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FINAL BASE REALIGNMENT AND CLOSURE ENVIRONMENTAL SITE SCREENING
REPORT STUDY AREA 7 NTC ORLANDO FL
7/1/1996
ABB ENVIRONMENTAL

**BASE REALIGNMENT AND CLOSURE
ENVIRONMENTAL SITE-SCREENING REPORT**

00039

STUDY AREA 7

**NAVAL TRAINING CENTER
ORLANDO, FLORIDA**

Unit Identification Code: N65928

Contract No. N62467-89-D-0317/107

Prepared by:

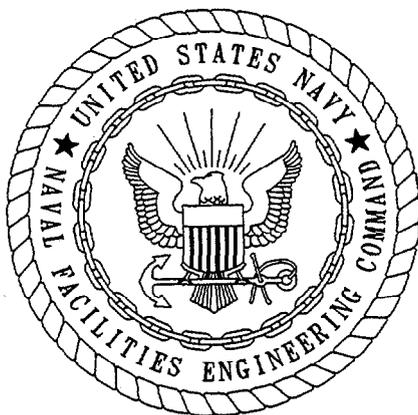
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Prepared for:

**Department of the Navy, Southern Division
Naval Facilities Engineering Command
2155 Eagle Drive
North Charleston, South Carolina 29418**

Barbara Nwokike, Code 1873, Engineer-in-Charge

July 1996



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-0317/107 are complete and accurate and comply with all requirements of this contract.

DATE: July 17, 1996

NAME AND TITLE OF CERTIFYING OFFICIAL: John Kaiser
Task Order Manager

NAME AND TITLE OF CERTIFYING OFFICIAL: Mark Salvetti
Project Technical Lead

(DFAR 252.227-7036)

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Naval Training Center
Orlando, Florida

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Study Area 7
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GLOSSARY

4,4'-DDD	4,4'-dichlorodiphenyldichloroethane
4,4'-DDE	4,4'-dichlorodiphenyldichloroethene
4,4'-DDT	4,4'-dichlorodiphenyltrichloroethane
ABB-ES	ABB Environmental Services, Inc.
CLP	Contract Laboratory program
DQO	data quality objective
mg/kg	milligrams per kilogram
µg/l	micrograms per liter
µg/kg	micrograms per kilogram
OPT	Orlando Partnering Team
PAH	polynuclear aromatic hydrocarbon
TAL	target analyte list
TCL	target compound list
USEPA	U.S. Environmental Protection Agency

1.0 STUDY AREA 7, LAKE SUSANNAH

This report contains information gathered as a result of site-screening activities conducted at Study Area 7. In the fall of 1995, after the review of site-screening results, the Orlando Partnering Team (OPT) determined that no further action was required at Study Area 7 and that the lake was transferrable under the provisions of a Finding of Suitability to Lease (FOSL) or Finding of Suitability to Transfer (FOST).

1.1 STUDY AREA 7, BACKGROUND AND CONDITIONS. Lake Susannah is located in the southeast area of Naval Training Center Main Base and is approximately 75 acres in area (Figures 1 and 2). The lake receives stormwater runoff from much of the southern end of the Main Base and is not far from the motor pool, automotive hobby shop, and pest-control buildings. At one time, drums were allegedly dumped into Lake Susannah (ABB Environmental Services, Inc. [ABB-ES], 1994).

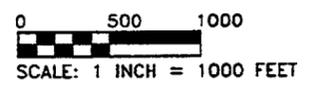
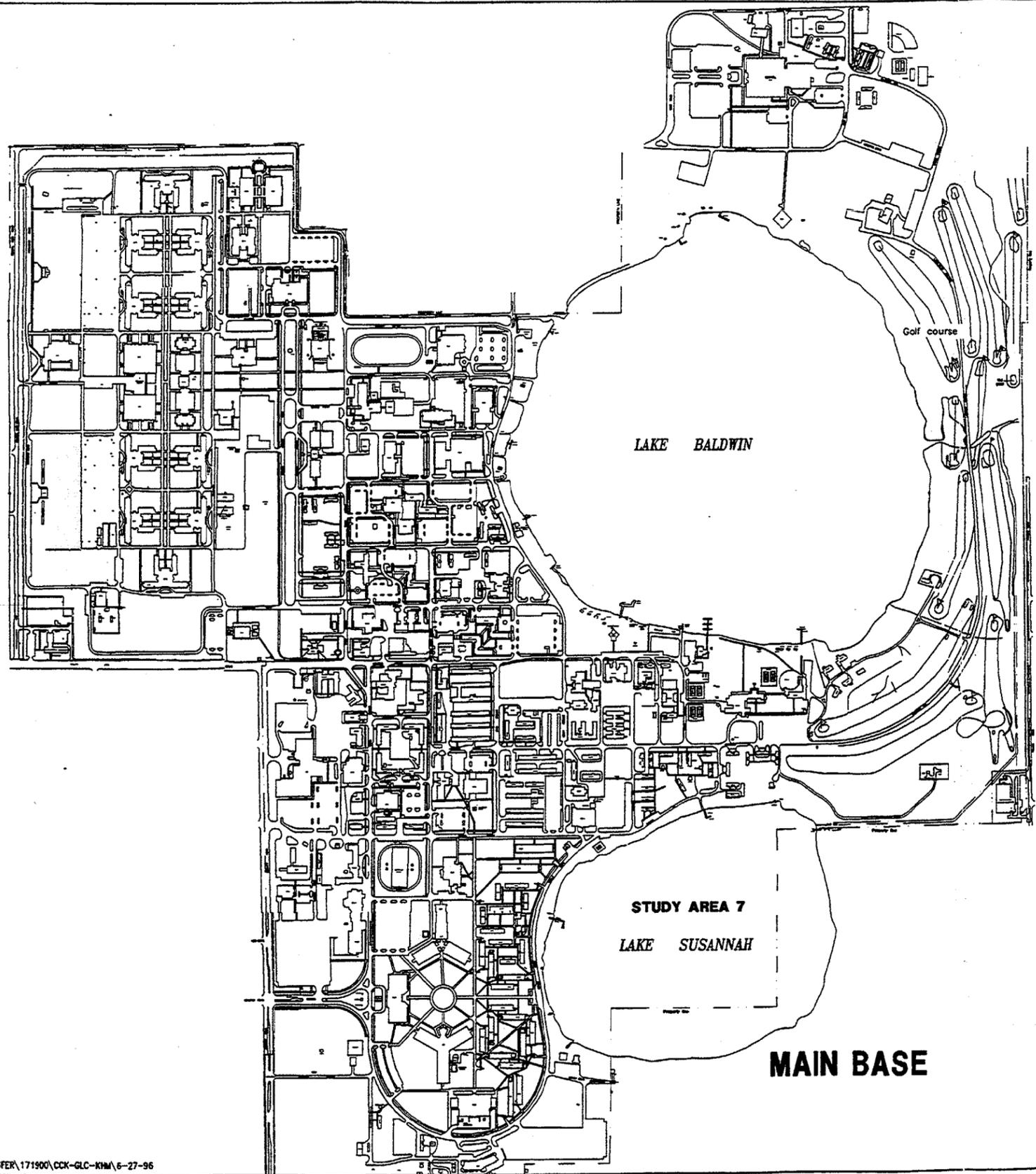
1.2 STUDY AREA 7, INVESTIGATION SUMMARY.

1.2.1 Lacustrine Magnetometer Survey A marine magnetometer survey was conducted to evaluate the potential presence of submerged 55-gallon drums on the bottom of Lake Susannah. Global positioning system survey equipment facilitated navigation along preestablished east-west survey lines 25 feet apart and located survey points to within submeter accuracy.

The surveys took place between July 28 and August 23, 1994. The studies (with a 25- by 25-foot measurement grid) have confirmed that the whole lake is nearly free of magnetic anomalies indicative of disposed ferrous metals (specifically, 55-gallon steel drums). There are several anomalies along the shoreline that can be explained by existing structures, including a steel cage structure along the north shore and a possible pier along the eastern shore. There are no suspect anomalies on U.S. Navy property that require direct evaluation, nor is there any indication of widescale disposal on the lake bottom.

Appendix A contains the survey results as submitted by Subsurface Detection Investigations, Inc.

1.2.2 Surface Water and Sediment Sampling Five surface water and 15 sediment samples were collected from Lake Susannah to evaluate levels of chemical contaminants (Figure 2). Sediment samples were analyzed for full suite Contract Laboratory program (CLP) target compound list (TCL) and target analyte list (TAL), herbicides, cyanide, and total organic carbon, in accordance with U.S. Environmental Protection Agency (USEPA) Level IV data quality objectives (DQOs). Surface water samples were analyzed for full suite CLP TCL and TAL, herbicides, cyanide, total dissolved solids, total suspended solids, alkalinity, and hardness, in accordance with USEPA Level IV DQOs. Sediment and water from the stormwater outfall, Building 127, and Dock 11015 were also analyzed for total petroleum hydrocarbons.



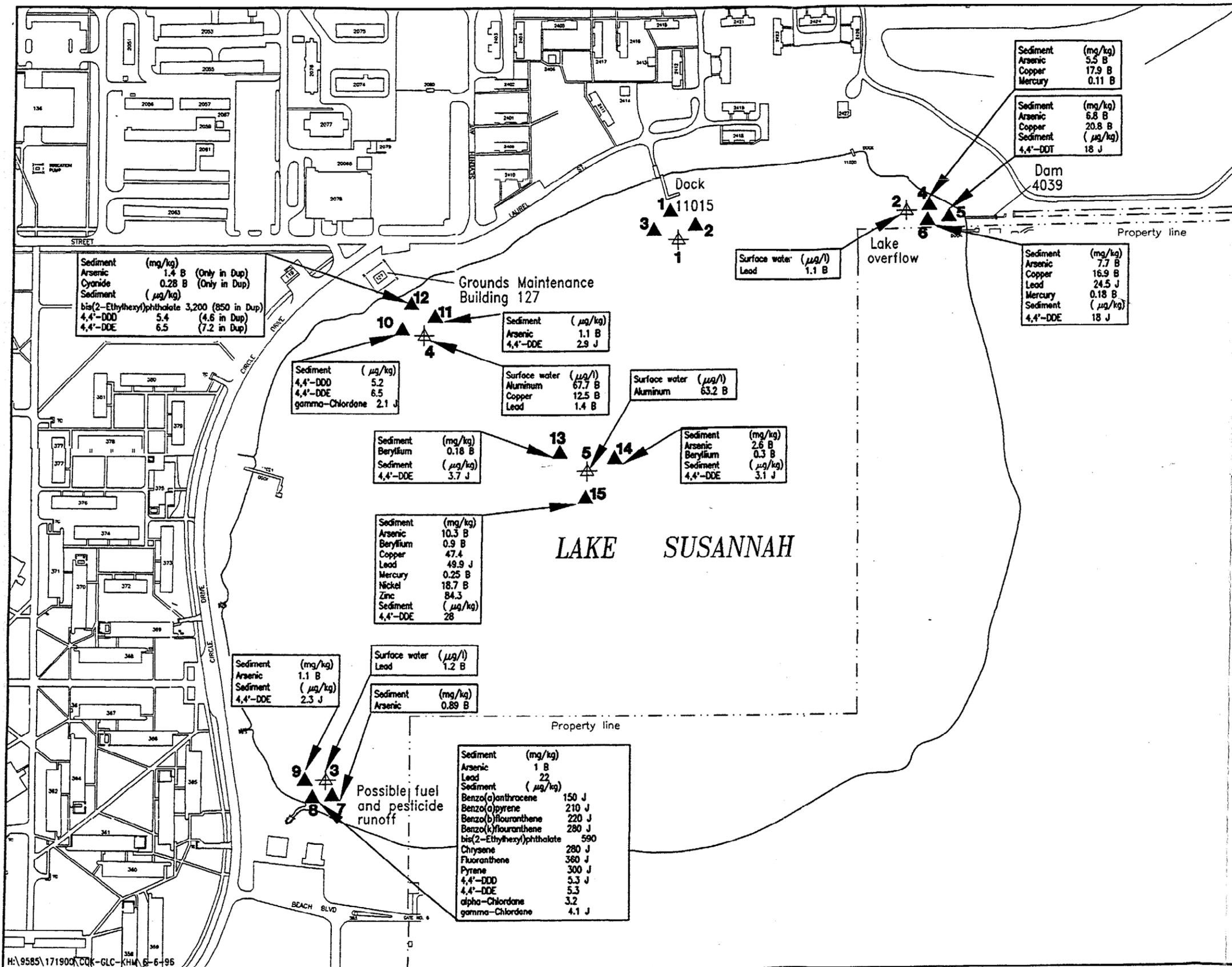
SOURCE: ABE-ES 1994b.

**FIGURE 1
LOCATION OF STUDY AREA 7**



**BASE REALIGNMENT AND
CLOSURE ENVIRONMENTAL SITE
SCREENING REPORT**

**NAVAL TRAINING CENTER
ORLANDO, FLORIDA**



Sediment (mg/kg)	
Arsenic	1.4 B (Only in Dup)
Cyanide	0.28 B (Only in Dup)
Sediment (µg/kg)	
bis(2-Ethylhexyl)phthalate	3,200 (850 in Dup)
4,4'-DDD	5.4 (4.6 in Dup)
4,4'-DDE	6.5 (7.2 in Dup)

Sediment (µg/kg)	
4,4'-DDD	5.2
4,4'-DDE	6.5
gamma-Chlordane	2.1 J

Sediment (mg/kg)	
Beryllium	0.18 B
Sediment (µg/kg)	
4,4'-DDE	3.7 J

Sediment (mg/kg)	
Arsenic	10.3 B
Beryllium	0.9 B
Copper	47.4
Lead	49.9 J
Mercury	0.25 B
Nickel	18.7 B
Zinc	84.3
Sediment (µg/kg)	
4,4'-DDE	28

Sediment (mg/kg)	
Arsenic	1.1 B
Sediment (µg/kg)	
4,4'-DDE	2.3 J

Surface water (µg/l)	
Lead	1.2 B
Sediment (mg/kg)	
Arsenic	0.89 B

Sediment (mg/kg)	
Arsenic	1 B
Lead	22
Sediment (µg/kg)	
Benzo(a)anthracene	150 J
Benzo(a)pyrene	210 J
Benzo(b)fluoranthene	220 J
Benzo(k)fluoranthene	280 J
bis(2-Ethylhexyl)phthalate	590
Chrysene	280 J
Fluoranthene	380 J
Pyrene	300 J
4,4'-DDD	5.3 J
4,4'-DDE	5.3
alpha-Chlordane	3.2
gamma-Chlordane	4.1 J

Sediment (µg/kg)	
Arsenic	1.1 B
4,4'-DDE	2.9 J

Surface water (µg/l)	
Aluminum	67.7 B
Copper	12.5 B
Lead	1.4 B

Surface water (µg/l)	
Aluminum	63.2 B

Sediment (mg/kg)	
Arsenic	2.6 B
Beryllium	0.3 B
Sediment (µg/kg)	
4,4'-DDE	3.1 J

Sediment (mg/kg)	
Arsenic	5.5 B
Copper	17.9 B
Mercury	0.11 B

Sediment (mg/kg)	
Arsenic	6.8 B
Copper	20.8 B
Sediment (µg/kg)	
4,4'-DDT	18 J

Sediment (mg/kg)	
Arsenic	7.7 B
Copper	16.9 B
Lead	24.5 J
Mercury	0.18 B
Sediment (µg/kg)	
4,4'-DDE	18 J

1.3 STUDY AREA 7, RESULTS. A summary of positive detections in sediment and surface water analytical results is presented in Appendix B. A complete set of sediment and surface water analytical results is presented in Appendix C. The derivation of surface water and sediment screening criteria is included in Appendix D. Due to a sampling error, no inorganic results are available for surface water sample 07W001.

Locations and concentrations of compounds exceeding sediment and surface water standards are shown on Figure 2. Sampling locations for the five surface water samples, identified as 1 through 5 on Figure 2, correspond to surface water samples 07W001 through 07W005, respectively. Similarly, sediment sampling locations, identified as 1 through 15 on Figure 2, correspond to sediment samples 07D001 through 07D015.

1.3.1 Sediment The following analytes were detected in sediment above sediment screening criteria at various locations around the lake: arsenic (3 of 15 locations; 6.8B to 10.3B milligrams per kilogram [mg/kg]), copper (4 of 15 locations; 16.9 B to 47.4 mg/kg), cyanide (1 of 15 locations; 0.28B mg/kg), lead (1 of 15 locations; 49.9J mg/kg), mercury (2 of 15 locations; 0.18B and 0.25B mg/kg), and nickel (1 of 15 locations; 18.7 mg/kg).

Elevated arsenic concentrations were found only near the lake outfall and in one sample in the middle of the lake. The low frequency at which elevated arsenic concentrations were detected in Lake Susannah sediment suggests that arsenic is occasionally present naturally in Lake Susannah above the sediment screening value.

The sediment sample that exceeded screening criteria for lead (07D015) was located in the middle of the lake. There is no known source for this exceedance.

Organic compounds detected in Lake Susannah sediment above screening criteria were primarily polynuclear aromatic hydrocarbons (PAHs) and pesticides. 4,4'-dichlorodiphenyltrichloroethane (4,4'-DDT) or its related compounds (4,4'-dichlorodiphenyldichloroethane (4,4'-DDD) and 4,4'-dichlorodiphenyl-dichloroethene (4,4'-DDE) were detected above screening criteria at 10 of 15 locations at concentrations between 2.3J and 28 micrograms per kilogram ($\mu\text{g}/\text{kg}$). PAHs were detected in sediment sample 07D008 collected from the outfall that may have received runoff from the motor pool, automotive hobby shop, and pest-control buildings. Chlordane concentrations above screening criteria were detected in sediment samples 07D008 and 07D010 and 07D012 (offshore of the grounds maintenance area). Bis(2-ethylhexyl)phthalate was detected above screening criteria in sample 07D012 (3,200 $\mu\text{g}/\text{kg}$; 850J $\mu\text{g}/\text{kg}$ in a duplicate). This sample was also collected offshore of the grounds maintenance building.

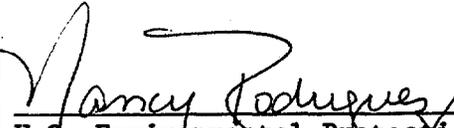
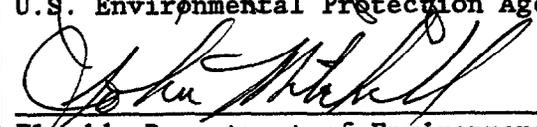
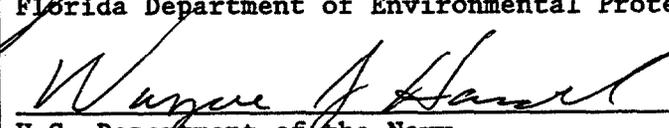
Most of the organic compounds exceeding screening criteria were concentrated in sediment sample 07D008, collected at the outfall that received runoff from the automotive areas and the pest-control shop. No PAHs were detected in sediment samples collected farther out in the lake from the outfall (samples 07D007 and 07D009). The only organic exceedance in these outer two samples was 4,4'-DDE (2.3J $\mu\text{g}/\text{kg}$) in sample 07D009. The Main Base is highly urbanized, and Lake Susannah receives runoff from many paved areas at the facility. Sample 07D008 was the only sample collected directly below an outfall and, therefore, is more likely to include these anthropogenic compounds. Similarly, the even distribu-

tion of DDT-related compounds in many of the sediment samples collected from the lake is not unexpected and is likely due to prior normal use of the pesticide.

1.3.2 Surface Water Surface water data are presented in Appendix B. Copper was detected (12.5 micrograms per liter [$\mu\text{g}/\text{l}$]) above the screening concentration of $5.4 \mu\text{g}/\text{l}$ in one (07W004) of four surface water samples. Lead was detected in three of four surface water samples slightly above screening concentrations. Detected concentrations ranged from $1.1\text{B } \mu\text{g}/\text{l}$ to $1.4\text{B } \mu\text{g}/\text{l}$, compared to a screening concentration of $1.0 \mu\text{g}/\text{l}$. The consistency of the lead results suggests that these lead concentrations may be normal for Lake Susannah.

1.4 STUDY AREA 7, CONCLUSIONS AND RECOMMENDATIONS. Based upon available information and the results of the site-screening activities, the surface water sampled at Lake Susannah does not likely represent an environmental concern. Organic compounds detected in sediment samples above screening criteria are primarily at surface water outfalls, are not widespread, and are not a concern. The even distribution of DDT-related compounds in many of the sediment samples collected from the lake is not unexpected and is likely due to prior normal use of the pesticide. ABB-ES recommends the color classification for Study Area 7 be changed from 7/Gray to 1/White, and further recommends an FOST with no requirement for further evaluation.

The undersigned members of the OPT concur with the findings of the preceding investigation.

<u>STUDY AREA 7</u>	
 _____ U.S. Environmental Protection Agency, Region IV	<u>7/24/96</u> _____ Date
 _____ Florida Department of Environmental Protection	<u>7/24/96</u> _____ Date
 _____ U.S. Department of the Navy	<u>7/24/96</u> _____ Date

REFERENCE

ABB Environmental Services, Inc., 1994, BRAC Cleanup Plan (BCP): 90 Percent Completion Draft NTC, Orlando, Florida: prepared for Southern Division, Naval Facilities Engineering Command, Charleston, South Carolina.

APPENDIX A

LACUSTRINE MAGNETOMETER SURVEY

FINAL REPORT

**LACUSTRINE MAGNETOMETER SURVEY
NAVAL TRAINING CENTER COMPLEX**

ORLANDO, FLORIDA

Prepared For:

**ABB ENVIRONMENTAL SERVICES, INC.
ORANGE PARK, FLORIDA**

Prepared By:

**SUBSURFACE DETECTION INVESTIGATIONS, INC.
LARGO, FLORIDA**

NOVEMBER 1994

November 1, 1994

ABB Environmental Services, Inc.
1536 Kingsley Avenue, Suite 127
Orange Park, FL 32073

Attention: Mr. Steve Grietens

**Subject: Final Report - Lacustrine Magnetometer Survey
Naval Training Center Complex - Orlando, Florida
SDII Project Number 94781**

Dear Mr. Grietens:

Subsurface Detection Investigations, Inc. (SDII) is pleased to submit the final report for the above referenced project. The purpose of the investigation was to utilize geophysical techniques to help locate and identify submerged 55-gallon drums, outboard motor parts, and other metallic objects. The project was performed in accordance with our Proposal Number 94433, dated June 23, 1994.

SDII appreciates the opportunity to have assisted ABB Environmental Services, Inc. on this project. If you have any questions or comments about the report, please contact us.

Sincerely,

SUBSURFACE DETECTION INVESTIGATIONS, INC.

James E. Bock
Geophysicist

Michael J. Wightman, P.G.
Senior Geophysicist/Hydrogeologist

JEB/MJW/ℒ

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EXECUTIVE SUMMARY

A geophysical investigation was conducted over a 12-day period from August 1 to August 19, 1994, at the Naval Training Center Complex in Orlando, Florida. The purpose of the investigation was to determine the presence of various ferromagnetic objects (e.g., 55-gallon drums or outboard motor parts) in Lake Susannah. The investigation was conducted using a shipborne magnetometer. The position of the magnetometer on the lakes was determined using a Global Positioning System. The magnetic data was collected on 25-foot intervals and was corrected for diurnal (time) variations. Results are presented as total magnetic field values contoured on a 10-gamma interval.

Results from the investigation indicate that ferromagnetic objects may be present in Lake Susannah. Partially metallic structures are present, however, in several of the areas with elevated magnetic readings. Accordingly, the elevated readings may be completely attributable to these structures.

1.0 INTRODUCTION

1.1 Background

ABB Environmental Services, Inc. (ABB) is performing an environmental investigation at Lake Susannah located within the Naval Training Center (NTC) Complex in Orlando, Florida. The investigation is being conducted under Navy Contract N62467-89-D-0317 for the Southern Division Naval Facilities Engineering Command. It is suspected that 55-gallon drums, outboard motor parts, and other metallic objects may have been submerged in the lakes. The lakes are natural, freshwater lakes located almost entirely within the NTC complex boundaries. A magnetometer survey was conducted across each of the lakes to provide ABB with the data necessary to guide further investigations.

1.2 Purpose

The purpose of this investigation was to help identify the location of 55-gallon drums, outboard motor parts, and other metallic objects that have been submerged in Lake Susannah which are located within the NTC complex in Orlando, Florida.

1.3 Scope of Work

The magnetometer survey was conducted in accordance with the specifications, requirements, and conditions in Section C - Scope of Services, as outlined in RFP NVDY94-028 dated June 17, 1994. Specifically, SDII implemented the following scope of work to perform this investigation:

- ▶ Mobilize to the project site and setup magnetometer and global positioning system (GPS) instrumentation;
- ▶ Conduct the field investigation per scope of work requirements;
- ▶ Demobilize from the project site and perform reduction and analysis of field data; and
- ▶ Provide a final report summarizing the geophysical methods, field procedures, and results of the investigation.

1.4 Site Description

The project site is located within the NTC Complex in Orlando, Florida (Figure 1). Lake Susannah is 73 acres in size, 60 of which are government owned with the remaining 13 acres privately owned by the 15 residences which surround the lake. Several docks, piers, and pump lines owned by the residences are present along the eastern shore of the lake. Two cage-type structures constructed of metallic fence material were present near the northern perimeter of the lake. The lake is round in shape with an undetermined maximum depth. Most of the lake's shoreline along the southern and northern perimeters is covered by thick aquatic vegetation and sloping grass banks.

2.0 METHODOLOGY

2.1 Equipment and Principles

2.1.1 Magnetometer

A magnetometer measures the intensity of the total magnetic field in the area around the sensor. Typically, the measurement is made using either a fluxgate or proton-precessional type magnetometer. The primary difference between the two magnetometers is that the measurement of the total magnetic field by a proton-precessional magnetometer is independent of the orientation of the instrument, while the measured value of the total magnetic field by a fluxgate magnetometer will vary with orientation.

In environmental and engineering applications, the primary use of a magnetometer is to evaluate perturbations in the magnetic field of the earth that are caused by subsurface anomalies. Perturbations in the total magnetic field caused by subsurface anomalies are the result of a complex relationship between the object and the magnetic field of the earth. The relationship is complex because the total field registered by the instrument is a vectorial representation of three factors which affect the magnitude of the response; (1) The ambient magnetic field of the earth, (2) The inductive contribution from the object, and (3) Any contributions to the total field by remanent or permanent magnetization. Accordingly, the observed intensity of the total field is dependant upon the position of the measuring device within the source field caused by the anomaly. The magnitude of the magnetic field of the earth is typically measured in gammas. The magnitude of the magnetic field in central Florida ranges from 45,000 to 50,000 gammas (Dobrin, 1988).

The total intensity of the earth's magnetic field varies both spatially and temporally. Temporal variations are caused by distortions of the magnetic field by solar winds. Temporal variations are classified as either daily (diurnal), micro-pulsations (seconds to tens of minutes), or as solar storms which can last several days. Diurnal variations occur during daylight hours. The absolute magnitude and time rate of change of the variations, however, are not predicable. Diurnal variations can cause changes in the earth's ambient magnetic field to 100 gammas. Micropulsations are typically a relatively short-term phenomenon and their occurrence is random. Typical magnitude of changes caused micropulsations is in the range of 0.1 to 10's of gammas. The occurrence and duration of solar storms is also relatively unpredictable. Such storms can last one to several days and exhibit magnetic field variations of up to several 100 gammas.

In environmental or engineering applications, temporal variations are considered as noise sources which interfere with the measurements of interest. Depending upon the precision requirements of a study, temporal variations can be recorded by a magnetometer at a fixed base station. Data collected with the survey magnetometer can then be corrected to remove the affects of temporal variations.

Spatial variations in the earth's magnetic field are caused by the localized occurrence of magnetized minerals, iron objects, or cultural features of interest. Such variations cause two types of magnetism; induced and remanent (or permanent). Induced magnetization refers to the action of the material in enhancing the earth's magnetic field as the material itself acts as a magnet. The magnitude of the induced field is directly proportional to the strength of

the ambient field and the ability of the material to act as a magnet (magnetic susceptibility). Remanent (with rocks) or permanent (with metals) magnetization is the magnetic field caused by the object or material independent of the ambient earth's magnetic field. The magnetic field variations caused by metal objects such as 55-gallon drums or outboard motor boat parts are a combination of both induced and permanent magnetization. A nomogram showing the estimated contribution to the total magnetic field for various objects as a function of depth is provided in Appendix 1.

A fluxgate magnetometer (EG&G Geometrics, Inc. Model G-856A) was used as the base station for this study. The G-856A has an effective sensitivity of 1 gamma. The G-856A was used with a digital data logger. A proton precessional magnetometer (EG&G Geometrics, Inc. G-822L Cesium Vapor Magnetometer) was used as the survey magnetometer and has an effective sensitivity of 0.01 gammas. The G-822L was equipped with an RS-232 port to directly download information to a portable computer.

2.1.2 Global Positioning System

A global positioning system (GPS) was used by SDII to determine the position of the survey magnetometer at the designated station locations on each of the lakes. The system used for the investigation was the GPS - Trimble 4000RS Reference Surveyor System. The principal components of the GPS are:

- ▶ Trimble SE Receiver-Base Station
- ▶ Trimble SE Receiver-Rover
- ▶ Pacific Crest RDDR-96 Radio Modem System
- ▶ Toshiba 3200 SX Computer with HYDRO software

The global positioning system (GPS) is a constellation of satellites maintained by the U.S. Department of Defense. It consists of 21 active satellites and 3 in-orbit spares. Due to ionospheric and tropospheric delays, and errors deliberately added by the Department of Defense, GPS can only be relied upon to be accurate within approximately 300 ft. However, if a GPS receiver is installed in a known, surveyed location, then the error inherent in the GPS position can be determined by comparing the calculated range to the satellite constellation, terrain, and GPS receiver. This correction can then be broadcast in real time to other GPS receivers, providing accuracy in the sub-meter range, depending upon the quality of the satellite constellation, terrain, and GPS receiver. The GPS receiver base station was placed upon a known survey marker (Orlando Air Force Base, Air Survey Marker, Camera Pad #2) prior to the SDII field investigation to allow for this correction to be made.

2.2 Field Procedures

2.2.1 Magnetometer Base Station

The magnetometer base station was established near the northwest boundary of Lake Baldwin. A EG&G 856-A fluxgate magnetometer was used. The base station magnetometer was established in the same location, same orientation (north) and at the same height at the beginning of each survey day. Readings were automatically collected on 5-minute intervals and digitally recorded. The beginning time for the base station readings was recorded in a field notebook to allow for a correlation between base station and survey magnetometer readings.

2.2.2 Survey Magnetometer

The survey magnetometer was held approximately 2 ft above the water surface by a boom extending 15 ft from the bow of the survey boat. A EG&G G-822L cesium vapor magnetometer was used. A diagram showing the equipment configuration is provided in Appendix 2. Prior to the final design of the boom, it was determined by SDII that magnetic readings would not be affected by the boat when they were collected at a minimum distance 8 ft away from the boat.

2.2.3 Global Positioning Base Station

A Trimble 4000 RS reference surveyor was used for the investigation. The base station GPS antenna was placed directly on top of survey marker (Camera Pad #2), located northwest of Lake Baldwin. The latitude/longitude coordinates of survey marker are 28°34' 27.02756 and 81°19'38.31754, respectively, and were obtained from Mr. Pat Gilligan (Air Force Geodetic Survey, Patrick Air Force Base).

2.2.4 Global Positioning Reference Station

The reference station GPS antenna was positioned 3 ft above the survey magnetometer using the boom-configuration shown in Appendix 2. Prior to the final design of the boom, it was determined that the GPS antenna could be within 1.5 ft of the survey magnetometer without an affect on magnetic survey readings. The close proximity of the magnetometer to the GPS antenna did not affect the precision of the GPS results.

2.2.5 GPS and Magnetometer Data

The GPS and survey magnetometer data was downloaded into the software program called HYDRO (Trimble Navigation, Inc.) This program was used for several purposes in the project. Prior to the beginning of the survey, navigation files were created to establish east/west trending transect lines across each of the lakes. During the survey, real time GPS data was downloaded to the HYDRO program and the relative position of the boat on the designated transect line was shown as computer graphic which was monitored by the boat pilot. At the same time, the program created a data base file containing total magnetic field readings and position information. Upon completion of the survey, these data files were downloaded to Lotus 1-2-3 Release 4.0 (LOTUS) for further editing and correction for diurnal variations. The magnetic data was contoured and the final editing of the map for presentation was performed using AutoCad Release 12.0 (AutoCad).

2.2.6 Field Set-Up

At the beginning of each of field day, GPS and magnetometer survey equipment was set-up. A diagram showing the configuration of the survey equipment used on the boat is provided in Appendix 2. A schematic showing the configuration of the entire survey system is provided in Appendix 3. At the beginning of each field day, starting times for both the base station magnetometer and survey magnetometer were recorded to allow for later temporal corrections of the survey data.

Parallel transects treading in an east/west direction and separated 25 ft apart were performed across each lake. Data was collected along each transect line on 25-foot intervals. During the survey, all magnetic field readings and position information were automatically downloaded to portable computer using the HYDRO software program. The relative position of the boat on the transect line was

shown on a continuous basis to the boat pilot on a real-time graphic created by the HYDRO software program. To minimize any potential heading effects, each transect was performed in the same direction.

2.2.7 Data Reduction

Data was reduced using HYDRO and LOTUS software programs. Magnetic field data, time and position coordinates were downloaded from HYDRO to LOTUS. In LOTUS, temporal corrections to the magnetic data were made and data files were created to make the contour maps.

Temporal corrections were made from base station readings which were collected on 5-minute intervals. All data was corrected to a base station value of 48,800 which was established on the first day of the survey. The correction factor for magnetic field data collected between each 5-minute interval was determined using a linear interpolation between the two base station readings. For example, if two sequential base station readings were 48,850 and 48,855, a correction factor of -51 gammas would be applied to data collected 1 minute after the first base station reading, -52 gammas for readings collected 2 minutes after, etc. Contouring of the data was done and final editing of the maps was performed using AutoCad. Survey results for each lake were presented as a 10-gamma contour of the magnetic data.

3.0 RESULTS

Results from the investigation indicate that ferromagnetic objects may be present in Lake Susannah. In several of the areas, however, the observed elevation in magnetic readings may be completely attributable to partially metallic structures in these areas. A regional geo-magnetic trend appears to be present across each of the lakes. The trend occurs with an east/west orientation and increases from south to north (Figure 2).

Magnetic data was corrected based on readings collected on 5-minute intervals at the base station. Review of the base station data indicates that the observed temporal changes were likely due to diurnal variations or micro-pulsations. The base station data did not appear to indicate that a solar storm, which would have caused an extreme irregular variation in base station values, had occurred. A sample graph showing the temporal variation in base station magnetometer readings collected on August 11, 1994 is provided in Appendix 4.

3.1 Lake Susannah

The results of the lacustrine magnetometer survey for Lake Susannah are presented in Figure 2. Total magnetic field values ranged from 48666 to 48887 gammas. Maximum and minimum values are provided in several areas to facilitate interpretation of the contour map. Three areas with a relative high-elevation in magnetic values are present within the surveyed area. Partially metallic structures are present within each of these areas. Accordingly, the elevated readings may be completely attributable to the presence of these structures.

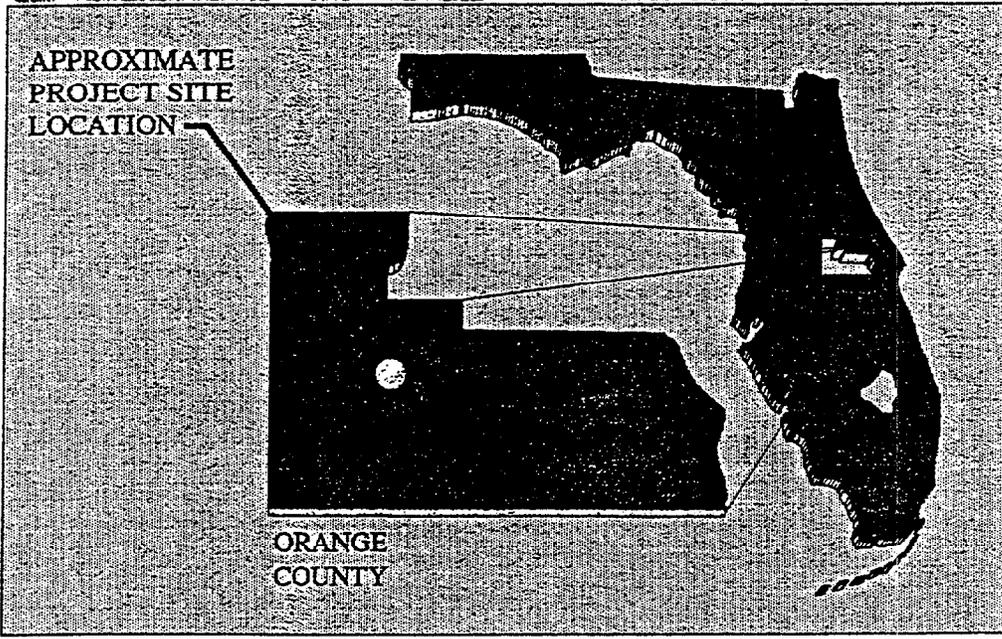
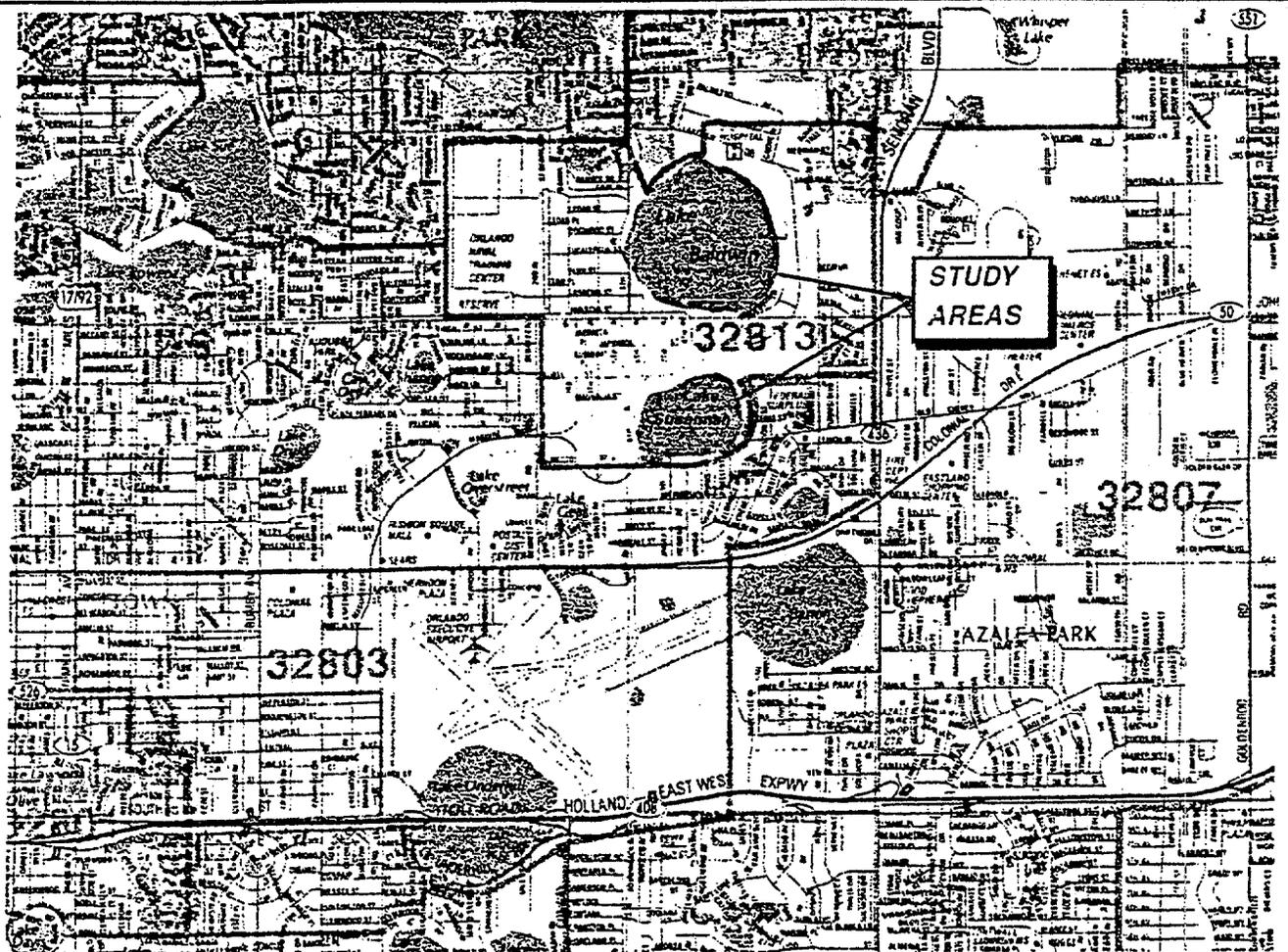
4.0 LIMITATIONS

The geophysical assessment of this site is based on our professional evaluation of the geophysical data gathered and our experience with the properties of magnetometry in the setting of the site area and in the operation of a global positioning system. The geophysical evaluation rendered in this reports meets the standards of care of our profession. No other warranty or representation, either expressed or implied, is included or intended.

REFERENCES

Dobrin, M. B. and Savit, C. H., 1988. Introduction to Geophysical Prospecting, Fourth Edition. MacGraw-Hill, Inc.

FIGURES



N
NOT TO SCALE

PROJECT SITE LOCATION MAP
LACUSTRINE MAGNETOMETER SURVEY SITE
NAVAL TRAINING CENTER COMPLEX
ORLANDO, FLORIDA

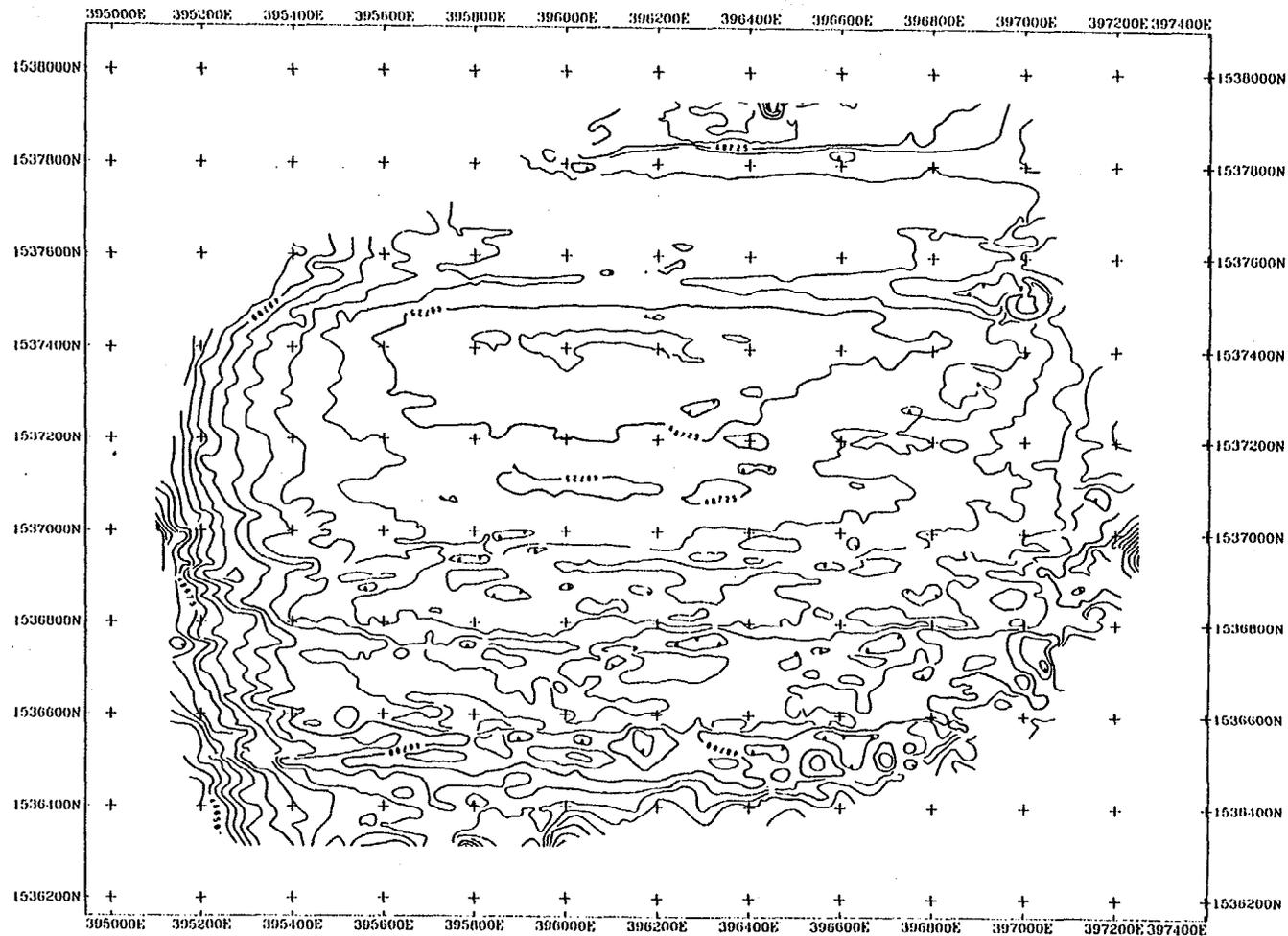
ABB ENVIRONMENTAL SERVICES, INC.
ORANGE PARK, FLORIDA



DESIGNED BY: JEB
CHECKED BY: MJW
DRAWN BY: RBT

PROJECT NO.: 94781
DRAWING NO.: LOC
DATE: 08/11/94

FIGURE
1



- NOTES:
1. Datum is NAD 27.
 2. Magnetic contours are in gammas.
 3. Contour interval is 5 gammas.



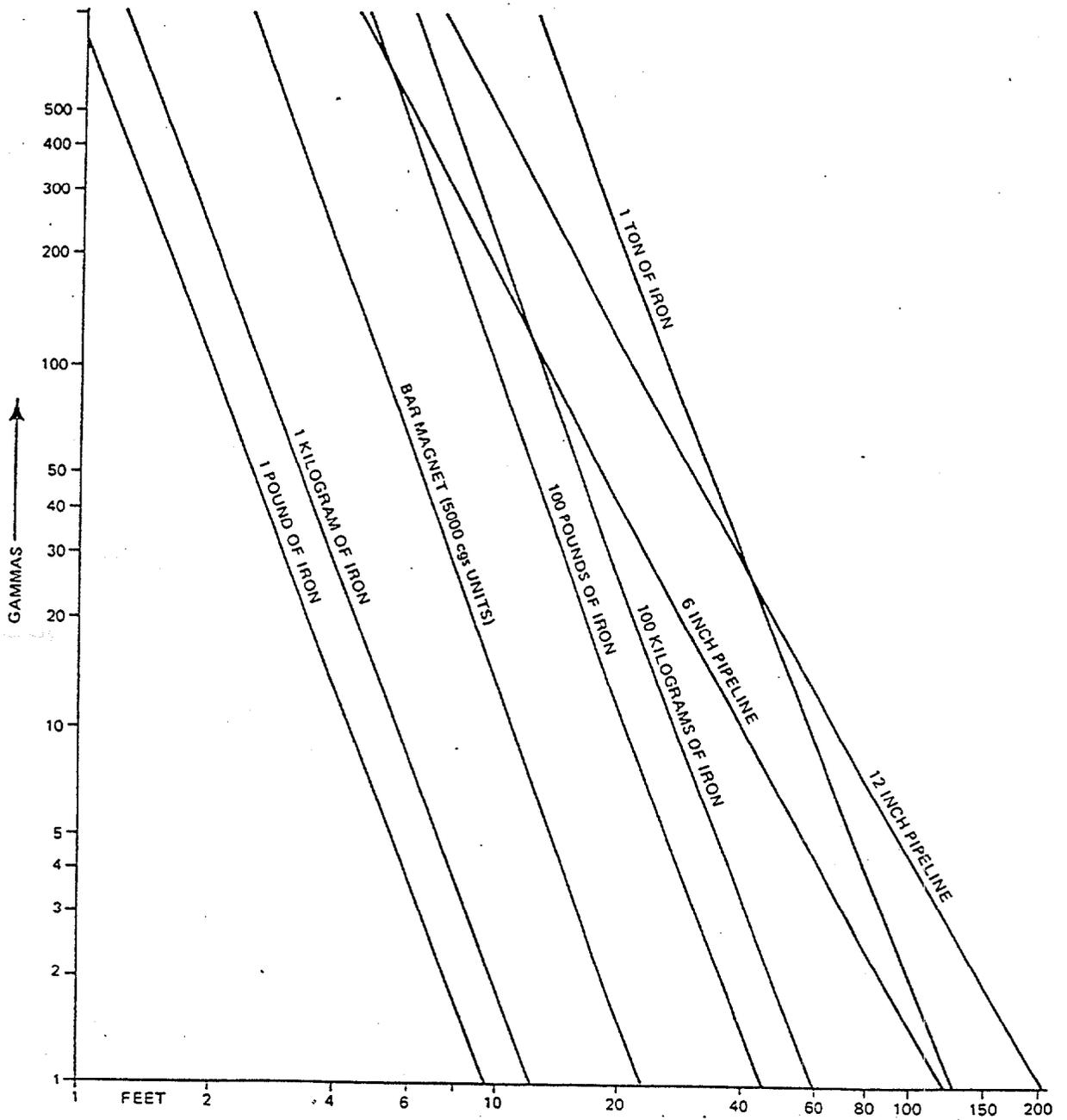
Scale 1:2400
 100 0 100 200 300 400 500 600
 (feet)

Figure 2

SOUTHERN DIVISION
 TOTAL MAGNETIC FIELD CONTOURS
 STUDY AREA 7 - LISIANSKAH
 GROUP 1 STU SAS

APPENDICES

Appendix 1



Nomogram for Estimating Anomalies from Typical Objects (assuming dipole moment $M = 5 \times 10^5$ cgs/ton, i.e., $k = 8$ cgs. Estimates valid only within order of magnitude)

Appendix 2

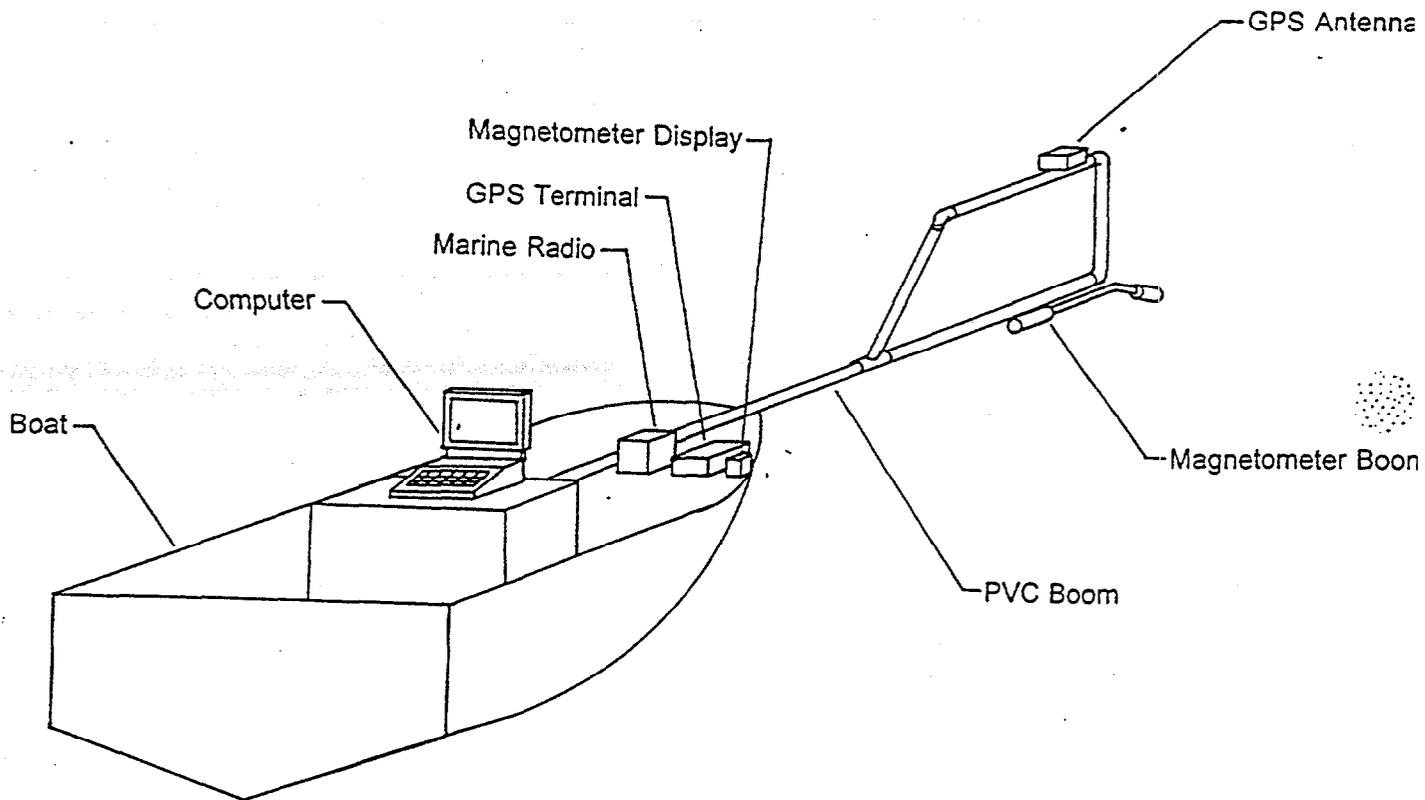
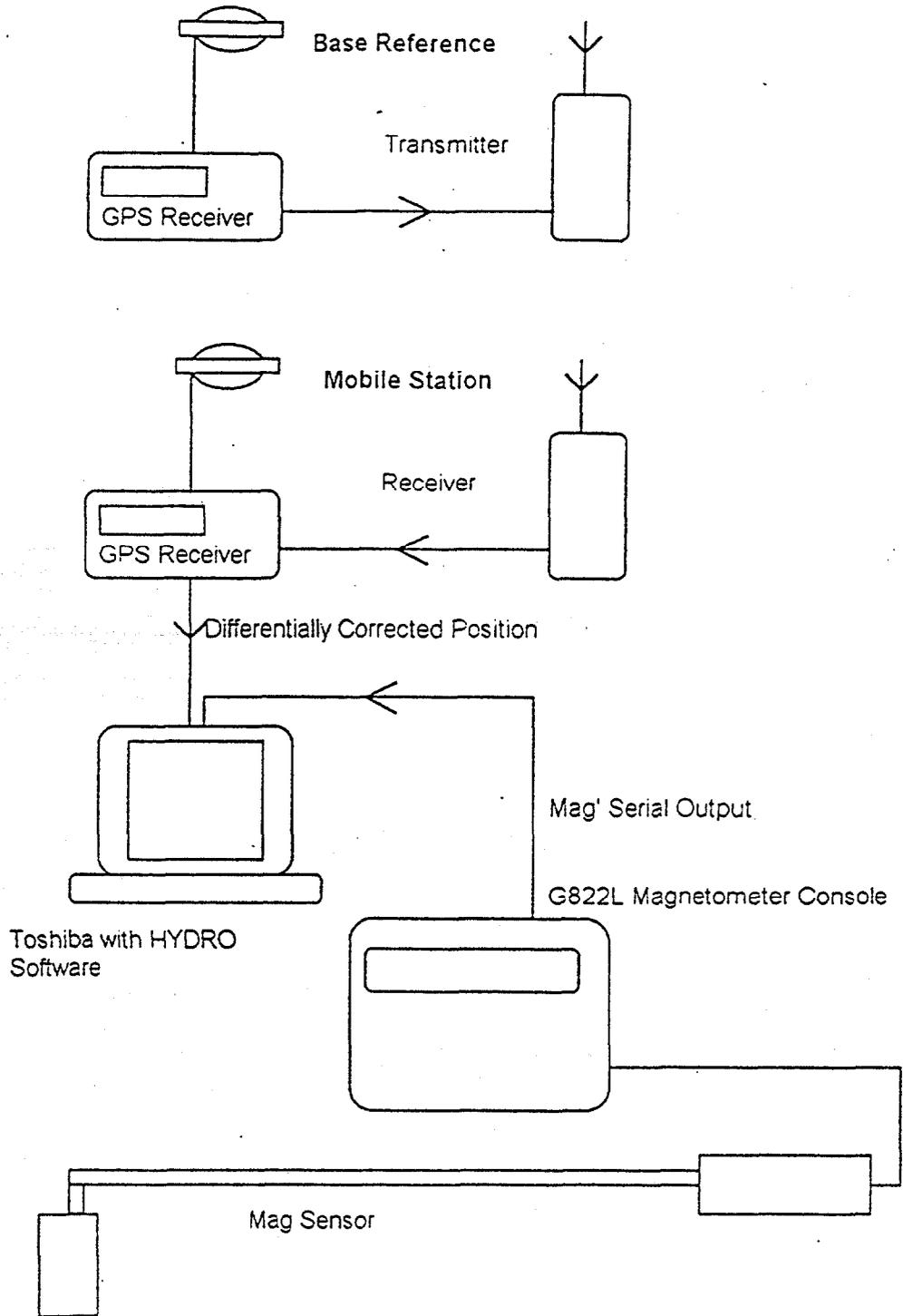


Diagram Showing Set-up of GPS and Magnetometry Equipment on Survey Boat

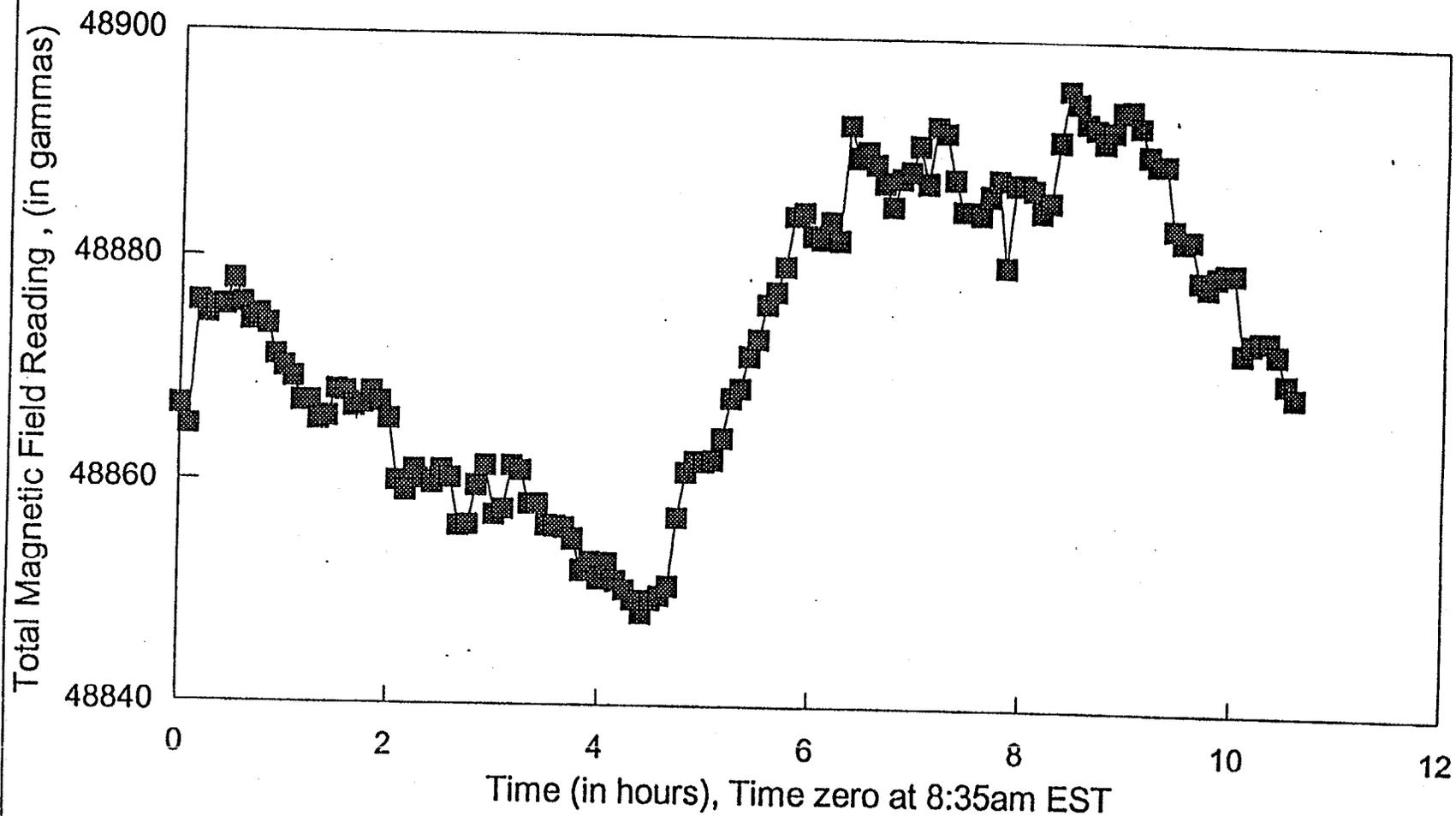
Appendix 3



Schematic Diagram Showing Lacustrine Magnetometer Survey Equipment Set-up

Diagram Showing Temporal Variation Drift Curve --NTC

(August 11, 1994)



■ Base Station Magnetometer Reading (in gammas)

APPENDIX B

**SUMMARY OF DETECTIONS IN SURFACE WATER AND SEDIMENT
ANALYTICAL RESULTS**

Table B-1
Summary of Detections in Sediment Analytical Results, Inorganics

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier: Sampling Date	Sediment Screening Value ¹	07D00101 07-Sep-94	07D00201 07-Sep-94	07D00301 07-Sep-94	07D00401 08-Sep-94	07D00501 08-Sep-94	07D00601 08-Sep-94	07D00701 12-Sep-94	07D00801 12-Sep-94
Aluminum	ND	1650	508	1090	3020	3470	2110	374	798
Arsenic	6 (1)	--	--	--	5.5 B	5.8 B	7.7 B	0.89 B	1 B
Barium	ND	8.4 B	5.2 B	8.9 B	51.9 B	38.7 B	30.6 B	2.8 B	5.3 B
Beryllium	ND	--	--	--	--	--	--	--	0.1 B
Calcium	ND	768 B	302 B	566 B	19600	10300	12700	70.1 B	195 B
Chromium	26 (1)	--	--	--	5.7 B	7.9 B	6.8 B	0.75 B	--
Copper	16 (1)	0.54 B	1.1 B	1.7 B	17.9 B	20.8 B	16.9 B	3.5 B	7 B
Iron	20,000 (1)	104	--	179	1270	1180	2150	98.6	216
Lead	30.2 (2)	1.7 J	1.5 J	2.9 J	18.7 J	17.9 J	24.5 J	9	22
Magnesium	ND	66.4 B	17.3 B	36.2 B	1250 B	552 B	488 B	19.2 B	49.3 B
Manganese	ND	0.91 B	0.94 B	1.9 B	61.3	23.3 B	65	0.36 B	0.87 B
Mercury	0.13 (2)	--	--	--	0.11 B	--	0.16 B	0.02 B	0.03 B
Nickel	15.9 (2)	--	--	--	15.4 B	--	--	--	3.7 B
Potassium	ND	--	99.1 B	--	--	--	--	--	92.6 B
Selenium	ND	0.6 B	--	--	6.2 B	7.2 B	--	--	--
Sodium	ND	--	--	--	247 B	298 B	48.3 B	8.8 B	13.4 B
Thallium	ND	--	--	--	--	--	--	0.85 B	--
Vanadium	ND	--	--	--	9.4 B	7.9 B	8.5 B	--	1.4 B
Zinc	120 (1)	--	--	--	48.1	60.6	36.3 B	3.7 B	22.9

See notes at end of table.

Table B-1 (Continued)
Summary of Detections in Sediment Analytical Results, Inorganics

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier: Sampling Date	Sediment Screening Value ¹	07D00901 12-Sep-94	07D01001 09-Sep-94	07D01101 12-Sep-94	07D01201 09-Sep-94	07D01201D 09-Sep-94	07D01301 09-Sep-94	07D01401 08-Sep-94	07D01501 09-Sep-94
Aluminum	ND	674	934	2890	6720	5580	3090	9670	20300
Arsenic	6 (1)	1.1 B	--	1.1 B	--	1.4 B	--	2.6 B	10.3 B
Barium	ND	4.8 B	9.1 B	39.3 B	65	52.8 B	25.5 B	61 B	121 B
Beryllium	ND	--	--	0.09 B	0.11 B	0.15 B	0.18 B	0.3 B	0.9 B
Calcium	ND	311 B	822 B	1020 B	1550	1960	732 B	1080 B	5050 B
Chromium	26 (1)	0.84 B	--	3.4	6.6	6.4	--	11.1	19.6
Cobalt	50 (1)	--	--	--	--	--	--	1.1 B	--
Copper	16 (1)	2.8 B	6.2 B	1.9 B	4.7 B	7.9 B	3.4 B	6.3 B	47.4
Cyanide	0.1 (1)	--	--	--	--	0.28 B	--	--	--
Iron	20,000 (1)	161	190	223	397	506	552	911	4460
Lead	30.2 (2)	6.2	8.5 J	6.5	10.8 J	17.2	5.2 J	8.1 J	49.9 J
Magnesium	ND	27.6 B	37.2 B	54.5 B	118 B	121 B	104 B	202 B	864 B
Manganese	460 (2)	0.75 B	1.5 B	1.7 B	2.5 B	3 B	2.2 B	3.9 B	17.1 B
Mercury	0.13 (2)	--	0.02 B	0.02 B	0.04 B	0.07 B	0.05 B	0.05 B	0.25 B
Nickel	15.9 (2)	--	--	--	3.6 B	--	--	7.4 B	18.7 B
Selenium	ND	--	--	--	0.61 B	1.1 B	--	1.5 B	5.2 B
Sodium	ND	11.1 B	--	14.6 B	5.2 B	--	--	31 B	83.2 B
Vanadium	ND	0.81 B	--	1.4 B	--	3.1 B	--	8.5 B	12 B
Zinc	120 (1)	5.5 B	34.6	4.1 B	13.7	22.4	30.2	7.1	84.3

See notes at end of table

Table B-1 (Continued)
Summary of Detections in Sediment Analytical Results, Inorganics

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

¹Sediment Screening Value is the lowest of (1) Ontario sediment quality guidelines (Persaud et al., 1992) and (2) Florida Department of Environmental Protection Sediment Quality Assessment Guidelines (MacDonald, 1994).

Notes: BRAC = Base Realignment and Closure.

ND = not determined.

-- = analyte/compound was not detected at the reporting limit.

B = reported concentration is between the instrument detection limit and the contract required detection limit.

J = reported concentration is an estimated quantity.

 = bolded/shaded numbers indicate exceedance of Sediment Screening Value.

Analytical results expressed in micrograms per kilogram for organics and milligrams per kilogram for inorganics (sediment, dry weight).
Results have not been subjected to full independent data validation.

Table B-2
Summary of Detections in Sediment Analytical Results, Organics

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier:	Sediment Screening Value ¹	07D00101	07D00201	07D00301	07D00401	07D00501	07D00601	07D00701	07D00801
Sampling Date		07-Sep-94	07-Sep-94	07-Sep-94	08-Sep-94	08-Sep-94	08-Sep-94	12-Sep-94	12-Sep-94
Volatile Organic Compounds (µg/kg)									
Acetone	ND	--	--	--	360J	230J	590J	--	--
2-Butanone	ND	--	--	--	--	41J	110J	--	--
Semivolatile Organic Compounds (µg/kg)									
Benzo(a)anthracene	74.8 (2)	--	--	--	--	--	--	--	150 J
Benzo(a)pyrene	88.8 (2)	--	--	--	--	--	--	--	210 J
Benzo(b)fluoranthene	655 (1)	--	--	--	--	--	--	--	220 J
Benzo(g,h,i)perylene	655 (1)	--	--	--	--	--	--	--	210 J
Benzo(k)fluoranthene	655 (1)	--	--	--	--	--	--	--	280 J
bis(2-Ethylhexyl)phthalate	182 (2)	--	--	--	--	--	--	--	590 J
Butylbenzylphthalate	ND	--	--	--	--	--	--	--	250 J
Chrysene	108 (2)	--	--	--	--	--	--	--	280 J
Di-n-butylphthalate	ND	560	780	700	3,400	3,300	9,200	560	520
Fluoranthene	113 (2)	--	--	--	--	--	--	--	360 J
Indeno(1,2,3-cd)pyrene	655 (1)	--	--	--	--	--	--	--	180 J
4-Methylphenol	ND	--	--	250 J	--	--	--	--	--
Pyrene	153 (2)	--	--	--	--	--	--	--	300 J
Pesticides/PCBs									
4,4'-DDD	1.22 (2)	--	--	--	--	--	--	--	5.3 J
4,4'-DDE	2.07 (2)	--	--	--	--	--	16 J	1.7 J	5.3 J
4,4'-DDT	1.19 (2)	--	--	--	--	18 J	--	--	--
alpha-Chlordane	1.7 (1)	--	--	--	--	--	--	--	3.2 J
gamma-Chlordane	1.7 (1)	--	--	--	--	--	--	--	4.1 J
See notes at end of table.									

Table B-2 (Continued)
Summary of Detections in Sediment Analytical Results, Organics

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier:	Sediment Screening Value ¹	07D00901	07D01001	07D01101	07D01201	07D01201D	07D01301	07D01401	07D01501
Sampling Date		12-Sep-94	09-Sep-94	12-Sep-94	09-Sep-94	09-Sep-94	09-Sep-94	08-Sep-94	09-Sep-94
<u>Volatile Organic Compounds (µg/kg)</u>									
Acetone	ND	--	--	--	--	--	--	--	2100
2-Butanone	ND	--	--	--	--	--	55	14 J	370
<u>Semivolatile Organic Compounds (µg/kg)</u>									
bis(2-Ethylhexyl)-phthalate	182 (2)	--	--	--	3200	850 J	--	--	--
Di-n-butylphthalate	ND	620	740	610	610	--	980	910	6800
Di-n-octylphthalate	ND	--	--	--	--	7,000	--	--	--
<u>Pesticides/PCBs (µg/kg)</u>									
4,4'-DDD	1.22 (2)	--	5.2	--	5.4	4.6	--	--	--
4,4'-DDE	2.07 (2)	2.3 J	5.5	2.9 J	6.5	7.2	3.7 J	3.1 J	2.5
alpha-Chlordane	1.7 (1)	--	1.7 J	--	1 J	--	--	--	--
gamma-Chlordane	1.7 (1)	--	2.1 J	--	1.7 J	--	--	--	--

¹ Sediment Screening Value is the lowest of: (1) Region IV sediment quality guidelines (U.S. Environmental Protection Agency, 1994), (2) Florida Department of Environmental Protection Sediment Quality Assessment Guidelines (MacDonald, 1994).

Notes: BRAC = Base Realignment and Closure.

µg/kg = micrograms per kilogram.

ND = not determined.

-- = analyte/compound was not detected at the reporting limit.

J = reported concentration is an estimated quantity.

PCB = polychlorinated biphenyl.

DDD = dichlorodiphenyldichloroethane.

DDE = dichlorodiphenyldichloroethene.

DDT = dichlorodiphenyltrichloroethane.

[shaded] = bolded/shaded numbers indicate exceedance of Sediment Screening Value.

Analytical results expressed in micrograms per kilogram for organics and milligrams per kilogram for inorganics (sediment, dry weight).
Results have not been subjected to full independent data validation.

**Table B-3
Summary of Positive Detections in Surface Water Analytical Results**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier: Sampling Date	Surface Water Screening Value ¹	07W00201 21-Sep-94	07W00301 21-Sep-94	07W00401 21-Sep-94	07W00501 21-Sep-94
<u>Inorganic Analytes</u>					
Aluminum	87 (2)	39.6 B	31.2 B	67.7 B	63.2 B
Arsenic	50 (1)	2 B	2.3 B	-	-
Barium	ND	15.7 B	13.5 B	16.8 B	30.9 B
Calcium	ND	12,000	13,000	12,400	12,100
Cobalt	ND	4.6 B	-	4.6 B	-
Copper (H)	5.4 (1,2,3)	-	2.5 B	12.5 B	5.3 B
Iron	1,000 (1,2)	15.4 B	22.6 B	40.4 B	29.4 B
Lead (H)	1.0 (1,2,3)	1.1 B	1.2 B	1.4 B	-
Magnesium	ND	1,550 B	1,590 B	1,580 B	1,560 B
Manganese	ND	2.4 B	3.7 B	4.4 B	3.7 B
Potassium	ND	1,910 B	1,870 B	1,970 B	1,840 B
Sodium	ND	7,200	7,220	7,210	7,180
Zinc (H)	49 (1,2,3)	2.2 B	4.4 B	9.2 B	2 B
<u>Semivolatile Organic Compounds</u>					
Phenol	256 (3)	1 J	-	-	-

¹ Screening value is the lowest of (1) Florida Department of Environmental Protection Class III Surface Water Standards, (2) U.S. Environmental Protection Agency Chronic Ambient Water Quality Criteria, and (3) Region IV Chronic Freshwater Quality Screening Value.

Notes: BRAC = Base Realignment and Closure.

B = reported concentration is between the instrument detection limit and the contract-required detection limit.

- = analyte/compound was not detected at the reporting limit.

ND = not determined.

(H) = hardness; screening value for this chemical is dependant upon water hardness. A hardness of 40 milligrams per liter calcium carbonate was used based on water hardness measured at SA7.

J = reported concentration is an estimated quantity.

■ = bolded/shaded numbers indicate exceedance of surface water screening value.

Analytical results expressed in micrograms per liter.

Results have not been subjected to full independent data validation.

APPENDIX C

SUMMARY OF ANALYTICAL RESULTS

**Table C-1
Summary of Sediment Analytical Results
Target Compound List Volatile Organics
Study Area 7**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	07D00101 Sampling Date 07-Sep-94	07D00201 07-Sep-94	07D00301 07-Sep-94	07D00401 08-Sep-94	07D00401RE 08-Sep-94	07D00501 08-Sep-94
1,1,1-Trichloroethane	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
1,1,2,2-Tetrachloroethane	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
1,1,2-Trichloroethane	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
1,1-Dichloroethane	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
1,1-Dichloroethene	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
1,2-Dichloroethane	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
1,2-Dichloroethene (total)	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
1,2-Dichloropropane	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
2-Butanone	13 U	14 U	14 U	83 UJ	83 UR	41 J
2-Hexanone	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
4-Methyl-2-pentanone	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Acetone	13 U	23 UJ	31 UJ	360 J	83 UR	230 J
Benzene	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Bromodichloromethane	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Bromoform	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Bromomethane	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Carbon disulfide	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Carbon tetrachloride	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Chlorobenzene	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Chloroethane	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Chloroform	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Chloromethane	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
cis-1,3-Dichloropropene	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Dibromochloromethane	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Ethylbenzene	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Methylene chloride	16 U	8 U	18 U	83 UJ	83 UR	16 UJ
Styrene	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Tetrachloroethene	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Toluene	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
trans-1,3-Dichloropropene	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Trichloroethene	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Vinyl chloride	13 U	14 U	14 U	83 UJ	83 UR	59 UJ
Xylene (total)	13 U	14 U	14 U	83 UJ	83 UR	59 UJ

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
J = Reported concentration is an estimated quantity.
R = Data rejected during data validation.

Table C-1 (Continued)
Summary of Sediment Analytical Results
Target Compound List Volatile Organics
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D00501RE Sampling Date 08-Sep-94	07D00601 08-Sep-94	07D00601RE 08-Sep-94	07D00701 12-Sep-94	07D00801 12-Sep-94	07D00901 12-Sep-94
1,1,1-Trichloroethane	59 UR	110 UJ	110 UR	14 U	15 U	14 U
1,1,2,2-Tetrachloroethane	59 UR	110 UJ	110 UR	14 U	15 U	14 U
1,1,2-Trichloroethane	59 UR	110 UJ	110 UR	14 U	15 U	14 U
1,1-Dichloroethane	59 UR	110 UJ	110 UR	14 U	15 U	14 U
1,1-Dichloroethene	59 UR	110 UJ	110 UR	14 U	15 U	14 U
1,2-Dichloroethane	59 UR	110 UJ	110 UR	14 U	15 U	14 U
1,2-Dichloroethene (total)	59 UR	110 UJ	110 UR	14 U	15 U	14 U
1,2-Dichloropropane	59 UR	110 UJ	110 UR	14 U	15 U	14 U
2-Butanone	59 UR	110 J	190 UR	14 U	15 U	14 U
2-Hexanone	59 UR	110 UJ	110 UR	14 U	15 U	14 U
4-Methyl-2-pentanone	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Acetone	390 UR	590 J	920 UR	9 UJ	15 U	14 U
Benzene	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Bromodichloromethane	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Bromoform	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Bromomethane	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Carbon disulfide	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Carbon tetrachloride	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Chlorobenzene	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Chloroethane	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Chloroform	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Chloromethane	59 UR	110 UJ	110 UR	14 U	15 U	14 U
cis-1,3-Dichloropropene	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Dibromochloromethane	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Ethylbenzene	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Methylene chloride	59 UR	26 UJ	110 UR	14 U	15 U	14 U
Styrene	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Tetrachloroethene	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Toluene	59 UR	110 UJ	110 UR	14 U	15 U	14 U
trans-1,3-Dichloropropene	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Trichloroethene	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Vinyl chloride	59 UR	110 UJ	110 UR	14 U	15 U	14 U
Xylene (total)	59 UR	110 UJ	110 UR	14 U	15 U	14 U

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
 Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
 J = Reported concentration is an estimated quantity.
 R = Data rejected during data validation

Table C-1 (Continued)
Summary of Sediment Analytical Results
Target Compound List Volatile Organics
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D01001	07D01101	07D01201	07D01201D
Sampling Date	09-Sep-94	12-Sep-94	09-Sep-94	09-Sep-94
1,1,1-Trichloroethane	14 U	14 U	17 U	17 U
1,1,2,2-Tetrachloroethane	14 U	14 U	17 U	17 U
1,1,2-Trichloroethane	14 U	14 U	17 U	17 U
1,1-Dichloroethane	14 U	14 U	17 U	17 U
1,1-Dichloroethene	14 U	14 U	17 U	17 U
1,2-Dichloroethane	14 U	14 U	17 U	17 U
1,2-Dichloroethene (total)	14 U	14 U	17 U	17 U
1,2-Dichloropropane	14 U	14 U	17 U	17 U
2-Butanone	14 U	14 U	17 U	17 U
2-Hexanone	14 U	14 U	17 U	17 U
4-Methyl-2-pentanone	14 U	14 U	17 U	17 U
Acetone	14 U	14 U	17 U	17 U
Benzene	14 U	14 U	17 U	17 U
Bromodichloromethane	14 U	14 U	17 U	17 U
Bromoform	14 U	14 U	17 U	17 U
Bromomethane	14 U	14 U	17 U	17 U
Carbon disulfide	14 U	14 U	17 U	17 U
Carbon tetrachloride	14 U	14 U	17 U	17 U
Chlorobenzene	14 U	14 U	17 U	17 U
Chloroethane	14 U	14 U	17 U	17 U
Chloroform	14 U	14 U	17 U	17 U
Chloromethane	14 U	14 U	17 U	17 U
cis-1,3-Dichloropropene	14 U	14 U	17 U	17 U
Dibromochloromethane	14 U	14 U	17 U	17 U
Ethylbenzene	14 U	14 U	17 U	17 U
Methylene chloride	14 U	14 U	17 U	17 U
Styrene	14 U	14 U	17 U	17 U
Tetrachloroethene	14 U	14 U	17 U	17 U
Toluene	14 U	14 U	17 U	17 U
trans-1,3-Dichloropropene	14 U	14 U	17 U	17 U
Trichloroethene	14 U	14 U	17 U	17 U
Vinyl chloride	14 U	14 U	17 U	17 U
Xylene (total)	14 U	14 U	17 U	17 U

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
 Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
 J = Reported concentration is an estimated quantity.

**Table C-1 (Continued)
Summary of Sediment Analytical Results
Target Compound List Volatile Organics
Study Area 7**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	07D01301 Sampling Date 09-Sep-94	07D01401 08-Sep-94	07D01401RE 08-Sep-94	07D01501 09-Sep-94
1,1,1-Trichloroethane	21 U	17 UJ	17 UR	170 U
1,1,2,2-Tetrachloroethane	21 U	17 UJ	17 UR	170 U
1,1,2-Trichloroethane	21 U	17 UJ	17 UR	170 U
1,1-Dichloroethane	21 U	17 UJ	17 UR	170 U
1,1-Dichloroethene	21 U	17 UJ	17 UR	170 U
1,2-Dichloroethane	21 U	17 UJ	17 UR	170 U
1,2-Dichloroethene (total)	21 U	17 UJ	17 UR	170 U
1,2-Dichloropropane	21 U	17 UJ	17 UR	170 U
2-Butanone	55	14 J	17 UR	370
2-Hexanone	21 U	17 UJ	17 UR	170 U
4-Methyl-2-pentanone	21 U	17 UJ	17 UR	170 U
Acetone	280 UJ	67 J	49 UR	2100
Benzene	21 U	17 UJ	17 UR	170 U
Bromodichloromethane	21 U	17 UJ	17 UR	170 U
Bromoform	21 U	17 UJ	17 UR	170 U
Bromomethane	21 U	17 UJ	17 UR	170 U
Carbon disulfide	21 U	17 UJ	17 UR	170 U
Carbon tetrachloride	21 U	17 UJ	17 UR	170 U
Chlorobenzene	21 U	17 UJ	17 UR	170 U
Chloroethane	21 U	17 UJ	17 UR	170 U
Chloroform	21 U	17 UJ	17 UR	170 U
Chloromethane	21 U	17 UJ	17 UR	170 U
cis-1,3-Dichloropropene	21 U	17 UJ	17 UR	170 U
Dibromochloromethane	21 U	17 UJ	17 UR	170 U
Ethylbenzene	21 U	17 UJ	17 UR	170 U
Methylene chloride	21 U	17 UJ	17 UR	170 U
Styrene	21 U	17 UJ	17 UR	170 U
Tetrachloroethene	21 U	17 UJ	17 UR	170 U
Toluene	21 U	17 UJ	17 UR	170 U
trans-1,3-Dichloropropene	21 U	17 UJ	17 UR	170 U
Trichloroethene	21 U	17 UJ	17 UR	170 U
Vinyl chloride	21 U	17 UJ	17 UR	170 U
Xylene (total)	21 U	17 UJ	17 UR	170 U

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
J = Reported concentration is an estimated quantity.
R = Data rejected during data validation

Table C-2
Summary of Sediment Analytical Results
Target Compound List Semivolatile Organics
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D00101	07D00201	07D00301	07D00401	07D00501	07D00601
Sampling Date	07-Sep-94	07-Sep-94	07-Sep-94	08-Sep-94	08-Sep-94	08-Sep-94
1,2,4-Trichlorobenzene	420 U	420 U	430 U	3000 U	2000 U	3000 U
1,2-Dichlorobenzene	420 U	420 U	430 U	3000 U	2000 U	3000 U
1,3-Dichlorobenzene	420 U	420 U	430 U	3000 U	2000 U	3000 U
1,4-Dichlorobenzene	420 U	420 U	430 U	3000 U	2000 U	3000 U
2,2'-oxybis(1-Chloropropane)	420 U	420 U	430 U	3000 U	2000 U	3000 U
2,4,5-Trichlorophenol	1000 U	1000 U	1100 U	7600 U	4900 U	7600 U
2,4,6-Trichlorophenol	420 U	420 U	430 U	3000 U	2000 U	3000 U
2,4-Dichlorophenol	420 U	420 U	430 U	3000 U	2000 U	3000 U
2,4-Dimethylphenol	420 U	420 U	430 U	3000 U	2000 U	3000 U
2,4-Dinitrophenol	1000 U	1000 U	1100 U	7600 U	4900 U	7600 U
2,4-Dinitrotoluene	420 U	420 U	430 U	3000 U	2000 U	3000 U
2,6-Dinitrotoluene	420 U	420 U	430 U	3000 U	2000 U	3000 U
2-Chloronaphthalene	420 U	420 U	430 U	3000 U	2000 U	3000 U
2-Chlorophenol	420 U	420 U	430 U	3000 U	2000 U	3000 U
2-Methylnaphthalene	420 U	420 U	430 U	3000 U	2000 U	3000 U
2-Methylphenol	420 U	420 U	430 U	3000 U	2000 U	3000 U
2-Nitroaniline	1000 U	1000 U	1100 U	7600 U	4900 U	7600 U
2-Nitrophenol	420 U	420 U	430 U	3000 U	2000 U	3000 U
3,3'-Dichlorobenzidine	420 U	420 U	430 U	3000 U	2000 U	3000 U
3-Nitroaniline	1000 U	1000 U	1100 U	7600 U	4900 U	7600 U
4,6-Dinitro-2-methylphenol	1000 U	1000 U	1100 U	7600 U	4900 U	7600 U
4-Bromophenyl-phenylether	420 U	420 U	430 U	3000 U	2000 U	3000 U
4-Chloro-3-methylphenol	420 U	420 U	430 U	3000 U	2000 U	3000 U
4-Chloroaniline	420 U	420 U	430 U	3000 U	2000 U	3000 U
4-Chlorophenyl-phenylether	420 U	420 U	430 U	3000 U	2000 U	3000 U
4-Methylphenol	420 U	420 U	250 J	3000 U	2000 U	3000 U
4-Nitroaniline	1000 U	1000 U	1100 U	7600 U	4900 U	7600 U
4-Nitrophenol	1000 U	1000 U	1100 U	7600 U	4900 U	7600 U
Acenaphthene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Acenaphthylene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Anthracene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Benzo(a)anthracene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Benzo(a)pyrene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Benzo(b)fluoranthene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Benzo(g,h,i)perylene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Benzo(k)fluoranthene	420 U	420 U	430 U	3000 U	2000 U	3000 U

See notes at end of table.

Table C-2 (Continued)
Summary of Sediment Analytical Results
Target Compound List Semivolatile Organics
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D00101	07D00201	07D00301	07D00401	07D00501	07D00601
Sampling Date	07-Sep-94	07-Sep-94	07-Sep-94	08-Sep-94	08-Sep-94	08-Sep-94
bis(2-Chloroethoxy)methane	420 U	420 U	430 U	3000 U	2000 U	3000 U
bis(2-Chloroethyl)ether	420 U	420 U	430 U	3000 U	2000 U	3000 U
bis(2-Ethylhexyl)phthalate	420 U	420 U	430 U	3000 U	2000 U	3000 U
Butylbenzylphthalate	420 U	420 U	430 U	3000 U	2000 U	3000 U
Carbazole	420 U	420 U	430 U	3000 U	2000 U	3000 U
Chrysene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Di-n-butylphthalate	560	780	700	3400	3300	9200
Di-n-octylphthalate	420 U	420 U	430 U	3000 U	2000 U	3000 U
Dibenz(a,h)anthracene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Dibenzofuran	420 U	420 U	430 U	3000 U	2000 U	3000 U
Diethylphthalate	420 U	420 U	430 U	3000 U	2000 U	3000 U
Dimethylphthalate	420 U	420 U	430 U	3000 U	2000 U	3000 U
Fluoranthene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Fluorene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Hexachlorobenzene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Hexachlorobutadiene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Hexachlorocyclopentadiene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Hexachloroethane	420 U	420 U	430 U	3000 U	2000 U	3000 U
Indeno(1,2,3-cd)pyrene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Isophorone	420 U	420 U	430 U	3000 U	2000 U	3000 U
N-Nitroso-di-n-propylamine	420 U	420 U	430 U	3000 U	2000 U	3000 U
N-Nitrosodiphenylamine ¹	420 U	420 U	430 U	3000 U	2000 U	3000 U
Naphthalene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Nitrobenzene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Pentachlorophenol	1000 U	1000 U	1100 U	7600 U	4900 U	7600 U
Phenanthrene	420 U	420 U	430 U	3000 U	2000 U	3000 U
Phenol	420 U	420 U	430 U	3000 U	2000 U	3000 U
Pyrene	420 U	420 U	430 U	3000 U	2000 U	3000 U

¹ Cannot be separated from diphenylamine

Notes: Analytical results expressed in micrograms per liter ($\mu\text{g}/\text{L}$).
 Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).

J = Reported concentration is an estimated quantity.

Table C-2 (Continued)
Summary of Sediment Analytical Results
Target Compound List Semivolatile Organics
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D00701	07D00801	07D00901	07D01001	07D01101
Sampling Date	12-Sep-94	12-Sep-94	12-Sep-94	09-Sep-94	12-Sep-94
1,2,4-Trichlorobenzene	430 U	470 U	430 U	440 U	430 U
1,2-Dichlorobenzene	430 U	470 U	430 U	440 U	430 U
1,3-Dichlorobenzene	430 U	470 U	430 U	440 U	430 U
1,4-Dichlorobenzene	430 U	470 U	430 U	440 U	430 U
2,2'-oxybis(1-Chloropropane)	430 U	470 U	430 U	440 U	430 U
2,4,5-Trichlorophenol	1100 U	1200 U	1100 U	1100 U	1100 U
2,4,6-Trichlorophenol	430 U	470 U	430 U	440 U	430 U
2,4-Dichlorophenol	430 U	470 U	430 U	440 U	430 U
2,4-Dimethylphenol	430 U	470 U	430 U	440 U	430 U
2,4-Dinitrophenol	1100 U	1200 U	1100 U	1100 U	1100 U
2,4-Dinitrotoluene	430 U	470 U	430 U	440 U	430 U
2,6-Dinitrotoluene	430 U	470 U	430 U	440 U	430 U
2-Chloronaphthalene	430 U	470 U	430 U	440 U	430 U
2-Chlorophenol	430 U	470 U	430 U	440 U	430 U
2-Methylnaphthalene	430 U	470 U	430 U	440 U	430 U
2-Methylphenol	430 U	470 U	430 U	440 U	430 U
2-Nitroaniline	1100 U	1200 U	1100 U	1100 U	1100 U
2-Nitrophenol	430 U	470 U	430 U	440 U	430 U
3,3'-Dichlorobenzidine	430 U	470 U	430 U	440 U	430 U
3-Nitroaniline	1100 U	1200 U	1100 U	1100 U	1100 U
4,6-Dinitro-2-methylphenol	1100 U	1200 U	1100 U	1100 U	1100 U
4-Bromophenyl-phenylether	430 U	470 U	430 U	440 U	430 U
4-Chloro-3-methylphenol	430 U	470 U	430 U	440 U	430 U
4-Chloroaniline	430 U	470 U	430 U	440 U	430 U
4-Chlorophenyl-phenylether	430 U	470 U	430 U	440 U	430 U
4-Methylphenol	430 U	470 U	430 U	440 U	430 U
4-Nitroaniline	1100 U	1200 U	1100 U	1100 U	1100 U
4-Nitrophenol	1100 U	1200 U	1100 U	1100 U	1100 U
Acenaphthene	430 U	470 U	430 U	440 U	430 U
Acenaphthylene	430 U	470 U	430 U	440 U	430 U
Anthracene	430 U	470 U	430 U	440 U	430 U
Benzo(a)anthracene	430 U	150 J	430 U	440 U	430 U
Benzo(a)pyrene	430 U	210 J	430 U	440 U	430 U
Benzo(b)fluoranthene	430 U	220 J	430 U	440 U	430 U
Benzo(g,h,i)perylene	430 U	210 J	430 U	440 U	430 U
Benzo(k)fluoranthene	430 U	280 J	430 U	440 U	430 U

See notes at end of table.

Table C-2 (Continued)
Summary of Sediment Analytical Results
Target Compound List Semivolatile Organics (Continued)
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D00701	07D00801	07D00901	07D01001	07D01101
Sampling Date	12-Sep-94	12-Sep-94	12-Sep-94	09-Sep-94	12-Sep-94
bis(2-Chloroethoxy)methane	430 U	470 U	430 U	440 U	430 U
bis(2-Chloroethyl)ether	430 U	470 U	430 U	440 U	430 U
bis(2-Ethylhexyl)phthalate	430 U	590	430 U	440 U	430 U
Butylbenzylphthalate	430 U	250 J	430 U	440 U	430 U
Carbazole	430 U	470 U	430 U	440 U	430 U
Chrysene	430 U	280 J	430 U	440 U	430 U
Di-n-butylphthalate	560	520	620	740	610
Di-n-octylphthalate	430 U	470 U	430 U	440 U	430 U
Dibenz(a,h)anthracene	430 U	470 U	430 U	440 U	430 U
Dibenzofuran	430 U	470 U	430 U	440 U	430 U
Diethylphthalate	430 U	470 U	430 U	440 U	430 U
Dimethylphthalate	430 U	470 U	430 U	440 U	430 U
Fluoranthene	430 U	360 J	430 U	440 U	430 U
Fluorene	430 U	470 U	430 U	440 U	430 U
Hexachlorobenzene	430 U	470 U	430 U	440 U	430 U
Hexachlorobutadiene	430 U	470 U	430 U	440 U	430 U
Hexachlorocyclopentadiene	430 U	470 U	430 U	440 U	430 U
Hexachloroethane	430 U	470 U	430 U	440 U	430 U
Indeno(1,2,3-cd)pyrene	430 U	180 J	430 U	440 U	430 U
Isophorone	430 U	470 U	430 U	440 U	430 U
N-Nitroso-di-n-propylamine	430 U	470 U	430 U	440 U	430 U
N-Nitrosodiphenylamine ¹	430 U	470 U	430 U	440 U	430 U
Naphthalene	430 U	470 U	430 U	440 U	430 U
Nitrobenzene	430 U	470 U	430 U	440 U	430 U
Pentachlorophenol	1100 U	1200 U	1100 U	1100 U	1100 U
Phenanthrene	430 U	470 U	430 U	440 U	430 U
Phenol	430 U	470 U	430 U	440 U	430 U
Pyrene	430 U	300 J	430 U	440 U	430 U

¹ Cannot be separated from diphenylamine

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
 Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
 J = Reported concentration is an estimated quantity.

Table C-2 (Continued)
Summary of Sediment Analytical Results
Target Compound List Semivolatile Organics
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D01201D	07D01301	07D01401	07D01501
	Sampling Date 09-Sep-94	09-Sep-94	08-Sep-94	09-Sep-94
1,2,4-Trichlorobenzene	2300 U	640 U	550 U	2800 U
1,2-Dichlorobenzene	2300 U	640 U	550 U	2800 U
1,3-Dichlorobenzene	2300 U	640 U	550 U	2800 U
1,4-Dichlorobenzene	2300 U	640 U	550 U	2800 U
2,2'-oxybis(1-Chloropropane)	2300 U	640 U	550 U	2800 U
2,4,5-Trichlorophenol	5900 U	1600 U	1400 U	6900 U
2,4,6-Trichlorophenol	2300 U	640 U	550 U	2800 U
2,4-Dichlorophenol	2300 U	640 U	550 U	2800 U
2,4-Dimethylphenol	2300 U	640 U	550 U	2800 U
2,4-Dinitrophenol	5900 U	1600 U	1400 U	6900 U
2,4-Dinitrotoluene	2300 U	640 U	550 U	2800 U
2,6-Dinitrotoluene	2300 U	640 U	550 U	2800 U
2-Chloronaphthalene	2300 U	640 U	550 U	2800 U
2-Chlorophenol	2300 U	640 U	550 U	2800 U
2-Methylnaphthalene	2300 U	640 U	550 U	2800 U
2-Methylphenol	2300 U	640 U	550 U	2800 U
2-Nitroaniline	5900 U	1600 U	1400 U	6900 U
2-Nitrophenol	2300 U	640 U	550 U	2800 U
3,3'-Dichlorobenzidine	2300 U	640 U	550 U	2800 U
3-Nitroaniline	5900 U	1600 U	1400 U	6900 U
4,6-Dinitro-2-methylphenol	5900 U	1600 U	1400 U	6900 U
4-Bromophenyl-phenylether	2300 U	640 U	550 U	2800 U
4-Chloro-3-methylphenol	2300 U	640 U	550 U	2800 U
4-Chloroaniline	2300 U	640 U	550 U	2800 U
4-Chlorophenyl-phenylether	2300 U	640 U	550 U	2800 U
4-Methylphenol	2300 U	640 U	550 U	2800 U
4-Nitroaniline	5900 U	1600 U	1400 U	6900 U
4-Nitrophenol	5900 U	1600 U	1400 U	6900 U
Acenaphthene	2300 U	640 U	550 U	2800 U
Acenaphthylene	2300 U	640 U	550 U	2800 U
Anthracene	2300 U	640 U	550 U	2800 U
Benzo(a)anthracene	2300 U	640 U	550 U	2800 U
Benzo(a)pyrene	2300 U	640 U	550 U	2800 U
Benzo(b)fluoranthene	2300 U	640 U	550 U	2800 U
Benzo(g,h,i)perylene	2300 U	640 U	550 U	2800 U
Benzo(k)fluoranthene	2300 U	640 U	550 U	2800 U

See notes at end of table.

Table C-2 (Continued)
Summary of Sediment Analytical Results
Target Compound List Semivolatile Organics
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D01201D	07D01301	07D01401	07D01501
	Sampling Date 09-Sep-94	09-Sep-94	08-Sep-94	09-Sep-94
bis(2-Chloroethoxy)methane	2300 U	640 U	550 U	2800 U
bis(2-Chloroethyl)ether	2300 U	640 U	550 U	2800 U
bis(2-Ethylhexyl)phthalate	850 J	640 U	550 U	2800 U
Butylbenzylphthalate	2300 U	640 U	550 U	2800 U
Carbazole	2300 U	640 U	550 U	2800 U
Chrysene	2300 U	640 U	550 U	2800 U
Di-n-butylphthalate	2300 U	980	910	6800
Di-n-octylphthalate	7000	640 U	550 U	2800 U
Dibenz(a,h)anthracene	2300 U	640 U	550 U	2800 U
Dibenzofuran	2300 U	640 U	550 U	2800 U
Diethylphthalate	2300 U	640 U	550 U	2800 U
Dimethylphthalate	2300 U	640 U	550 U	2800 U
Fluoranthene	2300 U	640 U	550 U	2800 U
Fluorene	2300 U	640 U	550 U	2800 U
Hexachlorobenzene	2300 U	640 U	550 U	2800 U
Hexachlorobutadiene	2300 U	640 U	550 U	2800 U
Hexachlorocyclopentadiene	2300 U	640 U	550 U	2800 U
Hexachloroethane	2300 U	640 U	550 U	2800 U
Indeno(1,2,3-cd)pyrene	2300 U	640 U	550 U	2800 U
Isophorone	2300 U	640 U	550 U	2800 U
N-Nitroso-di-n-propylamine	2300 U	640 U	550 U	2800 U
N-Nitrosodiphenylamine ¹	2300 U	640 U	550 U	2800 U
Naphthalene	2300 U	640 U	550 U	2800 U
Nitrobenzene	2300 U	640 U	550 U	2800 U
Pentachlorophenol	5900 U	1600 U	1400 U	6900 U
Phenanthrene	2300 U	640 U	550 U	2800 U
Phenol	2300 U	640 U	550 U	2800 U
Pyrene	2300 U	640 U	550 U	2800 U

¹ Cannot be separated from diphenylamine

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
 Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
 J = Reported concentration is an estimated quantity.

**Table C-3
Summary of Sediment Analytical Results
Target Compound List Pesticides/PCBs
Study Area 7**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	07D00101 Sampling Date 10-Sep-94	07D00201 10-Sep-94	07D00301 10-Sep-94	07D00401 08-Sep-94	07D00501 08-Sep-94	07D00601 08-Sep-94
4,4'-DDD	4 U	4.1 U	4.2 U	30 U	30 U	41 U
4,4'-DDE	4 U	4.1 U	4.2 U	30 U	30 U	18 J
4,4'-DDT	4 U	4.1 U	4.2 U	30 U	18 J	41 U
Aldrin	2.1 U	2.1 U	2.2 U	15 U	15 U	21 U
alpha-BHC	2.1 U	2.1 U	2.2 U	15 U	15 U	21 U
alpha-Chlordane	2.1 U	2.1 U	2.2 U	15 U	15 U	21 U
Aroclor-1016	40 U	41 U	42 U	300 U	300 U	410 U
Aroclor-1221	82 U	83 U	86 U	610 U	610 U	840 U
Aroclor-1232	40 U	41 U	42 U	300 U	300 U	410 U
Aroclor-1242	40 U	41 U	42 U	300 U	300 U	410 U
Aroclor-1248	40 U	41 U	42 U	300 U	300 U	410 U
Aroclor-1254	40 U	41 U	42 U	300 U	300 U	410 U
Aroclor-1260	40 U	41 U	42 U	300 U	300 U	410 U
beta-BHC	2.1 U	2.1 U	2.2 U	15 U	15 U	21 U
delta-BHC	2.1 U	2.1 U	2.2 U	15 U	15 U	21 U
Dieldrin	4 U	4.1 U	4.2 U	30 U	30 U	41 U
Endosulfan I	2.1 U	2.1 U	2.2 U	15 U	15 U	21 U
Endosulfan II	4 U	4.1 U	4.2 U	30 U	30 U	41 U
Endosulfan sulfate	4 U	4.1 U	4.2 U	30 U	30 U	41 U
Endrin	4 U	4.1 U	4.2 U	30 U	30 U	41 U
Endrin aldehyde	4 U	4.1 U	4.2 U	30 U	30 U	41 U
Endrin ketone	4 U	4.1 U	4.2 U	30 U	30 U	41 U
gamma-BHC (Lindane)	2.1 U	2.1 U	2.2 U	15 U	15 U	21 U
gamma-Chlordane	2.1 U	2.1 U	2.2 U	15 U	15 U	21 U
Heptachlor	2.1 U	2.1 U	2.2 U	15 U	15 U	21 U
Heptachlor epoxide	2.1 U	2.1 U	2.2 U	15 U	15 U	21 U
Methoxychlor	21 U	21 U	22 U	150 U	150 U	210 U
Toxaphene	210 U	210 U	220 U	1500 U	1500 U	2100 U

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
J = Reported concentration is an estimated quantity.

Table C-3 (Continued)
Summary of Sediment Analytical Results
Target Compound List Pesticides/PCBs
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D00701 Sampling Date 12-Sep-94	07D00801 12-Sep-94	07D00901 12-Sep-94	07D01001 09-Sep-94	07D01101 12-Sep-94	07D01201 09-Sep-94
4,4'-DDD	4.1 U	5.3 J	4.3 U	5.2	4.1 U	5.4
4,4'-DDE	1.7 J	5.3	2.3 J	6.5	2.9 J	6.5
4,4'-DDT	4.1 U	4.6 U	4.3 U	5.1 U	4.1 U	4.9 U
Aldrin	2.1 U	2.4 U	2.2 U	2.6 U	2.1 U	2.5 U
alpha-BHC	2.1 U	2.4 U	2.2 U	2.6 U	2.1 U	2.5 U
alpha-Chlordane	2.1 U	3.2	2.2 U	1.7 J	2.1 U	1 J
Aroclor-1016	41 U	46 U	43 U	51 U	41 U	49 U
Aroclor-1221	84 U	94 U	87 U	100 U	84 U	99 U
Aroclor-1232	41 U	46 U	43 U	51 U	41 U	49 U
Aroclor-1242	41 U	46 U	43 U	51 U	41 U	49 U
Aroclor-1248	41 U	46 U	43 U	51 U	41 U	49 U
Aroclor-1254	41 U	46 U	43 U	51 U	41 U	49 U
Aroclor-1260	41 U	46 U	43 U	51 U	41 U	49 U
beta-BHC	2.1 U	2.4 U	2.2 U	2.6 U	2.1 U	2.5 U
delta-BHC	2.1 U	2.4 U	2.2 U	2.6 U	2.1 U	2.5 U
Dieldrin	4.1 U	4.6 U	4.3 U	5.1 U	4.1 U	4.9 U
Endosulfan I	2.1 U	2.4 U	2.2 U	2.6 U	2.1 U	2.5 U
Endosulfan II	4.1 U	4.6 U	4.3 U	5.1 U	4.1 U	4.9 U
Endosulfan sulfate	4.1 U	4.6 U	4.3 U	5.1 U	4.1 U	4.9 U
Endrin	4.1 U	4.6 U	4.3 U	5.1 U	4.1 U	4.9 U
Endrin aldehyde	4.1 U	4.6 U	4.3 U	5.1 U	4.1 U	4.9 U
Endrin ketone	4.1 U	4.6 U	4.3 U	5.1 U	4.1 U	4.9 U
gamma-BHC (Lindane)	2.1 U	2.4 U	2.2 U	2.6 U	2.1 U	2.5 U
gamma-Chlordane	2.1 U	4.1 J	2.2 U	2.1 J	2.1 U	1.7 J
Heptachlor	2.1 U	2.4 U	2.2 U	2.6 U	2.1 U	2.5 U
Heptachlor epoxide	2.1 U	2.4 U	2.2 U	2.6 U	2.1 U	2.5 U
Methoxychlor	21 U	24 U	22 U	26 U	21 U	25 U
Toxaphene	210 U	240 U	220 U	260 U	210 U	250 U

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
 Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
 J = Reported concentration is an estimated quantity.

**Table C-3 (Continued)
Summary of Sediment Analytical Results
Target Compound List Pesticides/PCBs
Study Area 7**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	07D01201D	07D01301	07D01401	07D01501
	Sampling Date 09-Sep-94	09-Sep-94	08-Sep-94	09-Sep-94
4,4'-DDD	4.6	6.2 U	5.2 U	27 U
4,4'-DDE	7.2	3.7 J	3.1 J	28
4,4'-DDT	4.3 U	6.2 U	5.2 U	27 U
Aldrin	2.2 U	3.2 U	2.7 U	14 U
alpha-BHC	2.2 U	3.2 U	2.7 U	14 U
alpha-Chlordane	2.2 U	3.2 U	2.7 U	14 U
Aroclor-1016	43 U	62 U	52 U	270 U
Aroclor-1221	88 U	130 U	100 U	560 U
Aroclor-1232	43 U	62 U	52 U	270 U
Aroclor-1242	43 U	62 U	52 U	270 U
Aroclor-1248	43 U	62 U	52 U	270 U
Aroclor-1254	43 U	62 U	52 U	270 U
Aroclor-1260	43 U	62 U	52 U	270 U
beta-BHC	2.2 U	3.2 U	2.7 U	14 U
delta-BHC	2.2 U	3.2 U	2.7 U	14 U
Dieldrin	4.3 U	6.2 U	5.2 U	27 U
Endosulfan I	2.2 U	3.2 U	2.7 U	14 U
Endosulfan II	4.3 U	6.2 U	5.2 U	27 U
Endosulfan sulfate	4.3 U	6.2 U	5.2 U	27 U
Endrin	4.3 U	6.2 U	5.2 U	27 U
Endrin aldehyde	4.3 U	6.2 U	5.2 U	27 U
Endrin ketone	4.3 U	6.2 U	5.2 U	27 U
gamma-BHC (Lindane)	2.2 U	3.2 U	2.7 U	14 U
gamma-Chlordane	2.2 U	3.2 U	2.7 U	14 U
Heptachlor	2.2 U	3.2 U	2.7 U	14 U
Heptachlor epoxide	2.2 U	3.2 U	2.7 U	14 U
Methoxychlor	22 U	32 U	27 U	140 U
Toxaphene	220 U	320 U	270 U	1400 U

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
J = Reported concentration is an estimated quantity.

Table C-4
Summary of Sediment Analytical Results
Herbicides - Method 8150
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D00101	07D00201	07D00301	07D00401	07D00501	07D00601
Sampling Date	07-Sep-94	07-Sep-94	07-Sep-94	08-Sep-94	08-Sep-94	08-Sep-94
2,4,5-T	12 U	12 U	13 U	91 U	91 U	120 U
2,4-D	60 U	60 U	64 U	450 U	450 U	620 U
2,4-DB	60 U	60 U	64 U	450 U	450 U	620 U
2,4-DP (Dichloroprop)	60 U	60 U	64 U	450 U	450 U	620 U
Dalapon	120 U	120 U	130 U	910 U	910 U	1200 U
Dicamba	12 U	12 U	13 U	91 U	91 U	120 U
Dinoseb	12 U	12 U	13 U	91 U	91 U	120 U
MCFA	6000 U	6000 U	6400 U	91000 U	91000 U	120000 U
MCPP	6000 U	6000 U	6400 U	91000 U	110000 U	62000 U
Silvex (2,4,5-TP)	12 U	12 U	13 U	91 U	91 U	120 U

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
 Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
 J = Reported concentration is an estimated quantity.

**Table C-4 (Continued)
Summary of Sediment Analytical Results
Herbicides - Method 8150
Study Area 7**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	07D00701	07D00801	07D00901	07D01001	07D01101	07D01201
	Sampling Date 12-Sep-94	12-Sep-94	12-Sep-94	09-Sep-94	12-Sep-94	09-Sep-94
2,4,5-T	25 U	28 U	26 U	31 U	25 U	29 U
2,4-D	120 U	140 U	130 U	150 U	124 U	150 U
2,4-DB	120 U	140 U	130 U	150 U	250 U	150 U
2,4-DP (Dichloroprop)	120 U	140 U	130 U	150 U	125 U	150 U
Dalapon	250 U	280 U	260 U	300 U	250 U	300 U
Dicamba	25 U	28 U	26 U	31 U	25 U	29 U
Dinoseb	25 U	28 U	26 U	31 U	25 U	29 U
MCPA	12000 U	28000 U	39000 U	31000 U	37000 U	29000 U
MCPP	12000 U	14000 U	13000 U	15000 U	11000 U	15000 U
Silvex (2,4,5-TP)	25 U	28 U	26 U	31 U	25 U	29 U

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
J = Reported concentration is an estimated quantity.

Table C-4 (Continued)
Summary of Sediment Analytical Results
Herbicides - Method 8150
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D01201D	07D01301	07D01401	07D01501
Sampling Date	09-Sep-94	09-Sep-94	08-Sep-94	09-Sep-94
2,4,5-T	26 U	38 U	16 U	170 U
2,4-D	130 U	190 U	78 U	830 U
2,4-DB	130 U	190 U	78 U	830 U
2,4-DP (Dichloroprop)	130 U	190 U	78 U	830 U
Dalapon	260 U	380 U	160 U	1700 U
Dicamba	26 U	38 U	16 U	170 U
Dinoseb	26 U	38 U	16 U	170 U
MCPA	26000 U	38000 U	16000 U	170000 U
MCPP	13000 U	19000 U	8000 U	83000 U
Silvex (2,4,5-TP)	26 U	38 U	16 U	170 U

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
 Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
 J = Reported concentration is an estimated quantity.

Table C-5
Summary of Sediment Analytical Results
Target Analyte List Metals
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07D00101	07D00201	07D00301	07D00401	07D00501	07D00601
Sampling Date	07-Sep-94	07-Sep-94	07-Sep-94	08-Sep-94	08-Sep-94	08-Sep-94
Aluminum	1650	508	1090	3020	3470	2110
Antimony	5.1 U	5.2 U	5.4 U	31.1 U	33.5 U	36 U
Arsenic	1.2 U	0.63 U	0.76 U	5.5 B	6.8 B	7.7 B
Barium	8.4 B	5.2 B	8.9 B	51.9 B	38.7 B	30.6 B
Beryllium	0.05 U	0.06 U	0.06 U	0.33 U	0.36 U	0.39 U
Cadmium	0.77 U	0.78 U	0.81 U	4.7 U	5 U	5.4 U
Calcium	768 B	302 B	566 B	19600	10300	12700
Chromium	1.9 U	1.1 U	1.8 U	5.7 B	7.9 B	6.8 B
Cobalt	0.79 U	0.81 U	0.84 U	4.8 U	5.2 U	5.6 U
Copper	0.54 B	1.1 B	1.7 B	17.9 B	20.8 B	16.9 B
Cyanide	0.19 U	0.2 U	0.2 U	1.2 U	1.3 U	1.4 U
Iron	104	60.5 U	179	1270	1180	2150
Lead	1.7 J	1.5 J	2.9 J	18.7 J	17.9 J	24.5 J
Magnesium	66.4 B	17.3 B	36.2 B	1250 B	552 B	488 B
Manganese	0.91 B	0.94 B	1.9 B	61.3	23.3 B	55
Mercury	0.02 U	0.02 U	0.02 U	0.11 B	0.11 U	0.18 B
Nickel	2.4 U	2.5 U	2.6 U	15.4 B	15.9 U	17.1 U
Potassium	79.3 U	99.1 B	84.1 U	483 U	520 U	559 U
Selenium	0.6 B	0.53 U	0.55 U	6.2 B	7.2 B	5.6 J
Silver	0.68 U	0.7 U	0.72 U	4.1 U	4.5 U	4.8 U
Sodium	4.1 U	4.2 U	10 U	247 B	298 B	48.3 B
Thallium				2.1 U	2.2 U	2.4 U
Vanadium	0.7 U	0.72 U	0.91 B	9.4 B	7.9 B	8.5 B
Zinc	0.61 U	2.1 U	3 U	48.1	60.6	36.3 B

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
 Results have not been subjected to full independent data validation.

U = Analyte not detected at the reporting limit.

B = Reported concentration is between the instrument detection limit (IDL) and the contract-required detection limit (CRDL).

J = Reported concentration is an estimated quantity

**Table C-5 (Continued)
Summary of Sediment Analytical Results
Target Analyte List Metals
Study Area 7**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	07D00701 Sampling Date 12-Sep-94	07D00801 12-Sep-94	07D00901 12-Sep-94	07D01001 09-Sep-94	07D01101 12-Sep-94	07D01201 09-Sep-94
Aluminum	374	798	674	934	2890	6720
Antimony	5.2 U	5.9 U	5.5 U	5.3 U	5.3 U	5.9 U
Arsenic	0.89 B	1 B	1.1 B	0.57 U	1.1 B	1.3 U
Barium	2.8 B	5.3 B	4.8 B	9.1 B	39.3 B	65
Beryllium	0.06 U	0.1 B	0.06 U	0.06 U	0.09 B	0.11 B
Cadmium	0.79 U	0.89 U	0.83 U	0.79 U	0.79 U	0.89 U
Calcium	70.1 B	195 B	311 B	822 B	1020 B	1550
Chromium	0.75 B	2.2 B	0.84 B	1.4 U	3.4	6.6
Cobalt	0.81 U	0.92 U	0.85 U	0.82 U	0.82 U	0.91 U
Copper	3.5 B	7 B	2.8 B	6.2 B	1.9 B	4.7 B
Cyanide	0.2 U	0.22 U	0.21 U	0.2 U	0.2 U	0.22 U
Iron	98.6	216	161	190	223	397
Lead	9	22	6.2	8.5 J	6.5	10.8 J
Magnesium	19.2 B	49.3 B	27.6 B	37.2 B	54.5 B	118 B
Manganese	0.36 B	0.87 B	0.75 B	1.5 B	1.7 B	2.5 B
Mercury	0.02 B	0.03 B	0.02 U	0.02 B	0.02 B	0.04 B
Nickel	2.5 U	3.7 B	2.6 U	2.5 U	2.5 U	3.6 B
Potassium	81.3 U	92.6 B	86 U	82 U	82.1 U	91.7 U
Selenium	0.53 U	0.6 U	0.56 U	0.54 U	0.54 U	0.61 B
Silver	0.7 U	0.79 U	0.74 U	0.7 U	0.71 U	0.79 U
Sodium	8.8 B	13.4 B	11.1 B	4.3 U	14.6 B	5.2 B
Thallium	0.85 B	0.4 U	0.37 U	0.35 U	0.35 U	0.4 U
Vanadium	0.72 U	1.4 B	0.81 B	1.2 U	1.4 B	3 U
Zinc	3.7 B	22.9	5.5 B	34.6	4.1 B	13.7

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
Results have not been subjected to full independent data validation.

U = Analyte not detected at the reporting limit.

B = Reported concentration is between the instrument detection limit (IDL) and the contract-required detection limit (CRDL).

J = Reported concentration is an estimated quantity

**Table C-5 (Continued)
Summary of Sediment Analytical Results
Target Analyte List Metals
Study Area 7**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	07D01201D Sampling Date 09-Sep-94	07D01301 09-Sep-94	07D01401 08-Sep-94	07D01501 09-Sep-94
Aluminum	5580	3090	9670	20300
Antimony	6.9 U	8.2 U	6.5 U	32.4 U
Arsenic	1.4 B	1.9 U	2.6 B	10.3 B
Barium	52.8 B	25.5 B	61 B	121 B
Beryllium	0.15 B	0.18 B	0.3 B	0.9 B
Cadmium	1 U	1.2 U	0.97 U	4.9 U
Calcium	1960	732 B	1080 B	5050 B
Chromium	6.4	3.3 U	11.1	19.6
Cobalt	1.1 U	1.3 U	1.1 B	5 U
Copper	7.9 B	3.4 B	6.3 B	47.4
Cyanide	0.28 B	0.31 U	0.24 U	1.2 U
Iron	506	552	911	4460
Lead	17.2	5.2 J	8.1 J	49.9 J
Magnesium	121 B	104 B	202 B	864 B
Manganese	3 B	2.2 B	3.9 B	17.1 B
Mercury	0.07 B	0.05 B	0.05 B	0.25 B
Nickel	3.3 U	3.9 U	7.4 B	18.7 B
Potassium	108 U	128 U	101 U	503 U
Selenium	1.1 B	0.83 U	1.5 J	5.2 J
Silver	0.93 U	1.1 U	0.87 U	4.3 U
Sodium	5.6 U	6.6 U	31 B	83.2 B
Thallium	0.46 U	0.55 U	0.43 U	2.2 U
Vanadium	3.1 B	1.8 U	8.5 B	12 B
Zinc	22.4	30.2	7.1	84.3

Notes: Analytical results expressed in micrograms per kilogram ($\mu\text{g}/\text{kg}$).
Results have not been subjected to full independent data validation.

U = Analyte not detected at the reporting limit.

B = Reported concentration is between the instrument detection limit (IDL) and the contract-required detection limit (CRDL).

J = Reported concentration is an estimated quantity

Table C-6
Summary of Sediment Analytical Results
Total Organic Carbon and Total Petroleum Hydrocarbons
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	Sampling Date	Total Organic Carbon	Total Petroleum Hydrocarbons
07D00101	07-Sep-94	13000	20.9 J
07D00201	07-Sep-94	4410	24.2
07D00301	07-Sep-94	5950	12.9
07D00401	08-Sep-94	269000	NR
07D00501	08-Sep-94	103000	NR
07D00601	08-Sep-94	153000	NR
07D00701	12-Sep-94	2640	19
07D00801	12-Sep-94	7910	226
07D00901	12-Sep-94	6090	21
07D01001	09-Sep-94	4000	11.8 J
07D01101	12-Sep-94	3570	19
07D01201	09-Sep-94	19500	13.2
07D01201D	09-Sep-94	16700	23 J
07D01301	09-Sep-94	29800	NR
07D01401	08-Sep-94	18900	NR
07D01501	09-Sep-94	16800	NR

Notes: Analytical results expressed in milligrams per kilogram (mg/kg).
 Results have not been subjected to full independent data validation.

NR = Parameter not requested to be analyzed.
 J = Reported concentration is an estimated quantity

Table C-7
Summary of Surface Water Analytical Results
Target Compound List Volatile Organics
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07W00101	07W00201	07W00301	07W00401	07W00501
Sampling Date	21-Sep-94	21-Sep-94	21-Sep-94	21-Sep-94	21-Sep-94
1,1,1-Trichloroethane	10 U				
1,1,2,2-Tetrachloroethane	10 U				
1,1,2-Trichloroethane	10 U				
1,1-Dichloroethane	10 U				
1,1-Dichloroethene	10 U				
1,2-Dichloroethane	10 U				
1,2-Dichloroethene (total)	10 U				
1,2-Dichloropropane	10 U				
2-Butanone	10 U				
2-Hexanone	10 U				
4-Methyl-2-pentanone	10 U				
Acetone	10 U				
Benzene	10 U				
Bromodichloromethane	10 U				
Bromoform	10 U				
Bromomethane	10 U				
Carbon disulfide	10 U				
Carbon tetrachloride	10 U				
Chlorobenzene	10 U				
Chloroethane	10 U				
Chloroform	10 U				
Chloromethane	10 U				
cis-1,3-Dichloropropene	10 U				
Dibromochloromethane	10 U				
Ethylbenzene	10 U				
Methylene chloride	10 U				
Styrene	10 U				
Tetrachloroethene	10 U				
Toluene	10 U				
trans-1,3-Dichloropropene	10 U				
Trichloroethene	10 U				
Vinyl chloride	10 U				
Xylene (total)	10 U				

Notes: Analytical results expressed in micrograms per liter ($\mu\text{g}/\text{l}$).
 Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
 J = Reported concentration is an estimated quantity.

**Table C-8
Summary of Surface Water Analytical Results
Target Compound List Semivolatile Organics
Study Area 7**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	07W00101 Sampling Date 21-Sep-94	07W00201 21-Sep-94	07W00301 21-Sep-94	07W00401 21-Sep-94	07W00501 21-Sep-94
1,2,4-Trichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene	10 U	10 U	10 U	10 U	10 U
2,2'-oxybis(1-Chloropropane)	10 U	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	25 U	25 U	25 U	25 U	25 U
2,4,6-Trichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dichlorophenol	10 U	10 U	10 U	10 U	10 U
2,4-Dimethylphenol	10 U	10 U	10 U	10 U	10 U
2,4-Dinitrophenol	25 U	25 U	25 U	25 U	25 U
2,4-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene	10 U	10 U	10 U	10 U	10 U
2-Chloronaphthalene	10 U	10 U	10 U	10 U	10 U
2-Chlorophenol	10 U	10 U	10 U	10 U	10 U
2-Methylnaphthalene	10 U	10 U	10 U	10 U	10 U
2-Methylphenol	10 U	10 U	10 U	10 U	10 U
2-Nitroaniline	25 U	25 U	25 U	25 U	25 U
2-Nitrophenol	10 U	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine	10 U	10 U	10 U	10 U	10 U
3-Nitroaniline	25 U	25 U	25 U	25 U	25 U
4,6-Dinitro-2-methylphenol	25 U	25 U	25 U	25 U	25 U
4-Bromophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol	10 U	10 U	10 U	10 U	10 U
4-Chloroaniline	10 U	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether	10 U	10 U	10 U	10 U	10 U
4-Methylphenol	10 U	10 U	10 U	10 U	10 U
4-Nitroaniline	25 U	25 U	25 U	25 U	25 U
4-Nitrophenol	25 U	25 U	25 U	25 U	25 U
Acenaphthene	10 U	10 U	10 U	10 U	10 U
Acenaphthylene	10 U	10 U	10 U	10 U	10 U
Anthracene	10 U	10 U	10 U	10 U	10 U
Benzo(a)anthracene	10 U	10 U	10 U	10 U	10 U
Benzo(a)pyrene	10 U	10 U	10 U	10 U	10 U
Benzo(b)fluoranthene	10 U	10 U	10 U	10 U	10 U
Benzo(g,h,i)perylene	10 U	10 U	10 U	10 U	10 U
Benzo(k)fluoranthene	10 U	10 U	10 U	10 U	10 U

See notes at end of table.

Table C-8 (Continued)
Summary of Surface Water Analytical Results
Target Compound List Semivolatile Organics
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07W00101 Sampling Date 21-Sep-94	07W00201 21-Sep-94	07W00301 21-Sep-94	07W00401 21-Sep-94	07W00501 21-Sep-94
bis(2-Chloroethoxy)methane	10 U	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)ether	10 U	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)phthalate	10 U	10 U	10 U	10 U	10 U
Butylbenzylphthalate	10 U	10 U	10 U	10 U	10 U
Carbazole	10 U	10 U	10 U	10 U	10 U
Chrysene	10 U	10 U	10 U	10 U	10 U
Di-n-butylphthalate	10 U	10 U	10 U	10 U	10 U
Di-n-octylphthalate	10 U	10 U	10 U	10 U	10 U
Dibenz(a,h)anthracene	10 U	10 U	10 U	10 U	10 U
Dibenzofuran	10 U	10 U	10 U	10 U	10 U
Diethylphthalate	10 U	10 U	10 U	10 U	10 U
Dimethylphthalate	10 U	10 U	10 U	10 U	10 U
Fluoranthene	10 U	10 U	10 U	10 U	10 U
Fluorene	10 U	10 U	10 U	10 U	10 U
Hexachlorobenzene	10 U	10 U	10 U	10 U	10 U
Hexachlorobutadiene	10 U	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	10 U	10 U	10 U	10 U	10 U
Hexachloroethane	10 U	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)pyrene	10 U	10 U	10 U	10 U	10 U
Isophorone	10 U	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine	10 U	10 U	10 U	10 U	10 U
N-Nitrosodiphenylamine ¹	10 U	10 U	10 U	10 U	10 U
Naphthalene	10 U	10 U	10 U	10 U	10 U
Nitrobenzene	10 U	10 U	10 U	10 U	10 U
Pentachlorophenol	25 U	25 U	25 U	25 U	25 U
Phenanthrene	10 U	10 U	10 U	10 U	10 U
Phenol	10 U	1 J	10 U	10 U	10 U
Pyrene	10 U	10 U	10 U	10 U	10 U

¹ Cannot be separated from diphenylamine

Notes: Analytical results expressed in micrograms per liter ($\mu\text{g}/\text{L}$).
 Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
 J = Reported concentration is an estimated quantity.

**Table C-9
Summary of Surface Water Analytical Results
Target Compound List Pesticides/PCBs
Study Area 7**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	07W00101 Sampling Date 21-Sep-94	07W00201 21-Sep-94	07W00301 21-Sep-94	07W00401 21-Sep-94	07W00501 21-Sep-94
4,4'-DDD	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Aldrin	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
alpha-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
alpha-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Aroclor-1016	1 U	1 U	1 U	1 U	1 U
Aroclor-1221	2 U	2 U	2 U	2 U	2 U
Aroclor-1232	1 U	1 U	1 U	1 U	1 U
Aroclor-1242	1 U	1 U	1 U	1 U	1 U
Aroclor-1248	1 U	1 U	1 U	1 U	1 U
Aroclor-1254	1 U	1 U	1 U	1 U	1 U
Aroclor-1260	1 U	1 U	1 U	1 U	1 U
beta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
delta-BHC	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan I	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan II	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan sulfate	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin aldehyde	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
Endrin ketone	0.1 U	0.1 U	0.1 U	0.1 U	0.1 U
gamma-BHC (Lindane)	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
gamma-Chlordane	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor epoxide	0.05 U	0.05 U	0.05 U	0.05 U	0.05 U
Methoxychlor	0.5 U	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene	5 U	5 U	5 U	5 U	5 U

Notes: Analytical results expressed in micrograms per liter ($\mu\text{g}/\text{L}$).
Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).
J = Reported concentration is an estimated quantity.

Table C-10
Summary of Surface Water Analytical Results
Herbicides - Method 8150
Study Area 7

BRAC Environmental Site-Screening Report
 Naval Training Center
 Orlando, Florida

Identifier	07W00101	07W00201	07W00301	07W00401	07W00501
Sampling Date	21-Sep-94	21-Sep-94	21-Sep-94	21-Sep-94	21-Sep-94
2,4,5-T	0.5 U				
2,4-D	2.5 U				
2,4-DB	2.5 U				
2,4-DP (Dichloroprop)	2.5 U				
Dalapon	5 U	5 U	5 U	5 U	5 U
Dicamba	0.5 U				
Dinoseb	0.5 U				
MCPA	250 U				
MCPP	250 U				
Silvex (2,4,5-TP)	0.5 U				

Notes: Analytical results expressed in micrograms per liter ($\mu\text{g}/\text{L}$).
 Results have not been subjected to full independent data validation.

U = Compound not detected at the contract-required quantitation limit (CRQL).

J = Reported concentration is an estimated quantity.

**Table C-11
Summary of Surface Water Analytical Results
Target Analyte List Metals
Study Area 7**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	07W00201	07W00301	07W00401	07W00501
Sampling Date	21-Sep-94	21-Sep-94	21-Sep-94	21-Sep-94
Aluminum	39.6 B	31.2 B	67.7 B	63.2 B
Antimony	19.4 U	19.4 U	19.4 U	19.4 U
Arsenic	2 B	2.3 B	1.9 U	1.9 U
Barium	15.7 B	13.5 B	16.8 B	30.9 B
Beryllium	0.21 U	0.21 U	0.21 U	0.21 U
Cadmium	2.9 U	2.9 U	2.9 U	2.9 U
Calcium	12000	13000	12400	12100
Chromium	1.8 U	1.8 U	1.8 U	1.8 U
Cobalt	4.6 B	3 U	4.6 B	3 U
Copper	1.7 U	2.5 B	12.5 B	5.3 B
Iron	15.4 B	22.6 B	40.4 B	29.4 B
Lead	1.1 B	1.2 B	1.4 B	0.83 U
Magnesium	1550 B	1590 B	1580 B	1560 B
Manganese	2.4 B	3.7 B	4.4 B	3.7 B
Mercury	0.06 U	0.06 U	0.06 U	0.06 U
Nickel	9.2 U	9.2 U	9.2 U	9.2 U
Potassium	1910 B	1870 B	1970 B	1840 B
Selenium	2 U	2 U	2 U	2 U
Silver	2.6 U	2.6 U	2.6 U	2.6 U
Sodium	7200	7220	7210	7180
Thallium	1.3 U	1.3 U	1.3 U	1.3 U
Vanadium	2.7 U	2.7 U	2.7 U	2.7 U
Zinc	2.2 B	4.4 B	9.2 B	2 B

Notes: Analytical results expressed in micrograms per liter ($\mu\text{g}/\ell$).
Results have not been subjected to full independent data validation.

U = Analyte not detected at the reporting limit.

B = Reported concentration is between the instrument detection limit (IDL) and the contract-required detection limit (CRDL).

**Table C-12
Summary of Surface Water Analytical Results
General Wet Chemistry Parameters
Study Area 7**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Identifier	07W00101	07W00201	07W00301	07W00401	07W00501
Sampling Date	21-Sep-94	21-Sep-94	21-Sep-94	21-Sep-94	21-Sep-94
Alkalinity as CaCO ₃	24	23	26	24	25
Hardness as CaCO ₃	36	36	39	38	36
Total Petroleum Hydrocarbons	1 U	1 U	1 U	1 U	NR
Total Dissolved Solids	86	82	76	80	82
Total Suspended Solids	4	1 U	1 U	3	6

Notes: Analytical results expressed in milligrams per liter (mg/l).
Results have not been subjected to full independent data validation.

U = Parameter not detected at the detection limit (DL).
NR = Parameter not requested to be analyzed.

APPENDIX D

SURFACE WATER AND SEDIMENT SCREENING VALUES CALCULATIONS

DEVELOPMENT OF ECOLOGICAL SCREENING VALUES SURFACE WATER AND SEDIMENT

Surface water and sediment screening values were selected in order to evaluate the quality of the surface water body included in Study Area 7. Screening values were selected from available State and Federal guidance values as discussed below.

Surface Water Screening Values

The U.S. Environmental Protection Agency (USEPA 1986, 1988, 1991) has developed acute and chronic ambient water quality criteria (AWQC) for the protection of aquatic life. Acute AWQC are defined as the 1-hour concentrations not to be exceeded more than once every 3 years, and chronic AWQC are defined as the 4-day average concentration not to be exceeded more than once every 3 years. AWQC incorporate available toxicity data for sensitive fish species, aquatic invertebrates, amphibians, and aquatic plants. AWQC have not been established for a number of chemicals; lowest observed effect concentrations (LOECs) cited by USEPA (1986) were used for these chemicals, if available.

The Waste Management Division of USEPA Region IV has established Chronic Freshwater Quality Screening Values (USEPA, 1995). In addition, the State of Florida has promulgated State Surface Water Quality Standards (Florida Administrative Code, Chapter 62-302, 1995).

These three sets of values, summarized in Table D-1, were considered as potential screening values; the lowest of the three values was conservatively selected as the screening value to evaluate surface water data from Study Area 7.

The toxicity of a number of inorganic constituents has been shown to be correlated with water hardness, with toxicity increasing as water hardness decreases. For these inorganic chemicals, the USEPA has established AWQC, which are presented as equations that incorporate site-specific water hardness. Both USEPA Region IV and Florida Department of Environmental Protection (FDEP) have adopted these criteria as water quality screening values or standards. The arithmetic mean of the water hardness (as CaCO_3) measured at the study area was used to derive site-specific screening criteria. The equations used to derive the criteria are presented in the following table:

Chemical	Equation
Copper	chronic AWQC ($\mu\text{g}/\ell$) = $e^{[0.8645(\ln H) - 1.465]}$
Lead	chronic AWQC ($\mu\text{g}/\ell$) = $e^{[1.2730(\ln H) - 4.705]}$
Nickel	chronic AWQC ($\mu\text{g}/\ell$) = $e^{[0.846(\ln H) + 1.1645]}$
Zinc	chronic AWQC ($\mu\text{g}/\ell$) = $e^{[0.8473(\ln H) + 0.7614]}$
Notes: $\mu\text{g}/\ell$ = micrograms per liter. ln = natural log. H = hardness (milligrams per liter [mg/ℓ] as calcium carbonate [CaCO_3]).	

The arithmetic mean water hardness for Study Area 7 was 40 mg/ℓ as CaCO_3 .

**Table D-1
Surface Water Screening Values**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Chemical	Surface Water Screening Value ($\mu\text{g}/\text{l}$)			
	USEPA Ambient Water Quality Criteria ¹	Region IV Water Quality (Chronic) ²	FDEP Class III Fresh Water Standards ³	Surface Water Screening Value ⁴
Semivolatile Organic Compounds				
Phenol	2,560 ⁵	256	300	256
Inorganic Analytes				
Aluminum	87 ⁶	87	--	87 ⁶
Antimony	30 ⁷	160	4,300	30 ⁷
Arsenic	190 ⁸	190	50	50
Barium	--	--	--	--
Calcium	--	--	--	--
Chromium	11 ⁹	11 ⁹	11 ⁹	11
Cobalt	--	--	--	--
Copper	5.4 ¹⁰	5.4 ¹⁰	5.4 ¹⁰	5.4 ¹⁰
Iron	1,000	1,000	1,000	1,000
Lead	1.0 ¹⁰	1.0 ¹⁰	1.0 ¹⁰	1.0 ¹⁰
Magnesium	--	--	--	--
Manganese	--	--	--	--
Mercury	0.012	0.012	0.012	0.012
Nickel	73 ¹⁰	73 ¹⁰	73 ¹⁰	73 ¹⁰
Potassium	--	--	--	--
Sodium	--	--	--	--
Thallium	40 ⁵	4.0	6.3	4.0
Vanadium	--	--	--	--
Zinc	49 ¹⁰	49 ¹⁰	49 ¹⁰	49 ¹⁰

¹ Federal Ambient Water Criteria, chronic values (USEPA, 1991; 1988).

² USEPA (Region IV). 1995. Ecological Screening Values. Ecological Risk Assessment, Bulletin No. 2, November 1995 Draft. Supplemental Guidance to risk assessment guidance for Superfund: Region 4 Bulletins. Waste Management Division, Atlanta, Georgia.

³ Chapter 62-302. Florida Administrative Code Surface Water Quality Standards; 1995.

⁴ Surface Water Screening Value is the lowest of the available values.

⁵ Values shown is a lowest observed effect concentration presented in USEPA 1986.

⁶ Criterion is based on pH of 6.5 - 9 (USEPA, 1988).

⁷ Proposed criterion.

⁸ Screening value for trivalent species of arsenic.

⁹ Screening value for hexavalent species of chromium.

¹⁰ Hardness dependent criterion. Average water hardness of 40 milligrams per liter calcium carbonate (CaCO₃) was used to calculate criteria for Study Area 7.

Notes: BRAC = Base Realignment and Closure.

$\mu\text{g}/\text{l}$ = micrograms per liter.

USEPA = U.S. Environmental Protection Agency.

FDEP = Florida Department of Environmental Protection.

-- = Surface Water Quality Criteria not available.

Sediment Screening Values

The USEPA has established or proposed sediment quality criteria for a limited number of organic chemicals (USEPA 1988, 1993a,b). The Waste Management Division of USEPA Region IV has established Ecological Screening Values, which include screening values for sediment (USEPA Region IV, 1995). In addition, the State of Florida has developed "Sediment Quality Guidelines" (SQGs) (MacDonald, 1994); toxic effect levels (TELs), which represent a threshold above which toxic effects might be expected to occur, were selected from this reference. The Ontario Ministry of Environment (MOE) has published "Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario" (Persaud et al., 1992) in which lowest effect level (LEL) values are presented for a number of chemicals. These values were derived largely using data from the Great Lakes and other freshwater bodies and therefore also may be applicable as guidance values for the freshwater body that comprises Study Area 7.

These four sets of sediment values, summarized in Table D-2, were considered as potential screening values; the lowest of the four values was conservatively selected as the screening value to evaluate sediment data from Study Area 7.

The toxicity of a number of organic constituents in sediments has been shown to be correlated with the amount of organic carbon present in the sediments, with toxicity increasing as the organic carbon content decreases. For these chemicals, the USEPA presents SQGs in units of micrograms per gram ($\mu\text{g/g}$) organic carbon (OC). The arithmetic mean of the total OC measured at each study area was used to derive site-specific screening criteria. The criteria as presented in the guidance documents are summarized in the following table:

Chemical	USEPA Sediment Quality Guideline
4,4'-DDT	0.828 $\mu\text{g/g}$ OC (USEPA, 1988)
Aroclor-1260	19.5 $\mu\text{g/g}$ OC (USEPA, 1988)
Fluoranthene	620 $\mu\text{g/g}$ OC (USEPA, 1993a)
Phenanthrene	180 $\mu\text{g/g}$ OC (USEPA, 1993b)

Notes: Value for Aroclor 1254 used for Aroclor-1260.

DDT = dichlorodiphenyltrichloroethane.
OC = organic carbon.
 $\mu\text{g/g}$ = micrograms per gram.

The arithmetic mean total organic carbon (TOC) content for sediments measured at Study Area 7 was 23,067 mg/kg.

**Table D-2
Sediment Screening Values**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Chemical	Sediment Screening Value ($\mu\text{g}/\text{kg}$ for organics, mg/kg for inorganics)				
	USEPA SQG ¹	Region IV SQG ²	FDEP SQAG (TEL) ³	Ontario SQG (LEL) ⁴	Screening Value ⁵
<u>Volatile Organic Compounds</u>					
2-Butanone	--	--	--	--	--
Acetone	--	--	--	--	--
<u>Semivolatile Organic Compounds</u>					
4-Methylphenol	--	--	--	--	--
Anthracene	--	330	46.9	--	46.9
Benzo(a)anthracene	--	330	74.8	--	74.8
Benzo(a)pyrene	--	330	88.8	--	88.8
Benzo(b)fluoranthene	--	655	--	--	655
Benzo(g,h,i)perylene	--	655	--	--	655
Benzo(k)fluoranthene	--	655	--	--	655
bis(2-Ethylhexyl)phthalate	--	182	182	--	182
Butylbenzylphthalate	--	--	--	--	--
Chrysene	--	330	108	--	108
Di-n-butylphthalate	--	--	--	--	--
Di-n-octylphthalate	--	--	--	--	--
Dibenz(a,h)anthracene	--	330	6.22	--	6.22
Fluoranthene	26,100 ⁷	330	113	--	113
Indeno(1,2,3-cd)pyrene	--	655	--	--	655
Phenanthrene	7,590 ⁷	330	86.7	--	86.7
Pyrene	--	330	153	--	153
<u>Pesticides/PCBs</u>					
4,4'-DDD	34.9 ^{6,7}	3.3 ⁶	1.22	8	1.22
4,4'-DDE	34.9 ^{6,7}	3.3 ⁶	2.07	5	2.07
4,4'-DDT	34.9 ⁷	3.3	1.19	8	1.19
alpha-Chlordane	--	1.7	2.26	7	1.7
Aroclor-1260	822 ⁷	33	21.6	5	5
gamma-Chlordane	--	1.7	2.26	7	1.7
<u>Inorganic Analytes</u>					
Aluminum	--	--	--	--	--
Antimony	--	12	--	--	12
Arsenic	--	7.24	7.24	6	6
Barium	--	--	--	--	--
Beryllium	--	--	--	--	--
Cadmium	--	1	0.676	0.6	0.6
Calcium	--	--	--	--	--

See notes at end of table.

**Table D-2 (Continued)
Sediment Screening Values**

BRAC Environmental Site-Screening Report
Naval Training Center
Orlando, Florida

Chemical	Sediment Screening Value ($\mu\text{g}/\text{kg}$ for organics, mg/kg for inorganics)				
	USEPA SQG ¹	Region IV SQG ²	FDEP SQAG (TEL) ³	Ontario SQG (LEL) ⁴	Screening Value ⁵
Inorganic Analytes (Continued)					
Chromium	--	52.3	52.3	26	26
Cobalt	--	--	--	50	50
Copper	--	18.7	18.7	16	16
Cyanide	--	--	--	0.1	0.1
Iron	--	--	--	20,000	20,000
Lead	--	30.2	30.2	31	30.2
Magnesium	--	--	--	--	--
Manganese	--	--	--	460	460
Mercury	--	0.13	0.13	0.2	0.13
Nickel	--	15.9	15.9	16	15.9
Potassium	--	--	--	--	--
Selenium	--	--	--	--	--
Sodium	--	--	--	--	--
Thallium	--	--	--	--	--
Vanadium	--	--	--	--	--
Zinc	--	124	124	120	120

¹ USEPA, 1993a,b, Sediment Quality Criteria for the Protection of Benthic Organisms. Office of Water, Office of Research and Development, and Office of Science and Technology, Health and Ecological Criteria Division, Washington, DC. Documents for Fluoranthene (EPA-822-R-93-012) and Phenanthrene (EPA-822-R-93-014). If a 1993 document does not exist, available values from the following reference were used: USEPA, 1988. Interim Sediment Criteria Values for Nonpolar Hydrophobic Organic Contaminants. Office of Water, Regulations and Standards, Criteria and Standards Division, Washington, DC. May, 1988. SCD# 17.

² USEPA (Region IV). 1995. Ecological Screening Values. Ecological Risk Assessment, Bulletin No. 2, November 1995 Draft. Supplemental Guidance to risk assessment guidance for Superfund: Region 4 Bulletins. Waste Management Division, Atlanta, GA.

³ MacDonald, 1994, Approach to the Assessment of Sediment Quality in Florida Coastal Waters. Volume 1 - Development and Evaluation of Sediment Quality Assessment Guidelines. Prepared by MacDonald Environmental Sciences Ltd., Ladysmith, BC for Florida Department of Environmental Protection, Tallahassee, FL.

⁴ Persaud et al, 1992, Guidelines of the Protection and Management of Aquatic Sediment Quality in Ontario. Ontario Ministry of the Environment, Water Resources Branch. June 1992, reprinted August 1992. ISBN 0-7729-9248-7.

⁵ Sediment Screening Value is the lowest of the available values.

⁶ Value for DDT used for DDD and DDE.

⁷ USEPA (1993) and USEPA (1988) present SQGs in units of micrograms per gram organic carbon (OC). The average total OC concentration of 23,067 mg/kg (i.e., 2.3 %) was used to calculate SQGs for Study Area 7.

Notes: BRAC = Base Realignment and Closure.
 $\mu\text{g}/\text{kg}$ = micrograms per kilogram.
 mg/kg = milligrams per kilograms.
USEPA = U.S. Environmental Protection Agency.
SQG = sediment quality guideline.
FDEP = Florida Department of Environmental Protection.
SQAG = Sediment Quality Assessment Guidelines.

TEL = toxic effect level.
LEL = lowest effect level (Persaud et al. 1992).
-- = sediment quality guidelines not available or analyte/compound not detected at the reporting limit.
PCBs = polychlorinated biphenyls.
DDD = dichlorodiphenyldichloroethane.
DDE = dichlorodiphenyldichloroethene. limit.
DDT = dichlorodiphenyltrichloroethane.