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NAS CECIL FIELD  
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SAMPLING AND ANALYSIS REPORT FACILITY 40 HAZARDOUS/FLAMMABLE  
STOREHOUSE BASE REALIGNMENT AND CLOSURE ZONE D INDUSTRIAL AND FLIGHT  
LINE AREA NAS CECIL FIELD FL  
9/1/1998  
HARDING LAWSON ASSOCIATES

**SAMPLING AND ANALYSIS REPORT**

**FACILITY 40**

**HAZARDOUS/FLAMMABLE STOREHOUSE  
BASE REALIGNMENT AND CLOSURE**

**ZONE D, INDUSTRIAL AND FLIGHT LINE AREA**

**NAVAL AIR STATION CECIL FIELD  
JACKSONVILLE, FLORIDA**

**Unit Identification Code: N60200**

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TABLE OF CONTENTS

Sampling and Analysis Report  
Facility 40, Hazardous/Flammable Storehouse  
Base Realignment and Closure  
Zone D, Industrial and Flight Line Area  
Naval Air Station Cecil Field, Jacksonville, Florida

<u>Chapter</u>	<u>Title</u>	<u>Page No.</u>
1.0	INTRODUCTION . . . . .	1
2.0	PHASE II INVESTIGATION . . . . .	1
3.0	PRELIMINARY RISK EVALUATION . . . . .	1
4.0	CONCLUSIONS AND RECOMMENDATIONS . . . . .	1
	REFERENCES . . . . .	4
APPENDICES		

Appendix: Preliminary Risk Evaluation Table  
Appendix: Laboratory Analytical Data

LIST OF FIGURES

<u>Figure</u>	<u>Title</u>	<u>Page No.</u>
1	Facility 40, Sample Location Plan . . . . .	2

## GLOSSARY

ABB-ES	ABB Environmental Services, Inc.
HLA	Harding Lawson Associates
NAS	Naval Air Station
POL	petroleum, oils, and lubricants
RI	remedial investigation
TAL	target analyte list
TCL	target compound list

## 1.0 INTRODUCTION

Harding Lawson Associates (HLA) (formerly ABB Environmental Services, Inc. [ABB-ES]), under contract to Southern Division, Naval Facilities Engineering Command, has completed the Phase II Sampling and Analysis program for Facility 40 at Naval Air Station (NAS) Cecil Field. This report summarizes the related field operations, results, conclusions, and recommendations.

Facility 40 is a 14-foot by 9-foot cinderblock structure located on the east-west flight line, south of Hangar 14 (Figure 1). The building has been used for storage of materials associated with aircraft maintenance. A waste petroleum, oils, and lubricants (POL) accumulation point is located adjacent to Facility 40. Facility 40 was color-coded Gray in the Environmental Baseline Survey (ABB-ES, 1994b) because of stains on the concrete around the doors on the south side of the building, historical storage of hazardous and flammable materials inside the building, and the lack of secondary containment around the waste POL accumulation point outside (Figure 1). A small area of stressed vegetation was observed near the northwest corner of the building during a site walkover in January 1995.

A Sampling and Analysis Outline was prepared by ABB-ES (presently HLA) and approved by the Base Realignment and Closure cleanup team (ABB-ES, 1995).

## 2.0 PHASE II INVESTIGATION

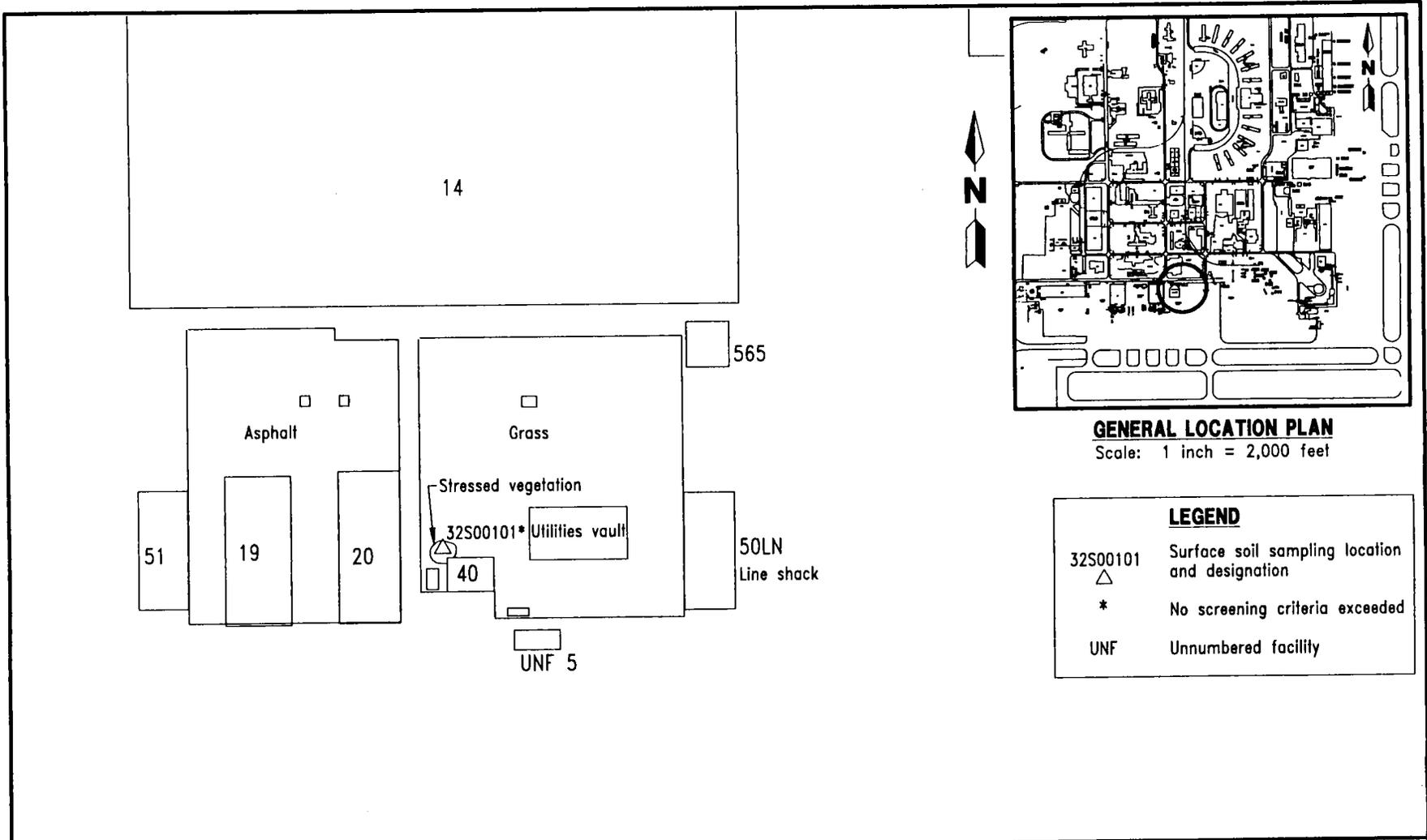
One surface soil sample was collected from 0 to 1 foot below land surface in the area of stressed vegetation observed near the northwest corner of Facility 40. Field activities were undertaken in general conformance with the Project Operations Plan (ABB-ES, 1994a). The soil sample was analyzed for the full Contract Laboratory Program suite of target compound list (TCL) organics and target analyte list (TAL) inorganics. A site plan indicating the location of the surface soil sample is presented on Figure 1.

## 3.0 PRELIMINARY RISK EVALUATION

Thirteen inorganic analytes were detected in the surface soil sample collected at Facility 40. No organic contaminants were detected in the sample. With the exception of calcium, none of the analytes detected exceed NAS Cecil Field inorganic background data set values. Calcium is an essential nutrient, and no soil cleanup target levels, risk-based screening concentrations, or ecological screening criteria are available for comparison. Therefore, no further human health or ecological risk evaluation is required.

## 4.0 CONCLUSIONS AND RECOMMENDATIONS

One surface soil sample was collected from an area of stressed vegetation at Facility 40. The sample was analyzed to determine the concentrations of TCL organic and TAL inorganic compounds. Calcium was the only analyte detected at a concentration above the NAS Cecil Field inorganic background data set value.



0 25 50  
  
 SCALE: 1 INCH = 50 FEET

**FIGURE 1  
 FACILITY 40  
 SAMPLE LOCATION PLAN**



**SAMPLING AND ANALYSIS REPORT**

**NAVAL AIR STATION CECIL FIELD  
 JACKSONVILLE, FLORIDA**

Based on the information obtained for this assessment, the surface soil at Facility 40 does not represent a hazard to human health or the environment. Appropriate site operation and management procedures should be undertaken in order to ensure that current and future site activities do not result in release of hazardous substances to the environment.

Other concerns associated with contaminated groundwater in the flight line area south of Hangar 14 are currently being assessed (ABB-ES, 1997). Unpublished laboratory data indicate groundwater contaminated with petroleum compounds and chlorinated solvents may have migrated below Facility 40. Therefore, the color classification for Facility 40 should be changed to 1/White (5/Yellow), to indicate that there is no evidence of a release at Facility 40 but the groundwater below is contaminated and a remedial investigation (RI) is in progress.

The Facility 40 site data should be incorporated into the RI because it is within the area of investigation of Installation Restoration Site 37, Hangars 13 and 14, Dichloroethene Plume.

## REFERENCES

- ABB Environmental Services, Inc. (ABB-ES). 1994a. *Project Operations Plan for Cecil Field and Health and Safety Plan*. Prepared for Southern Division, Naval Facilities Engineering Command (SOUTHNAVFACENGCOM), North Charleston, South Carolina (December).
- ABB-ES. 1994b. *Base Realignment and Closure Environmental Baseline Survey Report, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (November).
- ABB-ES. 1995. *Sampling and Analysis Outline, Building 40, Base Realignment and Closure, Zone C, Developed Nonindustrial Area, Group IV, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (April).
- ABB-ES. 1997. *Sampling and Analysis Outline, Flightline Industrial Area Groundwater Investigation, Base Realignment and Closure, Zone D, Flightline Industrial Area, Group VIII, Naval Air Station Cecil Field, Jacksonville, Florida*. Prepared for SOUTHNAVFACENGCOM, North Charleston, South Carolina (January).

**APPENDIX A**  
**PRELIMINARY RISK EVALUATION TABLE**

**BRAC Preliminary Risk Evaluation Table for Analytes Detected in Surface Soil  
Building 40, Naval Air Station Cecil Field**

<b>Analyte</b>	<b>Sample</b>	
	<b>32S00101</b>	<b>BKGRD</b>
<b>Inorganic Analytes</b>		
Aluminum	3250	4432.5
Barium	3.5	14.4
Calcium	577	9.44
Chromium	2.8	7.75
Copper	1.3	5.965
Iron	722	1486
Lead	5.1	196.9
Magnesium	68.9	328.65
Manganese	2.9	21.95
Nickel	0.76	3.89
Sodium	93.1	343
Vanadium	2.5	6.3
Zinc	6.6	36.5

**Notes:**

All detected analytes are reported (in mg/kg)

BKGRD = NAS Cecil Field Inorganic Background Data Set

No analytes were detected at concentrations in excess of BKGRD therefore no risk comparisons are applicable

**APPENDIX B**

**LABORATORY ANALYTICAL DATA**

NAS CECIL FIELD -- FACILITY 40  
 SURFACE SOIL -- VOLATILES -- REPORT REQUEST NO. 10018

Lab Sample Number: C2V88  
 Site: CECILBRAC2  
 Locator: 32S00101  
 Collect Date: 02-FEB-96

VALUE QUAL UNITS DL

CLP VOLATILES 90-SOW

Chloromethane	11 U	ug/kg	11
Bromomethane	11 U	ug/kg	11
Vinyl chloride	11 U	ug/kg	11
Chloroethane	11 U	ug/kg	11
Methylene chloride	5 U	ug/kg	5
Acetone	11 U	ug/kg	11
Carbon disulfide	5 U	ug/kg	5
1,1-Dichloroethene	5 U	ug/kg	5
1,1-Dichloroethane	5 U	ug/kg	5
1,2-Dichloroethene (total)	5 U	ug/kg	5
Chloroform	5 U	ug/kg	5
1,2-Dichloroethane	5 U	ug/kg	5
2-Butanone	11 U	ug/kg	11
1,1,1-Trichloroethane	5 U	ug/kg	5
Carbon tetrachloride	5 U	ug/kg	5
Bromodichloromethane	5 U	ug/kg	5
1,2-Dichloropropane	5 U	ug/kg	5
cis-1,3-Dichloropropene	5 U	ug/kg	5
Trichloroethene	5 U	ug/kg	5
Dibromochloromethane	5 U	ug/kg	5
1,1,2-Trichloroethane	5 U	ug/kg	5
Benzene	5 U	ug/kg	5
trans-1,3-Dichloropropene	5 U	ug/kg	5
Bromoform	5 U	ug/kg	5
4-Methyl-2-pentanone	11 U	ug/kg	11
2-Hexanone	11 U	ug/kg	11
Tetrachloroethene	5 U	ug/kg	5
Toluene	5 U	ug/kg	5
1,1,2,2-Tetrachloroethane	5 U	ug/kg	5
Chlorobenzene	5 U	ug/kg	5
Ethylbenzene	5 U	ug/kg	5
Styrene	5 U	ug/kg	5
Xylenes (total)	5 U	ug/kg	5

U = NOT DETECTED J = ESTIMATED VALUE  
 UJ \* REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
 R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- FACILITY 40  
 SURFACE SOIL -- SEMIVOLATILES -- REPORT REQUEST NO. 10019

Lab Sample Number: C2V88  
 Site: CECILBRAC2  
 Locator: 32S00101  
 Collect Date: 02-FEB-96  
 VALUE QUAL UNITS DL

CLP SEMIVOLATILES 90-SOW

Phenol	350 U	ug/kg	350
bis(2-Chloroethyl) ether	350 U	ug/kg	350
2-Chlorophenol	350 U	ug/kg	350
1,3-Dichlorobenzene	350 U	ug/kg	350
1,4-Dichlorobenzene	350 U	ug/kg	350
1,2-Dichlorobenzene	350 U	ug/kg	350
2-Methylphenol	350 U	ug/kg	350
2,2-oxybis(1-Chloropropane)	350 U	ug/kg	350
4-Methylphenol	350 U	ug/kg	350
N-Nitroso-di-n-propylamine	350 U	ug/kg	350
Hexachloroethane	350 U	ug/kg	350
Nitrobenzene	350 U	ug/kg	350
Isophorone	350 U	ug/kg	350
2-Nitrophenol	350 U	ug/kg	350
2,4-Dimethylphenol	350 U	ug/kg	350
bis(2-Chloroethoxy) methane	350 U	ug/kg	350
2,4-Dichlorophenol	350 U	ug/kg	350
1,2,4-Trichlorobenzene	350 U	ug/kg	350
Naphthalene	350 U	ug/kg	350
4-Chloroaniline	350 U	ug/kg	350
Hexachlorobutadiene	350 U	ug/kg	350
4-Chloro-3-methylphenol	350 U	ug/kg	350
2-Methylnaphthalene	350 U	ug/kg	350
Hexachlorocyclopentadiene	350 U	ug/kg	350
2,4,6-Trichlorophenol	860 U	ug/kg	860
2,4,5-Trichlorophenol	350 U	ug/kg	350
2-Chloronaphthalene	860 U	ug/kg	860
2-Nitroaniline	350 U	ug/kg	350
Dimethylphthalate	350 U	ug/kg	350
Acenaphthylene	350 U	ug/kg	350
2,6-Dinitrotoluene	860 U	ug/kg	860
3-Nitroaniline	350 U	ug/kg	350
Acenaphthene	860 U	ug/kg	860
2,4-Dinitrophenol	860 U	ug/kg	860
4-Nitrophenol	350 U	ug/kg	350
Dibenzofuran	350 U	ug/kg	350
2,4-Dinitrotoluene	350 U	ug/kg	350
Diethylphthalate	350 U	ug/kg	350
4-Chlorophenyl-phenylether	350 U	ug/kg	350
Fluorene	860 U	ug/kg	860
4-Nitroaniline	860 U	ug/kg	860
4,6-Dinitro-2-methylphenol	350 U	ug/kg	350
N-Nitrosodiphenylamine	350 U	ug/kg	350
4-Bromophenyl-phenylether	350 U	ug/kg	350
Hexachlorobenzene	860 U	ug/kg	860
Pentachlorophenol	350 U	ug/kg	350
Phenanthrene	350 U	ug/kg	350
Anthracene	350 U	ug/kg	350
Carbazole	350 U	ug/kg	350
Di-n-butylphthalate	350 U	ug/kg	350

NAS CECIL FILL - FACILITY 40  
 SURFACE SOIL -- SEMIVOLATILES -- REPORT REQUEST NO. 10019

Lab Sample Number: C2V88  
 Site: CECILBRAC2  
 Locator: 32S00101  
 Collect Date: 02-FEB-96

VALUE QUAL UNITS DL

	VALUE	QUAL	UNITS	DL
Fluoranthene	350	U	ug/kg	350
Pyrene	350	U	ug/kg	350
Butylbenzylphthalate	350	U	ug/kg	350
3,3-Dichlorobenzidine	350	U	ug/kg	350
Benzo (a) anthracene	350	U	ug/kg	350
Chrysene	350	U	ug/kg	350
bis(2-Ethylhexyl) phthalate	350	U	ug/kg	350
Di-n-octylphthalate	350	U	ug/kg	350
Benzo (b) fluoranthene	350	U	ug/kg	350
Benzo (k) fluoranthene	350	U	ug/kg	350
Benzo (a) pyrene	350	U	ug/kg	350
Indeno (1,2,3-cd) pyrene	350	U	ug/kg	350
Dibenzo (a,h) anthracene	350	U	ug/kg	350
Benzo (g,h,i) perylene	350	U	ug/kg	350

U = NOT DETECTED J = ESTIMATED VALUE  
 UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
 R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- FACILITY 40  
 SURFACE SOIL -- PESTICIDES & PCBs -- REPORT REQUEST NO. 10020

Lab Sample Number: C2V88  
 Site: CECILBRAC2  
 Locator: 32S00101  
 Collect Date: 02-FEB-96  
 VALUE QUAL UNITS DL

CLP PESTICIDES/PCBS 90-SOW

alpha-BHC	1.8 U	ug/kg	1.8
beta-BHC	1.8 U	ug/kg	1.8
delta-BHC	1.8 U	ug/kg	1.8
gamma-BHC (Lindane)	1.8 U	ug/kg	1.8
Heptachlor	1.8 U	ug/kg	1.8
Aldrin	1.8 U	ug/kg	1.8
Heptachlor epoxide	1.8 U	ug/kg	1.8
Endosulfan I	1.8 U	ug/kg	1.8
Dieldrin	3.6 U	ug/kg	3.6
4,4-DDE	3.6 U	ug/kg	3.6
Endrin	3.6 U	ug/kg	3.6
Endosulfan II	3.6 U	ug/kg	3.6
4,4-DDD	3.6 U	ug/kg	3.6
Endosulfan sulfate	3.6 U	ug/kg	3.6
4,4-DDT	3.6 U	ug/kg	3.6
Methoxychlor	18 U	ug/kg	18
Endrin ketone	3.6 U	ug/kg	3.6
Endrin aldehyde	3.6 U	ug/kg	3.6
alpha-Chlordane	1.8 U	ug/kg	1.8
gamma-Chlordane	1.8 U	ug/kg	1.8
Toxaphene	180 U	ug/kg	180
Aroclor-1016	36 U	ug/kg	36
Aroclor-1221	71 U	ug/kg	71
Aroclor-1232	36 U	ug/kg	36
Aroclor-1242	36 U	ug/kg	36
Aroclor-1248	36 U	ug/kg	36
Aroclor-1254	36 U	ug/kg	36
Aroclor-1260	36 U	ug/kg	36

U = NOT DETECTED J = ESTIMATED VALUE  
 UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
 R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD - FACILITY 40  
 SURFACE SOIL -- INORGANICS -- REPORT REQUEST NO. 10021

Lab Sample Number: C2V88  
 Site: CECILBRAC2  
 Locator: 32S00101  
 Collect Date: 02-FEB-96

VALUE QUAL UNITS DL

CLP METALS AND CYANIDE

Aluminum	3250	mg/kg	40
Antimony	.86 U	mg/kg	12
Arsenic	.64 U	mg/kg	2
Barium	3.5 J	mg/kg	40
Beryllium	.21 U	mg/kg	1
Cadmium	.21 U	mg/kg	1
Calcium	577 J	mg/kg	1000
Chromium	2.8	mg/kg	2
Cobalt	1.3 U	mg/kg	10
Copper	1.3 J	mg/kg	5
Iron	722	mg/kg	20
Lead	5.1	mg/kg	.6
Magnesium	68.9 J	mg/kg	1000
Manganese	2.9 J	mg/kg	3
Mercury	.11 U	mg/kg	.1
Nickel	.76 J	mg/kg	8
Potassium	19.5 U	mg/kg	1000
Selenium	.86 U	mg/kg	1
Silver	.21 U	mg/kg	2
Sodium	93.1 J	mg/kg	1000
Thallium	.64 U	mg/kg	2
Vanadium	2.5 J	mg/kg	10
Zinc	6.6 J	mg/kg	4
Cyanide	.11 U	mg/kg	.5

U = NOT DETECTED J = ESTIMATED VALUE  
 UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
 R = RESULT IS REJECTED AND UNUSABLE

NAS CECIL FIELD -- FACILITY 40  
SURFACE SOIL -- TRPH -- REPORT REQUEST NO. 10022

Lab Sample Number: A680301100  
Site: CECILBRAC2  
Locator: 32S00101  
Collect Date: 02-FEB-96  
VALUE QUAL UNITS DL

TPH  
Total petroleum hydrocarbons 11 U mg/kg 11

U = NOT DETECTED J = ESTIMATED VALUE  
UJ = REPORTED QUANTITATION LIMIT IS QUALIFIED AS ESTIMATED  
R = RESULT IS REJECTED AND UNUSABLE