBA-11-21
	No. of Locations	0	4
	No. of Samples	0	4
	Depth Investigated	N/A	29 to 46 feet bls
	Sample Interval	N/A	10 feet
Recovery Wells	Sample IDs	None	None
	No. of Locations	0	0
	No. of Samples	0	0
	Depth Investigated	N/A	N/A
	Sample Interval	N/A	N/A

[1] Except V203 not used. V201, V223, V231, V233, and V234 not sampled because push was refused by formation before the sample depth was reached.

Notes: IDs = identifications.
bls = below land surface.
N/A = not applicable.

Table 5
Analytical Summary Table for September 1997 Groundwater Samples from Direct Push Locations

Sample Location	Approximate Screened Interval (ft, bls)	Date	Analytes in micrograms per liter (µg/ℓ)							
			Acetone	2-Butanone	Benzene	Trichloroethene	4-Methyl-2-pentanone	Toluene	Ethylbenzene	Xylenes (total)[1]
T301	36 - 40	9/15/97	---	---	---	---	---	---	---	---
	41 - 45	9/15/97	---	---	---	---	---	---	---	---
	46 - 50	9/15/97	---	---	---	---	---	---	---	---
	55 - 59	9/15/97	---	---	---	---	---	---	---	---
T302	38 - 42	9/15/97	---	---	1.4	---	---	2.6	---	---
	50 - 54	9/15/97	---	---	---	---	---	---	---	---
	50 - 54	9/15/97 (DUP)	---	---	---	---	---	---	---	---
T303	39 - 43	9/16/97	---	---	---	---	---	---	---	---
	51 - 55	9/16/97	---	---	---	---	---	---	---	---
T304	39 - 43	9/16/97	---	---	---	---	6.5	---	---	---
T305	30 - 34	9/16/97	---	---	---	1.2	---	---	---	---
	40 - 44	9/16/97	---	---	1.9	5.1	460	49	8.7	22.2
	50 - 54	9/16/97	---	---	1.4	2.9	---	32	5	7.4
T306	33 - 37	9/16/97	---	---	---	---	---	---	---	---
	43 - 47	9/16/97	---	---	---	---	---	---	---	---
	53 - 57	9/17/97	---	---	---	---	---	---	---	---
T307	30 - 34	9/17/97	---	---	---	---	---	---	---	---
	40 - 44	9/17/97	---	---	2	1.5	---	16	5.1	10
	50 - 54	9/17/97	---	---	0.8	0.8	---	13	---	---
T308	30 - 34	9/17/97	---	---	3.4	0.5	---	2.9	29	2.8
	40 - 44	9/17/97	---	---	4.3	---	---	2.4	14	4.6
	40 - 44	9/17/97 (DUP)	---	---	3.9	---	---	1.8	12	6.9
	50 - 54	9/17/97	---	---	0.5	---	---	---	---	---
T309	35 - 39	9/17/97	---	---	1	0.7	---	1.8	30	11.8
T310	31 - 35	9/18/97	---	---	---	5,000	---	6	72	82
	35 - 39	9/18/97	---	---	---	110	---	---	94	71
T311	31 - 35	9/18/97	---	---	1.2	2	---	0.7	22	6
	31 - 35	9/18/97 (DUP)	---	---	0.7	2	---	0.6	18	4.7
	35 - 39	9/18/97	---	---	0.5	3.6	---	---	---	2.1
T312	31 - 35	9/18/97	---	---	---	240	---	---	47	38
	35 - 39	9/18/97	---	---	---	---	---	---	88	57
T313	31 - 35	9/18/97	---	---	---	690	---	---	---	---
	35 - 39	9/18/97	---	---	---	530	---	---	---	---

See notes at end of table.

Table 5 (Continued)
Analytical Summary Table for September 1997 Groundwater Samples from Direct Push Locations

Sample Location	Approximate Screened Interval (ft, bls)	Date	Analytes in micrograms per liter (µg/ℓ)					
			Vinyl chloride	Methylene Chloride	1,1-Dichoroethane	cis-1,2-Dichloroethene	1,2-Dichloropropane	Tetrachloroethene
T301	36 - 40	9/15/97	---	---	---	---	---	---
	41 - 45	9/15/97	---	---	---	---	---	---
	46 - 50	9/15/97	---	---	---	---	---	---
	55 - 59	9/15/97	---	---	---	---	---	---
T302	38 - 42	9/15/97	---	22	5	---	---	---
	50 - 54	9/15/97	---	---	---	---	---	---
	50 - 54	9/15/97 (DUP)	---	---	---	---	---	---
T303	39 - 43	9/16/97	---	---	---	---	---	---
	51 - 55	9/16/97	---	---	---	---	0.6	---
T304	39 - 43	9/16/97	---	---	0.6	---	---	---
T305	30 - 34	9/16/97	---	---	---	6.4	---	---
	40 - 44	9/16/97	2.7	14	3.1	18	---	---
	50 - 54	9/16/97	2.2	7.2	4.1	4.2	---	---
T306	33 - 37	9/16/97	---	---	---	---	---	---
	43 - 47	9/16/97	---	---	---	---	---	---
	53 - 57	9/17/97	---	---	---	---	---	---
T307	30 - 34	9/17/97	---	---	---	6.2	---	---
	40 - 44	9/17/97	3.6	24	---	---	---	---
	50 - 54	9/17/97	1.7	10	---	---	---	---
T308	30 - 34	9/17/97	20	---	0.8	16	---	---
	40 - 44	9/17/97	4.6	4.3	1.3	1.3	---	---
	40 - 44	9/17/97 (DUP)	3.9	4	1.1	0.9	---	---
	50 - 54	9/17/97	1.7	6.1	0.7	---	---	---
T309	35 - 39	9/17/97	0.8	---	---	---	---	0.8
T310	31 - 35	9/18/97	58	---	---	61	---	730
	35 - 39	9/18/97	---	---	---	---	---	---
T311	31 - 35	9/18/97	1.5	---	---	---	---	---
	31 - 35	9/18/97 (DUP)	1.3	---	---	---	---	---
	35 - 39	9/18/97	1.1	---	---	---	---	---
T312	31 - 35	9/18/97	52	---	---	28	---	---
	35 - 39	9/18/97	---	---	---	---	---	---
T313	31 - 35	9/18/97	---	---	---	---	---	2,400
	35 - 39	9/18/97	---	---	---	---	---	2,700

[1] Sum of m/p/o-xylene isomers.

Notes: ft, bls = feet below land surface.
--- = not detected above the reporting limit.
DUP = duplicate sample.

Table 6
Analytical Summary Table for March 1997 Groundwater Samples from Direct Push Locations

Sample Location	Approximate Screened Interval (ft, bls)	Date	Analytes in micrograms per liter (µg/ℓ)						
			Vinyl chloride	Methylene chloride	1,1-Dichloroethane	cis-1,2-Dichloroethene	Trichloroethene	Benzene	Tetrachloroethene
V202	29.5 - 30	3/6/97	9	---	1.5	29	1.4	---	---
	39.5 - 40	3/6/97	62	---	34	46	---	---	---
	49.5 - 50	3/6/97	2.8	4	2.5	9.8	---	---	---
V204	29.5 - 30	3/6/97	---	---	2.9	3.8	---	---	---
	39.5 - 40	3/6/97	7.3	---	5.7	4.3	---	---	---
	49.5 - 50	3/6/97	3.8	1.2	3.4	3.6	---	1.3	---
	69.5 - 70	3/6/97	---	---	---	1.4	---	---	---
V205	29.5 - 30	3/5/97	---	---	1.1	2.7	---	1.2	---
	39.5 - 40	3/5/97	---	---	5.5	1.9	---	---	---
	49.5 - 50	3/5/97	---	---	2.7	13	---	1.8	---
V206	29.5 - 30	3/5/97	---	---	---	---	---	---	---
	39.5 - 40	3/5/97	---	---	---	---	---	---	---
	49.5 - 50	3/5/97	---	3.1	2.1	9.5	---	2.6	---
V207	34.5 - 35	3/7/97	---	---	---	140	1600	1.8	8.7
	36.5 - 37	3/7/97	---	---	---	390	600	---	16
	39.5 - 40	3/7/97	2.2	---	---	190	310	---	11
	47.5 - 48	3/7/97	---	1.2	---	19	36	1.4	---
V208	24.5 - 25	3/11/97	2.7	---	---	170	---	---	3
	34.5 - 35	3/11/97	---	---	---	2.6	---	---	2.3
V209	29.5 - 30	3/6/97	75	---	---	77	9.8	---	---
	39.5 - 40	3/6/97	2.8	---	2.1	6.2	3.8	---	---
	49.5 - 50	3/6/97	---	4.4	---	9.9	1.6	3.5	---
V210	29.5 - 30	3/6/97	2.8	---	---	1.3	---	---	---
	34.5 - 35	3/6/97	2.4	---	---	110	730	2.1	64
	39.5 - 40	3/6/97	---	---	---	14	160	---	13
	49.5 - 50	3/6/97	---	3.5	1	7.3	28	2.4	4.9
	49.5 - 50 (DUP)	3/6/97	---	2.3	---	4.6	18	1.5	2.2
V211	34.5 - 35	3/7/97	---	39	1	4.2	5.6	4.2	72
	39.5 - 40	3/7/97	---	1.2	1.8	1.4	3.1	6.1	41
V212	24.5 - 25	3/7/97	---	---	---	---	6	---	---
	34.5 - 35	3/7/97	---	---	---	3	1200	---	3500
	39.5 - 40	3/7/97	---	---	---	---	54	---	460
V213	34.5 - 35	3/7/97	---	---	---	---	7.9	2.7	55
V214	34.5 - 35	3/7/97	---	---	---	---	2	---	22

See notes at end of table.

Table 6 (Continued)
Analytical Summary Table for March 1997 Groundwater Samples from Direct Push Locations

Sample Location	Approximate Screened Interval (ft, bls)	Date	Analytes in micrograms per liter (µg/ℓ)						
			Vinyl chloride	Methylene chloride	1,1-Dichloroethane	cis-1,2-Dichloroethene	Trichloroethene	Benzene	Tetrachloroethene
V215	34.5 - 35	3/7/97	---	---	---	---	2.3	---	23
V216	34.5 - 35	3/8/97	---	---	---	180	370	---	490
	39.5 - 40	3/8/97	---	---	---	39	48	---	93
V217	34.5 - 35	3/8/97	220	---	---	3100	---	---	---
	39.5 - 40	3/8/97	5.6	---	2.4	160	---	2.7	10
V218	34.5 - 35	3/8/97	---	---	1.9	4.8	---	2.6	6.5
	34.5 - 35 (DUP)	3/8/97	---	---	1.5	5.8	---	2.3	7.8
	39.5 - 40	3/8/97	---	---	---	1.6	---	1	4.4
V219	34.5 - 35	3/8/97	2.4	---	4.5	8.6	1.8	1.6	8.8
	39.5 - 40	3/8/97	2.1	---	2.7	7	---	1.6	5.1
V220	34.5 - 35	3/9/97	---	---	3.6	4.8	---	---	10
	39.5 - 40	3/9/97	10	29	23	9.8	2	1.4	6.3
V221	34.5 - 35	3/9/97	---	---	10	23	1.1	1	6.2
	39.5 - 40	3/9/97	37	34	17	31	1.2	1.4	2.9
V222	34.5 - 35	3/9/97	1.5	---	3.4	9.3	---	4	5.1
	39.5 - 40	3/9/97	4.6	8.7	---	4.4	---	1.5	3.1
	49.5 - 50	3/9/97	---	140	5.4	3.4	1.5	---	1.7
V224	34.5 - 35	3/9/97	---	---	---	---	---	---	4.1
	39.5 - 40	3/9/97	---	---	---	1	---	---	3.5
	44.5 - 45	3/9/97	---	---	---	7.6	---	1.7	2.3
V225	39.5 - 40	3/9/97	---	---	---	---	---	---	---
	44.5 - 45	3/9/97	---	---	---	9.6	---	1.8	---
V226	34.5 - 35	3/10/97	150	---	---	1100	6.6	1.9	6.4
	39.5 - 40	3/10/97	---	---	1	16	---	---	2.3
	44.5 - 45	3/10/97	2.3	3.9	2.2	19	---	4.6	2.3
V227	34.5 - 35	3/10/97	---	---	---	6.2	---	1.1	1.6
	39.5 - 40	3/10/97	---	---	3.9	1.3	---	---	1.4
V228	34.5 - 35	3/10/97	---	---	4	7	---	1.1	2.1
	34.5 - 35 (DUP)	3/10/97	---	---	1.6	3.5	---	---	1.4
	39.5 - 40	3/10/97	---	---	---	---	---	---	1.1
V229	34.5 - 35	3/10/97	---	---	5.5	14	---	---	2.5
	39.5 - 40	3/10/97	1.4	---	9.8	9.9	---	1.6	1
	49.5 - 50	3/10/97	---	---	13	3.6	---	---	---
V230	39.5 - 40	3/11/97	2.9	---	15	49	20	---	5

See notes at end of table.

Table 6 (Continued)
Analytical Summary Table for March 1997 Groundwater Samples from Direct Push Locations

Sample Location	Approximate Screened Interval (ft, bls)	Date	Analytes in micrograms per liter (µg/ℓ)						
			Vinyl chloride	Methylene chloride	1,1-Dichloroethane	cis-1,2-Dichloroethene	Trichloroethene	Benzene	Tetrachloroethene
V230	44.5 - 45	3/11/97	---	9.8	3.6	11	3.8	---	---
	49.5 - 50	3/11/97	---	5.9	5.2	33	6.1	---	1.5
V232	19.5 - 20	3/12/97	300	1	1.4	120	---	1.2	2.9
	29.5 - 30	3/12/97	19	---	---	280	100	1	1.7
	34.5 - 35	3/12/97	11	---	---	79	29	1.2	1.2
V235	19.5 - 20	3/12/97	---	---	---	---	---	---	---
	29.5 - 30	3/12/97	---	---	---	---	---	---	---

Notes: ft, bls = feet below land surface.
--- = not detected above the reporting limit.
DUP = duplicate sample.

Table 7
Analytical Summary Table for March 1997 Groundwater Samples from Wells and Piezometers

Sample Location	Approximate Screened Interval (ft, bls)	Date	Analytes in micrograms per liter (µg/l)						
			Vinyl chloride	Methylene chloride	1,1-Dichloroethane	cis-1,2-Dichloroethene	Trichloroethene	Benzene	Tetrachloroethene
KBA-11-13A	31 - 41	3/7/97	---	---	---	280	890	---	100
KBA-11-16	35 - 45	3/8/97	---	---	---	---	---	---	---
PS-10	27 - 32	3/9/97	---	5.7	40	13	---	1.2	---
PS-2	33 - 38	3/8/97	8.8	---	10	110	2.8	5.9	---
PS-4	28 - 33	3/11/97	---	---	---	---	---	---	---
PS-7	23 - 28	3/8/97	42	92	1.8	110	3.1	2.6	---
RW-1	21 - 61	3/3/97	9.1	---	40	41	5.7	1.4	---
RW-2	21 - 71	3/3/97	20	1.1	1.2	64	1.8	3.2	---
RW-3	22 - 72	3/3/97	38	---	4.5	240	38	2.4	37
RW-3	22 - 72	3/13/97	---	1.1	---	29	9.6	1	13
RW-4	27 - 67	3/3/97	16	15	19	46	5.3	1.3	---
RW-6	29 - 69	3/3/97	---	---	3.7	9.3	---	2.3	---

Notes: ft, bls = feet below land surface.
--- = not detected above the reporting limit.

Table 8
Analytical Summary Table for September 1997 Groundwater Samples from Wells

Sample Location	Approximate Screened Interval (ft, bls)	Date	Analytes in micrograms per liter (µg/ℓ)							
			Acetone	2-Butanone	Benzene	Trichloroethene	4-Methyl-2-pentanone	Toluene	Ethylbenzene	Xylenes (total)[1]
KBA-11-08B	31 - 41	9/18/97	---	---	---	---	---	---	---	---
KBA-11-13A	31 - 41	9/18/97	---	---	---	---	---	---	53	---
KBA-11-15	29 - 39	9/16/97	---	---	---	---	---	---	---	---
KBA-11-18	36 - 46	9/16/97	---	---	---	---	---	---	---	---
KBA-11-20	30 - 40	9/15/97	---	---	---	---	---	---	---	---
KBA-11-21	31 - 41	9/16/97	---	---	---	---	---	---	---	---
RW-3	22 - 72	9/18/97	---	---	2.7	15	---	11	35	31
RW-6	29 - 69	9/18/97	---	---	2.4	90	---	18	30	29.4

See notes at end of table.

Table 8 (Continued)
Analytical Summary Table for September 1997 Groundwater Samples from Wells

Sample Location	Approximate Screened Interval (ft, bls)	Date	Analytes in micrograms per liter (µg/ℓ)					
			Vinyl chloride	Methylene chloride	1,1-Dichloroethane	cis-1,2-Dichloroethene	1,2-Dichloropropane	Tetrachloroethene
KBA-11-08B[2]	31 - 41	9/18/97	---	0.3	2	0.5	---	---
KBA-11-13A	31 - 41	9/18/97	---	---	---	---	---	---
KBA-11-15	29 - 39	9/16/97	---	---	---	---	---	---
KBA-11-18	36 - 46	9/16/97	---	---	---	---	---	---
KBA-11-20	30 - 40	9/15/97	---	---	---	---	---	---
KBA-11-21	31 - 41	9/16/97	---	---	---	---	---	---
RW-3	22 - 72	9/18/97	27	---	3.6	26	---	12
RW-6	29 - 69	9/18/97	3.4	---	3.3	3.4	---	72

[1] Sum of m/p/o-xylenes.

[2] Offsite laboratory results. 1,1,1-Trichloroethane was also detected at a concentration of 1 µg/ℓ.

Notes: ft, bls = feet below land surface.
--- = not detected above the reporting limit.

ATTACHMENT C

COMPREHENSIVE DATA TABLES

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V202	V202	V202	V204	V204	V204
	SAMPLE ID	V20230	V20240	V20250	V20430	V20440	V20450
	DATE	03/06/97	03/06/97	03/06/97	03/06/97	03/06/97	03/06/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Vinyl chloride		9	62	2.8	<2 U	7.3	3.8
Methylene Chloride		<1 U	<1 U	4	<1 U	<1 U	1.2
1,1-Dichloroethane		1.5	34	2.5	2.9	5.7	3.4
cis-1,2-Dichloroethene		29	46	9.8	3.8	4.3	3.6
Trichloroethene		1.4	<1 U	<1 U	<1 U	<1 U	<1 U
Benzene		<1 U	<1 U	<1 U	<1 U	<1 U	1.3
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

U = not detected, J = estimated value For RCL DPVOA Limit 1 is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V204	V205	V205	V205	V206	V206
	SAMPLE ID	V20470	V20530	V20540	V20550	V20630	V20640
	DATE	03/06/97	03/05/97	03/05/97	03/05/97	03/05/97	03/05/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Vinyl chloride		<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Methylene Chloride		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane		<1 U	1.1	5.5	2.7	<1 U	<1 U
cis-1,2-Dichloroethene		1.4	2.7	1.9	13	<1 U	<1 U
Trichloroethene		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Benzene		<1 U	1.2	<1 U	1.8	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

U = not detected estimated value For RCL DPVOA L: is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V206	V207	V207	V207	V207	V208
	SAMPLE ID	V20650	V20735	V20737	V20740	V20748	V20825
	DATE	03/05/97	03/07/97	03/07/97	03/07/97	03/07/97	03/11/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Vinyl chloride		<2 U	<2 U	<2 U	2.2	<2 U	2.7 J
Methylene Chloride		3.1	<1 U	<1 U	<1 U	1.2	<1 U
1,1-Dichloroethane		2.1	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene		9.5	140	390	190	19	170 J
Trichloroethene		<1 U	1600	600	310	36	<1 U
Benzene		2.6	1.8	<1 U	<1 U	1.4	<1 U
Tetrachloroethene		<1 U	8.7	16	11	<1 U	3 J

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

U=not detected, J=estimated value For RCL DPVOA Limit 1 is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V208	V209	V209	V209	V210	V210
	SAMPLE ID	V20835	V20930	V20940	V20950	V21030	V21035
	DATE	03/11/97	03/06/97	03/06/97	03/06/97	03/06/97	03/06/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Vinyl chloride		<2 U	75	2.8	<2 U	2.8	2.4
Methylene Chloride		<1 U	<1 U	<1 U	4.4	<1 U	<1 U
1,1-Dichloroethane		<1 U	<1 U	2.1	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene		2.6 J	77	6.2	9.9	1.3	110
Trichloroethene		<1 U	9.8	3.8	1.6	<1 U	730
Benzene		<1 U	<1 U	<1 U	3.5	<1 U	2.1
Tetrachloroethene		2.3 J	<1 U	<1 U	<1 U	<1 U	64

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

U=not detected ɜstimated value For RCL DPVOA Li is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V210	V210	V210	V211	V211	V212
	SAMPLE ID	V21040	V21050	V21050D	V21135	V21140	V21225
	DATE	03/06/97	03/06/97	03/06/97	03/07/97	03/07/97	03/07/97
	RESULT TYPE	Primary	Primary	Duplicate 1	Primary	Primary	Primary
Vinyl chloride		<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
Methylene Chloride		<1 U	3.5	2.3	39	1.2	<1 U
1,1-Dichloroethane		<1 U	1	<1 U	1	1.8	<1 U
cis-1,2-Dichloroethene		14	7.3	4.6	4.2	1.4	<1 U
Trichloroethene		160	28	18	5.6	3.1	6
Benzene		<1 U	2.4	1.5	4.2	6.1	<1 U
Tetrachloroethene		13	4.9	2.2	72	41	<1 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

U = not detected, J = estimated value For RCL DPVOA

Limit 1 is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V212	V212	V213	V214	V215	V216
	SAMPLE ID	V21235	V21240	V21335	V21435	V21535	V21635
	DATE	03/07/97	03/07/97	03/07/97	03/07/97	03/07/97	03/08/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Vinyl chloride		<2 U	<2 U	<2 U	<2 U	<2 U	<40 U
Methylene Chloride		<1 U	<1 U	<1 U	<1 U	<1 U	<20 U
1,1-Dichloroethane		<1 U	<1 U	<1 U	<1 U	<1 U	<20 U
cis-1,2-Dichloroethene		3	<1 U	<1 U	<1 U	<1 U	180
Trichloroethene		1200	54	7.9	2	2.3	370
Benzene		<1 U	<1 U	2.7	<1 U	<1 U	<20 U
Tetrachloroethene		3500	460	55	22	23	490

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

U=not detected estimated value For RCL DPVOA L: 1 is used for results comparison

Date: 10/28/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V216	V217	V217	V218	V218	V218
	SAMPLE ID	V21640	V21735	V21740	V21835	V21835D	V21840
	DATE	03/08/97	03/08/97	03/08/97	03/08/97	03/08/97	03/08/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Duplicate 1	Primary
Vinyl chloride		<2 U	220	5.6	<2 U	<2 U	<2 U
Methylene Chloride		<1 U	<50 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane		<1 U	<50 U	2.4	1.9	1.5	<1 U
cis-1,2-Dichloroethene		39	3100	160	4.8	5.8	1.6
Trichloroethene		48	<50 U	<1 U	<1 U	<1 U	<1 U
Benzene		<1 U	<50 U	2.7	2.6	2.3	1
Tetrachloroethene		93	<50 U	10	6.5	7.8	4.4

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U=not detected, J=estimated value For RCL DPVOA

Limit 1 is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V219	V219	V220	V220	V221	V221
	SAMPLE ID	V21935	V21940	V22035	V22040	V22135	V22140
	DATE	03/08/97	03/08/97	03/09/97	03/09/97	03/09/97	03/09/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Vinyl chloride		2.4	2.1	<2 U	10	<2 U	37
Methylene Chloride		<1 U	<1 U	<1 U	29	<1 U	34
1,1-Dichloroethane		4.5	2.7	3.6	23	10	17
cis-1,2-Dichloroethene		8.6	7	4.8	9.8	23	31
Trichloroethene		1.8	<1 U	<1 U	2	1.1	1.2
Benzene		1.6	1.6	<1 U	1.4	1	1.4
Tetrachloroethene		8.8	5.1	10	6.3	6.2	2.9

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U = not detected, estimated value For RCL DPVOA Li is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V222	V222	V222	V224	V224	V224
	SAMPLE ID	V22235	V22240	V22250	V22435	V22440	V22445
	DATE	03/09/97	03/09/97	03/09/97	03/09/97	03/09/97	03/09/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Vinyl chloride		(1.5)	4.6	<2 U	<2 U	<2 U	<2 U
Methylene Chloride		<1 U	8.7	140	<1 U	<1 U	<1 U
1,1-Dichloroethane		3.4	<1 U	5.4	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene		9.3	4.4	3.4	<1 U	1	7.6
Trichloroethene		<1 U	<1 U	1.5	<1 U	<1 U	<1 U
Benzene		4	1.5	<1 U	<1 U	<1 U	1.7
Tetrachloroethene		5.1	3.1	1.7	4.1	3.5	2.3

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U =not detected, J =estimated value For RCL DPVOA Limit 1 is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V225	V225	V226	V226	V226	V227
	SAMPLE ID	V22540	V22545	V22635	V22640	V22645	V22735
	DATE	03/09/97	03/09/97	03/10/97	03/10/97	03/10/97	03/10/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Vinyl chloride		<2 U	<2 U	150	<2 U	2.3	<2 U
Methylene Chloride		<1 U	<1 U	<1 U	<1 U	3.9	<1 U
1,1-Dichloroethane		<1 U	<1 U	<1 U	1	2.2	<1 U
cis-1,2-Dichloroethene		<1 U	9.6	1100	16	19	6.2
Trichloroethene		<1 U	<1 U	6.6	<1 U	<1 U	<1 U
Benzene		<1 U	1.8	1.9	<1 U	4.6	1.1
Tetrachloroethene		<1 U	<1 U	6.4	2.3	2.3	1.6

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Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V227	V228	V228	V228	V229	V229
	SAMPLE ID	V22740	V22835	V22835D	V22840	V22935	V22940
	DATE	03/10/97	03/10/97	03/10/97	03/10/97	03/10/97	03/10/97
	RESULT TYPE	Primary	Primary	Duplicate 1	Primary	Primary	Primary
Vinyl chloride		<2 U	<2 U	<2 U	<2 U	<2 U	(1.4)
Methylene Chloride		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane		3.9	4	1.6	<1 U	5.5	9.8
cis-1,2-Dichloroethene		1.3	7	3.5	<1 U	14	9.9
Trichloroethene		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Benzene		<1 U	1.1	<1 U	<1 U	<1 U	1.6
Tetrachloroethene		1.4	2.1	1.4	1.1	2.5	1

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() =Less than Reporting Limit
U =not detected, J =estimated value For RCL DPVOA Limit 1 is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V229	V230	V230	V230	V232	V232
	SAMPLE ID	V22950	V23040	V23045	V23050	V23220	V23230
	DATE	03/10/97	03/11/97	03/11/97	03/11/97	03/12/97	03/12/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Vinyl chloride		<2 U	2.9 J	<2 U	<2 U	300	19
Methylene Chloride		<1 U	<1 U	9.8	5.9	1	<1 U
1,1-Dichloroethane		13	15 J	3.6 J	5.2 J	1.4	<1 U
cis-1,2-Dichloroethene		3.6	49 J	11 J	33 J	120	280
Trichloroethene		<1 U	20 J	3.8 J	6.1 J	<1 U	100
Benzene		<1 U	<1 U	<1 U	<1 U	1.2	1
Tetrachloroethene		<1 U	5 J	<1 U	1.5 J	2.9	1.7

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

U =not detected, stimated value For RCL DPVOA Lir is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	V232	V235	V235
	SAMPLE ID	V23235	V23520	V23530
	DATE	03/12/97	03/12/97	03/12/97
	RESULT TYPE	Primary	Primary	Primary
Vinyl chloride		11	<2 U	<2 U
Methylene Chloride		<1 U	<1 U	<1 U
1,1-Dichloroethane		<1 U	<1 U	<1 U
cis-1,2-Dichloroethene		79	<1 U	<1 U
Trichloroethene		29	<1 U	<1 U
Benzene		1.2	<1 U	<1 U
Tetrachloroethene		1.2	<1 U	<1 U

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed
The following qualifier(s) exist: U, J

U = not detected, J = estimated value For RCL DPVOA Limit 1 is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Wells and Piezometers
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	KBA-11-13A	KBA-11-16	PS-10	PS-2	PS-4	PS-7
	SAMPLE ID	13A030701	16030801	PS10030901	PS2030801	PS4031101	PS7030801
	DATE	03/07/97	03/08/97	03/09/97	03/08/97	03/11/97	03/08/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Vinyl chloride		<20 U	<2 U	<2 U	8.8	<2 U	42
Methylene Chloride		<10 U	<1 U	5.7	<1 U	<1 U	92
1,1-Dichloroethane		<10 U	<1 U	40	10	<1 U	1.8
cis-1,2-Dichloroethene		280	<1 U	13	110	<1 U	110
Trichloroethene		890	<1 U	<1 U	2.8	<1 U	3.1
Benzene		<10 U	<1 U	1.2	5.9	<1 U	2.6
Tetrachloroethene		100	<1 U	<1 U	<1 U	<1 U	<1 U

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

U=not detected estimated value For RCL DPVOA Li is used for results comparison

Date: 10/17/97

March 1997 Direct Push Field Program
Groundwater Samples From Wells and Piezometers
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	RW-1	RW-2	RW-3	RW-3	RW-4	RW-6
	SAMPLE ID	GW010303	GW020303	GW030303	RW3031301	GW040303	GW060303
	DATE	03/03/97	03/03/97	03/03/97	03/13/97	03/03/97	03/03/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Vinyl chloride		9.1	20	38	<2 U	16	<2 U
Methylene Chloride		<1 U	1.1	<1 U	1.1	15	<1 U
1,1-Dichloroethane		40	1.2	4.5	<1 U	19	3.7
cis-1,2-Dichloroethene		41	64	240	29	46	9.3
Trichloroethene		5.7	1.8	38	9.6	5.3	<1 U
Benzene		1.4	3.2	2.4	1	1.3	2.3
Tetrachloroethene		<1 U	<1 U	37	13	<1 U	<1 U

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U=not detected, J=estimated value For RCL DPVOA Limit 1 is used for results comparison

Date: 10/17/97

September 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	T301	T301	T301	T301	T302	T302
	SAMPLE ID	T30140	T30145	T30150	T30159	T30242	T30254
	DATE	09/15/97	09/15/97	09/15/97	09/15/97	09/15/97	09/15/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Acetone		<100 U	<100 U	<100 U	<100 U	<260 U	<100 U
2-Butanone		<100 U	<100 U	<100 U	<100 U	<250 U	<100 U
Benzene		<1 U	<1 U	<1 U	<1 U	1.4	<1 U
Trichloroethene		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
4-Methyl-2-pentanone		<100 U	<100 U	<100 U	<100 U	<200 U	<100 U
Toluene		<1 U	<1 U	<1 U	<1 U	2.6	<1 U
Ethylbenzene		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
m/p-Xylene		<2 U	<2 U	<2 U	<2 U	<2 U	<2 U
o-Xylene		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Vinyl chloride		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Methylene Chloride		<1 U	<1 U	<1 U	<1 U	22 J	<1.4 U
1,1-Dichloroethane		<1 U	<1 U	<1 U	<1 U	5	<1 U
cis-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 R	<1 R	<1 R	<1 R	<1 U	<1 R
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Xylene (total)		---	---	---	---	---	---

Values represent total concentrations unless noted < = Not detected at indicated reporting limit --- = Not analyzed

U = not detected, :stimated value For RCL VOA0997 Lii is used for results comparison

Date: 10/17/97

September 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	T302	T303	T303	T304	T305	T305
	SAMPLE ID	T30254D	T30343	T30355	T30443	T30534	T30544
	DATE	09/15/97	09/16/97	09/16/97	09/16/97	09/16/97	09/16/97
	RESULT TYPE	Duplicate 1	Primary	Primary	Primary	Primary	Primary
Acetone		<100 U	<100 U	<100 U	<100 U	<100 U	<100 U
2-Butanone		<100 U	<100 U	<100 U	<100 U	<100 U	<100 U
Benzene		<1 U	<1 U	<1 U	<1 U	<1 U	1.9
Trichloroethene		<1 U	<1 U	<1 U	<1 U	1.2	5.1
4-Methyl-2-pentanone		<100 U	<100 U	<100 U	(6.5) J	<100 U	460
Toluene		<1 U	<1 U	<1 U	<1 U	<1 U	49
Ethylbenzene		<1 U	<1 U	<1 U	<1 U	<1 U	8.7
m/p-Xylene		<2 U	<2 U	<2 U	<2 U	<2 U	14
o-Xylene		<1 U	<1 U	<1 U	<1 U	<1 U	8.2
Vinyl chloride		<1 U	<1 U	<1 U	<1 U	<1 U	2.7
Methylene Chloride		<1 U	<1 U	<1 U	<1 U	<1 U	14 J
1,1-Dichloroethane		<1 U	<1 U	<1 U	(0.6) J	<1 U	3.1
cis-1,2-Dichloroethene		<1 U	<1 U	<1 U	<1 U	6.4	18
1,2-Dichloropropane		<1 R	<1 U	(0.6) J	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Xylene (total)		---	---	---	---	---	---

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U = not detected, J = estimated value For RCL VOA0997 Limit 2 is used for results comparison

Date: 10/17/97

September 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	T305	T306	T306	T306	T307	T307
	SAMPLE ID	T30554	T30637	T30647	T30657	T30734	T30744
	DATE	09/16/97	09/16/97	09/16/97	09/17/97	09/17/97	09/17/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Acetone		<100 U	<100 U	<100 U	<100 U	<100 U	<100 U
2-Butanone		<100 U	<100 U	<100 U	<100 UJ	<100 UJ	<100 UJ
Benzene		1.4	<1 U	<1 U	<1 U	<1 U	2
Trichloroethene		2.9	<1 U	<1 U	<1 U	<1 U	1.5
4-Methyl-2-pentanone		<100 U	<100 U	<100 U	<100 UJ	<100 UJ	<100 UJ
Toluene		32	<1 U	<1 U	<1 U	<1 U	16
Ethylbenzene		5	<1 U	<1 U	<1 U	<1 U	5.1
m/p-Xylene		3.8	<2 U	<2 U	<2 U	<2 U	10
o-Xylene		3.6	<1 U	<1 U	<1 U	<1 U	<1 U
Vinyl chloride		2.2	<1 U	<1 U	<1 U	<1 U	3.6
Methylene Chloride		7.2 J	<1 U	<1 U	<1 U	<1 U	24 J
1,1-Dichloroethane		4.1	<1 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene		4.2	<1 U	<1 U	<1 U	6.2	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U	<1 U	<1 U
Xylene (total)		---	---	---	---	---	---

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

U =not detected, estimated value For RCL VOA0997 Li is used for results comparison

Date: 10/17/97

September 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	T307	T308	T308	T308	T308	T309
	SAMPLE ID	T30754	T30834	T30844	T30844D	T30854	T30939
	DATE	09/17/97	09/17/97	09/17/97	09/17/97	09/17/97	09/17/97
	RESULT TYPE	Primary	Primary	Primary	Duplicate 1	Primary	Primary
Acetone		<100 U	<100 U	<100 U	<100 U	<100 U	<100 U
2-Butanone		<100 UJ	<100 U	<100 U	<100 U	<100 U	<100 U
Benzene		(0.8) J	3.4	4.3	3.9	(0.5) J	1
Trichloroethene		(0.8) J	(0.5) J	<1 U	<1 U	<1 U	(0.7) J
4-Methyl-2-pentanone		<100 UJ	<100 U	<100 U	<100 U	<100 U	<100 U
Toluene		13	2.9	2.4	1.8	<1 U	1.8
Ethylbenzene		<1 U	29	14 J	12 J	<1 U	30 J
m/p-Xylene		<2 U	(1.6) J	2.7	3.5	<2 U	7.8
o-Xylene		<1 U	1.2	1.9	3.4	<1 U	4
Vinyl chloride		1.7	20	4.6	3.9	1.7	(0.8) J
Methylene Chloride		10 J	<1 U	4.3	4	6.1	<1 U
1,1-Dichloroethane		<1 U	(0.8) J	1.3	1.1	(0.7) J	<1 U
cis-1,2-Dichloroethene		<1 U	16	1.3	(0.9) J	<1 U	<1 U
1,2-Dichloropropane		<1 U	<1 U	<1 U	<1 R	<1 U	<1 R
Tetrachloroethene		<1 U	<1 U	<1 U	<1 U	<1 U	(0.8) J
Xylene (total)		---	---	---	---	---	---

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed
() =Less than Reporting Limit
U =not detected, J =estimated value For RCL VOA0997 Limit 2 is used for results comparison

Date: 10/17/97

September 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	T310	T310	T311	T311	T311	T312
	SAMPLE ID	T31039	T31035	T31139	T31135	T31135D	T31239
	DATE	09/18/97	09/18/97	09/18/97	09/18/97	09/18/97	09/18/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Duplicate 1	Primary
Acetone		<1000 U	<1000 U	<100 U	<100 U	<100 U	<5000 U
2-Butanone		<1000 U	<1000 U	<100 U	<100 U	<100 U	<5000 U
Benzene		<10 U	<10 U	(0.5) J	1.2	(0.7) J	<50 U
Trichloroethene		110 J	5000	3.6	2	2	<50 U
4-Methyl-2-pentanone		<1000 U	<1000 U	<100 U	<100 U	<100 U	<5000 U
Toluene		<10 U	(6) J	<1 U	(0.7) J	(0.6) J	<50 U
Ethylbenzene		94	72	<1 U	22 J	18 J	88
m/p-Xylene		71	64	<2 U	5.3	4	(57) J
o-Xylene		<10 U	18	2.1	(0.7) J	(0.7) J	<50 U
Vinyl chloride		<10 U	58	1.1	1.5	1.3	<50 U
Methylene Chloride		<10 U	<10 U	<1 U	<1 U	<1 U	<50 U
1,1-Dichloroethane		<10 U	<10 U	<1 U	<1 U	<1 U	<50 U
cis-1,2-Dichloroethene		<10 U	61	<1 U	<1 U	<1 U	<50 U
1,2-Dichloropropane		<10 R	<10 R	<1 R	<1 R	<1 R	<50 R
Tetrachloroethene		<10 U	730	<1 U	<1 U	<1 U	<50 U
Xylene (total)		---	---	---	---	---	---

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed
() =Less than Reporting Limit
U=not detected estimated value For RCL VOA0997 L ? is used for results comparison

Date: 10/17/97

September 1997 Direct Push Field Program
Groundwater Samples From Direct Push Locations
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	T312	T313	T313
	SAMPLE ID	T31235	T31339	T31335
	DATE	09/18/97	09/18/97	09/18/97
	RESULT TYPE	Primary	Primary	Primary
Acetone		<5000 U	<5000 U	<5000 U
2-Butanone		<5000 U	<5000 U	<5000 U
Benzene		<50 U	<50 U	<50 U
Trichloroethene		240	530	690
4-Methyl-2-pentanone		<5000 U	<5000 U	<5000 U
Toluene		<50 U	<50 U	<50 U
Ethylbenzene		(47) J	<50 U	<50 U
m/p-Xylene		(38) J	<100 U	<100 U
o-Xylene		<50 U	<50 U	<50 U
Vinyl chloride		52	<50 U	<50 U
Methylene Chloride		<50 U	<50 U	<50 U
1,1-Dichloroethane		<50 U	<50 U	<50 U
cis-1,2-Dichloroethene		(28) J	<50 U	<50 U
1,2-Dichloropropane		<50 R	<50 R	<50 R
Tetrachloroethene		<50 U	2700	2400
Xylene (total)		---	---	---

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed
() =Less than Reporting Limit The following qualifier(s) exist: U, R, J
U =not detected, J =estimated value For RCL VOA0997 Limit 2 is used for results comparison

Date: 10/23/97

September 1997 Direct Push Field Program
Groundwater Samples From Wells
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	KBA-11-08B	KBA-11-13A	KBA-11-15	KBA-11-18	KBA-11-20	KBA-11-21
	SAMPLE ID	8BGW07	KBA-11-13A	KBA-11-15	KBA-11-18	KBA-11-20	KBA-11-21
	DATE	09/18/97	09/18/97	09/16/97	09/16/97	09/15/97	09/16/97
	RESULT TYPE	Primary	Primary	Primary	Primary	Primary	Primary
Acetone		<5 U	<5000 U	<100 U	<100 U	<100 U	<100 U
2-Butanone		<5 U	<5000 U	<100 U	<100 U	<100 U	<100 U
Benzene		<1 U	<50 U	<1 U	<1 U	<1 U	<1 U
Trichloroethene		<1 U	<50 U	<1 U	<1 U	<1 U	<1 U
4-Methyl-2-pentanone		<5 U	<5000 U	<100 U	<100 U	<100 U	<100 U
Toluene		<1 U	<50 U	<1 U	<1 U	<1 U	<1 U
Ethylbenzene		<1 U	53	<1 U	<1 U	<1 U	<1 U
m/p-Xylene		---	<100 U	<2 U	<2 U	<2 U	<2 U
o-Xylene		---	<50 U	<1 U	<1 U	<1 U	<1 U
Vinyl chloride		<1 U	<50 U	<1 U	<1 U	<1 U	<1 U
Methylene Chloride		0.3 J	<50 U	<1 U	<1 U	<1 U	<1 U
1,1-Dichloroethane		2	<50 U	<1 U	<1 U	<1 U	<1 U
cis-1,2-Dichloroethene		0.5 J	<50 U	<1 U	<1 U	<1 U	<1 U
1,2-Dichloropropane		<1 U	<50 R	<1 U	<1 U	<1 U	<1 U
Tetrachloroethene		<1 U	<50 U	<1 U	<1 U	<1 U	<1 U
Xylene (total)		<1 U	---	---	---	---	---

Values represent total concentrations unless noted < =Not detected at indicated reporting limit ---=Not analyzed

U=not detected estimated value For RCL VOA0997 Li is used for results comparison

Date: 10/23/97

September 1997 Direct Push Field Program
Groundwater Samples From Wells
On-Site Analytical Results
Site 11, NSB Kings Bay

CONSTITUENT (Units in ug/l)	SITE	RW-3	RW-6
	SAMPLE ID	RW-3	RW-6
	DATE	09/18/97	09/18/97
	RESULT TYPE	Primary	Primary
Acetone		<100 U	<100 U
2-Butanone		<100 U	<100 U
Benzene		2.7	2.4
Trichloroethene		15	90
4-Methyl-2-pentanone		<100 U	<100 U
Toluene		11	18 J
Ethylbenzene		35	30
m/p-Xylene		20	21 J
o-Xylene		11	8.4
Vinyl chloride		27	3.4
Methylene Chloride		<1 U	<1 U
1,1-Dichloroethane		3.6	3.3
cis-1,2-Dichloroethene		26	3.4
1,2-Dichloropropane		<1 R	<1 R
Tetrachloroethene		12	72
Xylene (total)		---	---

Values represent total concentrations unless noted < =Not detected at indicated reporting limit --- =Not analyzed

U=not detected, J=estimated value For RCL VOA0997 Limit 2 is used for results comparison

ATTACHMENT D

GLOSSARY

GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
bls	below land surface
GEPD	Georgia Environmental Protection Department
IM	Interim Measure
$\mu g/\ell$	micrograms per liter
NSB	Naval Submarine Base
PCE	tetrachloroethene
RCRA	Resource Conservation and Recovery Act
SRFI	Supplemental RCRA Facility Investigation
TCE	trichloroethene
USGS	U.S. Geological Survey

ATTACHMENT E

REFERENCES

REFERENCES

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