N62661.AR 001448
NAVSTA NEWPORT RI
5090 3a
921

Remedial Investigation

Volume II of II
Appendices

for

Old Fire Fighting Training Area
Naval Station Newport
Newport, Rhode Island

Engineering Field Activity Northeast
Naval Facilities Engineering Command

Contract Number N62472-90-D-1298
Contract Task Order 0282

July 2001

TETRA TECH NUS, INC.

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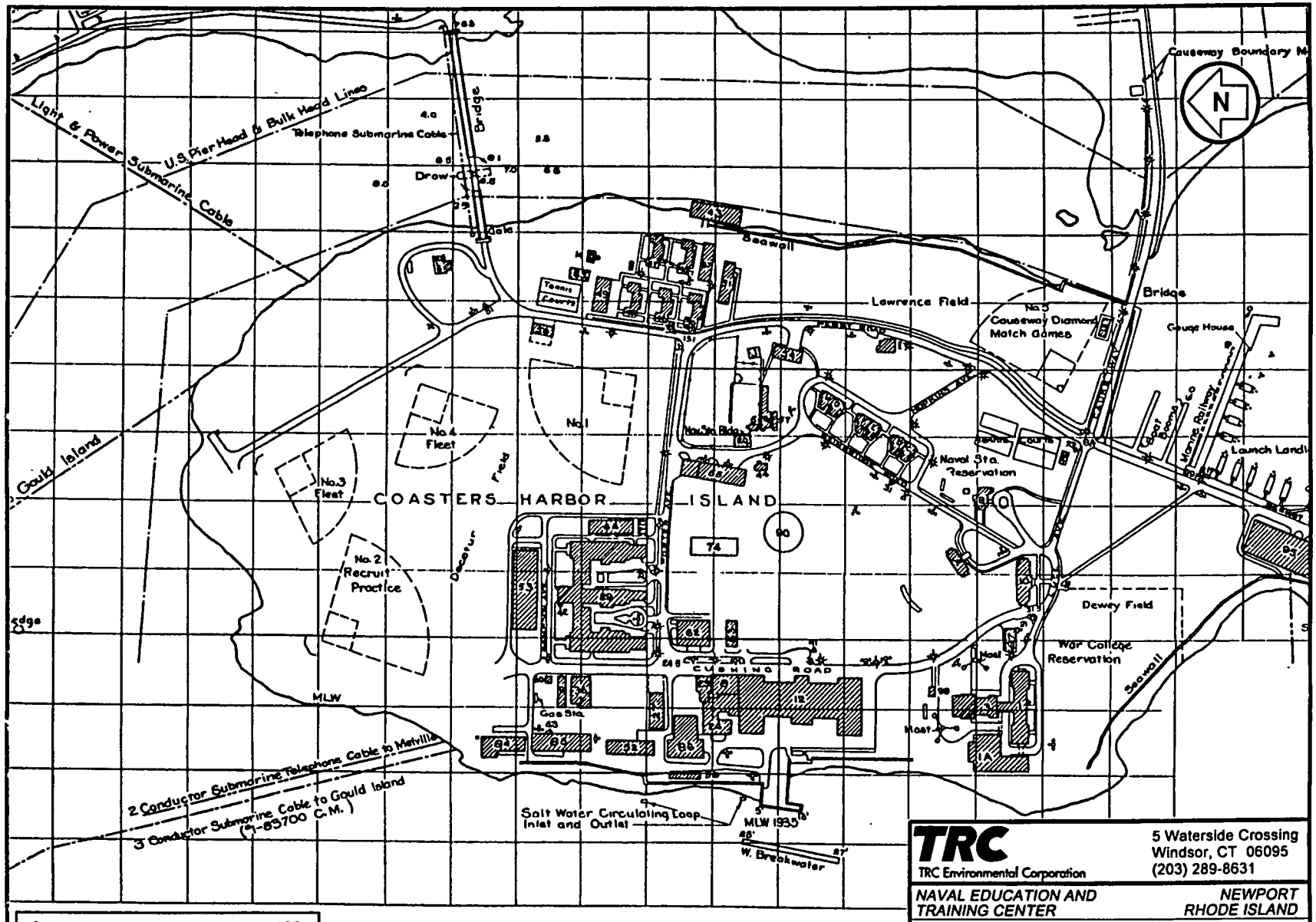
APPENDIX A

HISTORICAL CONDITIONS MAP

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994



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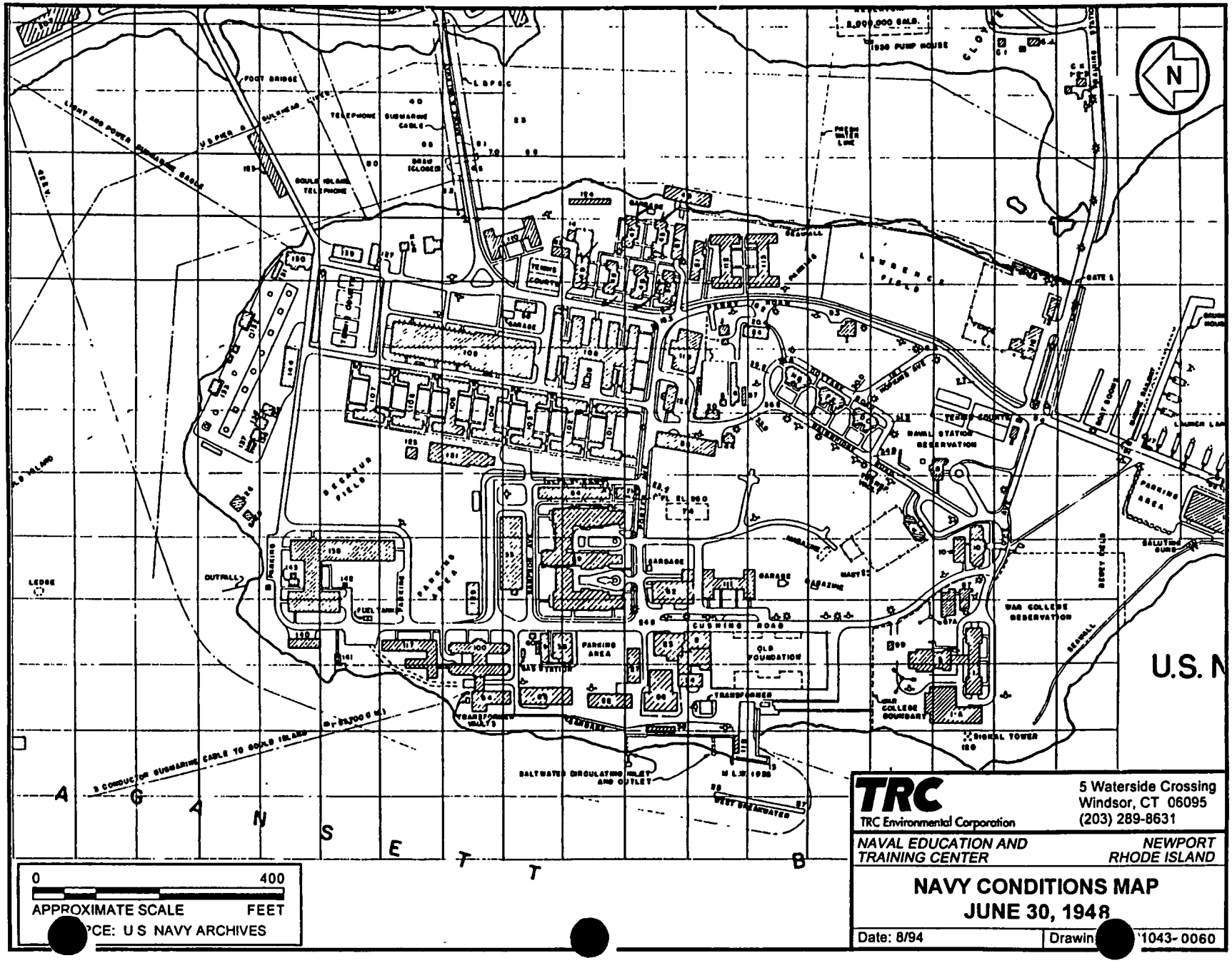
5 Waterside Crossing
Windsor, CT 06095
(203) 289-8631

NAVAL EDUCATION AND TRAINING CENTER — *NEWPORT RHODE ISLAND*

NAVY CONDITIONS MAP
JUNE 30, 1939

Date: 8/94 | Drawing No. 01043-0060


N
FOOT BRIDGE
TELEPHONE
SUBMARINE CABLE
GOULD ISLAND TELEPHONE
GARAGE
NAVAL STATION RESERVATION
WAR COLLEGE RESERVATION
PARKING AREA
SALUTING GUNS
SIGNAL TOWER
CUSHING ROAD
OLD FOUNDATION
TRANSFORMER
SALTWATER CIRCULATING INLET AND OUTLET
3 CONDUCTOR SUBMARINE CABLE TO GOULD ISLAND
OUTFALL
LEDGE
FUEL TANK
SEAWALL
U.S. N
A G A N S E T T B
0 400
APPROXIMATE SCALE FEET
SOURCE: U S NAVY ARCHIVES
TRC
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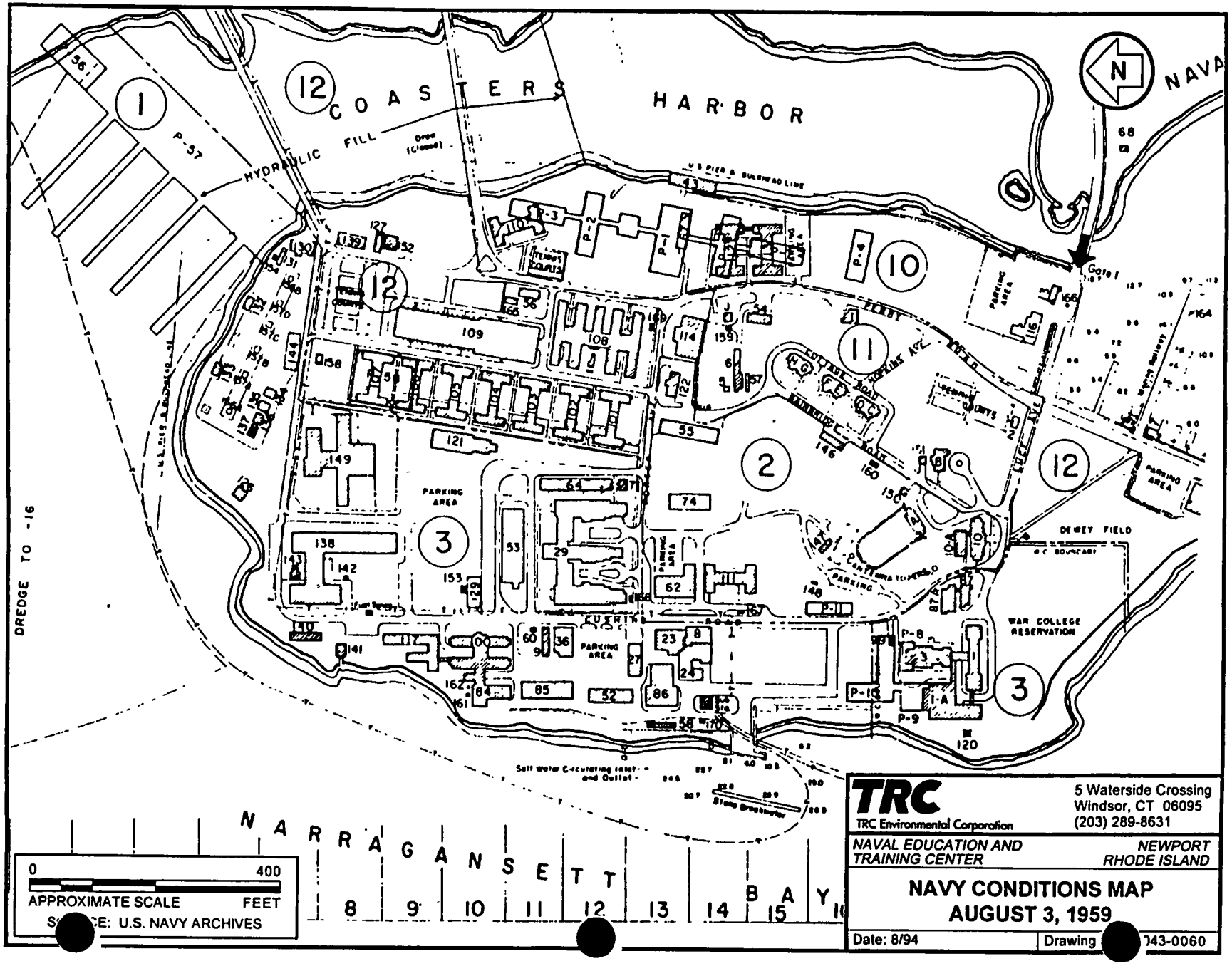
5 Waterside Crossing
Windsor, CT 06095
(203) 289-8631
NAVAL EDUCATION AND TRAINING CENTER
NEWPORT RHODE ISLAND
NAVY CONDITIONS MAP
JUNE 30, 1948
Date: 8/94
Drawing 1043-0060

June 30, 1948

INDEX OF STRUCTURES

Number	Activity	Use
126	F.T.C.	Gas Instruction Building
129	F.T.C.	Diesel Building
130	F.T.C.	FF School (Admin. Building)
131	F.T.C.	Hose House
132	F.T.C.	Carrier Compartment
133	F.T.C.	Carrier Compartment
134	F.T.C.	Simulated Ship Structure
135	F.T.C.	Simulated Ship Structure
136	F.T.C.	Simulated Ship Structure
137	F.T.C.	Simulated Ship Structure
139	F.T.C.	Simulated Ship Structure
144	F.T.C.	Wash & Dressing Rooms

Source: Index of Structures, U.S. Navy Archives, NETC, Newport, Rhode Island.



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NAVAL EDUCATION AND TRAINING CENTER — NEWPORT RHODE ISLAND

NAVY CONDITIONS MAP
AUGUST 3, 1959

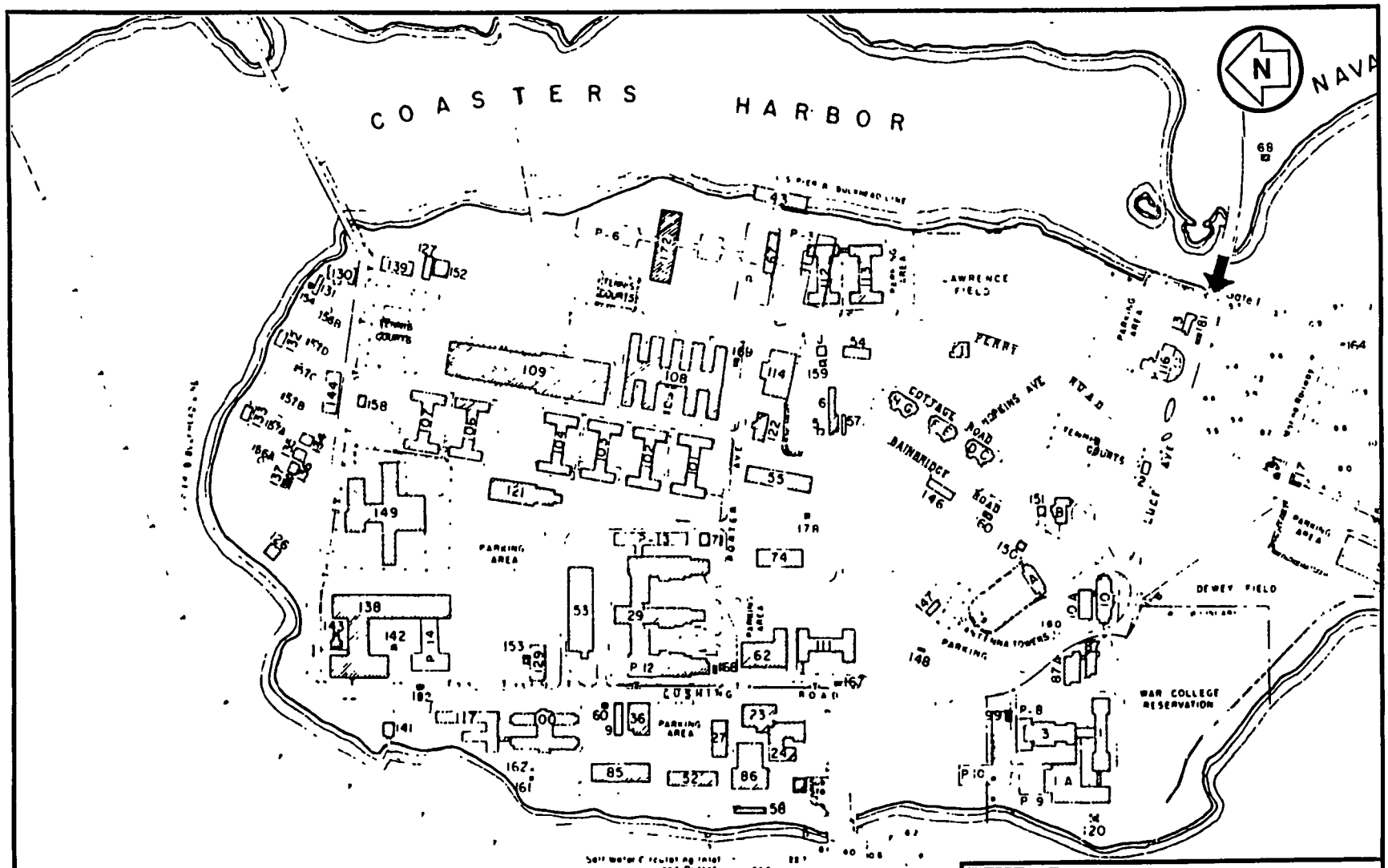
Date: 8/94 | Drawing [redacted]043-0060

August 31, 1959

INDEX OF STRUCTURES

Number	Activity	Use
126	F.T.C.	Classroom
127	Nav. Sta.	B.Z. Trainer Building
129	Nav. Sta.	Garage
130	F.T.C.	Office
131	F.T.C.	Hose Storage
132	F.T.C.	Carrier Compartment
133	F.T.C.	Carrier Compartment
134	F.T.C.	Simulated Ship Structure
135	F.T.C.	Simulated Ship Structure
136	F.T.C.	Simulated Ship Structure
137	F.T.C.	Simulated Ship Structure
139	F.T.C.	Classroom
144	F.T.C.	Dressing & Wash Rooms
152	Nav. Sta.	Classroom for B.Z. Trainer
154	F.T.C.	Classroom
156-A	F.T.C.	Round Open Fire Tank
156-B	F.T.C.	Round Open Fire Tank
157-A	F.T.C.	Rectangular Open Fire Tank
157-B	F.T.C.	Rectangular Open Fire Tank
157-C	F.T.C.	Rectangular Open Fire Tank
157-D	F.T.C.	Rectangular Open Fire Tank
158	P.W.C.	Sewage Pumping Station

Source: Index of Structures, U.S. Navy Archives, NETC, Newport, Rhode Island.



0 400
APPROXIMATE SCALE FEET
SOURCE: U.S. NAVY ARCHIVES

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(203) 289-8631

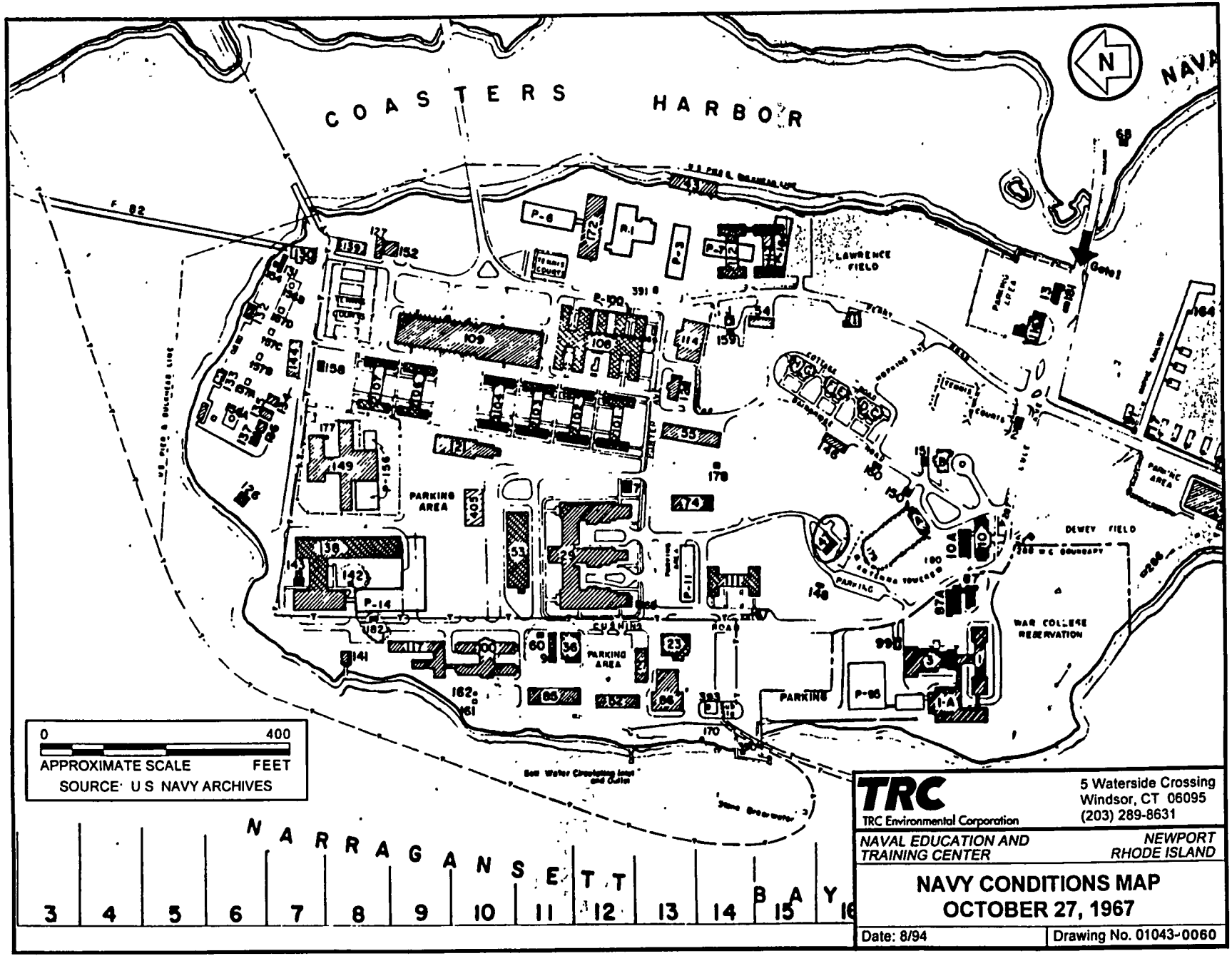
NAVAL EDUCATION AND TRAINING CENTER

NEWPORT RHODE ISLAND

NAVY CONDITIONS MAP
APRIL 4, 1963

Date: 8/94

Drawing [illegible]043-0060


COASTERS HARBOR
NARRAGANSETT BAY
LAWRENCE FIELD
DEWEY FIELD
WAR COLLEGE RESERVATION
PARKING AREA
PARKING
Gate 1
0 400
APPROXIMATE SCALE FEET
SOURCE: U S NAVY ARCHIVES
TRC
TRC Environmental Corporation
5 Waterside Crossing
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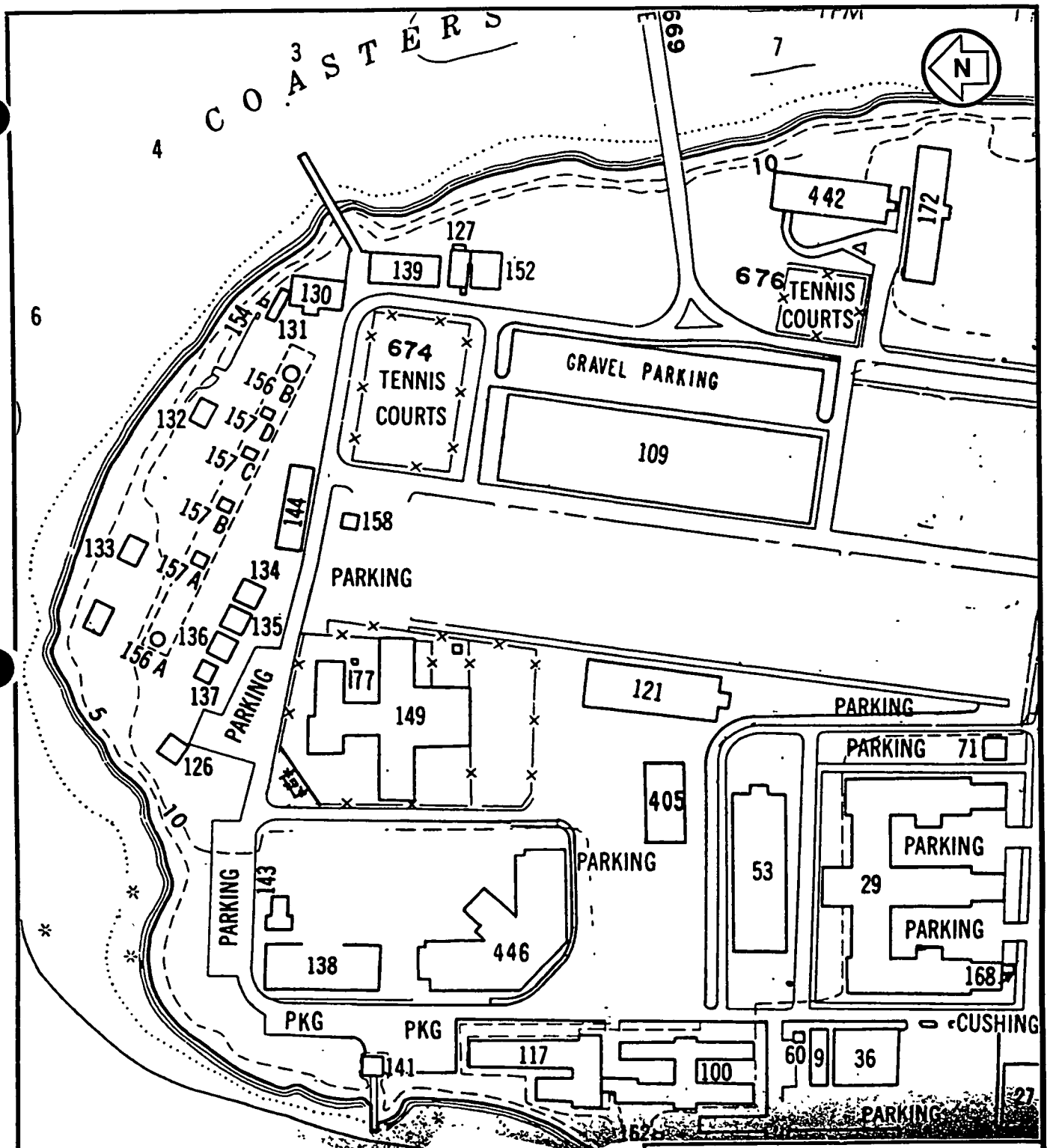
(203) 289-8631
NAVAL EDUCATION AND TRAINING CENTER
NEWPORT RHODE ISLAND
NAVY CONDITIONS MAP
OCTOBER 27, 1967
Date: 8/94
Drawing No. 01043-0060

October 27, 1967

INDEX OF STRUCTURES

Number	Activity	Use
126	Nav. Sta.	Storage
127	N.S.C.	B.Z. Trainer Building
130	F.T.C.	Office
131	F.T.C.	Hose Storage
132	F.T.C.	Carrier Compartment
133	F.T.C.	Carrier Compartment
134	F.T.C.	Simulated Ship Structure
135	F.T.C.	Simulated Ship Structure
136	F.T.C.	Simulated Ship Structure
137	F.T.C.	Simulated Ship Structure
139	F.T.C.	Classroom
144	F.T.C.	Dressing & Wash Rooms
152	O.C.S.	B.Z. Trainer Repair Shop
154	F.T.C.	Classroom
156-A	F.T.C.	Round Open Fire Tank
156-B	F.T.C.	Round Open Fire Tank
157-A	F.T.C.	Rectangular Open Fire Tank
157-B	F.T.C.	Rectangular Open Fire Tank
157-C	F.T.C.	Rectangular Open Fire Tank
157-D	F.T.C.	Rectangular Open Fire Tank
158	P.W.C.	Sewage Pumping Station

Source: Index of Structures, U.S. Navy Archives, NETC, Newport, Rhode Island.



0 200
APPROXIMATE SCALE FEET
SOURCE: U.S. NAVY ARCHIVES

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TRC Environmental Corporation

5 Waterside Crossing
Windsor, CT 06095
(203) 289-8631

NAVAL EDUCATION AND TRAINING CENTER — NEWPORT RHODE ISLAND

NAVY CONDITIONS MAP
JULY 31, 1969

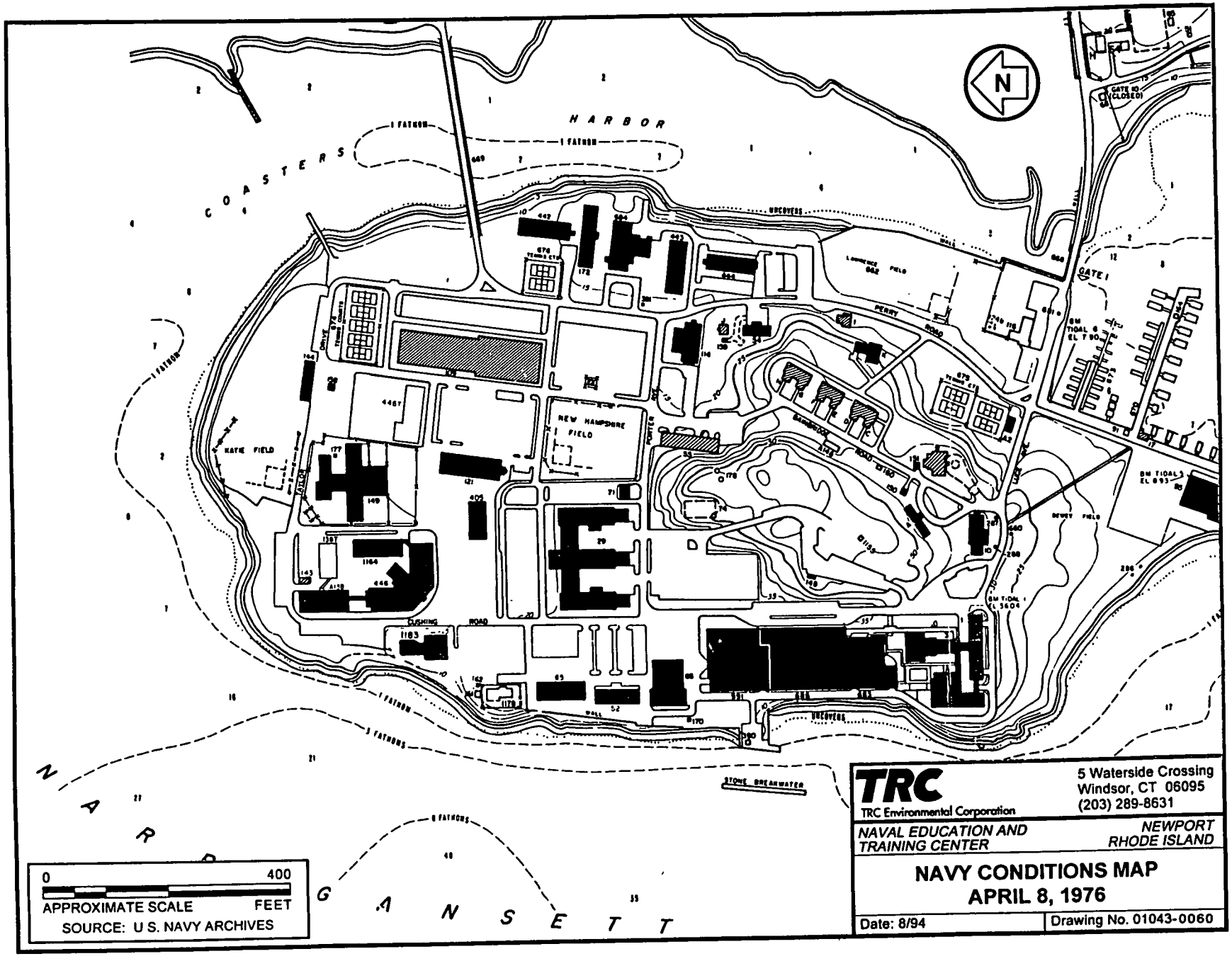
Date: 8/94 | Drawing No. 01043-0060

July 31, 1969

INDEX OF STRUCTURES

Number	Activity	Use
126	F.T.C.	Storehouse
130	F.T.C.	2,000 GPM Fire Protection Pumping Station
131	F.T.C.	Equipment Storehous
132	F.T.C.	Training Mock Up
133	F.T.C.	Training Mock Up (Inactive)
134	F.T.C.	Training Mock Up (Inactive)
135	F.T.C.	Training Mock Up
136	F.T.C.	Training Mock Up (Inactive)
137	F.T.C.	Training Mock Up (Inactive)
144	F.T.C.	EM Locker Room
154	F.T.C.	Equipment Storehouse
156-A	F.T.C.	Training Mock Up (Inactive)
156-B	F.T.C.	Training Mock Up (Inactive)
157-A	F.T.C.	Training Mock Up
157-B	F.T.C.	Training Mock Up
1157-C	F.T.C.	Training Mock Up
157-D	F.T.C.	Training Mock Up

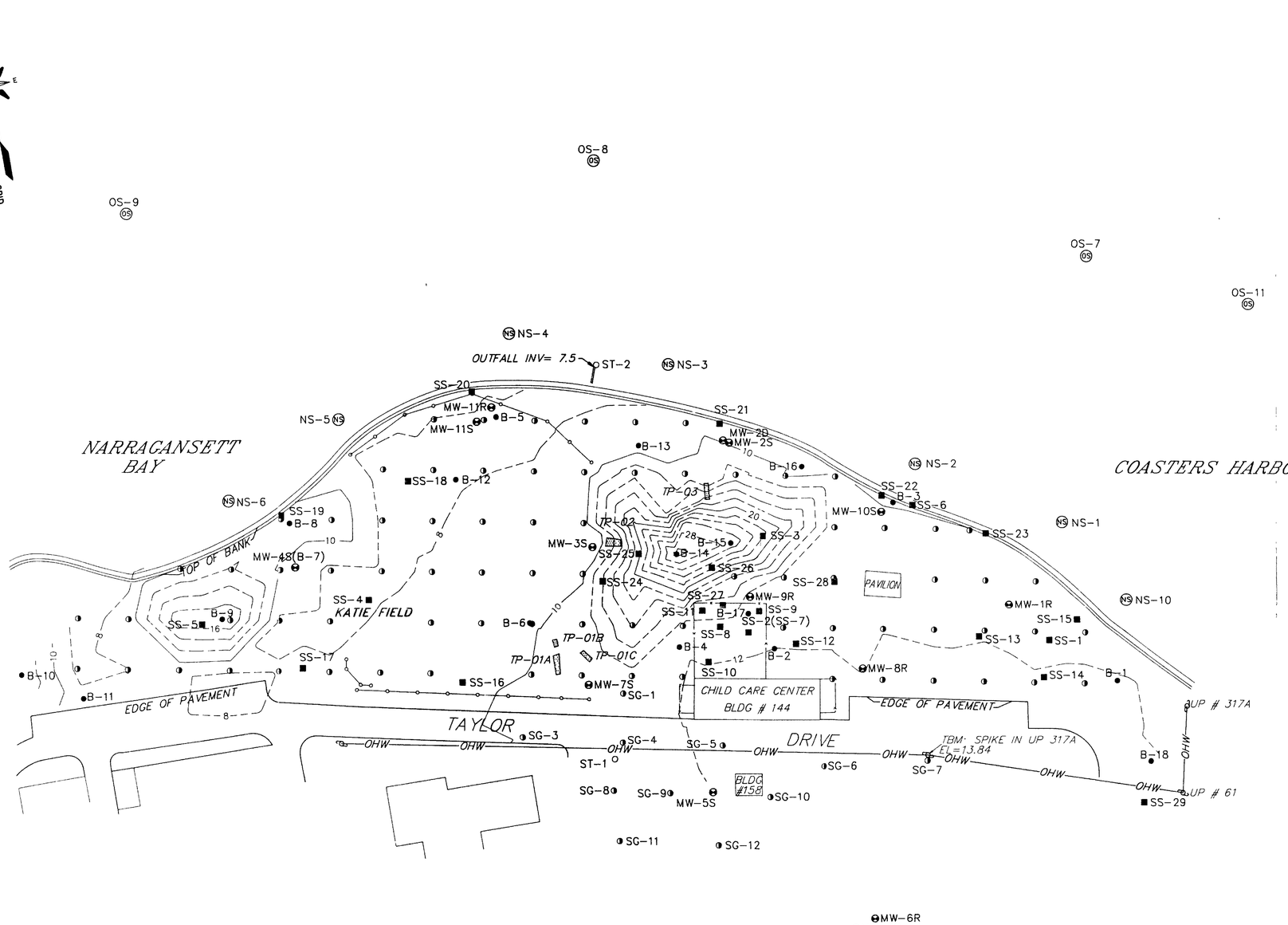
Source: Index of Structures, U.S.Navy Archives, NETC, Newport, Rhode Island.

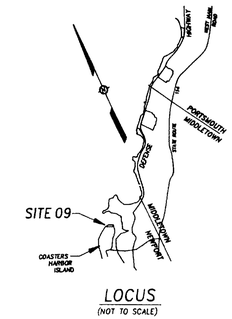

HARBOR
COASTERS
NARRAGANSETT
1 FATHOM
3 FATHOMS
8 FATHOMS
UNCOVERS
WALL
STONE BREAKWATER
NEW HAMPSHIRE FIELD
KATIE FIELD
LAWRENCE FIELD
NEWBY FIELD
PERRY ROAD
CUSHING ROAD
BARBADOS ROAD
PORTER DRIVE
GATE I
GATE 10 (CLOSED)
BM TIDAL 6 EL 7.90
BM TIDAL 3 EL 8.93
BM TIDAL 1 EL 5.04
N
0
400
APPROXIMATE SCALE
FEET
SOURCE: U S. NAVY ARCHIVES
TRC
TRC Environmental Corporation
5 Waterside Crossing
Windsor, CT 06095
(203) 289-8631
NAVAL EDUCATION AND TRAINING CENTER
NEWPORT RHODE ISLAND
NAVY CONDITIONS MAP
APRIL 8, 1976
Date: 8/94
Drawing No. 01043-0060

APPENDIX B

PHASE I AND II SITE INVESTIGATION SUMMARY (PLATE A-1)

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994





NOTES:

1. ELEVATION DATUM: MEAN LOW WATER
2. THIS MAP IS A COMPILATION OF FIELD MEASURED DATA, DATA PROVIDED BY TRC ENVIRONMENTAL CONSULTANTS, INC., AND DATA PROTRACTED FROM REFERENCE PLAN NO. 1.
3. THE CONTOUR INTERVAL IS 2 FEET.

REFERENCE PLANS:

1. NAVAL COMPLEX, NEWPORT, R.I., COASTERS HARBOR ISLAND AND NAVAL HOSPITAL, EXISTING CONDITIONS MAP, BY NAVAL FACILITIES ENGINEERING COMMAND, DWG. NO. 994, 207.
2. PLAT SHOWING LAND IN CITY OF NEWPORT & TOWNS OF MIDDLETOWN & PORTSMOUTH, ACQUIRED FOR RAILROAD PURPOSES ON BEHALF OF THE STATE OF RHODE ISLAND & PROVIDENCE PLANTATIONS, BY THE DIRECTOR OF TRANSPORTATION, RAILROAD PLAT NO. 1.

LEGEND

- TP-01 ..... TEST PIT
- OS-9 ..... OFFSHORE SAMPLE
- NS-3 ..... NEARSHORE SAMPLE
- SS-3 ..... SURFACE SOIL SAMPLE
- SG-3 ..... SOIL GAS SAMPLE
- ST-3 ..... STORM SEWER SAMPLE
- B-5 ..... TEST BORING
- MW-3 ..... MONITORING WELL
- — , — ..... FENCE LINE
- —OHW— ..... OVERHEAD WIRES
- ..... UTILITY POLE
- ..... CHAIN LINK FENCE

GRAPHIC SCALES

CHECK GRAPHIC SCALES BEFORE USING

60' 30' 0 60'

1"=60'

TRC TRC Environmental Corporation

DSGN: DR. K. HOLLENBECK CHK: J. PERONTO
SURVY: CH ENG
SUBMITTED BY: DATE
CITER MONDED: CITELD DATED
NORTHERLY
PM
FMC
OFFICER IN CHARGE
APPROVED DATE

REV.	DESCRIPTION	PREP BY	DATE	APPRV'D

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
LESTER PENNSYLVANIA
NAVAL EDUCATION AND TRAINING CENTER NEWPORT, RHODE ISLAND

NORTHERN DIVISION

SITE 09 OLD FIRE FIGHTING TRAINING AREA

SITE INVESTIGATION SUMMARY

APPROVED DATE NORTHDIV FOR COMMANDER, NAVFAC

SEAL AREA

SAT TO DATE

CODE I.D. NO. 80091
SCALE AS NOTED
SPEC. NO. 04 - 86 - 1282
CONSTRN. CONTR. NO. N62472-86-C-1282
NAVFAC DRAWING NO.
SHEET OF
SIZE D
DIS. SH. NO. A-1

C:\10430080\S3104308 8/94

APPENDIX C

PHASE I AND II RI GEOPHYSICAL SURVEY DATA

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

APPENDIX C

- GEOPHYSICAL SURVEY DATA -

APPENDIX C-1	SEISMIC REFRACTION SURVEY REPORT
APPENDIX C-2	PHASE I RI MAGENTIC CONTOUR MAP
APPENDIX C-3	PHASE I RI CONDUCTIVITY CONTOUR MAP

APPENDIX C-1 SEISMIC REFRACTION SURVEY REPORT

HAGER-RICHTER
GEOSCIENCE, INC.

CONSULTANTS IN GEOLOGY & GEOPHYSICS
8 INDUSTRIAL WAY - D10
SALEM, NEW HAMPSHIRE 03079
TELEPHONE (603) 893-9944
FAX (603) 893-8313

June 14, 1994
File 93D11

Mr. James Peronto, P.E.
Project Manager
TRC Environmental Corporation
5 Waterside Crossing
Windsor, CT 06095

RE: Geophysical Survey
Phase II Remedial Investigation
Naval Education & Training Center (NETC)
Newport, Rhode Island
TRC Project No. 6760-N81

Dear Mr. Peronto:

Enclosed herewith is a revised Page 3 for the report entitled "Seismic Refraction Survey, Naval Education & Training Center, Newport, Rhode Island." If you have any further questions or comments on the report, please contact us at your convenience.

It has been a pleasure to work with you on this project. We look forward to the opportunity of working with you again in the future.

Sincerely yours,
HAGER-RICHTER GEOSCIENCE, INC.

Jeffrey Reid
Operations Manager

Enc:

geologic contact.

The depth relations of the water table and bedrock may constitute a significant problem for the seismic refraction technique. This problem is that of a "blind layer." A blind layer occurs where the thickness of the saturated overburden is less than about half the depth of bedrock. In such cases, the water-saturated material immediately above bedrock is "blind" in the sense that no refracted seismic energy from it will be received as a first arrival of seismic energy, and all methods used to reduce the seismic data to determine the depth of bedrock, the objective of this survey, use *only* first arrivals. Thus, the saturated layer will not be detected where it is close to bedrock, and most methods of seismic data reduction will indicate that bedrock is considerably deeper than it actually is. Although GRM, the method used by Hager-Richter to reduce the seismic refraction data, does not use first arrivals through the water saturated zone (because there is none to use) in such cases, GRM determines the depth of bedrock correctly by using the *average* velocity of the saturated and unsaturated zones.

A "hidden layer" occurs where a lower velocity material underlies a higher velocity material, a common situation in stratified sediments. An example is where sands are present under layers of clay or till. As in the case of a "blind layer," most methods of seismic refraction data reduction will indicate that bedrock is considerably deeper than it actually is, if a hidden layer is present but not detected. Internal tests in the seismic refraction data reduction software that we use (GREMIX by Interpex) indicate that such layers might be present, and an average velocity of the two layers is used to determine the depth of bedrock.

2.3 Site Specific

TRC specified the general locations of the seismic refraction lines prior to the field operations. The locations and lengths of certain seismic refraction lines were modified in the field with the concurrence of the TRC site representatives. The locations of the seismic refraction lines are shown in Plate 1 and Figure 3.

Seismic spread cables with a either a 5-foot or 10-foot geophone spacing were used because local conditions limited the spread lengths in several cases. The seismic source was an accelerated weight drop (Bison EWG).

The sampling frequency at the NETC was 0.100 msec; 1000 samples were recorded: so the record length was 100 msec for each shot point. The high cut filters were 4 kHz, and the low cut filter was 4 Hz for most records.

HAGER-RICHTER
GEOSCIENCE, INC.

SEISMIC REFRACTION SURVEY
NAVAL EDUCATION &
TRAINING CENTER
NEWPORT, RHODE ISLAND

Prepared for:

TRC Environmental Corporation
5 Waterside Crossing
Windsor, Connecticut 06095

Prepared by:

Hager-Richter Geoscience, Inc.
8 Industrial Way - D10
Salem, New Hampshire 03079

File 93D11
November, 1993
©1993 Hager-Richter Geoscience, Inc.

0. EXECUTIVE SUMMARY

Hager-Richter Geoscience, Inc. conducted a seismic refraction survey at the Naval Education and Training Center (NETC), Newport, Rhode Island for TRC Environmental Corporation in November, 1993. The geophysical survey is part of a larger Phase II Remedial Investigation of the Site by TRC for the US Department of the Navy.

The NETC is a large facility located on the east shore of Narragansett Bay. The objectives of the geophysical survey were to determine the depth of bedrock in two areas specified by TRC. The two areas included in the seismic refraction survey were designated by TRC as:

- Site 01 - McAllister Point Landfill
- Site 09 - Old Fire Fighting Training Area

Seismic refraction data were collected along four lines for a total length of 1985 feet at Site 01 and along two lines for a total length of 700 feet at Site 09. The locations of the seismic lines were specified by TRC. The results of the seismic refraction survey at NETC indicate that:

- At Site 01 - McAllister Point Landfill, the depth of relatively competent bedrock varies between about 6 and 23 feet, and is generally located below the geologic contact between overburden and weathered shale, as noted in logs for nearby borings. The bedrock surface deepens gently to the southeast.

- At Site 09 - Old Fire Fighter Training Area, the depth of relatively competent bedrock varies between about 6 and 27 feet. The bedrock surface is gently undulating, with an apparent shallow basin located along Seismic Line 1.

Seismic Refraction Survey
NETC
Newport, Rhode Island
File 93D11 November, 1993

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	2.1 General	2
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	3.1 Site 01 - McAllister Point Landfill	4
	3.2 Site 09 - Old Fire Fighting Training Area	5
4.	Conclusions	6

TABLE

1. Comparison of Depths of Bedrock for Seismic Lines and Nearby Borings - Site 01 - McAllister Point Landfill
2. Comparison of Depths of Bedrock for Seismic Lines and Nearby Borings - Site 09 - Old Fire Fighting Training Area

FIGURES

1. Location of NETC
2. Locations of Sites Included in Seismic Refraction Survey
3. Site Plan - Site 09 - Old Fire Fighting Training Area
4. Seismic Refraction Profiles - Site 01 - McAllister Point Landfill
5. Seismic Refraction Profiles - Site 09 - Old Fire Fighting Training Area

PLATE

1. Site Plan - Site 01 - McAllister Point Landfill

APPENDICES

1. Seismic Refraction Method
2. Seismic Refraction Results

1. INTRODUCTION

Hager-Richter Geoscience, Inc. conducted a geophysical survey at the Naval Education and Training Center (NETC), Newport, Rhode Island for TRC Environmental Corporation (TRC) of Windsor, Connecticut in November, 1993. The geophysical survey is part of a larger Phase II Remedial Investigation of the Site by TRC for the US Department of the Navy under Contract No. N62472-86-C-1282.

The NETC is a large naval complex located on the east shore of Narragansett Bay. Figure 1 shows the general location of the Site. The property consists of several hundred acres.

The objective of the seismic refraction survey was to provide information about the subsurface conditions in two specific areas of the NETC designated by TRC. In particular, TRC was interested in obtaining information about the depth of bedrock. The general locations of the two areas are shown in Figure 2, and they are designated by TRC as:

- Site 01 - McAllister Point Landfill
- Site 09 - Old Fire Fighting Training Area

Site 01, the McAllister Point Landfill is located in the central portion of the NETC (Figure 2). It is 11.5 acres in size and is located between Defense Highway and Narragansett Bay. A set of Penn Central Railroad tracks is present along the eastern side of the Site. According to information provided by TRC, the McAllister Point Landfill received sanitary and industrial wastes over a 20-year period. Currently, the majority of the Site is thinly vegetated with grass and weeds, and the surface is hummocky. A wooded area is present at the north end of the Site.

Site 09, the Old Fire Fighting Training Area, is located at the northern end of Coasters Harbor Island (Figure 2). The Site reportedly was used as a fire fighting training area from World War II to 1972. Presently, the Site is used as a child care facility, picnic area, playground, and ball field. Two grass-covered soil mounds, one about 6 feet high and the other about 15 feet high, are present in the central part of the Site.

Hager-Richter personnel were on site November 2-4, 1993. The weather conditions were cold and damp for the most part. Jeffrey Reid and Allyn Bowers conducted the seismic refraction field work. The field work was coordinated with Mr. James Peronto, P.E. of TRC. All work was conducted under Level D personal protection and according to the TRC Site

Specific Health and Safety Plan. Data analysis and interpretation were completed at the Hager-Richter offices. Original data and field notes reside in the Hager-Richter files and will be retained for a minimum of three years.

2. EQUIPMENT AND PROCEDURES

2.1 General

The general procedures and equipment used by Hager-Richter for seismic refraction surveys are described in Appendix 1.

2.2 Limitations of the Method

Like all geophysical methods, the seismic refraction method is based on the assumption that the local geology is uncomplicated. In particular, the seismic refraction method assumes that interfaces between geologic materials correlate with sharp increases in seismic velocity and that the interfaces are relatively flat-lying. The method is not very sensitive to lateral variations in properties within layers, and relatively subtle features such as fracture zones within bedrock are generally difficult to detect unless there is a topographic expression of the feature. The accuracy of the method is degraded in areas with strong surface topographic relief and/or where the subsurface interfaces have apparent dips greater than about 20°.

It is difficult to impossible to obtain useful seismic refraction data on landfill materials. The relatively high volume of void space in landfills attenuates the seismic energy, with the result that refracted signals from subsurface interfaces are too weak to detect.

Where two materials do not exhibit contrasting velocities, or where velocities gradually increase with depth, a clear refracted signal is not generated, and the seismic refraction method cannot be used to distinguish the two materials. In some cases, the "geophysical contact" between materials with contrasting velocities does not correlate exactly with the "geologic contact." For example, where a highly weathered bedrock is overlain by a dense material such as till, the velocity range of the weathered bedrock might overlap or approach the velocity range of the till, and the two materials cannot be distinguished seismically. In such cases, the depth determined by seismic refraction is the depth of *competent* bedrock, which might be located at some depth below the geologic contact.

The depth relations of the water table and bedrock may constitute a significant problem for the seismic refraction technique. This problem is that of a "blind layer." A blind layer occurs where the thickness of the saturated overburden is less than about half the depth of bedrock. In such cases, the water-saturated material immediately above bedrock is "blind" in the sense that no refracted seismic energy from it will be received as a first arrival of seismic energy, and all methods used to reduce the seismic data to determine the depth of bedrock, the objective of this survey, use *only* first arrivals. Thus, the saturated layer will not be detected where it is close to bedrock, and most methods of seismic data reduction will indicate that bedrock is considerably deeper than it actually is. Although GRM, the method used by Hager-Richter to reduce the seismic refraction data, does not use first arrivals through the water saturated zone (because there is none to use) in such cases, GRM determines the depth of bedrock correctly by using the *average* velocity of the saturated and unsaturated zones.

A "hidden layer" occurs where a lower velocity material underlies a higher velocity material, a common situation in stratified sediments. An example is where sands are present under layers of clay or till. As in the case of a "blind layer," most methods of seismic refraction data reduction will indicate that bedrock is considerably deeper than it actually is, if a hidden layer is present but not detected. Internal tests in the seismic refraction data reduction software that we use (GREMIX by Interpex) indicate that such layers might be present, and an average velocity of the two layers is used to determine the depth of bedrock.

2.3 Site Specific

TRC specified the general locations of the seismic refraction lines prior to the field operations. The locations and lengths of certain seismic refraction lines were modified in the field with the concurrence of the TRC site representatives. The locations of the seismic refraction lines are shown in Plate 1 and Figure 3.

Seismic spread cables with a either a 5-foot or 10-foot geophone spacing were used because local conditions limited the spread lengths in several cases. The seismic source was an accelerated weight drop (Bison EWG) ~~or a 12-lb hammer striking a steel base plate.~~

The sampling frequency at the NETC was 0.100 msec; 1000 samples were recorded: so the record length was 100 msec for each shot point. The high cut filters were 4 kHz, and the low cut filter was 4 Hz for most records.

Five shot points were used per spread. Shot points were located at the ends and middle of the spread, and symmetrical offset shots of up to 100 feet were made from the ends of each

spread to obtain bedrock arrivals from all geophones. The locations of seismic lines and offset shot points were staked in the field for later survey by TRC. Surface elevations were determined from topographic plans provided by TRC with a 1-foot contour interval for Site 01 and a 2-foot contour interval for Site 09, and the surface elevations are probably accurate to within a foot.

3. RESULTS AND DISCUSSION

3.1 Site 01 - McAllister Point Landfill

3.1.1 General. The seismic refraction survey at Site 01 consisted of 6 spreads totaling 1985 feet. The locations of the seismic lines are shown on Plate 1 (in pocket).

The McAllister Point Landfill is inactive and located in a remote portion of the NETC, so the Site is relatively "quiet" from a seismic perspective, and the data for Seismic Lines 1A, 1B, 1C and 2 are good to very good. However, Seismic Lines 3 and 4 were located directly on landfill materials at the direction of TRC, and due to the highly attenuating properties of the fill, refracted signals could not be detected. Thus, the data for Seismic Lines 3 and 4 could not be interpreted and they are not discussed further.

3.1.2 Stratigraphy and Bedrock Topography. The results of the seismic refraction survey at Site 01 are shown in profile form in Figure 4 and are tabulated in Appendix 2.

Only two velocity layers can be distinguished on the basis of the seismic data for Site 01. The upper material, with a velocity range of 1100 - 2100 fps, is interpreted to consist of unsaturated overburden (fill and/or sediments). Materials with a velocity range of 9500-13100 fps are interpreted to consist of relatively competent bedrock (shale, according to information provided by TRC. The saturated zone under the seismic lines occurs either within bedrock or within a few feet of the top of bedrock.

The depth of relatively competent bedrock determined seismically at Site 01 varies between approximately 8 and 23 feet below ground surface. As can be seen in the profiles (Figure 3), the bedrock surface appears to deepen gently toward the southeast.

The quality of seismic refraction results can be evaluated by comparing bedrock depths determined seismically with "ground truth" determined from borings. In Table 1, we compare

the depths of bedrock determined in several nearby borings from logs provided by TRC with the depths determined by the seismic refraction survey, and judge that the correlation is reasonably good. In general, the depth of bedrock determined seismically falls between the depth of weathered shale bedrock (low blow counts) and more competent bedrock (high blow counts or refusal) as noted in the boring logs. As noted in section 2.2, where the top of bedrock is highly fractured and/or deeply weathered, as evidently is the case at Site 01, it commonly cannot be distinguished as a distinct layer on the basis of seismic refraction data. The fact that the depth of bedrock determined seismically is generally shallower than the depth of less weathered rock determined in borings at Site 01 indicates that the transition from weathered to competent rock is gradual.

3.2 Site 09 - Old Fire Fighter Training Area

3.1.1 General. The seismic refraction survey at Site 09 consisted of 2 spreads, designated as Seismic Lines 1 and 2, totaling 700 feet. The locations of the seismic lines are shown on Figure 3. The results are shown in profile form in Figure 5 and are tabulated in Appendix 2.

3.1.2 Stratigraphy and Bedrock Topography. Materials with two distinct velocity ranges can be distinguished on the basis of the seismic data at Site 09. The upper material, with a velocity range of 2600 - 3000 fps, is interpreted to consist of unsaturated overburden (fill and/or sediments). Materials with a velocity range of 11500-14300 fps are interpreted to consist of relatively competent bedrock (conglomerate, according to information provided by TRC). The saturated zone under the seismic lines occurs either within bedrock or within a few feet of the top of bedrock.

Bedrock depths determined seismically at Site 09 vary between approximately 6 and 27 feet below ground surface. As can be seen in the profiles (Figure 5), an apparent shallow basin is present in the bedrock surface between about 1+50 and 3+70 on Seismic Line 1.

The quality of seismic refraction data can also be evaluated by comparing bedrock depths determined seismically with "ground truth" determined from borings. In Table 2, we compare the depths of bedrock determined in several nearby borings from logs provided by TRC with the depths determined by the seismic refraction survey, and judge that the correlation is good. The boring logs for Site 09 indicate that the bedrock is conglomerate, and there is no zone of deeply weathered bedrock comparable to that noted at Site 01.

The depth of bedrock determined seismically near B17 is significantly deeper than that noted in the boring log. However, B17 is located about 30 feet N of the seismic line, and other borings to the north of B17 indicate that a bedrock knob might be present. We infer that the

bedrock knob might have relatively sharp edges, since it is not reflected in the seismic refraction data for Seismic Line 1.

4. CONCLUSIONS

On the basis of the seismic refraction survey at the Naval Education and Training Center, Newport, Rhode Island, we conclude:

- At Site 01 - McAllister Point Landfill, the depth of relatively competent bedrock varies between about 6 and 23 feet, and is generally located below the geologic contact between overburden and weathered shale, as noted in logs for nearby borings. The bedrock surface deepens gently to the southeast.

- At Site 09 - Old Fire Fighter Training Area, the depth of relatively competent bedrock varies between about 6 and 27 feet. The bedrock surface is gently undulating, with an apparent shallow basin located along Seismic Line 1.

TABLE 2
COMPARISON OF DEPTHS OF BEDROCK FOR SEISMIC LINES AND NEARBY BORINGS
SITE 09 - OLD FIRE FIGHTING TRAINING CENTER
NAVAL EDUCATION AND TRAINING CENTER
NEWPORT, RHODE ISLAND

SEISMIC LINE/ BORING NUMBER	INTERSECTION LOCATION	BEDROCK DEPTHS FROM BORING (ft)		BEDROCK DEPTH FROM SEISMIC (ft)
		WEATHERED	LESS * WEATHERED	
1 / MW-8	0+00 / 46' SE	4	unknown	6
1 / B-2	0+65 / 10' NE	>9	unknown	9
1 / B-17	1+13 / 30' NE	unknown	4	14
1 / B-4	1+60 / 10' NE	>12.5	unknown	18
1 / MW-7	2+50 / 20' SW	>14	unknown	22
1 / B-6	3+10 / 25' NE	>14	unknown	20
2 / B-13	0+00 / 62' NE	18	29	23
2 / MW-3	0+70	>14	unknown	23
2 / MW-7	1+98 / 14' W	>14	unknown	27

* Depth of refusal or depth at which blow counts increase significantly.

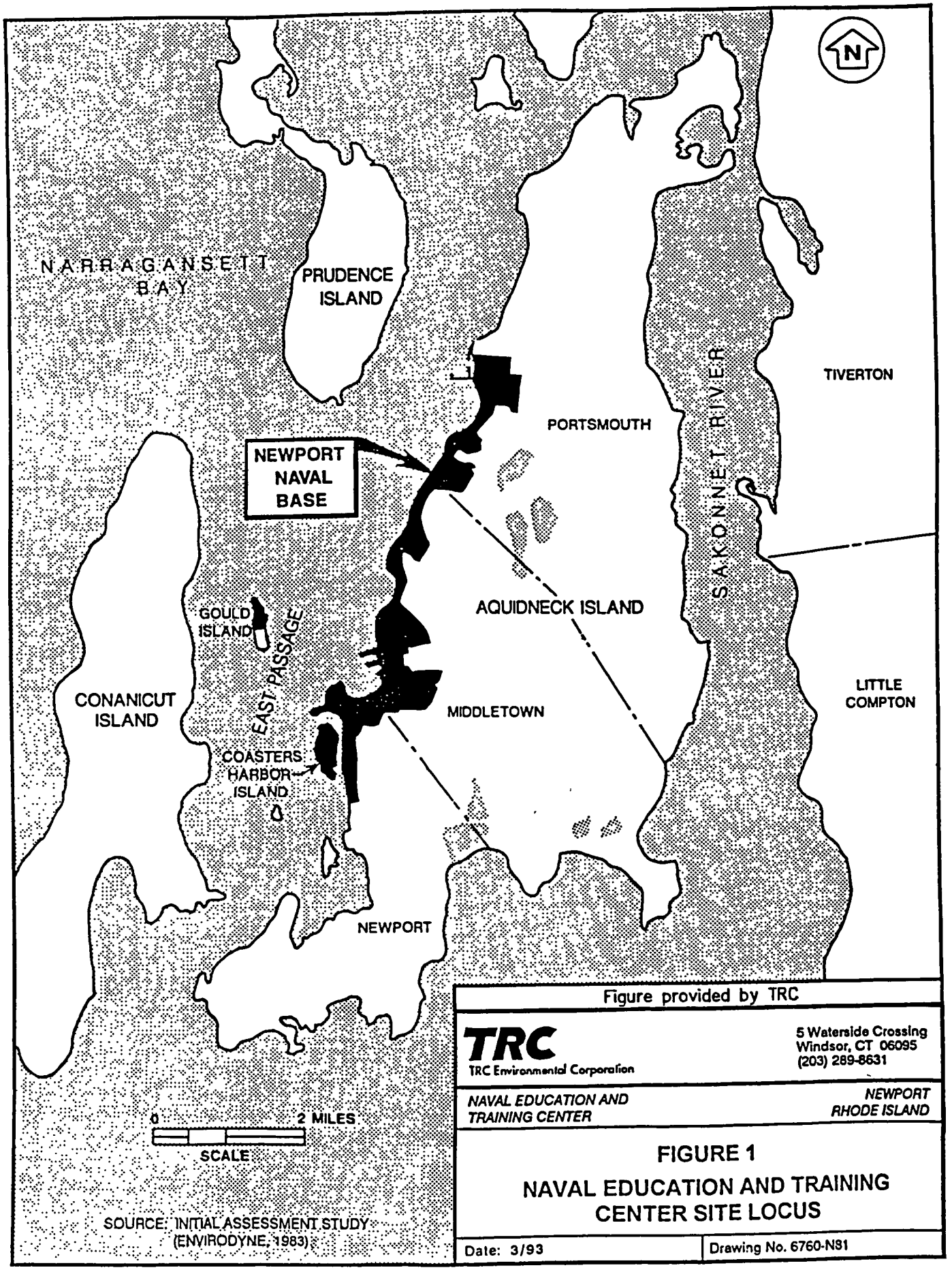

Figure provided by TRC

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TRC Environmental Corporation

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Windsor, CT 06095
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NAVAL EDUCATION AND TRAINING CENTER

NEWPORT RHODE ISLAND

FIGURE 1
NAVAL EDUCATION AND TRAINING CENTER SITE LOCUS

Date: 3/93

Drawing No. 6760-N31

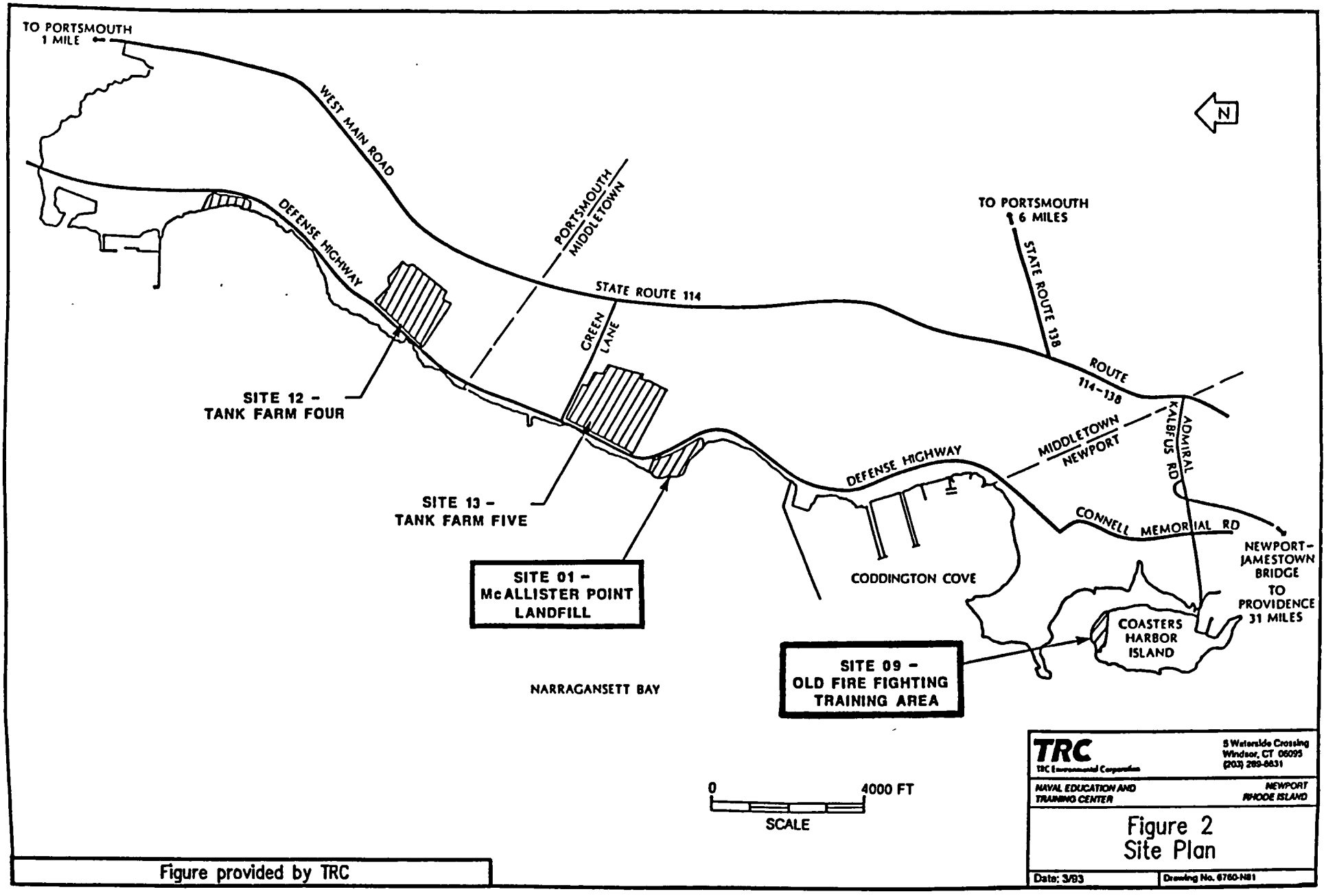


Figure provided by TRC

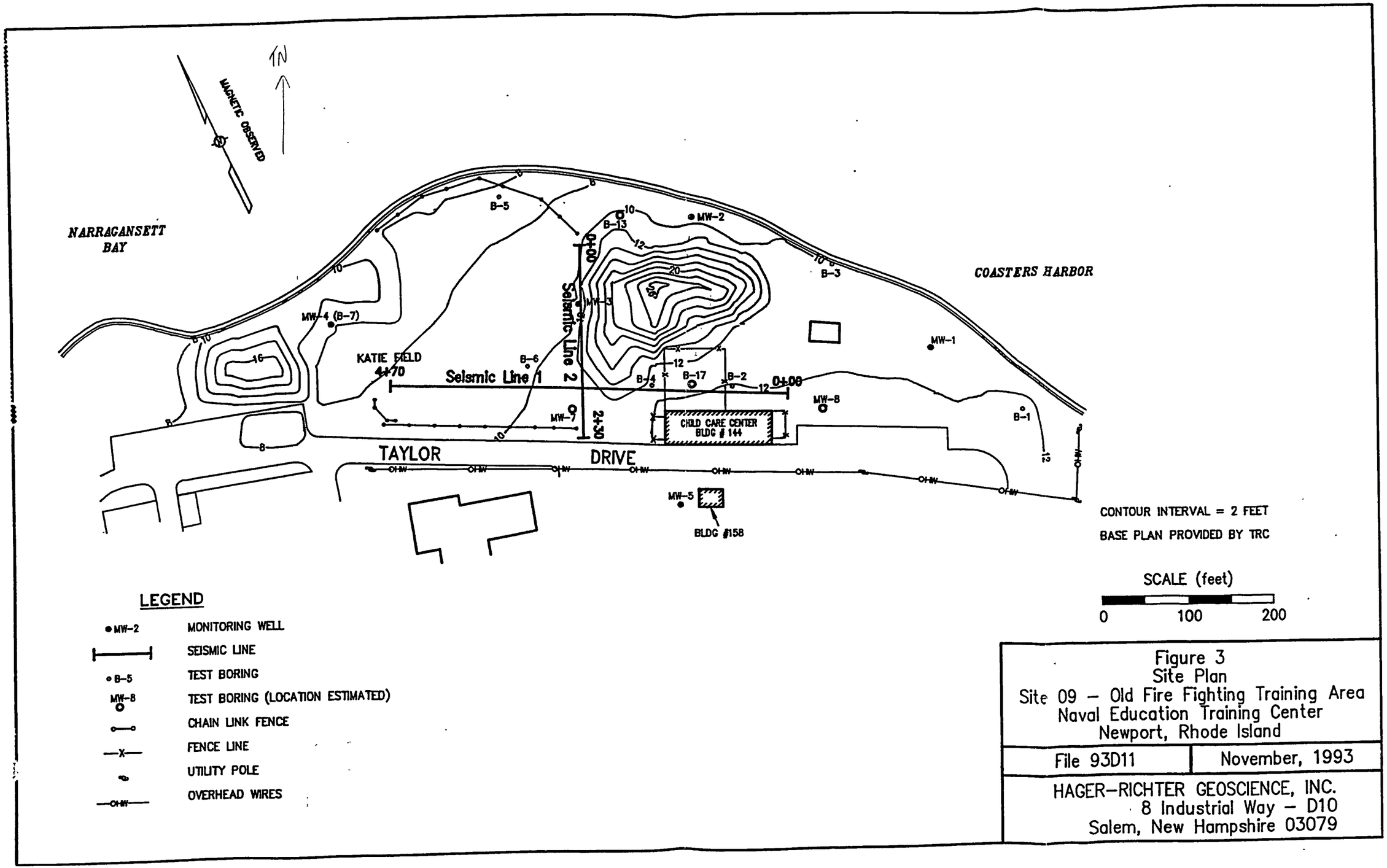
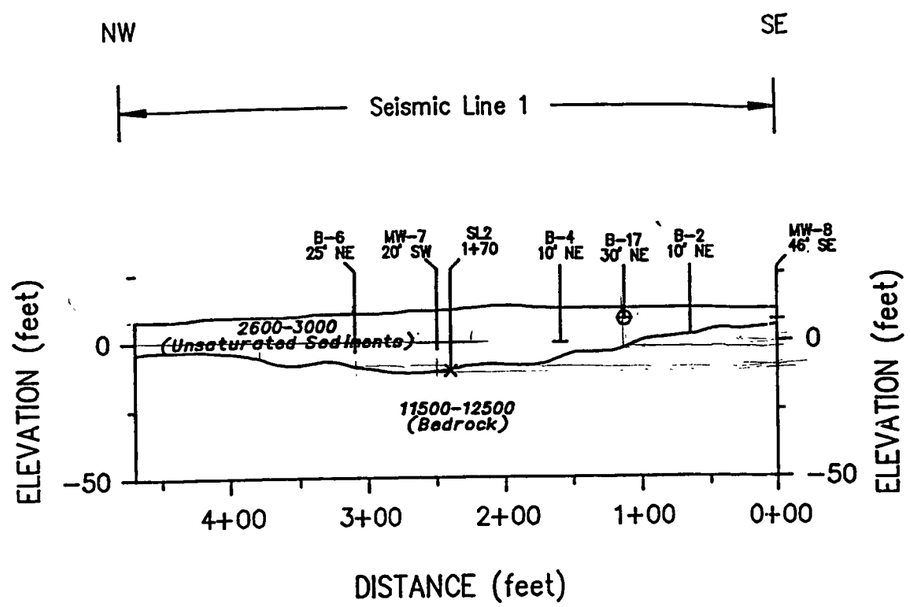
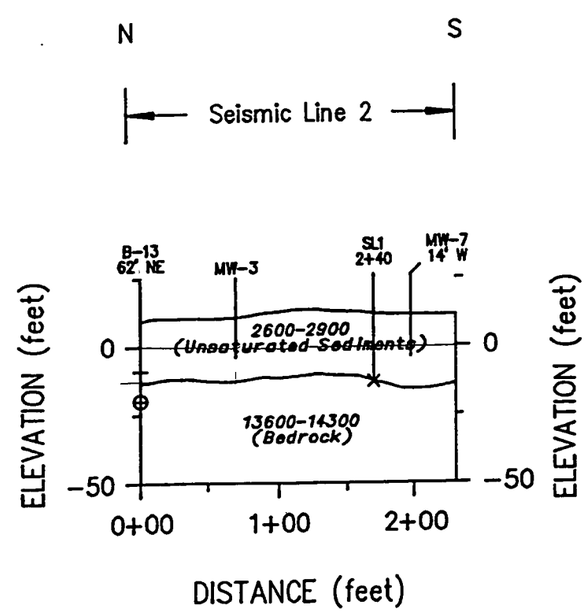


Figure 3
Site Plan
Site 09 – Old Fire Fighting Training Area
Naval Education Training Center
Newport, Rhode Island

File 93D11	November, 1993

HAGER-RICHTER GEOSCIENCE, INC.
8 Industrial Way – D10
Salem, New Hampshire 03079





LEGEND

SL2 0+50 — Intersecting Seismic Line with depth of bedrock

MW-4 5' NE — Boring with depth of weathered bedrock

B-10 12' SW — Boring with total depth

B-26 44' SE — Boring with depth of less weathered bedrock

4800-5500 — Velocity (fps)

-------- — Inferred interface

——— — Interface determined from seismic refraction data

SCALE (feet)

0 100 200

Vertical Exaggeration = 2X SCALE

Note: Elevations of subsurface interfaces determined from surface elevations provided by TRC.

Estimated accuracy of depth of bedrock is +/- 15% or 2 feet, whichever is greater. The depths determined for bedrock are depths of competent rock; deeply weathered bedrock might occur at shallower depths.

Data were analyzed using the Generalized Reciprocal Method.

Figure 5
Seismic Refraction Profiles
Site 09 – Old Fire Fighting Training Area
Naval Education & Training Center
Newport, Rhode Island

File 93D11	November, 1993

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GEOSCIENCE, INC.

APPENDIX 2- SEISMIC REFRACTION RESULTS
SITE-09 - OLD FIRE FIGHTING TRAINING AREA

GEOPHONE LOCATION (ft)	SURFACE ELEVATION (ft)	BEDROCK DEPTH (ft)	BEDROCK ELEVATION (ft)
		SEISMIC LINE 1	
0+00	12	6	6
0+10	12	7	5
0+20	12	7	5
0+30	12	8	4
0+40	12	7	5
0+50	12	8	4
0+60	12	10	2
0+70	12	10	2
0+80	12	11	1
0+90	12	11	1
1+00	12	12	0
1+10	12	14	-2
1+20	12	16	-4
1+30	12	16	-4
1+40	12	16	-4
1+50	12	16	-4
1+60	12	18	-6
1+70	12	20	-8
1+80	12	21	-9
1+90	13	22	-9
2+00	13	22	-9
2+10	13	21	-8
2+20	12	21	-9
2+30	12	21	-9
2+40	11	22	-11
2+50	11	22	-11
2+60	11	23	-12
2+70	11	23	-12
2+80	10	22	-12
2+90	10	21	-11
3+00	10	20	-10
3+10	10	20	-10
3+20	10	18	-8
3+30	10	17	-7
3+40	10	18	-8
3+50	9	18	-9
3+60	9	18	-9

Surface elevations taken from topographic plans provided by TRC. Estimated accuracy of depth of interfaces is ± 15% or 2 feet, whichever is greater. Depths of bedrock determined here are depths of relatively competent bedrock. Weathered bedrock might occur at shallower depths.

APPENDIX 2- SEISMIC REFRACTION RESULTS
SITE-09 - OLD FIRE FIGHTING TRAINING AREA

GEOPHONE LOCATION (ft)	SURFACE ELEVATION (ft)	BEDROCK DEPTH (ft)	BEDROCK ELEVATION (ft)
		SEISMIC LINE 1 (cont.)	
3+70	9	17	-8
3+80	9	15	-6
3+90	9	14	-5
4+00	9	13	-4
4+10	9	13	-4
4+20	9	12	-3
4+30	8	11	-3
4+40	8	11	-3
4+50	8	11	-3
4+60	8	11	-3
4+70	8	12	-4
		SEISMIC LINE 2	
0+00	9	23	-14
0+10	10	23	-13
0+20	10	22	-12
0+30	10	22	-12
0+40	10	22	-12
0+50	10	23	-13
0+60	10	23	-13
0+70	10	23	-13
0+80	11	23	-12
0+90	12	23	-11
1+00	12	24	-12
1+10	13	24	-11
1+20	13	24	-11
1+30	13	23	-10
1+40	12	23	-11
1+50	12	23	-11
1+60	12	23	-11
1+70	11	24	-13
1+80	11	25	-14
1+90	11	27	-16
2+00	11	27	-16
2+10	11	27	-16
2+20	11	26	-15
2+30	11	25	-14

Surface elevations taken from topographic plans provided by TRC. Estimated accuracy of depth of interfaces is ± 15% or 2 feet, whichever is greater. Depths of bedrock determined here are depths of relatively competent bedrock. Weathered bedrock might occur at shallower depths.

APPENDIX 1
SEISMIC REFRACTION METHOD

Field Work. We used a 48-channel Bison Model 9048 Digital Instantaneous Floating Point Stacking Seismograph to perform the seismic refraction survey. The Model 9048 is a "state of the art" microprocessor controlled instrument that records data digitally and on paper seismograms. The stored data were transferred to floppy disk and the hard disk of a laptop computer at the end of each field day.

The seismograph was coupled to two 24-element seismic spread cables for a total of 48 geophones. The geophones measure only the vertical component, and their resonant frequency is 14 Hz.

Seismic energy was provided by a 12-lb sledge hammer striking a steel base plate or a Betsy seisgun. The Betsy seisgun uses a shotgun blank as the seismic source and is not classified as a weapon or explosive under Federal regulations. The number of stacks per shot point is variable, and the quality of the stacked seismic signal for each shot point was verified in the field with the paper record. Five shot points were used for each 24-geophone spread -- one shot off each end of the cable, one shot at each end of the cable, and one at the 12th geophone. This configuration provides reversed profiles. Shot points (and geophone locations, if necessary) were flagged in the field.

Data Analysis and Interpretation. The seismic data were analyzed using the Generalized Reciprocal Method (GRM) of seismic refraction interpretation. The method is described in detail in Palmer (1980).[1] GRM allows for some variation in the surface topography as well as lateral variation in the seismic velocity of the upper layers. The method uses the principle of migration whereby the refractor need only be planar over a short distance, thus allowing the calculation of depth to an undulating interface. In addition, GRM is relatively insensitive to dip angles as high as 20°, unlike most other methods that can be sensitive to dips as low as 5°. GRM also allows for the calculation of depth below each geophone instead of below only the shot points as in the Time-Intercept and Crossover Distance methods. The GRM software that we use for data analysis (GREMIX by Interpex) contains several internal tests for data consistency.

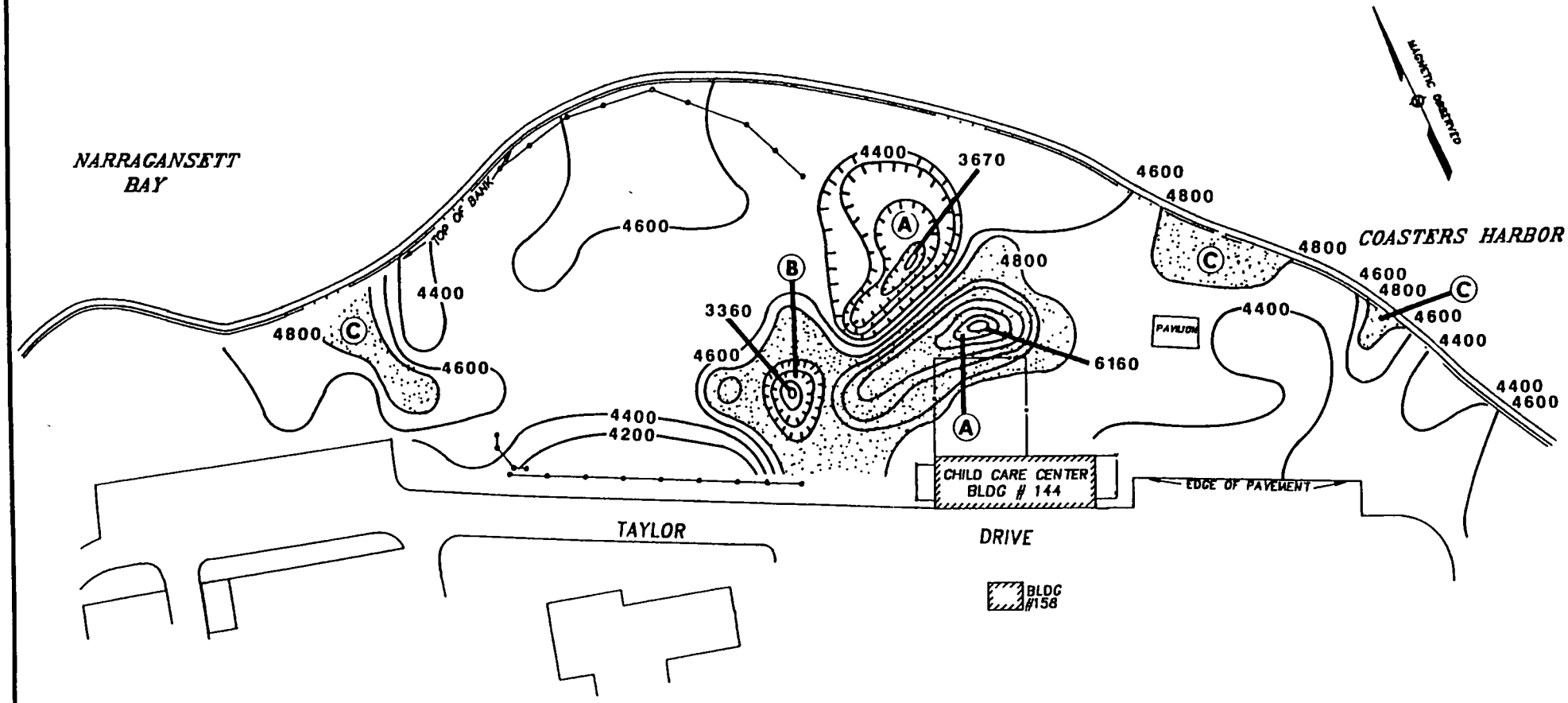
The results are used to construct an interpreted velocity profile of the subsurface for each

[1] Palmer, Derecke (1980) The Generalized Reciprocal Method of Seismic Refraction Interpretation, Society of Exploration Geophysicists, 104 p.

seismic line. The velocities of seismic waves are functions of the types of geologic material through which they pass. One can thus infer the general subsurface stratigraphy from the velocities determined. Seismic velocities are expressed in feet per second (fps).

A widespread misconception about the seismic refraction method is that one cannot detect velocity inversions (layers of lower velocity material underlying higher velocity material) or hidden layers (layers of intermediate velocity too thin to produce first arrival signals), common conditions in stratified sediments. If present and undetected, such layers can cause large errors in the depths calculated for the various layers. However, using GRM, the presence of such layers can be inferred readily, and more importantly, the method uses average velocities for the detected and undetected layers to determine accurate depths to the refractors that are detected. Typical uncertainties in depths determined seismically are 15% or 2 feet, whichever is larger.

APPENDIX C-2 PHASE I RI MAGENTIC CONTOUR MAP



LEGEND

MAGNETIC VALUES > 54,800 GAMMAS

CONTOUR INTERVAL: 200 GAMMAS
VALUES SHOWN ARE LESS 50,000 OF ACTUAL.

40 0 40 80 120 160 FEET
20 0 20 40 METERS

NOTES:

1. SURVEY CONDUCTED ON APRIL 5, 1990 WITH A GEOMETRICS G-846 MAGNETOMETER.
2. MAGNETIC VALUES OF 54,491 GAMMAS AND 54,488 GAMMAS OBSERVED AT BASE STATION AT START AND END OF SURVEY, RESPECTIVELY.

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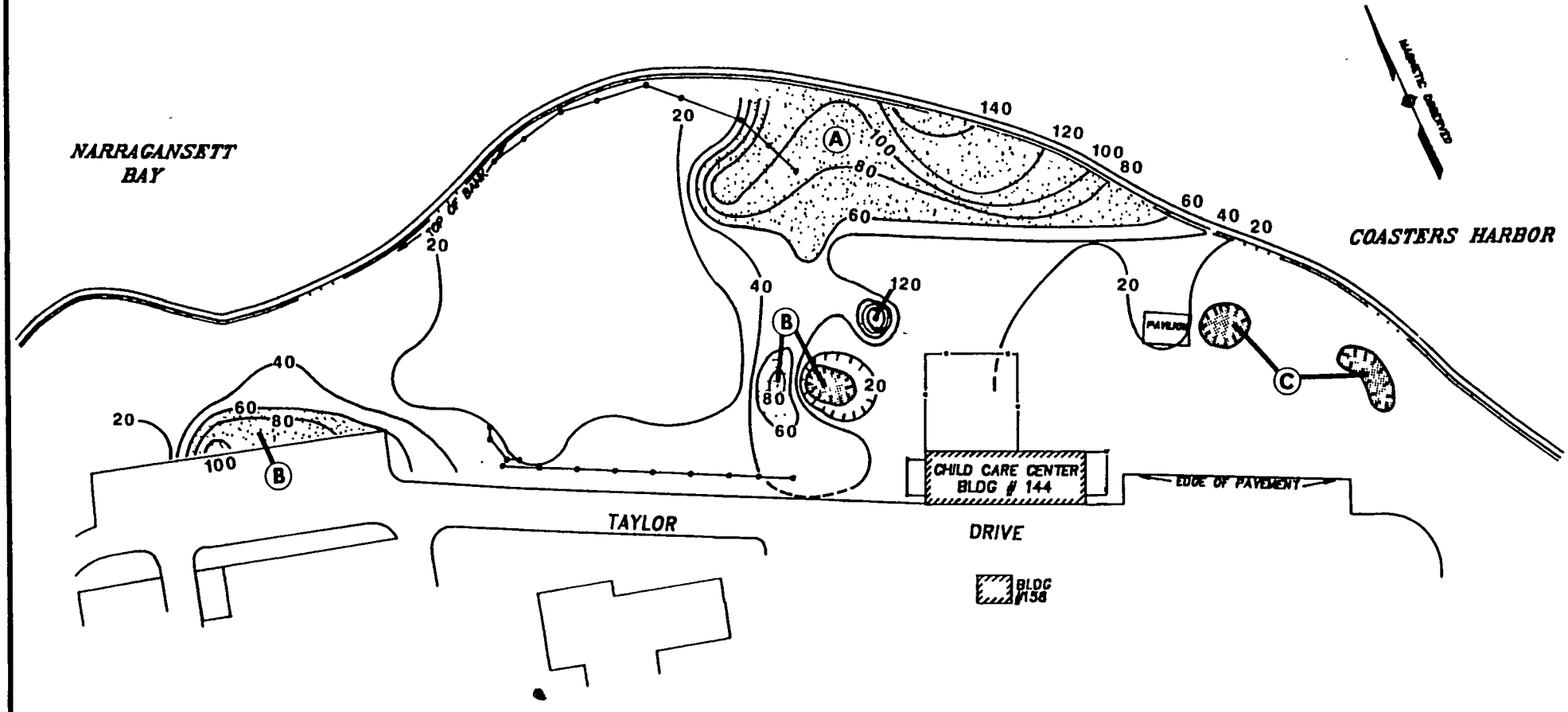
SITE 09 - OLD FIRE FIGHTING TRAINING AREA

MAGNETIC CONTOUR MAP

APPENDIX C-3 PHASE I RI CONDUCTIVITY CONTOUR MAP



40 0 40 80 120 160 FEET

20 0 20 40 METERS

NOTE:

1. SURVEY CONDUCTED ON APRIL 5, 1990 WITH A GEONICS EM-31.

LEGEND

CONDUCTIVITY VALUES > 60 mmhos/meter

NEGATIVE CONDUCTIVITY VALUES

CONTOUR INTERVAL: 20 mmhos/meter

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SITE 09 - OLD FIRE FIGHTING TRAINING AREA

CONDUCTIVITY CONTOUR MAP

APPENDIX D

PHASE I AND II RI SOIL SURVEY INFORMATION

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

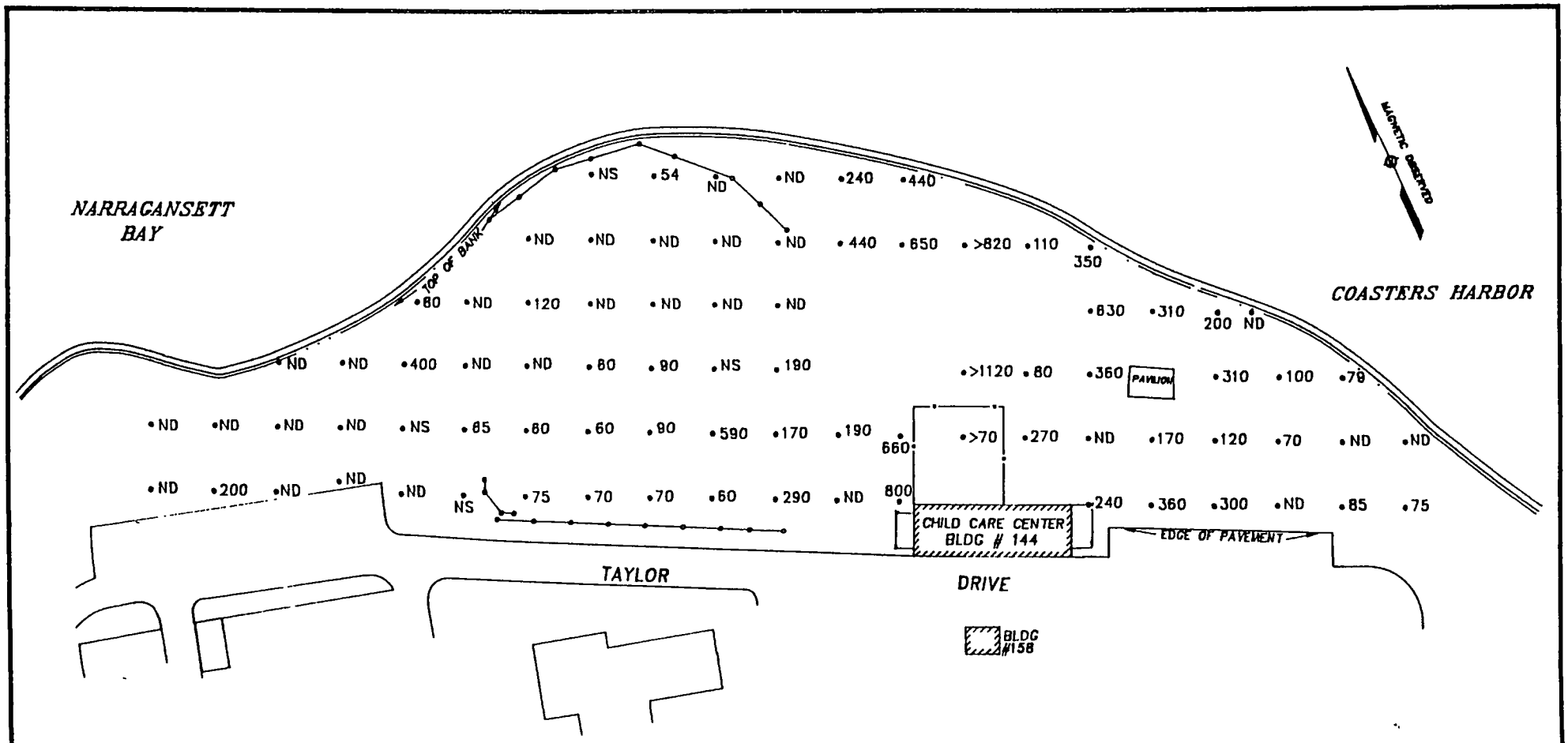
APPENDIX D

- SOIL GAS SURVEY INFORMATION -

APPENDIX D-1 PHASE I RI SOIL GAS SURVEY RESULTS

APPENDIX D-2 PHASE II RI SOIL GAS SURVEY REPORT

APPENDIX D-1 PHASE I RI SOIL GAS SURVEY RESULTS



40 0 40 80 120 160 FEET

20 0 20 40 METERS

LEGEND

•	SOIL GAS SAMPLE POINT
290	SOIL GAS CONCENTRATION (ppb)
ND	NOT DETECTED ABOVE BACKGROUND LEVELS
NS	NO SAMPLE COLLECTED (PONDED WATER)

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SITE 09 - OLD FIRE FIGHTING TRAINING AREA

SOIL GAS SURVEY RESULTS

APPENDIX D-2 PHASE II RI SOIL GAS SURVEY REPORT

SOIL GAS DATA

NAVAL EDUCATION
AND
TRAINING CENTER
NEWPORT, RHODE ISLAND

PREPARED FOR

TRC ENVIRONMENTAL
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WINDSOR, CONNECTICUT 06095

PREPARED BY

TARGET ENVIRONMENTAL SERVICES, INC.
9180 RUMSEY ROAD
COLUMBIA, MARYLAND 21045
(410) 992-6622

NOVEMBER 1993

SAMPLE COLLECTION AND ANALYSIS

From October 12 to 21, 1993, **TARGET Environmental Services, Inc. (TARGET)** conducted a soil gas survey within the McAllister Point Landfill and within the Fire Fighting Training Area at the **Naval Education and Training Center** in Newport, Rhode Island. A total of 120 soil gas samples were collected at the site: 5 less than originally proposed at the Fire Fighting Training Area and 13 more than proposed at McAllister Point. Sample designations in Tables 1 and 2 are consistently named as follows:

[area abbreviation][sample matrix][location number]-[depth].

Sample MPSG54-18 ([McAllister Point][soil gas][#54]-[18']) was not sampled after 5 attempts were refused by impenetrable subsurface material.

Prior to the collection of each sample, the entire sampling system (including down-hole probe, tubing, syringe, and all associated plumbing) was purged with ambient air drawn through an organic vapor filter cartridge. To collect the samples, a van-mounted hydraulic probe was used to advance connected 3-foot sections of 1-3/8" OD diameter threaded steel casing (EW rod) down to the sampling depth. Once at depth, the casing was hydraulically raised several inches in order to release a disposable drive point and open the bottom of the casing. A teflon line with a perforated hollow stainless steel probe end was inserted into the casing to the bottom of the hole, and the bottom-hole line perforations were isolated from the up-hole annulus by an inflatable packer. A sample of in-situ soil gas was then withdrawn through the probe and used to purge atmospheric air from the sampling system. A second sample of soil gas was withdrawn through the probe and encapsulated in a pre-evacuated glass vial at two atmospheres of pressure (15 psig). The self-sealing vial was detached from the sampling system, packaged, labeled, and

stored for laboratory analysis. All sampling holes were backfilled with bentonite and the surface repaired with like material upon completion of the sampling.

Prior to the day's field activities all sampling equipment and probes were decontaminated by washing with an Alconox/distilled water solution and rinsing thoroughly with distilled water. Internal surfaces were flushed dry using pre-purified nitrogen or filtered ambient air, and external surfaces were wiped clean using clean paper towels.

All of the samples collected during the field phase of the survey were subjected to dual analyses. One analysis was conducted according to EPA Method 8010 (modified) on a gas chromatograph equipped with an electron capture detector (ECD), and using direct injection. Specific analytes standardized for this analysis were:

1,1-dichloroethene (11DCE)
methylene chloride (CH_2Cl_2)
trans-1,2-dichloroethene (t12DCE)
1,1-dichloroethane (11DCA)
cis-1,2-dichloroethene (c12DCE)
chloroform ($CHCl_3$)
1,1,1-trichloroethane (111TCA)
carbon tetrachloride (CCl_4)
trichloroethene (TCE)
1,1,2-trichloroethane (112TCA)
tetrachloroethene (PCE)

The chlorinated hydrocarbons in this suite were chosen because of their common usage in industrial solvents, and/or their degradational relationship to commonly used compounds.

The second analysis was conducted according to EPA Method 8020 (modified) on a gas chromatograph equipped with a flame ionization detector (FID), and using direct injection. The analytes selected for standardization in this analysis were:

benzene
toluene
ethylbenzene
meta- and para- xylene
ortho- xylene

These compounds were chosen because of their utility in evaluating the presence of fuel products, or petroleum based solvents.

The analytical equipment was calibrated using a 3-point instrument-response curve and injection of known concentrations of the target analytes. Retention times of the standards were used to identify the peaks in the chromatograms of the field samples, and their response factors were used to calculate the analyte concentrations.

The tabulated results of the laboratory analyses of the soil gas samples are reported in micrograms per liter (µg/l) in Tables 1 and 2. Although "micrograms per liter" is equivalent to "parts per billion (v/v)" in water analyses, they are not equivalent in gas analyses, due to the difference in the mass of equal volumes of water and gas matrices. The xylenes concentrations reported in Table 1 are the sum of the m- and p-xylene and the o-xylene concentrations for each sample.

Total FID Volatiles values were generated by summing the areas of all integrated chromatogram peaks and calculated using the instrument response factor for toluene. Injection peaks, which also contain the light hydrocarbon methane, were excluded to avoid the skewing of Total FID Volatiles values due to injection disturbances and biogenic methane. For samples with low hydrocarbon concentrations, the calculated Total FID Volatiles concentration is occasionally lower than the sum of the individual analytes. This is because the response factor used for the Total FID Volatiles calculation is a constant, whereas the individual analyte response factors are compound specific. It is important to understand that the Total FID Volatiles levels reported are relative, not absolute, values.

factors are compound specific. It is important to understand that the Total FID Volatiles levels reported are relative, not absolute, values.

TCR Environmental requested GC/MS analyses for Samples MPSG15-6 and MPSG17-6 due to elevated, undifferentiated concentrations of "light end" volatiles indicated by **TARGET's** GC/ECD analysis results. The GC/MS analysis results for these samples are presented as received from **Maryland Spectral Services, Inc.** in Appendix A. These results indicate significant concentrations of dichlorodifluoromethane were present in the samples.

Quality Assurance/Quality Control (QA/QC) Evaluation

Field QA/QC Samples

Field control samples were collected at the beginning of the day's field activities, after every twentieth soil gas sample and at the end of the day's field activities. These QA/QC samples were obtained by filtering ambient air through a dust and organic vapor filter cartridge and encapsulating as described above. The laboratory results of the analysis of these samples are reported in Tables 1 and 2. Concentrations of all analytes were below the reporting limit in all field control samples.

Laboratory QA/QC Samples

To document analytical repeatability, a duplicate analysis was performed on every tenth field sample. Laboratory blanks of nitrogen gas were also analyzed after every tenth field sample. The results of these analyses are reported in Tables 1 and 2. All duplicate analyses were within acceptable limits. Concentrations of all analytes were below the reporting limit in all laboratory blanks.

TABLE 1

ANALYTE CONCENTRATIONS VIA GC/FID (µg/l)

SAMPLE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES*
REPORTING LIMIT	1.0	1.0	1.0	1.0	10
FFSG1-5	<1.0	<1.0	<1.0	<1.0	<10
FFSG3-5	<1.0	<1.0	<1.0	<1.0	<10
FFSG4-5	<1.0	<1.0	<1.0	<1.0	<10
FFSG5-5	<1.0	<1.0	<1.0	<1.0	<10
FFSG6-5	<1.0	<1.0	<1.0	<1.0	<10
FFSG7-5	<1.0	<1.0	<1.0	<1.0	<10
FFSG8-5	<1.0	<1.0	<1.0	<1.0	<10
FFSG9-5	<1.0	<1.0	<1.0	<1.0	<10
FFSG10-5	<1.0	<1.0	<1.0	<1.0	<10
FFSG11-5	<1.0	<1.0	<1.0	<1.0	<10
FFSG12-5	<1.0	<1.0	<1.0	<1.0	<10
MPSG1-4	<1.0	<1.0	<1.0	<1.0	<10
MPSG1-8	<1.0	<1.0	21	266	880
MPSG2-4	<1.0	<1.0	<1.0	2.8	61
MPSG2-8	<1.0	<1.0	2.4	6.6	60
MPSG3-4	<1.0	<1.0	<1.0	2.7	25
MPSG3-8	<1.0	<1.0	<1.0	5.2	100
MPSG4-4	<1.0	<1.0	<1.0	1.9	18
MPSG4-8	<1.0	<1.0	<1.0	55	312
MPSG5-4	<1.0	<1.0	<1.0	<1.0	41
MPSG5-8	<1.0	<1.0	5.4	14	45
MPSG6-4	1.0	<1.0	5.0	18	280
MPSG6-8	<1.0	<1.0	<1.0	8.3	144
MPSG7-4	<1.0	<1.0	<1.0	16	215
MPSG7-8	<1.0	<1.0	<1.0	<1.0	<10
MPSG8-4	<1.0	<1.0	<1.0	<1.0	37
MPSG8-8	<1.0	<1.0	<1.0	4.3	52
MPSG9-4	<1.0	<1.0	<1.0	6.9	162
MPSG9-8	<1.0	<1.0	1.6	18	49
MPSG10-4	<1.0	<1.0	1.3	2.1	<10
MPSG10-8	1.5	14	46	253	780
MPSG11-4	<1.0	<1.0	2.6	3.4	29
MPSG11-8	<1.0	<1.0	<1.0	2.3	46
MPSG12-4	<1.0	<1.0	13	12	126
MPSG12-8	<1.0	<1.0	<1.0	<1.0	<10

** CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE*

TABLE 1 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/FID (µg/l)

SAMPLE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES*
REPORTING LIMIT	1.0	1.0	1.0	1.0	10
MPSG13-6	<1.0	6.6	33	225	351
MPSG13-15	1.4	21	13	47	137
MPSG14-6	<1.0	1.7	19	44	171
MPSG14-13	3.7	3.0	15	22	210
MPSG15-6	6.7	24	38	72	314
MPSG15-15	<1.0	<1.0	<1.0	<1.0	<10
MPSG16-6	<1.0	1.7	2.4	11	71
MPSG16-15	<1.0	1.9	2.1	4.5	56
MPSG17-6	<1.0	<1.0	6.5	7.8	19
MPSG17-15	<1.0	1.4	2.4	2.6	32
MPSG18-6	<1.0	<1.0	<1.0	2.3	59
MPSG18-15	1.4	<1.0	<1.0	<1.0	<10
MPSG19-6	1.2	1.2	<1.0	9.5	154
MPSG19-15	<1.0	1.1	<1.0	2.8	47
MPSG20-6	<1.0	13	19	59	140
MPSG20-15	<1.0	<1.0	3.5	3.3	138
MPSG21-6	<1.0	22	13	44	188
MPSG21-15	<1.0	<1.0	2.6	<1.0	<10
MPSG22-6	<1.0	<1.0	<1.0	<1.0	10
MPSG22-15	<1.0	1.3	<1.0	1.3	11
MPSG23-6	<1.0	8.2	9.5	9.3	54
MPSG23-15	1.2	51	23	70	356
MPSG24-6	1.8	1.9	35	104	250
MPSG24-15	<1.0	<1.0	4.7	7.1	12
MPSG25-6	<1.0	1.9	6.7	17	43
MPSG25-15	2.5	1.1	4.0	15	119
MPSG26-6	<1.0	<1.0	<1.0	<1.0	<10
MPSG26-15	1.9	1.4	55	78	1,024
MPSG27-6	24	1.7	34	49	240
MPSG27-15	2.8	1.7	2.2	15	66
MPSG28-6	<1.0	<1.0	4.0	8.1	36
MPSG28-15	<1.0	<1.0	13	15	374
MPSG29-6	2.8	5.7	13	30	224
MPSG29-15	1.4	<1.0	3.8	4.1	33
MPSG30-6	2.9	1.8	14	20	200

** CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE*

TABLE 1 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/FID (µg/l)

SAMPLE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES*
REPORTING LIMIT	1.0	1.0	1.0	1.0	10
MPSG30-15	<1.0	1.5	<1.0	3.6	46
MPSG31-6	2.0	1.3	6.4	5.5	161
MPSG31-15	<1.0	<1.0	<1.0	2.8	29
MPSG32-6	<1.0	19	67	117	216
MPSG32-15	<1.0	<1.0	<1.0	3.8	58
MPSG33-6	<1.0	<1.0	<1.0	1.8	<10
MPSG33-15	2.3	1.2	12	21	275
MPSG34-6	1.9	6.0	24	40	348
MPSG34-15	1.2	1.5	<1.0	2.5	54
MPSG35-6	3.8	1.4	2.2	3.4	53
MPSG35-15	<1.0	<1.0	<1.0	1.1	16
MPSG36-6	<1.0	<1.0	<1.0	3.8	99
MPSG36-15	<1.0	<1.0	<1.0	4.2	110
MPSG37-6	1.5	1.8	11	27	170
MPSG37-18	<1.0	<1.0	<1.0	<1.0	<10
MPSG38-6	<1.0	<1.0	8.1	4.3	74
MPSG38-18	<1.0	<1.0	<1.0	<1.0	<10
MPSG39-6	<1.0	<1.0	1.9	2.7	<10
MPSG39-21	<1.0	<1.0	1.2	1.6	<10
MPSG40-6	<1.0	23	10.0	25	227
MPSG40-18	<1.0	<1.0	2.0	2.5	14
MPSG41-6	<1.0	1.1	30	58	117
MPSG41-18	<1.0	<1.0	1.4	2.1	14
MPSG42-6	<1.0	<1.0	<1.0	<1.0	<10
MPSG42-18	<1.0	<1.0	<1.0	<1.0	68
MPSG43-6	<1.0	<1.0	<1.0	<1.0	<10
MPSG43-18	<1.0	<1.0	<1.0	<1.0	<10
MPSG44-6	<1.0	<1.0	1.3	<1.0	<10
MPSG44-18	<1.0	<1.0	<1.0	<1.0	<10
MPSG45-6	<1.0	<1.0	2.1	3.9	<10
MPSG45-18	<1.0	<1.0	5.2	57	83
MPSG46-6	<1.0	<1.0	<1.0	1.6	13
MPSG46-16	4.2	<1,0	15	23	79
MPSG47-6	<1.0	<1.0	<1.0	<1.0	<10
MPSG47-13	<1.0	<1.0	2.1	3.0	105

** CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE*

TABLE 1 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/FID (µg/l)

SAMPLE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES*
REPORTING LIMIT	1.0	1.0	1.0	1.0	10
MPSG48-6	<1.0	<1.0	<1.0	<1.0	<10
MPSG48-18	<1.0	<1.0	<1.0	<1.0	29
MPSG49-6	1.1	<1.0	17	9.7	56
MPSG49-15	<1.0	<1.0	1.9	1.7	<10
MPSG50-6	<1.0	9.0	5.8	13	170
MPSG50-15	3.2	5.6	2.7	3.9	43
MPSG51-6	1.1	<1.0	8.4	11	38
MPSG51-15	3.0	1.4	9.2	9.8	104
MPSG52-6	<1.0	<1.0	<1.0	<1.0	<10
MPSG52-15	<1.0	<1.0	<1.0	<1.0	<10
MPSG53-6	<1.0	<1.0	<1.0	<1.0	<10
MPSG53-15	<1.0	<1.0	<1.0	<1.0	<10
MPSG54-6	1.2	83	4.6	20	141
MPSG55-6	<1.0	8.1	12	44	766
MPSG55-12	<1.0	1.0	4.5	11	67
FIELD CONTROL SAMPLES					
FFSG313	<1.0	<1.0	<1.0	<1.0	<10
FFSG315	<1.0	<1.0	<1.0	<1.0	<10
MPSG300	<1.0	<1.0	<1.0	<1.0	<10
MPSG301	<1.0	<1.0	<1.0	<1.0	<10
MPSG302	<1.0	<1.0	<1.0	<1.0	<10
MPSG303	<1.0	<1.0	<1.0	<1.0	<10
MPSG304	<1.0	<1.0	<1.0	<1.0	<10
MPSG305	<1.0	<1.0	<1.0	<1.0	<10
MPSG306	<1.0	<1.0	<1.0	<1.0	<10
MPSG307	<1.0	<1.0	<1.0	<1.0	<10
MPSG308	<1.0	<1.0	<1.0	<1.0	<10
MPSG309	<1.0	<1.0	<1.0	<1.0	<10
MPSG310	<1.0	<1.0	<1.0	<1.0	<10
MPSG311	<1.0	<1.0	<1.0	<1.0	<10
MPSG312	<1.0	<1.0	<1.0	<1.0	<10

** CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE*

TABLE 1 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/FID (µg/l)

SAMPLE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES*
REPORTING LIMIT	1.0	1.0	1.0	1.0	10
FIELD CONTROL SAMPLES (cont.)					
MPSG314	<1.0	<1.0	<1.0	<1.0	<10
MPSG316	<1.0	<1.0	<1.0	<1.0	<10
MPSG317	<1.0	<1.0	<1.0	<1.0	<10
MPSG318	<1.0	<1.0	<1.0	<1.0	<10
LABORATORY DUPLICATE ANALYSIS					
FFSG315	<1.0	<1.0	<1.0	<1.0	<10
FFSG315R	<1.0	<1.0	<1.0	<1.0	<10
FFSG4-5	<1.0	<1.0	<1.0	<1.0	<10
FFSG4-5R	<1.0	<1.0	<1.0	<1.0	<10
MPSG8-4	<1.0	<1.0	1.2	2.8	37
MPSG8-4R	<1.0	<1.0	1.6	2.7	34
MPSG11-4	<1.0	<1.0	2.6	3.4	29
MPSG11-4R	<1.0	<1.0	2.5	3.1	28
MPSG12-4	<1.0	<1.0	13	12	126
MPSG12-4R	<1.0	<1.0	12	11	124
MPSG14-13	3.7	3.0	15	22	210
MPSG14-13R	3.6	2.9	14	20	186
MPSG21-15	<1.0	<1.0	1.3	<1.0	<10
MPSG21-15R	<1.0	<1.0	1.4	<1.0	<10
MPSG33-15	2.3	1.2	8.0	21	275
MPSG33-15R	2.3	1.1	7.4	20	268
MPSG36-15	<1.0	<1.0	<1.0	4.2	110
MPSG36-15R	<1.0	<1.0	<1.0	4.2	138
MPSG39-21	<1.0	<1.0	1.2	1.6	<10
MPSG39-21R	<1.0	<1.0	<1.0	1.6	<10

* *CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE*

TABLE 1 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/FID (µg/l)

SAMPLE	BENZENE	TOLUENE	ETHYL-BENZENE	XYLENES	TOTAL FID VOLATILES*
REPORTING LIMIT	1.0	1.0	1.0	1.0	10
LABORATORY DUPLICATE ANALYSIS (cont.)					
MPSG304	<1.0	<1.0	<1.0	<1.0	<10
MPSG304R	<1.0	<1.0	<1.0	<1.0	<10
MPSG311	<1.0	<1.0	<1.0	<1.0	<10
MPSG311R	<1.0	<1.0	<1.0	<1.0	<10
MPSG318	<1.0	<1.0	<1.0	<1.0	<10
MPSG318R	<1.0	<1.0	<1.0	<1.0	<10
LABORATORY BLANKS					
FFSG315B	<1.0	<1.0	<1.0	<1.0	<10
FFSG4-5B	<1.0	<1.0	<1.0	<1.0	<10
MPSG8-4B	<1.0	<1.0	<1.0	<1.0	<10
MPSG11-4B	<1.0	<1.0	<1.0	<1.0	<10
MPSG12-4B	<1.0	<1.0	<1.0	<1.0	<10
MPSG14-13B	<1.0	<1.0	<1.0	<1.0	<10
MPSG21-15B	<1.0	<1.0	<1.0	<1.0	<10
MPSG33-15B	<1.0	<1.0	<1.0	<1.0	<10
MPSG36-15B	<1.0	<1.0	<1.0	<1.0	<10
MPSG39-21B	<1.0	<1.0	<1.0	<1.0	<10
MPSG304B	<1.0	<1.0	<1.0	<1.0	<10
MPSG311B	<1.0	<1.0	<1.0	<1.0	<10
MPSG318B	<1.0	<1.0	<1.0	<1.0	<10

** CALCULATED USING THE SUM OF THE AREAS OF ALL INTEGRATED CHROMATOGRAM PEAKS AND THE INSTRUMENT RESPONSE FACTOR FOR TOLUENE*

TABLE 2

ANALYTE CONCENTRATIONS VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH2Cl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CCl4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
FFSG1-5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG3-5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG4-5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG5-5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG6-5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG7-5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG8-5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG9-5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG10-5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG11-5	<1.0	<1.0	<1.0	<1.0	<1.0	1.8	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG12-5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG1-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG1-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG2-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG2-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG3-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG3-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG4-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG4-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG5-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG5-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG6-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG6-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG7-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG7-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG8-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG8-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG9-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG9-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG10-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG10-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

11DCE = 1,1-dichloroethene
11DCA = 1,1-dichloroethane
111TCA = 1,1,1-trichloroethane
112TCA = 1,1,2-trichloroethane

CH2Cl2 = methylene chloride
c12DCE = cis-1,2-dichloroethene
CCl4 = carbon tetrachloride
PCE = tetrachloroethene

t12DCE = trans-1,2-dichloroethene
CHCl3 = chloroform
TCE = trichloroethene

TABLE 2 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH2Cl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CCl4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MPSG11-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG11-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG12-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG12-8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG13-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG13-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG14-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG14-13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG15-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG15-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG16-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG16-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG17-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG17-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG18-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG18-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG19-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG19-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG20-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG20-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG21-6	<1.0	1.8	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG21-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG22-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG22-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG23-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG23-15	<1.0	1.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG24-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG24-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG25-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG25-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG26-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG26-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

DCE = 1,1-dichloroethene
11DCA = 1,1-dichloroethane
111TCA = 1,1,1-trichloroethane
112TCA = 1,1,2-trichloroethane
CH2Cl2 = methylene chloride
c12DCE = cis-1,2-dichloroethene
CCl4 = carbon tetrachloride
PCE = tetrachloroethene
t12DCE = trans-1,2-dichloroethene
CHCl3 = chloroform
TCE = trichloroethene

TABLE 2 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH2Cl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CCl4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MPSG27-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG27-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG28-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG28-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG29-6	<1.0	<1.0	3.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG29-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG30-6	<1.0	<1.0	3.6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG30-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG31-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG31-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG32-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG32-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG33-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG33-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG34-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG34-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG35-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG35-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG36-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG36-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG37-6	<1.0	<1.0	<1.0	<1.0	1.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG37-18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG38-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG38-18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG39-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG39-21	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG40-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG40-18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG41-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG41-18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG42-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG42-18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

11DCE = 1,1-dichloroethene
11DCA = 1,1-dichloroethane
111TCA = 1,1,1-trichloroethane
112TCA = 1,1,2-trichloroethane
CH2Cl2 = methylene chloride
c12DCE = cis-1,2-dichloroethene
CCl4 = carbon tetrachloride
PCE = tetrachloroethene
t12DCE = trans-1,2-dichloroethene
CHCl3 = chloroform
TCE = trichloroethene

TABLE 2 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH2Cl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CCl4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
MPSG43-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG43-18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG44-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG44-18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG45-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG45-18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG46-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG46-16	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG47-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG47-13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG48-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	1.2
MPSG48-18	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG49-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG49-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG50-6	<1.0	<1.0	<1.0	2.4	<1.0	<1.0	<1.0	<1.0	1.5	<1.0	3.2
MPSG50-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG51-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG51-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG52-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG52-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG53-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG53-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG54-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG55-6	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG55-12	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

11DCE = 1,1-dichloroethene
11DCA = 1,1-dichloroethane
111TCA = 1,1,1-trichloroethane
112TCA = 1,1,2-trichloroethane

CH2Cl2 = methylene chloride
c12DCE = cis-1,2-dichloroethene
CCl4 = carbon tetrachloride
PCE = tetrachloroethene

t12DCE = trans-1,2-dichloroethene
CHCl3 = chloroform
TCE = trichloroethene

TABLE 2 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH2Cl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CCl4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
FIELD CONTROL SAMPLES											
FFSG313	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG315	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG300	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG301	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG302	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG303	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG304	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG305	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG306	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG307	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG308	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG309	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG310	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG311	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG312	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG314	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG316	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG317	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG318	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
LABORATORY DUPLICATE ANALYSIS											
FFSG4-5	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG4-5R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG8-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG8-4R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG11-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG11-4R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

11DCE = 1,1-dichloroethene
11DCA = 1,1-dichloroethane
111TCA = 1,1,1-trichloroethane
112TCA = 1,1,2-trichloroethane
CH2Cl2 = methylene chloride
c12DCE = cis-1,2-dichloroethene
CCl4 = carbon tetrachloride
PCE = tetrachloroethene
t12DCE = trans-1,2-dichloroethene
CHCl3 = chloroform
TCE = trichloroethene

TABLE 2 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH2Cl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CCl4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
LABORATORY DUPLICATE ANALYSIS (cont.)											
MPSG12-4	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG12-4R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG14-13	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG14-13R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG21-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG21-15R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG33-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG33-15R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG36-15	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG36-15R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG39-21	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG39-21R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG304	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG304R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG311	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG311R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG315	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG315R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG318	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG318R	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

11DCE = 1,1-dichloroethene
11DCA = 1,1-dichloroethane
111TCA = 1,1,1-trichloroethane
112TCA = 1,1,2-trichloroethane
CH2Cl2 = methylene chloride
c12DCE = cis-1,2-dichloroethene
CCl4 = carbon tetrachloride
PCE = tetrachloroethene
t12DCE = trans-1,2-dichloroethene
CHCl3 = chloroform
TCE = trichloroethene

TABLE 2 (CONT.)

ANALYTE CONCENTRATIONS VIA GC/ECD (µg/l)

SAMPLE	11DCE	CH2Cl2	t12DCE	11DCA	c12DCE	CHCl3	111TCA	CCl4	TCE	112TCA	PCE
REPORTING LIMIT	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
LABORATORY BLANKS											
FFSG315B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
FFSG4-5B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG8-4B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG11-4B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG12-4B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG14-13B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG21-15B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG33-15B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG36-15B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG39-21B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG304B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG311B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0
MPSG318B	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0

11DCE = 1,1-dichloroethene
11DCA = 1,1-dichloroethane
111TCA = 1,1,1-trichloroethane
112TCA = 1,1,2-trichloroethane
CH2Cl2 = methylene chloride
c12DCE = cis-1,2-dichloroethene
CCl4 = carbon tetrachloride
PCE = tetrachloroethene
t12DCE = trans-1,2-dichloroethene
CHCl3 = chloroform
TCE = trichloroethene

APPENDIX E

PHASE I RI SOIL BORING LOGS AND MONITORING WELL CONSTRUCTION LOGS

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

APPENDIX E

- PHASE I SOIL AND WELL BORING LOGS -

APPENDIX E-1 PHASE I RI SOIL BORING LOGS

APPENDIX E-2 PHASE I RI WELL BORING LOGS

APPENDIX E-1 PHASE I RI SOIL BORING LOGS

BORING NO.:	B-1	BORING DEPTH:	9 FT	DATE STARTED:	4/18/90
PROJECT NO.:	6760-N81	CONTRACTOR:	CDS	DATE COMPLETED:	4/18/90
]JECT:	U.S. NAVY-NETC	DRILLERS:	GAYLORD/QUINN	GROUND ELEVATION:	12.51
.CATION:	NEWPORT, RI	TRC INSPECTOR:	GLEZEN/MCMORROW	LOCATION:	N 10.077
SITE:	09-FIREFIGHTER	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS		E 4.963

DEPTH (FT)	BLOWS	OVA (PPM)	SOIL DESCRIPTION (RECOVERY)	LITHOLOGY
0 - 2	2 12	0.3	FINE SAND AND SILT, TRACE ORGANICS, BROWN (12")	0.0
.	34 32		ROCK FRAGMENTS (6")	
2 - 4	12 14	0.8	F - M SAND, SOME GRAVEL, SOME ROCK FRAGMENTS (6")	
	7 5			
4 - 6	3 3	0.5	FINE SAND AND SILT, SOME GRAVEL, BROWN, MOIST (6")	
	2 4			
6 - 8	5 7	4	FINE SAND AND SILT, SOME GRAVEL, LITTLE COBBLES, BROWN, WET	
	75/2"			
8 - 10	23 100/1	1.2	FINE SAND AND SILT, SOME GRAVEL, BROWN, WET (4")	
			ROCK FRAGMENTS (3")	9.0

END OF BORING - 9 FT.

NO ODORS ENCOUNTERED

ENCOUNTERED REFUSAL AT 9 FT.

SAMPLE FF-B011-418 TAKEN FROM 6-8 FT.

BORING NO.:	B-2	BORING DEPTH:	11 FT	DATE STARTED:	4/18/90
PROJECT NO.:	6760-N81	CONTRACTOR:	CDS	DATE COMPLETED:	4/18/90
PROJECT:	U.S. NAVY-NETC	DRILLERS:	GAYLORD/QUINN	GROUND ELEVATION:	12.89
LOCATION:	NEWPORT, RI	TRC INSPECTOR:	GLEZEN/MCMORROW	LOCATION:	N 10.250
SITE:	09-FIREFIGHTER	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS		E 4.667

DEPTH (FT)	BLOWS	OVA (PPM)	SOIL DESCRIPTION (RECOVERY)	LITHOLOGY
0 - 2	3 15	3.4	FINE SAND AND SILT, TRACE ORGANICS, BROWN (6")	0.0
	28 23		FILL, F - M SAND, SOME GRAVEL, CONCRETE PIECES, BROWN (18")	
2 - 4	25 50	3.7	FINE SAND AND SILT, LITTLE GRAVEL, BROWN (8")	2.0
	41 33		ROCK FRAGMENTS (6")	
4 - 6	31 37	3.8	F - M SAND AND ROCK FRAGMENTS, GRAY. (6")	
	75/1"			
6 - 8	7 15	6	F - M SAND AND ROCK FRAGMENTS, BROWN (8")	
	22 55		SAME AS ABOVE, BLACK, VISIBLE CONTAMINATION, WET (8")	
8 - 10	16 42	5.6	F - M SAND AND GRAVEL, GRAY, SLIGHT PETROL ODOR (24")	
	91 58			
10 - 12	4 10		SAME AS ABOVE, BROWN (4")	
	10 56			11.0

END OF BORING - ~~11~~ 12 FT.

PETROLEUM ODOR FROM 6-10 FT.
VISIBLE OILY STAINING FROM 6-8 FT.

SAMPLE FF-B021-418 TAKEN FROM 2-4 FT.
SAMPLE FF-B022-418 TAKEN FROM 6-8 FT.
SAMPLE FF-B023-418 TAKEN FROM 8-10 FT.

BORING NO.:	B-3	BORING DEPTH:	14 FT	DATE STARTED:	4/18/90
PROJECT NO.:	6760-N81	CONTRACTOR:	CDS	DATE COMPLETED:	4/18/90
JECT:	U.S. NAVY-NETC	DRILLERS:	GAYLORD/QUINN	GROUND ELEVATION:	10.09
JCATION:	NEWPORT, RI	TRC INSPECTOR:	GLEZEN/MCMORROW	LOCATION:	N 10.331
SITE:	09-FIREFIGHTER	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS		E 4.836

DEPTH (FT)	BLOWS	HNU (PPM)	SOIL DESCRIPTION (RECOVERY)	LITHOLOGY
0 - 2	5 15	1.5	FINE SAND AND SILT, TRACE CLAY, TRACE ORGANICS, BROWN (6")	0.0
	11 7		F - M SAND AND ROCK FRAGMENTS, BROWN (6")	
2 - 4	14 9	1.5	FINE SAND , SOME SILT, SOME GRAVEL, BROWN (8")	
	7 7			
4 - 6	5 14	5	FINE SAND AND SILT, SOME GRAVEL, TRACE COBBLES, BROWN, MOIST (5")	
	35 18			
6 - 8	7 10	40	FINE SAND AND SILT SOME GRAVEL, BROWN (6")	
	7 3		FINE SAND AND SILT, SOME ORGANICS, BLACK, SLIGHT PETROL ODOR, WET	
8 - 10	2 7	12	FINE SAND AND SILT, SOME GRAVEL, TRACE COBBLES, BLACK, WET,	
	12 11		SOME PETROLEUM ODOR, VISIBLE STAINING	
10 - 12	11 35	9	SILT AND GRAVEL, SOME COBBLES, TRACE ORGANICS, BLACK, WET (15")	
	71 75/2"			
12 - 14	56 100/2	17	FINE SAND AND GRAVEL, SOME ROCK FRAGMENTS, BLACK, PETROL ODOR (8")	
				14.0

END OF BORING - 14 FT.

PETROLEUM ODOR FROM 6-14 FT.
VISIBLE OILY STAINING FROM 8-10 FT.

SAMPLE FF-B031-418 TAKEN FROM 6-8 FT.
SAMPLE FF-B032-418 TAKEN FROM 8-10 FT.
SAMPLE FF-B033-418 TAKEN FROM 12-14 FT.

BORING NO.:	B-4	BORING DEPTH:	12.5 FT	DATE STARTED:	4/20/90
PROJECT NO.:	6760-N81	CONTRACTOR:	CDS	DATE COMPLETED:	4/20/90
PROJECT:	U.S. NAVY-NETC	DRILLERS:	GAYLORD/QUINN	GROUND ELEVATION:	11.49
LOCATION:	NEWPORT, RI	TRC INSPECTOR:	GLEZEN/MCMORROW	LOCATION:	N 10.291
SITE:	09-FIREFIGHTER	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS		E 4.592

DEPTH (FT)	BLOWS	HNU (PPM)	SOIL DESCRIPTION (RECOVERY)	LITHOLOGY
0 - 2	3 17	0.3	FINE SAND AND SILT, TRACE ORGANICS, BROWN (6")	0.0
	14 18		FILL, FINE SAND, SOME SILT, SOME CONCRETE, BROWN (12")	
2 - 4	5 5		NO RECOVERY	
	5 48			3.0
4 - 6	27 16	1.2	SILT, SOME GRAVEL, SOME COBBLES, DK. GRAY, SLIGHT ODOR (14")	
	19 18			
6 - 8	77 75	1.2	SILT AND GRAVEL, SOME FINE SAND, DK. GRAY, SLIGHT ODOR (12")	
	100/2"			
8 - 10	100/3"	0.8	FINE SAND AND GRAVEL, SOME SILT, GRAY, WET, SLIGHT ODOR (3")	
10 - 12	100/4"	0.9	SAME AS ABOVE (3")	
			SILT AND CLAY, SOME WEATHERED ROCK, BLACK (2")	
12 - 14	100/3"		FINE SAND AND GRAVEL, GRAY (3")	
				12.5

END OF BORING - 12.5 FT

LIGHT HYDROCARBONS ODOR (i.e. DIESEL) FROM 4-12 FT.

SAMPLE FF-B041-420 TAKEN FROM 4-6 FT.
SAMPLE FF-B042-420 TAKEN FROM 10-12 FT.

BORING NO.:	B-5	BORING DEPTH:	12 FT	DATE STARTED:	4/17/90
PROJECT NO.:	6760-N81	CONTRACTOR:	CDS	DATE COMPLETED:	4/18/90
CT:	U.S. NAVY-NETC	DRILLERS:	GAYLORD/QUINN	GROUND ELEVATION:	7.79
ION:	NEWPORT, RI	TRC INSPECTOR:	GLEZEN/MCMORROW	LOCATION:	N 10.574
SITE:	09-FIREFIGHTER	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS		E 4.514

DEPTH (FT)	BLOWS	OVA (PPM)	SOIL DESCRIPTION (RECOVERY)	LITHOLOGY
0 - 2	5 21	21	FINE SAND AND SILT, TRACE ORGANICS, BROWN (4")	0.0
	18 19		FINE SAND AND ROCK FRAGMENTS, BROWN (6")	
2 - 4	4 11	75	FINE SAND AND SILT, TRACE GRAVEL, BROWN (8")	
	34 38		WEATHERED SHALE FRAGMENTS, GRAY (6")	
4 - 6	10 7	100	FINE SAND, SOME GRAVEL, BROWN/BLACK, STRONG PETROL ODOR, VISIBLE	
	6 2		CONTAMINATION (8")	
6 - 8	1 2	>1000	SILT AND ORGANIC MUCK, BROWN, SWAMP ODOR (12")	6.0
	1 2		SAME AS ABOVE GRAY (12")	
8 - 10	6 8	10	SILT AND ORGANIC MUCK, GRAY, SWAMP ODOR (24")	
	7 11			
10 - 12	2 2	200	SILT AND FINE SAND, GRAY, ORGANIC ODOR (24")	
	8 20			
				12.0

END OF BORING - 12 FT.

VISIBLE OILY STAINING AND ODOR FROM 4-6 FT.
SWAMPY MATERIAL AND METHANE ODOR FROM 6-12 FT.

SAMPLE FF-B051-417 TAKEN FROM 4-6 FT.
SAMPLE FF-B052-417 TAKEN FROM 6-8 FT.

BORING NO.:	B-6	BORING DEPTH:	14 FT	DATE STARTED:	4/19/90
PROJECT NO.:	6760-N81	CONTRACTOR:	CDS	DATE COMPLETED:	4/19/90
PROJECT:	U.S. NAVY-NETC	DRILLERS:	GAYLORD/QUINN	GROUND ELEVATION:	10.05
LOCATION:	NEWPORT, RI	TRC INSPECTOR:	GLEZEN/MCMORROW	LOCATION:	N 10.376
SITE:	09-FIREFIGHTER	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS		E 4.458

DEPTH (FT)	BLOWS	HNU (PPM)	SOIL DESCRIPTION (RECOVERY)	LITHOLOGY
0 - 2	12 21	2.8	FINE SAND AND SILT, TRACE ORGANICS, BROWN (3")	0.0
	21 27		FILL, F - M SAND, BRICK & ASPHALT PIECES, BLACK (15")	
2 - 4	19 33	4.3	F - M SAND, LITTLE GRAVEL, BROWN, WET AT TIP (3")	2.0
	40 3			
4 - 6	4 13	11.2	F - M SAND AND COBBLES, BROWN, WET, PETROL ODOR (4")	
	6 8			
6 - 8	34 100/3"		NO RECOVERY	
8 - 10	17 43	19.2	FINE SAND AND GRAVEL, TRACE COBBLES, BLACK, SLIGHT ODOR (9")	
	55 88			
10 - 12	15 10	3.4	SILT, SOME CLAY, TRACE GRAVEL, DARK GRAY, MOIST, SLIGHT ODOR (24").	
	19 20			
12 - 14	21 20	3.6	SAME AS ABOVE, NO ODOR (24")	
	15 16			
				14.0

END OF BORING - 14 FT

LIGHT HYDROCARBONS ODOR FROM 4-12 FT.

SAMPLE FF-B061-419 TAKEN FROM 4-6 FT.
SAMPLE FF-B062-419 TAKEN FROM 10-12 FT.

BORING NO.:	B-7	BORING DEPTH:	10.5 FT	DATE STARTED:	4/19/90
PROJECT NO.:	6760-N81	CONTRACTOR:	CDS	DATE COMPLETED:	4/19/90
PROJECT:	U.S. NAVY-NETC	DRILLERS:	GAYLORD/QUINN	GROUND ELEVATION:	8.09
LOCATION:	NEWPORT, RI	TRC INSPECTOR:	GLEZEN/MCMORROW	LOCATION:	N 10,524
SITE:	09-FIREFIGHTER	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS		E 4,271

DEPTH (FT)	BLOWS	HNU (PPM)	SOIL DESCRIPTION (RECOVERY)	LITHOLOGY
0 - 2	2 17	2.6	FINE SAND AND SILT, BROWN (12")	0.0
	24 22		FILL, ASPHALT AND RED BRICK FRAGMENTS (6")	
2 - 4	19 28	3.8	FILL, FINE SAND, (BRICK AND ASPHALT), LITTLE SILT, BROWN (24")	
	23 24			
4 - 6	13 13	23	F - M SAND, SOME COARSE SAND, BROWN (4")	4.0
	18 37		F - M SAND, TRACE GRAVEL, BLACK, WET, PETROL ODOR (8")	
6 - 8	9 45	37	FINE SAND AND SILT, SOME ROCK FRAGMENTS, BLACK,	
	100/6"		STRONG PETROL ODOR (14")	
8 - 10	100/3"		NO RECOVERY	
10 - 12	100/3"	6	SILT AND GRAVEL, GRAY, NO ODOR (3")	
				10.5

END OF BORING - 11.5 FT

PETROLEUM ODOR FROM 5-10 FT.

SAMPLE FF-B071-419 TAKEN FROM 4-6 FT.
SAMPLE FF-B072-419 TAKEN FROM 6-8 FT.

Test Boring: B-8
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 23 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: K. Callendar & P. Hendrick
TRC Inspector: J. Coykendall & K. Prochorena
Test Boring Coordinates:
N 156989.51
E 546998.41

Date Started: November 22, 1993
Date Completed: November 22, 1993
Approximate Depth to Water: 11 feet
Test Boring Elevation: 11.52 Feet (mlw)

Depth (feet)	Blow Counts	Field Measurements OVA (ppm)	Field Measurements HNu (ppm)	Soil Description	Lithology
0-2	3 24 20 21	ND	ND	0-7" FILL, brown F sand & organics, trace gravel & silt. 7-18" FILL, grey F sand, some rock fragments, little gravel & brick fragments, trace asphalt, dry, no odor.	0.0
2-4	17 50 50/4"	ND	ND	0-8" FILL, brown/grey F sand, some silt & rock fragments, little gravel, trace glass. 8-10" FILL, brick. 10-12" FILL, brown F sand & silt, some gravel, dry, no odor.	
4-6	50/2.5"	NR	NR	FILL, grey shale fragments, dry. Recovery = 1".	
6-8	33 12 11 42	ND	6	FILL, brown/grey F sand & rock fragments, some silt & gravel. Piece of brick in tip, moist, no odor. Recovery = 12".	
8-10	22 28 42 45	ND	7	FILL, brown/grey F-M sand & rock fragments, some gravel, little silt, asphalt, & brick fragments, moist, no odor. Recovery = 16".	
10-12	39 50/5"	NR	NR	FILL, Brick & rock fragments.	11.0
12-14	22 33 50 50/4"	28	20	Grey M-F SAND, some gravel & rock fragments, trace shale fragments, strong petroleum odor & staining in bottom 4" of spoon, wet. Recovery = 12".	
14-16	20 34 50/5"	ND	6	Grey/black ROCK fragments, some M-F sand & gravel, little silt, wet, petroleum odor. Recovery = 6".	
16-18	50/3"	NR	NR	ROCK fragments, wet, slight odor. Recovery = 1".	
18-20	33 50/2"	1	8	Brown/grey F SAND & ROCK fragments, some silt, wet, slight odor. Recovery = 6".	
20-22	48 50/3"	1	2	Brown F SAND & SILT, some rock fragments & gravel, wet, slight odor. Recovery = 6".	
22-23	50/5"	ND	4	Grey ROCK fragments, some F sand & silt, wet, no odor. Recovery = 5". Auger refusal at 23'	23.0

Sample FF-B81-112293 collected from 0-1'.
Sample FF-B82-112293 collected from 8-10'.

Notes: NR = No Reading
ND = Not Detected

Test Boring: B-9
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 13 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: K. Callendar & P. Hendrick
TRC Inspector: J. Coykendall & K. Prochorena
Test Boring Coordinates:
N 156908.45
E 546915.05

Date Started: November 23, 1993
Date Completed: November 23, 1993
Approximate Depth to Water: Unknown
Test Boring Elevation: 17.71 Feet (mlw)

Depth (feet)	Blow Counts	Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology
0-2	4 37 40 28	ND	ND	0-6" FILL, brown F sand & organics, little rock fragments. 6-12" FILL, brown F sand, some rock fragments. 12-14" FILL, rock fragments, some F sand, dry, no odor.	0.0
2-4	47 50/5"	NR	NR	No Recovery	
4-6	50/5"	NR	NR	No Recovery	
6-7	100/5"	NR	NR	No Recovery	
7-9	13 11 9 50/5"	ND	ND	0-2" FILL, rock fragments. 2-10" FILL, brown F sand & silt, some rock fragments & gravel. 10-12" FILL, asphalt chunks, dry, no odor.	
9-11	67 35 29 48	ND	ND	0-2" FILL, brown F-M sand, some rock fragments, trace brick. 2-6" FILL, asphalt fragments, little brown F-M sand. 6-12" FILL, concrete fragments, dry, no odor.	
11-12	100/3"	NR	NR	FILL, concrete fragments, dry, no odor. Recovery.= 1"	
12-14	89 100/3"	ND	ND	FILL, concrete fragments, dry, no odor. Recovery = 4".	
				Auger refusal at 13'	13.0

Sample FF-B91-112393 collected from 0-1'.

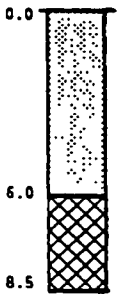
Notes: NR = No Reading
ND = Not Detected

APPENDIX E-2 PHASE I RI WELL BORING LOGS

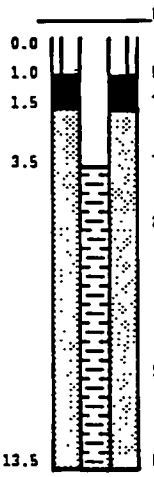
BORING NO.:	MW-1	CONTRACTOR:	CDS	DATE STARTED:	4/23/90
PROJECT NO.:	6760-N81	DRILLERS:	GAYLORD/QUINN	DATE COMPLETED:	4/26/90
[illegible]:	U.S. NAVY-NETC	TRC INSPECTOR:	GLEZEN/MCMORROW	WATER TABLE LEVEL:	7.5 FT.
[illegible]ION:	NEWPORT, RI	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS	LOCATION:	N 10,191
SITE:	09-FIRE FIGHTER	GROUND ELEVATION:	11.34		E 4,897
BORING DEPTH:	13.5 FT	CASING ELEVATION:	11.14		

DEPTH (FT)	BLOWS	SOIL DESCRIPTION (RECOVERY)
0 - 2	9 29	F - M SAND, SOME GRAVEL, BROWN (5")
	16 14	
2 - 4	10 13	ROCK FRAGMENTS, SOME FINE - MEDIUM SAND, BROWN (6")
	13 21	
4 - 6	75/5"	F - M SAND, SOME GRAVEL, BROWN (5")
6 - 8	75/1"	NO RECOVERY, FEW SANDSTONE CHIPS IN SPOON.
8 - 10	75/0"	NO RECOVERY, FEW SANDSTONE CHIPS IN SPOON.
		CHIPS OF BEDROCK (SANDSTONE) COMING UP WITH DRILLING FLUID.
		END OF BORING - 13.5 FT.
		WATER ROTARY DRILLING USED TO ADVANCE THROUGH ROCKS.
		NO SAMPLES COLLECTED

LITHOLOGY



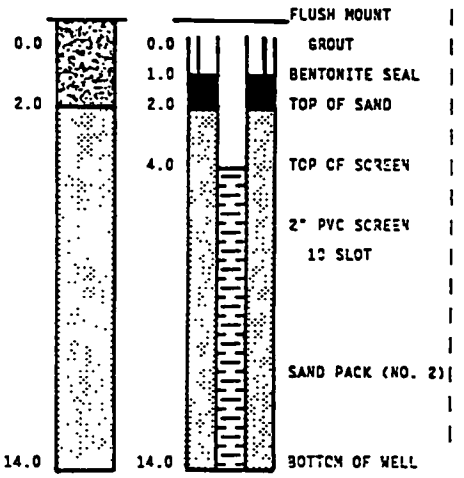
WELL CONSTRUCTION



BORING NO.:	MW-2	CONTRACTOR:	CDS	DATE STARTED:	4/23/90
PROJECT NO.:	6760-N81	DRILLERS:	GAYLORD/QUINN	DATE COMPLETED:	4/23/90
PROJECT:	U.S. NAVY-NETC	TRC INSPECTOR:	GLEZEN/MCMORROW	WATER TABLE LEVEL:	6 FT.
LOCATION:	NEWPORT, RI	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS	LOCATION:	N 10.453
SITE:	09-FIREFIGHTER	GROUND ELEVATION:	9.07		E 4.713
BORING DEPTH:	14 FT.	CASING ELEVATION:	8.76		

DEPTH (FT)	BLOWS	HNU (PPM)	SOIL DESCRIPTION (RECOVERY)
0 - 2	11 21	3.6	FINE SAND AND SILT, TRACE ORGANICS, BROWN (3")
	21 14		FILL, F - M SAND, LITTLE BRICK FRAGMENTS, TRACE GRAVEL, BLACK (15")
2 - 4	13 12	15.1	F - M SAND, SOME GRAVEL, BROWN (4")
	5 4		
4 - 6	4 5	68	F - M SAND, SOME GRAVEL, BLACK, VISIBLE PETROL CONTAMINATION (6")
	5 9		
6 - 8	4 3	75	SAME AS ABOVE, STRONG ODOR, WET (7")
	2 1		
8 - 10	1 2	80	FINE SAND AND SILT, LITTLE GRAVEL, BLACK, STRONG ODOR, WET (6")
	8 12		
10 - 12	11 8	67	F - M SAND AND FRACTURED ROCK, BLACK, STRONG ODOR, WET (12")
	5 4		
12 - 14	7 5	82	SAME AS ABOVE (14")
	3 3		

LITHOLOGY WELL CONSTRUCTION



END OF BORING - 14 FT.

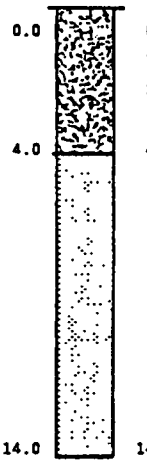
STRONG PETROLEUM ODOR FROM 4-14 FT.
VISIBLE OILY STAINING FROM 4-8 FT.

SAMPLE FF-MW21-423 TAKEN FROM 6-8 FT.
SAMPLE FF-MW22-423 TAKEN FROM 12-14 FT.

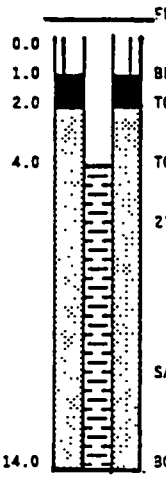
BORING NO.:	MW-3	CONTRACTOR:	CDS	DATE STARTED:	4/24/90
PROJECT NO.:	6760-N81	DRILLERS:	GAYLORD/QUINN	DATE COMPLETED:	4/24/90
ECT:	U.S. NAVY-NETC	TRC INSPECTOR:	GLEZEN/MCMORROW	WATER TABLE LEVEL:	6 FT.
TION:	NEWPORT, RI	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS	LOCATION:	N 10,418
SITE:	09-FIREFIGHTER	GROUND ELEVATION:	9.83		E 4,546
BORING DEPTH:	14 FT.	CASING ELEVATION:	9.61		

DEPTH (FT)	BLOWS	HNU (PPM)	SOIL DESCRIPTION (RECOVERY)
0 - 2	3 10	13.8	FILL, FINE SAND, SOME SILT, BROWN (14")
	30 80		FILL, F-M SAND, LITTLE GRAVEL, ROCK FRAGMENTS, BROWN (8")
2 - 4	41 25	14.2	FILL, FINE SAND AND ROCK FRAGMENTS, LT. BROWN (8")
	17 13		FILL, FINE SAND AND SILT, TRACE BRICK FRAGMENTS, BROWN (12")
4 - 6	28 25	10	SILT AND FINE SAND, TRACE GRAVEL, BROWN. BLACK PETROL STAINING
	29 13		FROM 12" - 15", STRONG ODOR, MOIST (24")
6 - 8	9 11	144	FINE SAND AND SILT, SOME GRAVEL, BROWN/BLACK, VISIBLE CONTAMINATION,
	6 7		STRONG ODOR, WET (20")
8 - 10	2 2	59	F - M SAND AND GRAVEL, BLACK, STRONG ODOR, WET (8")
	6 4		
10 - 12	2 6	24	SILT AND FINE SAND, BROWN (4")
	19 30		FINE SAND, BROWN, SLIGHT ODOR (16")
12 - 14	12 13	18.2	FINE SAND, GRAY, SLIGHT PETROL ODOR (24")
	13 13		

LITHOLOGY



WELL CONSTRUCTION



END OF BORING - 14 FT.

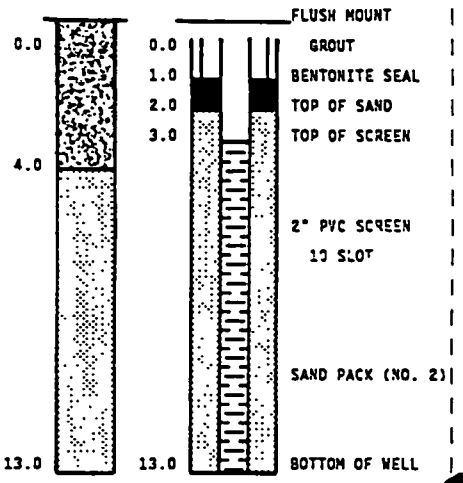
STRONG PETROLEUM ODOR FROM 4-12 FT.
VISIBLE OILY STAINING FROM 4-8 FT.

SAMPLE FF-MW31-424 TAKEN FROM 6-8 FT.
SAMPLE FF-MW32-424 TAKEN FROM 12-14 FT.

BORING NO.:	MW-4	CONTRACTOR:	CDS	DATE STARTED:	4/24/90
PROJECT NO.:	6760-N81	DRILLERS:	GAYLORD/QUINN	DATE COMPLETED:	4/24/90
PROJECT:	U.S. NAVY-NETC	TRC INSPECTOR:	GLEZEN/MCMORROW	WATER TABLE LEVEL:	6 FT.
LOCATION:	NEWPORT, RI	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS	LOCATION:	N 10,524
SITE:	09-FIREFIGHTER	GROUND ELEVATION:	7.73		E 4,271
BORING DEPTH:	14 FT.	CASING ELEVATION:	7.53		

DEPTH (FT)	BLOWS	HNU (PPM)	SOIL DESCRIPTION
			WELL INSTALLED IN LOCATION OF BORING B-7
			SEE LOG OF B-7 FOR SOIL DESCRIPTION
			END OF BORING - 13 FT.

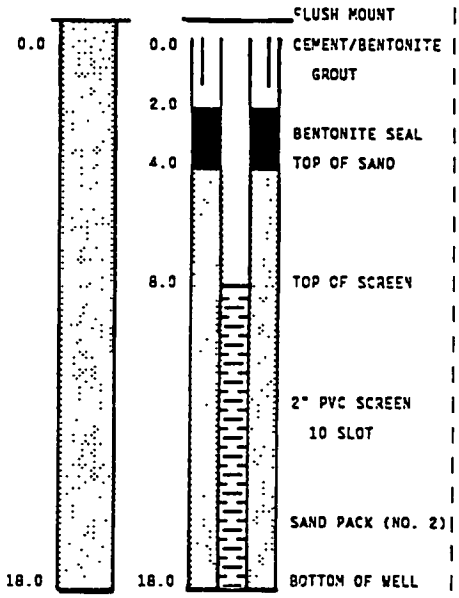
LITHOLOGY WELL CONSTRUCTION



BORING NO.:	MW-5	CONTRACTOR:	CDS	DATE STARTED:	4/25/90
PROJECT NO.:	6760-N81	DRILLERS:	GAYLORD/QUINN	DATE COMPLETED:	4/25/90
JECT:	U.S. NAVY-NETC	TRC INSPECTOR:	GLEZEN/MCMORROW	WATER TABLE LEVEL:	12 FT.
ATION:	NEWPORT, RI	DRILLING METHOD:	4 1/4" HOLLOW STEM AUGERS	LOCATION:	N 10,148
SITE:	09-FIREFIGHTER	GROUND ELEVATION:	12.47		E 4,551
BORING DEPTH:	18 FT.	CASING ELEVATION:	12.30		

DEPTH (FT)	BLOWS	HNU (PPM)	SOIL DESCRIPTION (RECOVERY)
0 - 0.5			ASPHALT
0.5- 2.5	13 11 15 5	0.6	FINE SAND AND SILT, SOME GRAVEL, BROWN (24")
2.5- 4	4 14 5	0.4	F - M SAND, SOME GRAVEL, BLACK (6")
4 - 6	3 2 2 9	0.4	SILT AND FINE SAND, LITTLE CLAY, BROWN, MOIST (8")
6 - 8	8 14 14 15	0.4	SILT, SOME FINE SAND, LITTLE GRAVEL, GRAY, MOIST (18")
8 - 10	15 13 20 32	0.4	SILT, SOME FINE SAND, LITTLE CLAY, GRAY, MOIST (18")
10 - 12	1 6 10 18	0.4	SAME AS ABOVE (14")
12 - 14	13 16 16 10	0.4	SILT AND FINE SAND, TRACE M. SAND, BLACK, PETROL ODOR, WET (3") SILT AND FINE SAND, BROWN, SLIGHT ODOR, WET (15")
14 - 16	28 73 100/6"	0.5	SILT AND FINE SAND, TRACE GRAVEL, BROWN, DENSE (14")
16 - 18	31 91 100/4"	0.4	SILT AND FINE SAND, SOME ROCK FRAGMENTS, BROWN (6") WEATHERED SHALE, GRAY (4")

LITHOLOGY WELL CONSTRUCTION



END OF BORING - 18 FT

VERY SLIGHT PETROLEUM ODOR AT 12 FT

SAMPLE FF-MW51-425 TAKEN FROM 8-10 FT.
SAMPLE FF-MW52-425 TAKEN FROM 12-14 FT.

APPENDIX F

PHASE II RI TEST PIT LOGS, SOIL BORING LOGS AND MONITORING WELL CONSTRUCTION LOGS

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

NETC - Newport
Site 09 - Old Fire Fighting Training Area
Test Pit Log FF-TP1
January 11, 1994

Rationale: To investigate the geophysical anomaly encountered in the central portion of the site during the Phase I investigation.

Date: January 11, 1994

Dimensions: FF-TP1A = 14' X 3.5' X 4.5' (L X W X D).
FF-TP1B = 3.5' X 3.5' X 4" (L X W X D).
FF-TP1C = 7' X 3.5' X 4.5' (L X W X D).

TRC Inspector: Tom McMorrow & John Coykendall

Excavation Subcontractor: Clean Harbors

Sample ID: FF-TP11 collected from the oily sludge within a pipe.
FF-TP12 collected from approximately 3.5 to 4 feet below grade.
FF-TP13 collected from approximately 1.5 to 2 feet below grade.

DEPTH (FT)	DESCRIPTION
0 - 3'	FILL, brown M to F SAND, some cobbles, and rock fragments, little brick and concrete fragments, trace asphalt.
3 - 5'	FILL, dk brown M to F SAND, some cobbles and rock fragments, trace brick and concrete.
	A concrete slab was encountered in test pits TP-1A, TP-1B, and TP-1C at a depth of approximately 4". The extent of the slab was determined at test pits TP-1A and TP-1C and was determined to be approx. 2' thick. Only contamination noted was in broken pipe.

CONCLUSIONS

Concrete slab encountered in test pit would account for the high geophysical anomaly detected during the Phase I investigation.

NETC - Newport
Site 09 - Old Fire Fighting Training Area
Test Pit Log FF-TP2
January 11, 1994

Rationale: To characterize the fill material in the western portion of the soil mound.

Date: January 11, 1994

Dimensions: 15' X 4' X 8.5' (L X W X D).

TRC Inspector: Tom McMorrow & John Coykendall

Excavation Subcontractor: Clean Harbors

Sample ID: FF-TP21 collected from oily soils encountered 7 to 8 feet below grade.
FF-TP22 collected from 4.5 feet below grade.
FF-TP23 collected from 2 feet below grade.

DEPTH (FT)	DESCRIPTION
0 - 3'	FILL, brown F-M SAND, some cobbles, little concrete and asphalt, trace wire.
3 - 6'	FILL, brown/grey F SAND and SILT, little rock fragments and cobbles, trace brick.
6 - 7'	FILL, brown C sand and brick, damp.
7 - 8'	Grey/black F-M SAND, some cobbles and rock fragments, black staining with a strong petroleum odor.
	Strong petroleum odor with PID readings of 1200 ppm were noted in soils from the 7 to 8 foot layer.

CONCLUSIONS

Construction debris encountered from surface to a depth of 7 feet. Strong Petroleum odor and staining encountered in soils at the ground water table (approx. 8 feet).

NETC - Newport
Site 09 - Old Fire Fighting Training Area
Test Pit Log FF-TP3
January 11, 1994

Rationale: To characterize the fill material in the northern portion of the soil mound in the central portion of the site.

Date: January 11, 1994

Dimensions: 15' X 4' X 8.5' (L X W X D).

TRC Inspector: Tom McMorrow & John Coykendall

Excavation Subcontractor: Clean Harbors

Sample ID: FF-TP31 collected from oily soils encountered at a depth of 7 to 8 feet.
FF-TP32 collected from approx. 7 feet below grade.
FF-TP33 collected from approx. 3 feet below grade.

DEPTH (FT)	DESCRIPTION
0 - 4'	FILL, brown F to M SAND and rock fragments, little brick, concrete, and wood, dry, no odor.
4 - 4.5'	FILL, asphalt layer.
4.5 - 7'	FILL, dark brown F-M SAND and rock fragments, brick and metal.
7 - 8'	Light brown sand with rusted metal pieces. Black staining and petroleum odor noted in soils at ground water table (approx 8 feet).

CONCLUSIONS

Construction debris encountered from surface to depth of 7 feet. Petroleum odor and stained soils noted in soils at ground water table.

APPENDIX F

- PHASE II SOIL AND WELL BORING LOGS -

APPENDIX F-1 PHASE II RI SOIL BORING LOGS

APPENDIX F-2 PHASE II RI WELL BORING LOGS

APPENDIX F-1 PHASE II RI SOIL BORING LOGS

Test Boring: B-10
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 7 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: K. Callendar & P. Hendrick
TRC Inspector: J. Coykendall & K. Prochorena
Test Boring Coordinates:
N 156888.50
E 546710.64

Date Started: November 23, 1993
Date Completed: November 23, 1993
Approximate Depth to Water: unknown
Test Boring Elevation: 13.66 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology
0-2	4 17	16 15	ND	ND	0-8" FILL, brown F sand & organics, some rock fragments. 8-22" FILL, brown F sand, some gravel, little asphalt & concrete, dry, no odor.	0.0
2-4	21 46	17 20	ND	ND	FILL, brown F sand, some rock fragments & gravel, little concrete fragments, dry, no odor. Recovery = 14".	
4-6	3 5	4 8	NR	NR	No Recovery	
6-8	33 50/1"	42	ND	ND	0-3" FILL, brown F sand, some rock fragments & gravel. 3-5" FILL, asphalt pieces, little brown F sand. 5-7" FILL, brick pieces, dry, no odor.	7.0
					Auger refusal at 7 feet.	
					Sample FF-B101-112393 collected from 0-1'.	

Notes: NR = No Reading
ND = Not Detected

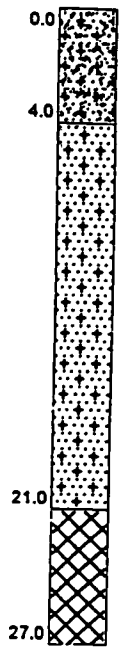
Test Boring: B-11
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 27 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: K. Callendar & P. Hendrick
TRC Inspector: J. Coykendall & K. Prochorena
Test Boring Coordinates:
N 156854.90
E 546767.50

Date Started: November 24, 1993
Date Completed: November 24, 1993
Approximate Depth to Water: 6 Feet
Test Boring Elevation: 8.39 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	Field Measurements HNu (ppm)	Soil Description
0-2	3 26	10 28	ND	ND	0-8" FILL, brown F sand & organics, little rock fragments & silt. 8-24" FILL, dk brown F sand, some rock fragments & gravel, dry, no odor.
2-4	16 40	23 28	ND	ND	0-8" FILL, brown F sand, some silt, trace rock fragments & brick. 8-22" FILL, brown F sand, some silt & rock fragments, little gravel, trace wood, dry, no odor.
4-6	12 8	11 15	ND	ND	Brown F-M SAND, some gravel & rock fragments, moist, no odor. Recovery = 18". Tip of spoon appears wet.
6-8	13 4	27 13	1	ND	0-5" Brown F-M SAND, some gravel & rock fragments. 5-8" Grey/black F-M SAND, some shell fragments. 8-20" Brown F SAND, some silt, trace shells, wet, no odor.
8-10	4 21	8 19	1	ND	0-11" Brown F SAND, some rock fragments, little silt, trace shells. 11-17" Black/grey TILL, F sand & silt, little rock fragments & gravel, wet, no odor.
10-12	5 13	11 15	ND	ND	Black/grey TILL, silt, some F sand & rock fragments, little gravel, wet, no odor. Recovery = 15".
12-14	7 100/5"	15	ND	ND	0-10" Black/grey TILL, silt, some rock fragments & gravel, little F sand. 10-12" Brown/grey M-F SAND, some silt & rock fragments, wet, no odor.
14-16	6 12	30 16	ND	ND	Black/grey TILL, silt, some rock fragments & gravel, trace F sand, wet, no odor. Recovery = 14".
16-18	9 33	16 37	ND	ND	Black/grey TILL, silt, some rock fragments & gravel, trace F sand, wet, no odor. Recovery = 12".
18-20	7 19	9 25	ND	ND	Black/grey TILL, silt, some rock fragments & gravel, trace F sand, wet, no odor. Recovery = 8".
20-22	7 19	12 23	ND	ND	0-6" Black/grey TILL, silt, some rock fragments & gravel, trace F sand. 6-12" Highly weathered BEDROCK, wet, no odor.
22-24	12 12	13 25	ND	ND	Brown/grey weathered BEDROCK, wet, no odor. Recovery = 12".
25-27	35 50/4"	40	ND	ND	Brown/grey weathered BEDROCK, wet, no odor. Recovery = 8".

Lithology



Sample FF-B111-112493 collected from 0-1'.
Sample FF-B112-112493 collected from 4-6'.

Note: ND = Not Detected

Test Boring: B-12
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 8.5 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: A. Mercugliano & B. Reilly
Test Boring Coordinates:
N 157003.14
E 547168.02

Date Started: November 24, 1993
Date Completed: November 24, 1993
Approximate Depth to Water: 4 Feet
Test Boring Elevation: 7.86 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology
0-2	43	38	ND	ND	0-6" Brown F SAND & SILT.	0.0
	40	37			6-20" Brown F-C SAND & GRAVEL, little cobbles, dry, no odor.	
2-4	23	20	ND	ND	Brown F-C SAND & GRAVEL, little cobbles, dry, no odor.	
	21	16			Recovery = 18".	
4-6	23	40	1	ND	Brown F-C SAND & GRAVEL, little cobbles, wet, petroleum odor.	
	50/3"				Recovery = 10".	
6-8	50/5"		ND	ND	Brown F-C SAND & GRAVEL, wet, no odor. Recovery = 4".	
					Augered to refusal at 8.5'	8.5

Sample MP-B121-112493 collected from 0-2'.
Sample MP-B122-112493 collected from 2-4'.

Note: ND = Not Detected

Test Boring: B-13
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 30 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: B. Reilly & A. Mercugliano
Test Boring Coordinates:
N 157004.87
E 547352.24

Date Started: November 23, 1993
Date Completed: November 23, 1993
Approximate Depth to Water: 6 feet
Test Boring Elevation: 8.93 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology
0-2	18	23	ND	3	FILL, brown F sand & brick, trace gravel, dry, no odor.	0.0
	45	33			Recovery = 18".	
2-4	18	27	ND	3	FILL, brown F sand, little rock fragments, trace silt & bricks, dry, no odor.	
	50/1"				Recovery = 12".	
4-6	4	7	35	25	FILL, brown F sand, trace silt, brick & glass, moist, petroleum odor.	
	10	14			Recovery = 22". Spoon appears wet at tip.	
6-8	5	3	700	55	Dk grey/black F SAND, little cobbles, trace silt, petroleum odor, wet.	6.0
	3	7			Recovery = 12".	
8-10	3	6	NR	55	Dark grey/black F SAND, little cobbles, trace silt, petroleum odor, wet.	
	16	7			Recovery = 14".	
10-12	7	8	ND	3	Dark grey/black F SAND, little cobbles, trace silt, petroleum odor, wet.	
	10	5			Recovery = 6".	
12-14	1	1	>1000	28	Brown PEAT, little silt, wet, petroleum odor.	12.0
	2	6			Recovery = 16".	
14-16	16	10	200	20	Brown PEAT, little silt, wet, petroleum odor.	
	11	13			Recovery = 12".	
16-18	6	10	250	15	0-8" Brown PEAT, little silt, wet, petroleum odor.	
	10	11	ND	ND	8-17" Grey SILT, wet, no odor.	
18-20	10	10	ND	ND	Grey weathered BEDROCK, some silt, wet, no odor.	18 0
	12	12			Recovery = 15".	
20-22	3	27	ND	ND	0-7" Grey weathered BEDROCK, some silt, wet, no odor.	
	25	31			7-14" Grey/orange weathered BEDROCK, trace F sand, wet, no odor.	
22-24	9	21	ND	ND	Grey weathered BEDROCK, little silt, wet, no odor. Recovery = 16".	
	23	33				
24-26	14	14	ND	ND	Grey weathered BEDROCK, trace silt, wet, no odor.	
	21	41			Recovery = 14".	
26-28	27	41	ND	ND	Grey weathered BEDROCK, trace silt, wet, no odor.	
	50/3"				Recovery = 10".	
28-30	21	20	ND	ND	Grey weathered BEDROCK, wet, no odor.	
	40	50/3"				
					Augered to refusal at 30'	30.0

Sample FF-B131-112393 collected from 0-2'.
Sample FF-B132-112393 collected from 4-6'.

Notes: NR = No Reading
ND = Not Detected

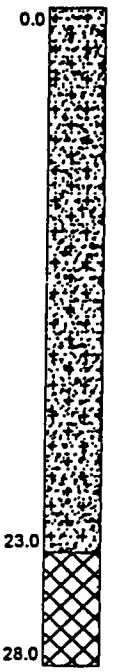
Test Boring: B-14
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 28 Feet

Drilling Company: Soil Explorations
Drillers: G. Juinta & G. Caquette
TRC Inspector: J. Coykendall
Test Boring Coordinates:
N 156893.04
E 547371.18

Date Started: December 13, 1993
Date Completed: December 13, 1993
Approximate Depth to Water: 27 Feet
Test Boring Elevation: 30.71Feet (mlw)

Depth (feet)	Blow Counts	Field Measurements OVA (ppm)	HNu (ppm)	Soil Description
0-2	5 5 10 30	ND	ND	0-12" FILL, brown F sand & organics, trace rock fragments. 12-16" FILL, dk brown F-M sand, little rock fragments, trace brick, dry, no odor.
5-7	7 9 16 30	ND	ND	FILL, brown F-M sand, some gravel & rock fragments, little concrete & asphalt, trace brick fragments, dry, no odor. Recovery = 18".
7-9	27 30 27 34	ND	ND	FILL, brown/grey F-M sand, some rock fragments & cobbles, little concrete & gravel, trace asphalt & brick fragments, dry, no odor. Recovery = 22".
9-11	61 120/4"	ND	ND	FILL, brown/grey F-M sand, some rock fragments & cobbles, little concrete & gravel, trace asphalt & brick fragments, dry, no odor. Recovery = 2".
15-17	9 7 6 6	ND	ND	FILL, grey/black silt, little F sand & rock fragments, trace gravel, moist, no odor. Recovery = 18".
17-19	9 13 25 10	ND	ND	0-8" FILL, grey/black silt, little F sand & rock fragments, trace gravel. 8-18" FILL, brown F sand, little cobbles, trace wood & brick, moist, no odor.
20-22	120/4"	NR	NR	FILL, concrete fragments. Recovery = 1".
25-27	50/1"	NR	NR	No Recovery

Lithology



Auger to 28 feet and hit auger refusal.
Bedrock estimated to be approximately 23 feet below grade.
Water in borehole at approximately 27 feet below grade.

Sample FF-B141-121393 collected from 0-1'.
Sample FF-B142-121393 collected from 15-17'.

Notes: NR = No Reading
ND = Not Detected

Test Boring: B-15
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 22.5 Feet

Drilling Company: Soil Explorations
Drillers: G. Juinta & G. Caquette
TRC Inspector: J. Coykendall
Test Boring Coordinates:
N 156895.02
E 547425.72

Date Started: December 13, 1993
Date Completed: December 13, 1993
Approximate Depth to Water: Unknown
Test Boring Elevation: 27.58 Feet (mlw)

Depth (feet)	Blow Counts	Field Measurements OVA (ppm)	Field Measurements HNu (ppm)	Soil Description	Lithology
0-2	14 14 7 6	ND	ND	0-4" FILL, brown F sand & organics, little rock fragments. 4-12" FILL, brown F-M sand, some rock fragments, trace brick fragments, dry, no odor.	0.0
2-4	11 9 9 11	ND	ND	FILL, brown F-M sand, some rock fragments & cobbles, little gravel, trace concrete, asphalt & brick, dry, no odor. Recovery = 18".	
4-6	11 9 100/3"	ND	ND	FILL, brown F-M sand & rock fragments, some cobbles & gravel, trace brick & concrete, dry, no odor. Recovery = 12".	
8-10	20 65 67 62	ND	ND	FILL, brown/grey M-F sand & gravel, some rock fragments & cobbles, little concrete & asphalt, trace brick & glass, dry, no odor. Recovery = 14".	
10-12	13 19 34 100/4"	ND	ND	FILL, grey F-M sand, some rock fragments & cobbles, little concrete & asphalt, trace brick, dry, slight petroleum odor. Recovery = 18".	
15-17	9 12 18 26	ND	ND	FILL, brown F sand & silt, some gravel & cobbles, little rock fragments & concrete, trace brick, moist, no odor. Recovery = 12".	
17-19	100/4"	NR	NR	No recovery - piece of wood & chunk of asphalt in tip of spoon	
20-21	25 100/1"	NR	NR	No Recovery	20.0
				Augered to refusal at 22.5 feet - did not reach water table. Bedrock estimated to be approximately 20 feet below grade.	22.5
				Sample FF-B151-121393 collected from 0-1'. Sample FF-B152-121393 collected from 10-12'. Sample FF-B153-121393 collected from 15-17'.	

Notes: NR = No Reading
ND = Not Detected

Test Boring: B-16
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 22.5 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: A. Mercugliano & B. Reilly
Test Boring Coordinates:
N 156957.39
E 547508.80

Date Started: November 23, 1993
Date Completed: November 23, 1993
Approximate Depth to Water: 6 Feet
Test Boring Elevation: 9.24 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology
0-2	8 27	18 17	ND	ND	0-3" Brown TOPSOIL, F sand & silt. 3-11" Brown F-M SAND & GRAVEL, some silt. 11-20" Brown F-C SAND & GRAVEL, dry, no odor.	0.0
2-4	12 15	25 13	0.5	ND	Brown F-M SAND & GRAVEL, some silt, dry, no odor. Recovery = 10".	
4-6	50/3"		ND	ND	Brown F-M SAND & GRAVEL, some silt, dry, no odor. Recovery = 3".	
6-8	5 6	6 5	5	1	Brown F-C SAND & GRAVEL, little silt, wet with petroleum odor at bottom of spoon. Recovery = 7".	
8-10	18 17	15 20	ND	ND	Brown/black F SAND & GRAVEL, some silt and cobbles, wet, petroleum odor. Recovery = 10".	
10-12	17 15	12 10	ND	ND	Brown/black F SAND & GRAVEL, some silt, wet, petroleum odor. Recovery = 2".	
12-14	7 7	7 5	ND	ND	Brown F-M SAND & SILT, some gravel, wet, petroleum odor. Recovery = 10".	
14-16	5 6	12 2	ND	ND	Brown PEAT, wet, no odor. Recovery = 9".	14.0
16-18	2 3	2 6	ND	5	0-6" Brown M-C SAND & PEAT 6-12" Tan SILT, wet, no odor.	16.5
18-20	6 47	18 50/3"	ND	5	Grey SILT, some F sand, little gravel, wet, no odor. Recovery = 12".	
20-22	27	50/2"	ND	2	Grey F SAND & GRAVEL, some silt, wet, no odor. Recovery = 10".	21.0
22-22.5	50/2"		0	0	Weathered ROCK, wet, no odor. Auger refusal at 22.5'.	22.5

Sample FF-B161-112393 collected from 0-2'.
Duplicate Sample FF-B164-112393 collected from 0-2'.
Sample FF-B162-112393 collected from 2-4'.
Sample FF-B163-112393 collected from 6-7'.

Note: ND = Not Detected

Test Boring: B-17
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 30 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: B. Reilly & A. Mercugliano
Test Boring Coordinates:
N 156823.64
E 547431.34

Date Started: November 24, 1993
Date Completed: November 24, 1993
Approximate Depth to Water: 6 feet
Test Boring Elevation: 11.45 Feet (mlw)

Depth (feet)	Blow Counts	Field Measurements OVA (ppm)	Field Measurements HNu (ppm)	Soil Description	Lithology
0-2	3 20	ND	ND	0-6" Brown F SAND & SILT, trace cobbles.	0.0
	12 8			6-12" Brown F-C SAND & GRAVEL, dry, no odor.	
2-4	13 9	ND	ND	0-6" Brown F-C SAND & GRAVEL.	
	6 6			6-9" Brown F SAND, dry, no odor.	
4-6	45 . 50/0"	NR	NR	No Recovery	4.0
				Augered to refusal at 5.0 feet below grade.	5.0

Sample FF-B131-112393 collected from 0-2'.
Sample FF-B132-112393 collected from 2-4'.

Notes: NR = No Recovery
ND = Not Detected

Test Boring: B-18
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 5.5 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: B. Reilly & A. Mercugliano
Test Boring Coordinates:
N 156611.81
E 547794.62

Date Started: November 23, 1993
Date Completed: November 23, 1993
Approximate Depth to Water: unknown
Test Boring Elevation: 12.52 Feet (mlw)

Depth (feet)	Blow Counts	Field Measurements OVA (ppm)	Field Measurements HNu (ppm)	Soil Description	Lithology
0-2	8 23 50/1"	ND	ND	Brown F SAND, trace silt, dry, no odor. Recovery = 16".	0.0
2-4	50/2"	NR	NR	No recovery. Very hard drilling, cobbles in drill cuttings. Bedrock estimated at 2 feet below grade.	2.0
4-6	50/2"	NR	NR	No Recovery. Augered to refusal at 5.5' below grade.	5.5

Sample FF-B181-112393 collected from 0-2'.

Notes: NR = No Reading
ND = Not Detected

Test Boring: B-18
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Boring Depth: 5.5 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: B. Reilly & A. Mercugliano
Test Boring Coordinates:
N 156611.81
E 547794.62

Date Started: November 23, 1993
Date Completed: November 23, 1993
Approximate Depth to Water: unknown
Test Boring Elevation: 12.52 Feet (mlw)

Depth (feet)	Blow Counts	Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology
0-2	8 23 50/1"	ND	ND	Brown F SAND, trace silt, dry, no odor. Recovery = 16".	0.0
2-4	50/2"	NR	NR	No recovery. Very hard drilling, cobbles in drill cuttings. Bedrock estimated at 2 feet below grade.	2.0
4-6	50/2"	NR	NR	No Recovery. Augered to refusal at 5.5' below grade.	5.5

Sample FF-B181-112393 collected from 0-2'.

Notes: NR = No Reading
ND = Not Detected

APPENDIX F-2 PHASE II RI WELL BORING LOGS

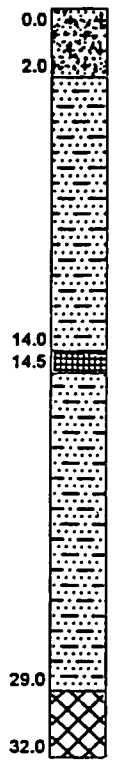
Monitoring Well: MW-2D
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Well Depth: 30.5 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: K. Callendar & P. Hendrick
TRC Inspector: J. Coykendall
Monitoring Well Coordinates:
N 156995.86
E 547435.37

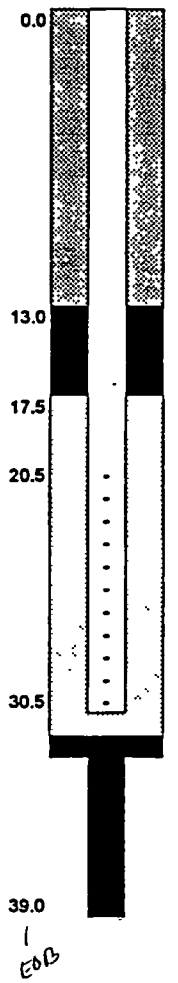
Date Started: November 29, 1993
Date Completed: December 1, 1993
Depth to Water: 4.36 Feet (01/04/94)
Monitoring Well Elevations:
Top of PVC = 8.56 Feet (mlw)
Ground Elevation = 9.16 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description
0-2					See well log for MW-2S from Phase I for soil information from 0 to 14 feet below grade.
2-4					
4-6					
6-8					
8-10					
10-12					
12-14					
14-16	3	2	650	80	0-6" Brown PEAT, some F sand, trace silt. 6-18" Grey F
	1	2			SAND, some M sand, trace silt, wet, slight petroleum odor.
16-18	2	1	7	3	Grey F SAND, some M sand, trace silt, gravel, wet, no odor.
	2	5			Recovery = 6".
18-20	6	9	8.5	ND	0-6" Grey F SAND, some M sand, trace silt. 6-14" Orange/
	9	10			grey F SAND, some M sand, trace rocks, wet, no odor.
20-22	3	6	15	1	Grey F SAND, trace rock fragments & silt, wet, no odor.
	9	11			Recovery = 14".
22-24	5	6	ND	ND	0-4" Grey F SAND & SILT, trace shell fragments. 4-14"
	10	14			Brown F-M SAND, trace gravel, silt, wet, no odor.
24-26	3	13	8	ND	Brown F-M SAND, some gravel, trace silt & rock fragments,
	42	37			wet, no odor. Recovery = 10".
26-28	9	16	ND	ND	Brown/grey F SAND, some silt & gravel, trace rock
	18	21			fragments, wet, no odor. Recovery = 12".
28-30	17	20	ND	ND	0-10" Brown/grey F-M SAND, some silt & gravel. 10-12"
	28	34			Grey weathered BEDROCK, wet, no odor.
30-32	8	16	NR	NR	No Recovery
	27	32			
32-34	63/0"		NR	NR	No Recovery
					Attempted to core to 40 feet to set bedrock well, but hole kept collapsing, so installed deep well instead.

Lithology



Monitoring Well Construction



Notes: NR = No Reading
ND = Not Detected
Depth to Water Measured From Top of PVC.

Monitoring Well: MW-6S
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Well Depth: 9 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: J. Breen & B. Reilly
Monitoring Well Coordinates:
N 156498.17
E 547483.71

Date Started: November 30, 1993
Date Completed: November 30, 1993
Depth to Water: 7.07 Feet (01/04/94)
Monitoring Well Elevations:
Top of PVC = 13.39 Feet (msl)
Ground Elevation = 13.59 Feet (msl)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology	Monitoring Well Construction
0-2	4	6	ND	ND	0-6" TOPSOIL. 6-18" Brown F SAND, some silt, little	0.0	0.0 Curb Box
	9	6			gravel, trace asphalt, dry, no odor.		1.0 Bentonite Seal
2-4	8	12	ND	ND	0-4" Brown F SAND, some silt, little gravel. 4-16" Grey		2.0 Top of Sand
	8	10			F SAND & SILT, some rock fragments, moist, no odor.		
4-6	10	14	ND	ND	Grey F SAND & SILT, some rock fragments, moist, no odor.		4.0 Top of Screen
	50/4"				Recovery = 10".		#1 Morie Sand
6-8	50/1"		NR	NR	No Recovery.		
							2" - 10 Slot PVC
8-10	50/0"		NR	NR	No Recovery.		Screen
					Auger refusal at 9 feet.	9.0	9.0 Bottom of Well

Sample FF-M61-113093 collected from 0-2'.
Sample FF-M62-113093 collected from 4-6'.

Notes: ND = Not Detected
NR = No Recovery
Depth to Water Measured From Top of PVC.

Monitoring Well: MW-6R
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Well Depth: 26 Feet

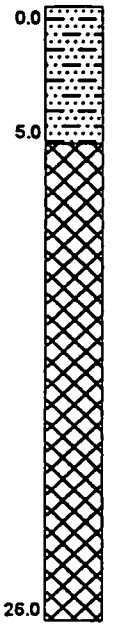
Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: B. Reilly
Monitoring Well Coordinates:
N 156505.80
E 547504.73

Date Started: December 1, 1993
Date Completed: December 1, 1993
Depth to Water: 7.23 Feet (01/04/94)
Monitoring Well Elevations:
Top of PVC = 13.49 Feet (mlw)
Ground Elevation = 13.81 Feet (mlw)

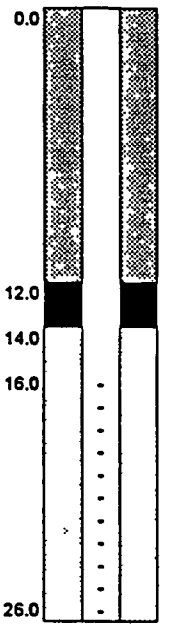
Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description
0-2	4	6	ND	ND	0-6" TOPSOIL. 6-18" Brown F SAND, some silt, little gravel, trace asphalt, dry, no odor.
	9	6			
2-4	8	12	ND	ND	0-4" Brown F SAND, some silt, little gravel. 4-16" Grey F SAND & SILT, some rock fragments, moist, no odor.
	8	10			
4-6	15	40	ND	ND	0-3" Brown F SAND, little gravel & silt. 3-18" Brown/grey weathered BEDROCK, moist, no odor.
	46	50/2"			

Augered to 26 feet through weathered bedrock to set well.

Lithology



Monitoring Well Construction



Notes: ND = Not Detected
Depth to Water Measured From Top of PVC.

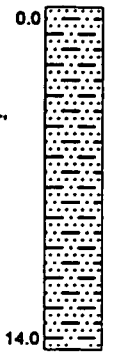
Monitoring Well: MW-7S
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Well Depth: 13 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: B. Reilly & J. Breen
Monitoring Well Coordinates:
N 156781.40
E 547262.98

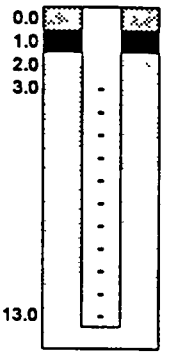
Date Started: November 29, 1993
Date Completed: November 29, 1993
Depth to Water: 3.86 Feet (01/04/94)
Monitoring Well Elevations:
Top of PVC = 10.34 Feet (mlw)
Ground Elevation = 10.91 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description
0-2	3	22	ND	ND	0-12" Brown F SAND, little cobbles, trace silt. 12-16"
	44	35			COBBLES. 16-20" Brown F SAND, trace gravel, dry, no odor.
2-4	9	9	ND	ND	0-3" ROCK fragments. 3-15" Grey F SAND & SILT, trace
	9	10			gravel, dry, no odor.
4-6	8	12	7	6	0-8" Brown F SAND, some silt. 8-11" Black F SAND & GRAVEL,
	8	13			petroleum odor. 11-17" Brown F SAND, little silt, wet.
6-8	3	3	ND	ND	Gray F SAND, some silt, wet, slight petroleum odor.
	3	6			Recovery = 6".
8-10	6	8	700	ND	Grey F SAND, some silt, wet, slight petroleum odor.
	10	22			Recovery = 20".
10-12	28	15	ND	ND	Grey F SAND, some silt, trace gravel, wet, no odor.
	14	8			Recovery = 22".
12-14	4	6	ND	ND	Grey F SAND, some silt, trace gravel, wet, no odor.
	7	8			Recovery = 20".

Lithology



Monitoring Well Construction



Sample FF-M71-112993 collected from 0-2'.
Sample FF-M72-112993 collected from 2-4'.

Notes: ND = Not Detected
Depth to Water Measured From Top of PVC.

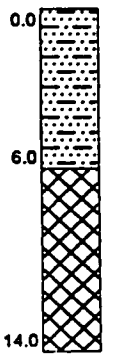
Monitoring Well: MW-8R
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Well Depth: 14 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: T. McMorrow
Monitoring Well Coordinates:
N 156750.14
E 547535.02

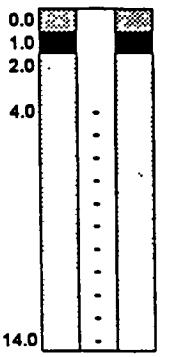
Date Started: December 13, 1993
Date Completed: December 13, 1993
Depth to Water: 6.35 Feet (01/04/94)
Monitoring Well Elevations:
Top of PVC = 11.90 Feet (mlw)
Ground Elevation = 12.70 Feet (mlw)

Depth (feet)	Blow Counts	Field Measurements OVA (ppm)	HNu (ppm)	Soil Description
0-2	3 6 14 32	ND	ND	0-3" TOPSOIL. 3-18" Brown F SAND, little cobbles, trace silt, dry, no odor.
2-4	2 4 32 50/1"	ND	ND	ROCK cobbles, dry, no odor. Recovery = 3".
				Unable to continue drilling and sampling with augers. Continue well with air rotary drill rig. Estimated depth to bedrock = 6 feet.

Lithology



Monitoring Well Construction



Sample FF-M81-113093 collected from 0-2'.

Notes: ND = Not Detected
Depth to Water Measured From Top of PVC.
Split spoon sampling conducted on 11/30/93.
Monitoring well installed on 12/13/93.

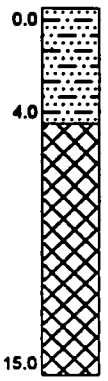
Monitoring Well: MW-9R
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Well Depth: 15 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: T. McMorrow
Monitoring Well Coordinates:
N 156840.31
E 547435.91

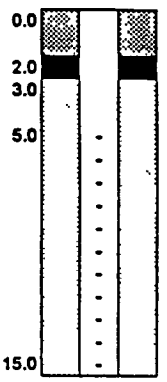
Date Started: December 13, 1993
Date Completed: December 14, 1993
Depth to Water: 5.37 Feet (01/04/94)
Monitoring Well Elevations:
Top of PVC = 11.18 Feet (mlw)
Ground Elevation = 11.73 Feet (mlw)

Depth (feet)	Blow Counts	Field Measurements OVA (ppm)	HNu (ppm)	Soil Description
0-2	12 15 47 50/2"	ND	ND	0-6" TOPSOIL. 6-16" Brown SILT & ROCK fragments, little F sand, dry, no odor.
2-4	50/4"	ND	ND	Brown F SAND, little gravel & silt, dry, no odor. Recovery = 2".
4-6	50/2"	NR	NR	No Recovery Unable to continue drilling and sampling with augers. Continue drilling with air rotary drill rig. Bedrock estimated to be 4 feet below grade.

Lithology



Monitoring Well Construction



Sample FF-M91-120193 collected from 0-2'.
Duplicate sample FF-M93-120193 collected from 0-2'.
Sample FF-M92-120193 collected from 2-4'.

Notes:
NR = No Reading
ND = Not Detected
Depth to Water Measured From Top of PVC.
Split spoon sampling conducted on 12/01/93.
Monitoring well installed on 12/13/93 - 12/14/93.

Monitoring Well: MW-10S
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Well Depth: 12.5 Feet

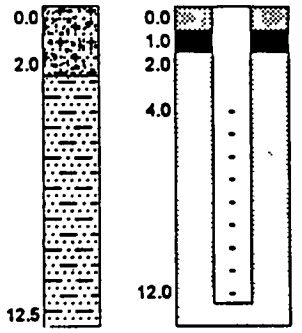
Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: J. Breen & B. Reilly
Monitoring Well Coordinates:
N 156899.69
E 547579.96

Date Started: November 29, 1993
Date Completed: November 29, 1993
Depth to Water: 6.30 Feet (01/04/94)
Monitoring Well Elevations:
Top of PVC = 10.20 Feet (mlw)
Ground Elevation = 10.35 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description
0-2	6	20	ND	ND	0-6" FILL, topsoil. 6-18" FILL, brown F sand & silt, little brick
	20	21			& gravel, trace seashells, dry, no odor.
2-4	10	10	NR	NR	ROCK fragments, dry, no odor. Recovery = 2".
	11	11			
4-6	5	9	ND	ND	Brown F SAND, some rock fragments, little gravel, trace silt,
	15	16			dry, no odor. Recovery = 8".
6-8	7	7	ND	ND	Brown F SAND, some rock fragments, little gravel, trace silt,
	22	34			wet, petroleum odor, visual staining. Recovery = 12".
8-10	50/5"		ND	ND	Brown F SAND, some rock fragments, little gravel, trace silt,
					wet, petroleum odor. Recovery = 5".
10-12	50/5"		ND	ND	Brown F SAND, some rock fragments, little gravel, trace silt,
					wet, petroleum odor. Recovery = 5".
12-14	50/5"		ND	ND	Grey F-C SAND, little silt & gravel, wet,
					slight petroleum odor. Recovery = 2".

Auger refusal at 12.5 feet.

Sample FF-M101-112993 collected from 0-2'.
Sample FF-M102-112993 collected from 4-6'.
Sample FF-M103-112993 collected from 10-12'.



Notes: ND = Not Detected
NR = No Recovery
Depth to Water Measured From Top of PVC.

Monitoring Well: MW-11S
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Well Depth: 9 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: B. Reilly & J. Breen
Monitoring Well Coordinates:
N 157055.66
E 547198.71

Date Started: December 1, 1993
Date Completed: December 1, 1993
Depth to Water: 3.92 Feet (01/04/94)
Monitoring Well Elevations:
Top of PVC = 7.70 Feet (mlw)
Ground Elevation = 7.85 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description	Lithology	Monitoring Well Construction
0-2	8	5	ND	ND	0-3" FILL, brown F sand, plastic. 3-22" FILL, black charred	0.0	0.0 Curb Box
	7	14			wood fragments, little asphalt & concrete, dry, no odor.		1.0 Bentonite Seal
2-4	6	23	15	5	0-8" FILL, black/grey F sand, some gravel & wood. 8-12" FILL,		2.0 Top of Sand
	15	19			concrete & rock. 12-18" FILL, brown F-M sand, dry, no odor.		
4-6	24	26	1	ND	0-2" FILL, concrete fragments. 2-12" FILL, brown F-M sand,		4.0 Top of Screen
	29	35			some brick & concrete. 12-15" FILL, rock fragments, wet, no odor.		#1 Morie Sand
6-8	50/3"		ND	ND	FILL, rock fragments, wet, no odor. Recovery = 1".		2" - 10 Slot PVC
8-10	48	50/1"	2	ND	FILL, brown F-C gravel, some F-C sand & rock fragments, little		Screen
					brick fragments, slight petroleum odor, wet. Recovery = 8".		9.0 Bottom of Well
10-12	50/3"		NR	NR	No Recovery.	10.0	

Sample FF-M111-112993 collected from 0-2'.
Sample FF-M112-112993 collected from 2-4'.

Notes:
ND = Not Detected
NR = No Recovery
Depth to Water Measured From Top of PVC.
Split spoon sampling conducted on 11/29/93.
Monitoring well installed on 12/01/93.

Monitoring Well: MW-11R
Site 09 - Old Fire Fighting Training Area
NETC - Newport
Well Depth: 21 Feet

Drilling Company: Hardin-Huber, Inc.
Drillers: M. Stawas
TRC Inspector: J. Coykendall & T. McMorrow
Monitoring Well Coordinates:
N 157066.93
E 547215.37

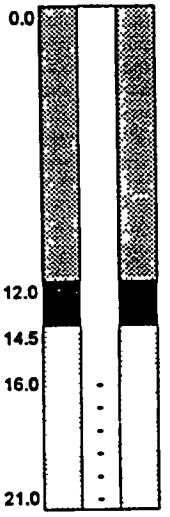
Date Started: December 15, 1993
Date Completed: December 16, 1993
Depth to Water: 3.55 Feet (01/04/93)
Monitoring Well Elevations:
Top of PVC = 7.40 Feet (mlw)
Ground Elevation = 7.64 Feet (mlw)

Depth (feet)	Blow Counts		Field Measurements OVA (ppm)	HNu (ppm)	Soil Description
0-2	8	5	ND	ND	0-3" FILL, brown F sand, plastic. 3-22" FILL, black charred wood fragments, little asphalt & concrete, dry, no odor.
	7	14			
2-4	6	23	15	5	0-8" FILL, black/grey F sand, some gravel & wood. 8-12" FILL, concrete & rock. 12-18" FILL, brown F-M sand, dry, no odor.
	15	19			
4-6	24	26	1	ND	0-2" FILL, concrete fragments. 2-12" FILL, brown F-M sand, some brick & concrete. 12-15" FILL, rock fragments, wet, no odor.
	29	35			
6-8	50/3"		ND	ND	FILL, rock fragments, wet, no odor. Recovery = 1".
8-10	48	50/1"	2	ND	FILL, brown F-C gravel, some F-C sand & rock fragments, little brick fragments, slight odor, wet. Recovery = 8".
10-12	50/3"		NR	NR	No Recovery.

Unable to continue drilling and sampling with augers.
Continue drilling with air rotary drill rig.
Bedrock estimated to be 14 feet below grade.

Lithology

Monitoring Well Construction



Notes: NR = No Reading
ND = Not Detected
Depth to Water Measured From Top of PVC.

APPENDIX G

PHASE II RI GEOTECHINICAL SOIL RESULTS

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF CATION EXCHANGE CAPACITY

Sample Location=		FF-M63-120193			FF-M73-112993			FF-M103-112993		
Sample Designation=		032060-0003-SA			031875-0011-SA			31875-0012-SA		
Sample Collection Date=		01 DEC 93			29 NOV 93			29 NOV 93		
Sample Depth=		4-6'			10-12'			10-12'		
Analysis	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Cation Exchange Capacity	meq/100g	3 9		0.50	101		0.50	27		0.50

Project: Enseco Project Number 32060 Project Number: 54-3042 53

Client: Enseco Inc.

SUMMARY OF GEOTECHNICAL LABORATORY TEST RESULTS

FIELD IDENTIFICATION	SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	SIEVE ANALYSIS	OTHER TEST
			FULL SIEVE	
FF MW63-12193	32060.0003	Gray gravelly fine to coarse SAND, little silt, trace clay	*	

* SEE TEST CURVES

Page 1 of 1

G:\PROJ\5\3042\SUM

NTH CONSULTANTS, LTD.
Professional Engineering & Environmental Services
860 SPRINGDALE DRIVE, EXTON PENNSYLVANIA 19341

NTH Consultants, Ltd.

GRAIN SIZE DISTRIBUTION CURVE

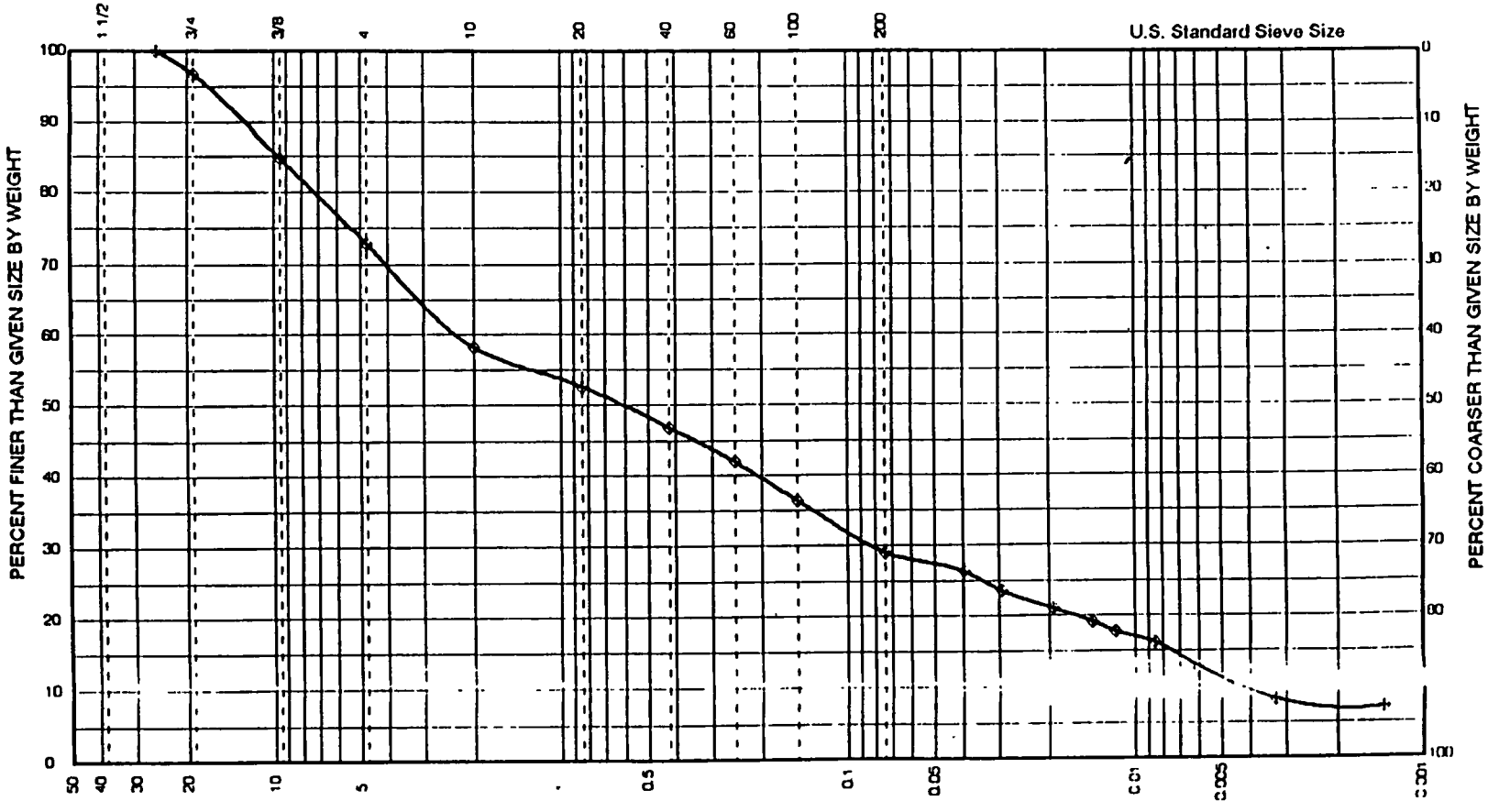
Project No. 54-3042 53 Project Name Enseco FF-MW63-120193

Project Location Project #32060 Source

LWO No. Boring No. 32060 Sample No. 0003 Sample Depth Sample Elev. (Tip)

Sample Description Grey gravelly fine to coarse SAND, little silt, trace clay

Sampled By TM Date 12-1-93 Tested By E. Friend Date 1-7-94



Grain Size in MM							
Gravel		Sand			Fines		
Coarse	Fine	Coarse	Medium	Fine	Silt	Clay	Colloids

FF-MW63-120193

Project No.: 54-3042 53 Project Name: Ensec
Test Boring No.: 32060 Sample No.: 0003 Sample Dep : .0
Laboratory Work Order N .:
Description: Grey

Sieve Analysis of Material (W1 = 492.95 gr)

Sieve Number	Screen Opening (mm)	Cumulative Retained Weight (gram)	Cumulative Retained (Percent)	Cumulative Passing (Percent)	
1	1.00"	.00	.0	100.0	
3/4	.75"	15.83	3.2	96.8	
3/8	.375"	75.19	15.3	84.7	
4	4.75	133.82	27.1	72.9<-	.7% gravel
10	2.00	205.99	41.8	58.2<-	.5% coarse sand
** SIEVE ANALYSIS FROM HYDROMETER (W3) **					
20	.840	10.21	9.7	52.6	
40	.420	20.64	19.5	46.9<-	.1% medium sand
60	.250	29.43	27.8	42.0	
100	.150	39.66	37.5	36.4	
200	.074	53.06	50.2	29.0<-	.8% fine sand

Hydrometer Analysis of Material Passing No. 10 Sieve

Hydrometer No.: 3 Sp. Gravity = 2.67
CORR. A = .995 WT. of Sample W3=105.80 GR

TIME	TEMP C	HYDROMETER ORIG	RW	READ R	%PASS	CORR. COEFFI. K	L CM	CORR. DIAMETL. (MM)	CORR. %PASS	
1.	20.4	51.0	3.0	48.0	45.2	.01405	7.9	.0396	26.3	
2.	20.4	46.0	3.0	43.0	40.5	.01405	8.8	.0294	23.6	
5.	20.4	41.5	3.0	38.5	36.2	.01405	9.5	.0194	21.1	
10.	20.4	38.0	3.0	35.0	32.9	.01405	10.1	.0141	19.2	
15.	20.4	35.5	3.0	32.5	30.6	.01405	10.5	.0117	17.8	
30.	20.4	32.5	3.0	29.5	27.8	.01405	11.0	.0085	16.2	18% silt
60.	20.4	27.0	3.0	24.0	22.6	.01405	11.9	.0063	13.1	
120.	20.1	22.0	3.0	19.0	17.9	.01410	12.7	.0046	10.4	11% clay
250.	20.0	18.0	3.0	15.0	14.1	.01412	13.3	.0033	8.2	
1440.	20.0	16.0	3.0	13.0	12.2	.01412	13.7	.0014	7.1	

*** NOTE THE TIME SEQUENCE ON THIS OUTPUT ***
RECALCULATE CORRECTED PARTICLE DIAMETERS IF TIMES DIFFER!

D = K * SQRT (L/T)

%PASSING=(100*R*A)/W3

TESTED BY:E. Friend DATE:1-7-94 CHECKED BY

FF-MW63-120193

ACCREDITED LABORATORIES, INC.

GENERAL CHEMISTRY ANALYSIS DATA

Case #:	5264	Matrix:	Soil
Sample #:	9312925	Date Received:	12/15/93
Client Name:	ENSECO	% Moisture:	9.7
Field Number:	3		

ANALYTES	RESULTS	MDL	UNITS	DILUTION FACTOR	METHOD BLANK RESULTS	METHOD BLANK MDL	ANALYSIS DATE
Solids, Percent	90.3	0.1	%	1.0			12/17/93
Total Organic Carbon	2230.	107.	mg/Kg	1.	ND	100.	12/17/93

Project: Enseco Project Number 31875 Project Number: 54-3042 52

Client: Enseco Inc.

SUMMARY OF GEOTECHNICAL LABORATORY TEST RESULTS

FIELD IDENTIFICATION	SAMPLE IDENTIFICATION	SAMPLE DESCRIPTION	SIEVE ANALYSIS	OTHER TEST
			FULL SIEVE	
FF-M73-112993	31875.011	Brown fine to coarse sandy GRAVEL, some silt, trace clay	*	
FF-M103-112993	31875.012	Brown GRAVEL and coarse to fine SAND, trace silt, trace clay	*	

* SEE TEST CURVES

Page 1 of 1

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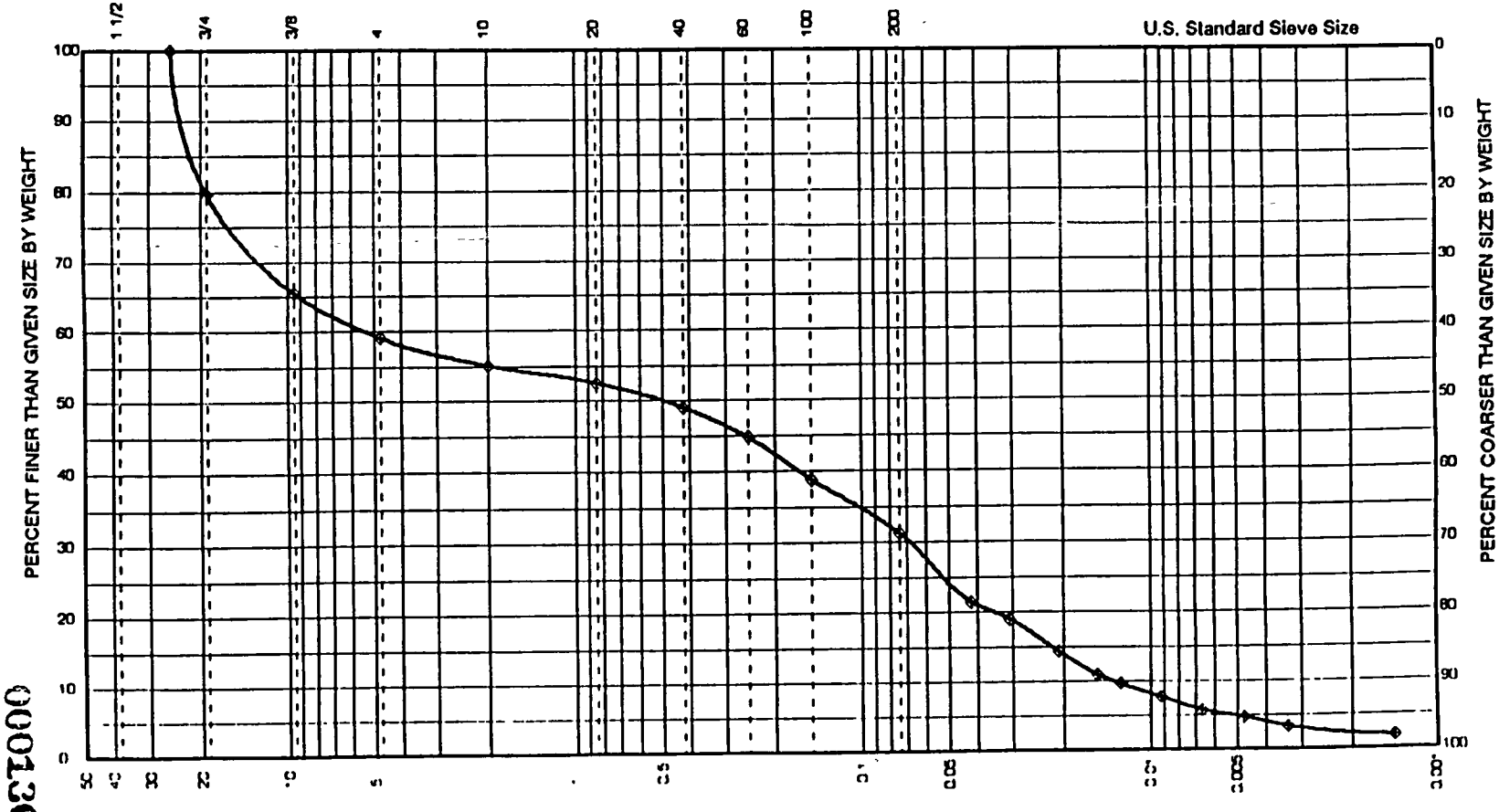
Professional Engineering & Environmental Services
860 SPRINGDALE DRIVE, EXTON PENNSYLVANIA 19341

NTH Consultants, Ltd.
GRAIN SIZE DISTRIBUTION CURVE

Project No. 54-3042 52 Project Name Enseco FF-M73-112993
Project Location Project #31875 Source
LWO No. Boring No. 31875 Sample No. 011 Sample Depth Sample Elev. (Tip)
Sample Description Brown fine to coarse sandy GRAVEL, some silt, trace clay
Sampled By FB Date 11-29-93 Tested By C. Saltizahn Date 12-13-93



000136

NTH Consultants, Ltd.

GRAIN SIZE DISTRIBUTION CURVE

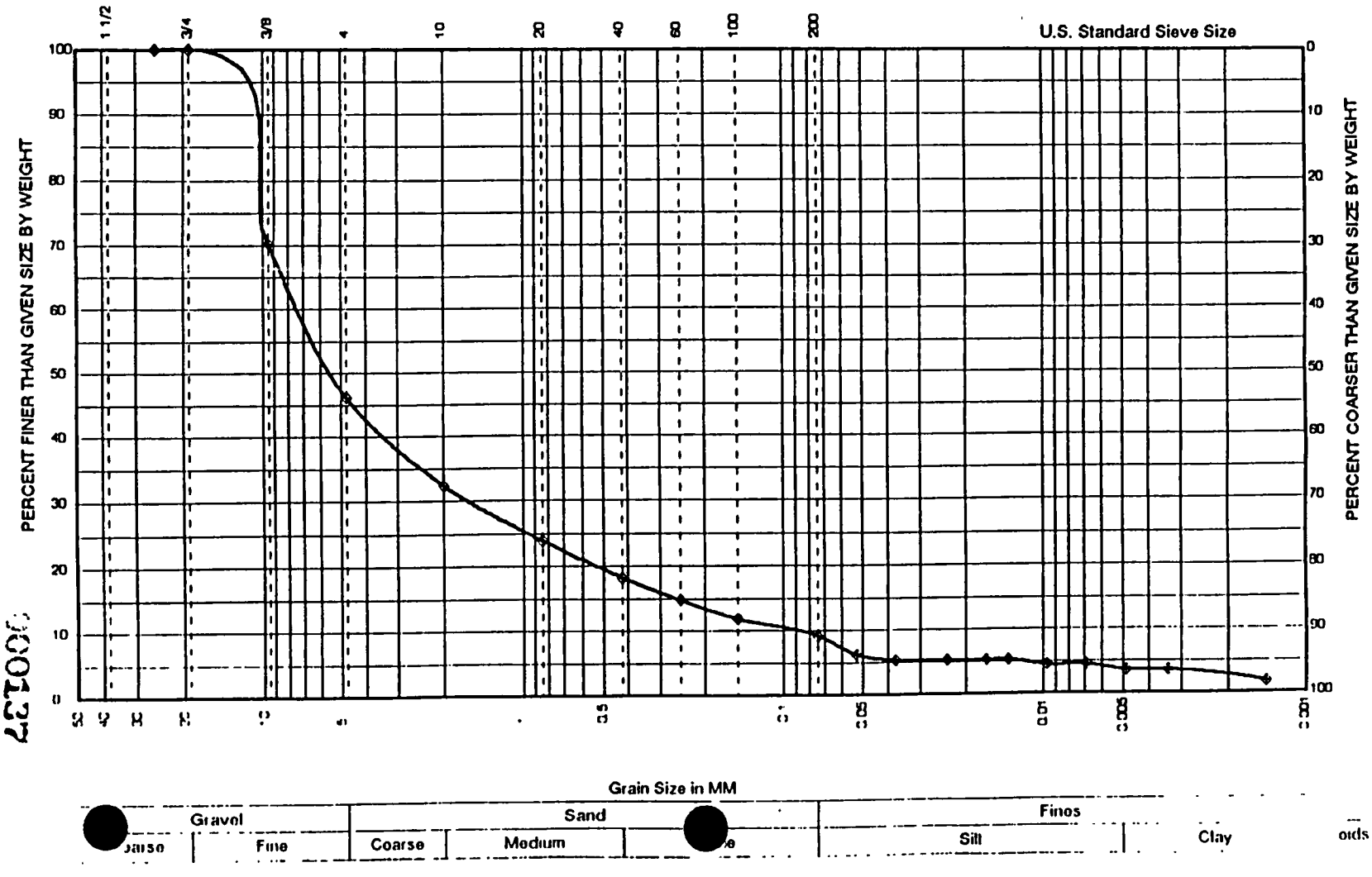
Project No. 54-3042 52 Project Name Enseco FF-M103-112993

Project Location Project #31875 Source

LWO No. Boring No. 31875 Sample No. 012 Sample Depth Sample Elev. (Tip)

Sample Description Brown GRAVEL and coarse to fine SAND, trace silt, trace clay

Sampled By Date Tested By C. Sattizahn Date 12-13-93



000137

FF-M73-112993

Project No.: 54-3042 52 Project Name: Enseco
Test Boring No.: 31875 Sample No.: 011 Sample Depth: .0
Laboratory Work Order No.:
Description: Brown fine to coarse sandy GRAVEL, som silt, trace clay

Sieve Analysis of Material (W1 = 739.87 gr)

Sieve Number	Screen Opening (mm)	Cumulative Retained Weight (gram)	Cumulative Retained (Percent)	Cumulative Passing (Percent)	
1	1.00"	.00	.0	100.0	
3/4	.75"	150.20	20.3	79.7	
3/8	.375"	255.42	34.5	65.5	
4	4.75	302.64	40.9	59.1	<- 41% gravel
10	2.00	331.67	44.8	55.2	<- 4% coarse sand
** SIEVE ANALYSIS FROM HYDROMETER (W3) **					
20	.840	4.74	4.7	52.6	
40	.420	11.18	11.2	49.0	<- 6% medium sand
60	.250	18.87	18.9	44.8	
100	.150	29.59	29.6	38.9	
200	.074	43.35	43.3	31.3	<- 18% fine sand

Hydrometer Analysis of Material Passing No. 10 Sieve

Hydrometer No.: 2 Sp. Gravity = 2.65
CORR. A = 1.000 WT. of Sample W3=100.10 GR

TIME	TEMP C	HYDROMETER ORIG	RW	READ R	%PASS	CORR. COEFFI. K	L CM	CORR. DIAMETER (MM)	CORR. %PASS	
1.	22.0	44.0	5.0	39.0	39.0	.01390	9.1	.0419	21.5	
2.	22.0	39.5	5.0	34.5	34.5	.01390	9.8	.0308	19.0	
5.	22.2	31.0	5.0	26.0	26.0	.01387	11.2	.0208	14.3	
10.	22.2	25.0	5.0	20.0	20.0	.01387	12.2	.0153	11.0	
15.	22.2	22.5	5.0	17.5	17.5	.01387	12.6	.0127	9.6	
30.	22.5	19.0	5.0	14.0	14.0	.01383	13.2	.0092	7.7	26% silt
60.	22.3	15.5	5.0	10.5	10.5	.01386	13.8	.0066	5.8	
120.	22.1	13.5	5.0	8.5	8.5	.01389	14.1	.0048	4.7	5% clay
250.	22.1	11.0	5.0	6.0	6.0	.01389	14.5	.0033	3.3	
1440.	21.3	9.0	5.5	3.5	3.5	.01400	14.8	.0014	1.9	

*** NOTE THE TIME SEQUENCE ON THIS OUTPUT ***
RECALCULATE CORRECTED PARTICLE DIAMETERS IF TIMES DIFFER!

D = K * SQRT (L/T)

%PASSING=(100*R*A)/W3

TESTED BY:C. Sattizahn DATE:12-13-93 CHECKED BY CC

Project N .: 54-3042 52 Project Name: Enseco
Test Boring No.: 31875 Sample No.: 012 Sample Depth: .0
Laboratory Work Order No.:
Description: Brown GRAVEL and coarse to fine SAND, trace silt, trace cla

Sieve Analysis of Material (W1 = 113.52 gr)

Sieve Number	Screen Opening (mm)	Cumulative Retained Weight (gram)	Cumulative Retained (Percent)	Cumulative Passing (Percent)	
1	1.00"	.00	.0	100.0	
3/4	.75"	.00	.0	100.0	
3/8	.375"	33.77	29.7	70.3	
4	4.75	61.12	53.8	46.2	<- 54% gravel
10	2.00	76.75	67.6	32.4	<- 14% coarse sand
** SIEVE ANALYSIS FROM HYDROMETER (W3) **					
20	.840	9.69	26.5	23.8	
40	.420	16.00	43.7	18.2	<- 14% medium sand
60	.250	19.91	54.4	14.8	
100	.150	23.18	63.3	11.9	
200	.074	26.25	71.7	9.2	<- 9% fine sand

Hydrometer Analysis of Material Passing No. 10 Sieve

Hydrometer No.: 5 Sp. Gravity = 2.65
CORR. A = 1.000 WT. of Sample W3= 36.60 GR

TIME	TEMP C	HYDROMETER ORIG	RW	READ R	%PASS	CORR. COEFFI. K	L CM	CORR. DIAMETER (MM)	CORR. %PASS	
1.	22.2	12.0	5.0	7.0	19.1	.01387	14.3	.0525	6.2	
2.	22.2	11.0	5.0	6.0	16.4	.01387	14.5	.0373	5.3	
5.	22.2	11.0	5.0	6.0	16.4	.01387	14.5	.0236	5.3	
10.	22.5	11.0	5.0	6.0	16.4	.01383	14.5	.0167	5.3	
15.	22.5	11.0	5.0	6.0	16.4	.01383	14.5	.0136	5.3	
30.	22.5	10.0	5.0	5.0	13.7	.01383	14.7	.0097	4.4	5% silt
60.	22.3	10.0	5.0	5.0	13.7	.01386	14.7	.0069	4.4	
120.	22.1	9.0	5.0	4.0	10.9	.01389	14.8	.0049	3.5	4% clay
250.	22.1	9.0	5.0	4.0	10.9	.01389	14.8	.0034	3.5	
1440.	21.3	7.5	5.5	2.0	5.5	.01400	15.1	.0014	1.8	

*** NOTE THE TIME SEQUENCE ON THIS OUTPUT ***
RECALCULATE CORRECTED PARTICLE DIAMETERS IF TIMES DIFFER!

D = K * SQRT (L/T)

%PASSING=(100*R*A)/W3

TESTED BY:C. Sattizahn DATE:12-13-93 CHECKED BY

FF-M73-112993

ACCREDITED LABORATORIES, INC.

GENERAL CHEMISTRY ANALYSIS DATA

Case #:	5187	Matrix:	Soil
Sample #:	9312569	Date Received:	12/06/93
Client Name:	ENSECO	% Moisture:	13.0
Field Number:	11		

ANALYTES	RESULTS	MDL	UNITS	DILUTION FACTOR	METHOD BLANK RESULTS	METHOD BLANK MDL	ANALYSIS DATE
Solids, Percent	87.0	0.1	%	1.0			12/08/93
Total Organic Carbon	7730.	99.	mg/Kg	1.	ND	100.	12/08/93

FF-M103-112993

ACCREDITED LABORATORIES, INC.

GENERAL CHEMISTRY ANALYSIS DATA

Case #:	5187	Matrix:	Soil
Sample #:	9312570	Date Received:	12/06/93
Client Name:	ENSECO	% Moisture:	16.1
Field Number:	12		

ANALYTES	RESULTS	MDL	UNITS	DILUTION FACTOR	METHOD BLANK RESULTS	METHOD BLANK MDL	ANALYSIS DATE
Solids, Percent	83.9	0.1	%	1.0			12/08/93
Total Organic Carbon	3620.	104.	mg/Kg	1.	ND	100.	12/08/93

APPENDIX H

PHASE I RI GROUNDWATER CONTOUR MAPS AND TIDAL DATA

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

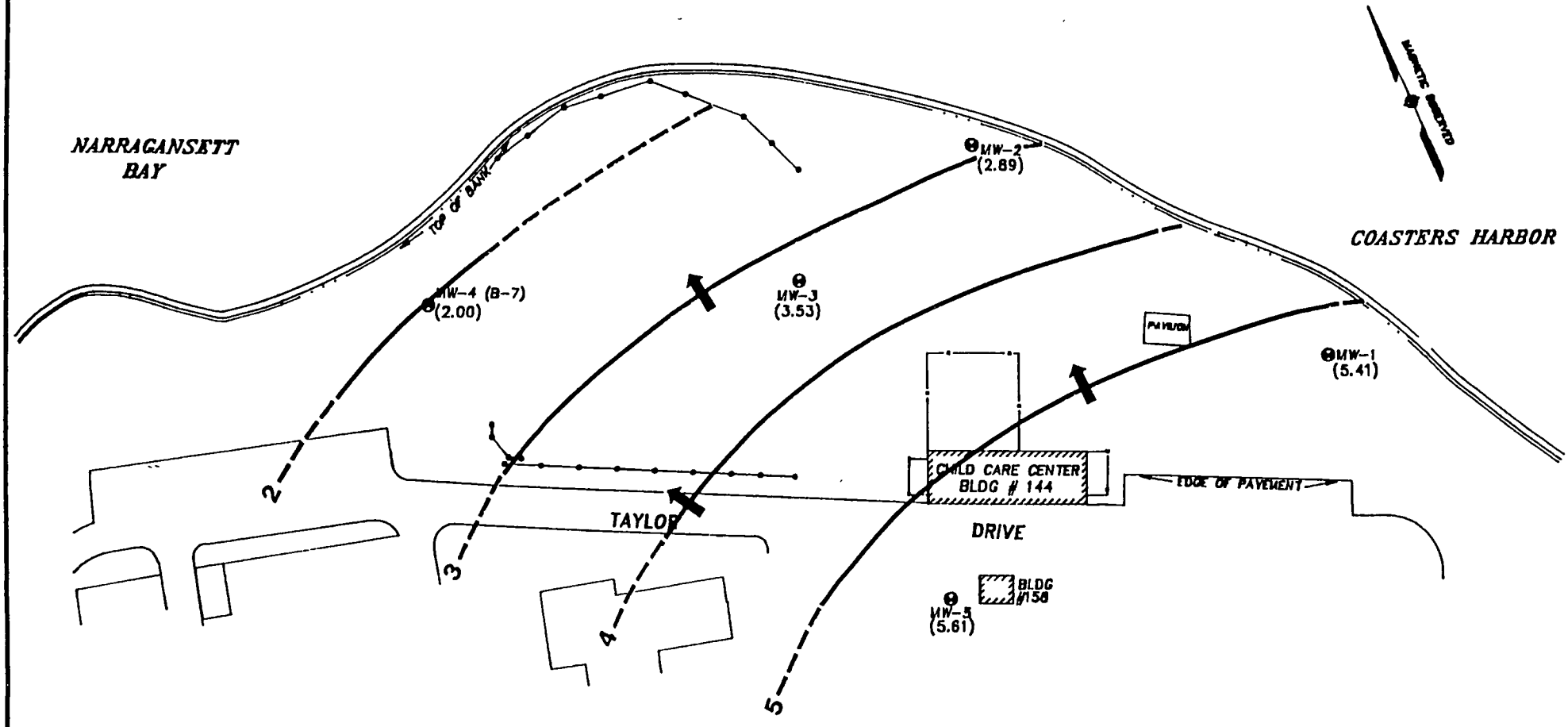
APPENDIX H

- PHASE I GROUND WATER CONTOUR MAPS AND TIDAL DATA -

APPENDIX H-1 GROUND WATER CONTOUR MAPS

APPENDIX H-2 PHASE I TIDAL DATA

APPENDIX H-1 GROUND WATER CONTOUR MAPS



LEGEND

MW-3 ⊖	MONITORING WELL LOCATION
(3.53)	GROUND WATER ELEVATION (feet above mlw)
4 ———	GROUND WATER CONTOUR
⬅	GROUND WATER FLOW DIRECTION

40 0 40 80 120 160 FEET

20 0 20 40 METERS

TRC

TRC Environmental Consultants, Inc.

5 Waterside Crossing
Windsor, CT 06095
(203) 289-8831

NAVAL EDUCATION TRAINING CENTER

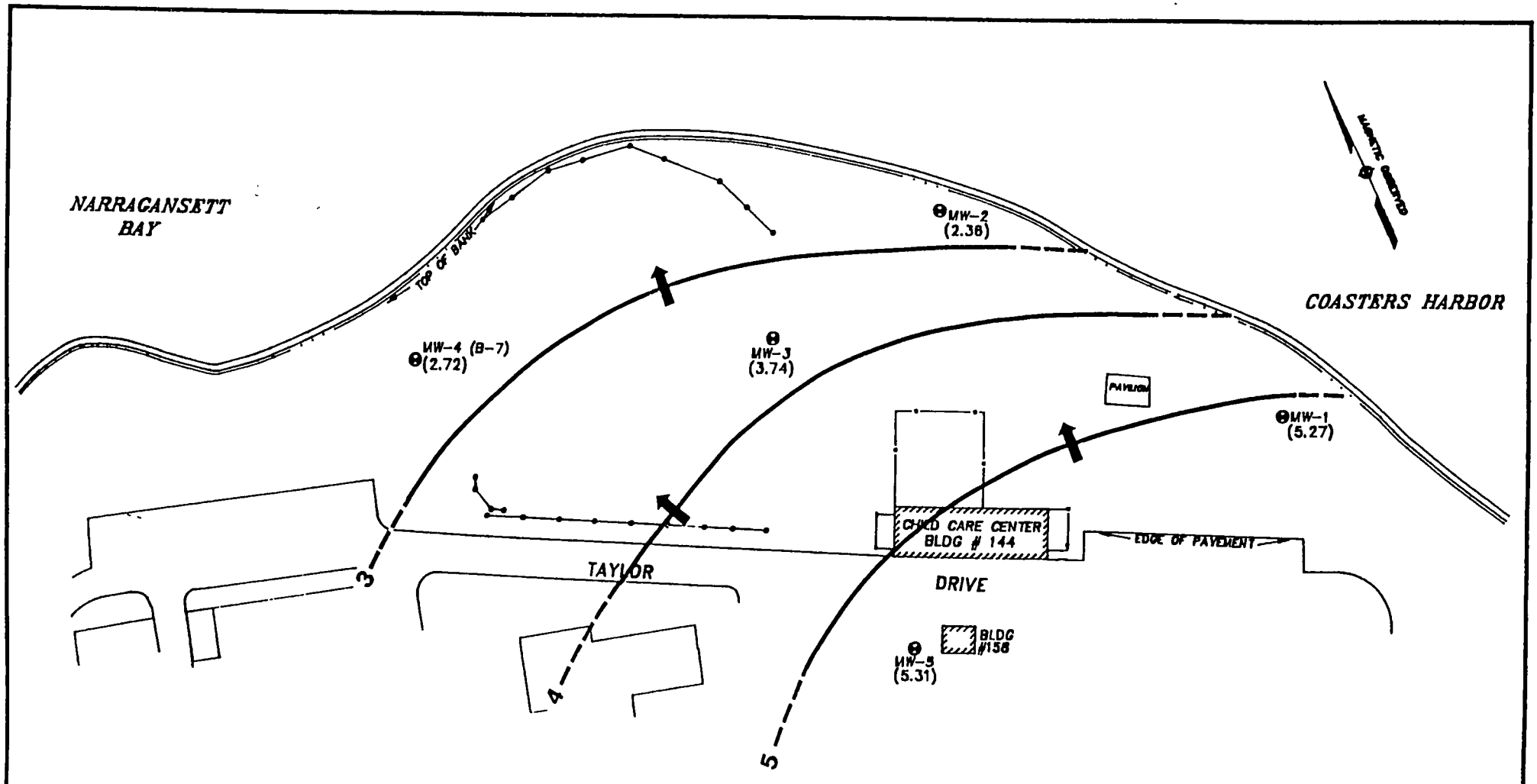
NEWPORT RHODE ISLAND

SITE 09 - OLD FIRE FIGHTER TRAINING AREA

FIGURE 1.

GROUND WATER TABLE CONTOUR MAP

07/17/90



LEGEND

MW-3 ⊖	MONITORING WELL LOCATION
(3.74)	GROUND WATER ELEVATION (feet above mlw)
3 ———	GROUND WATER CONTOUR
⬅	GROUND WATER FLOW DIRECTION

40 0 40 80 120 160 FEET
20 0 20 40 METERS

TRC

TRC Environmental Consultants, Inc.

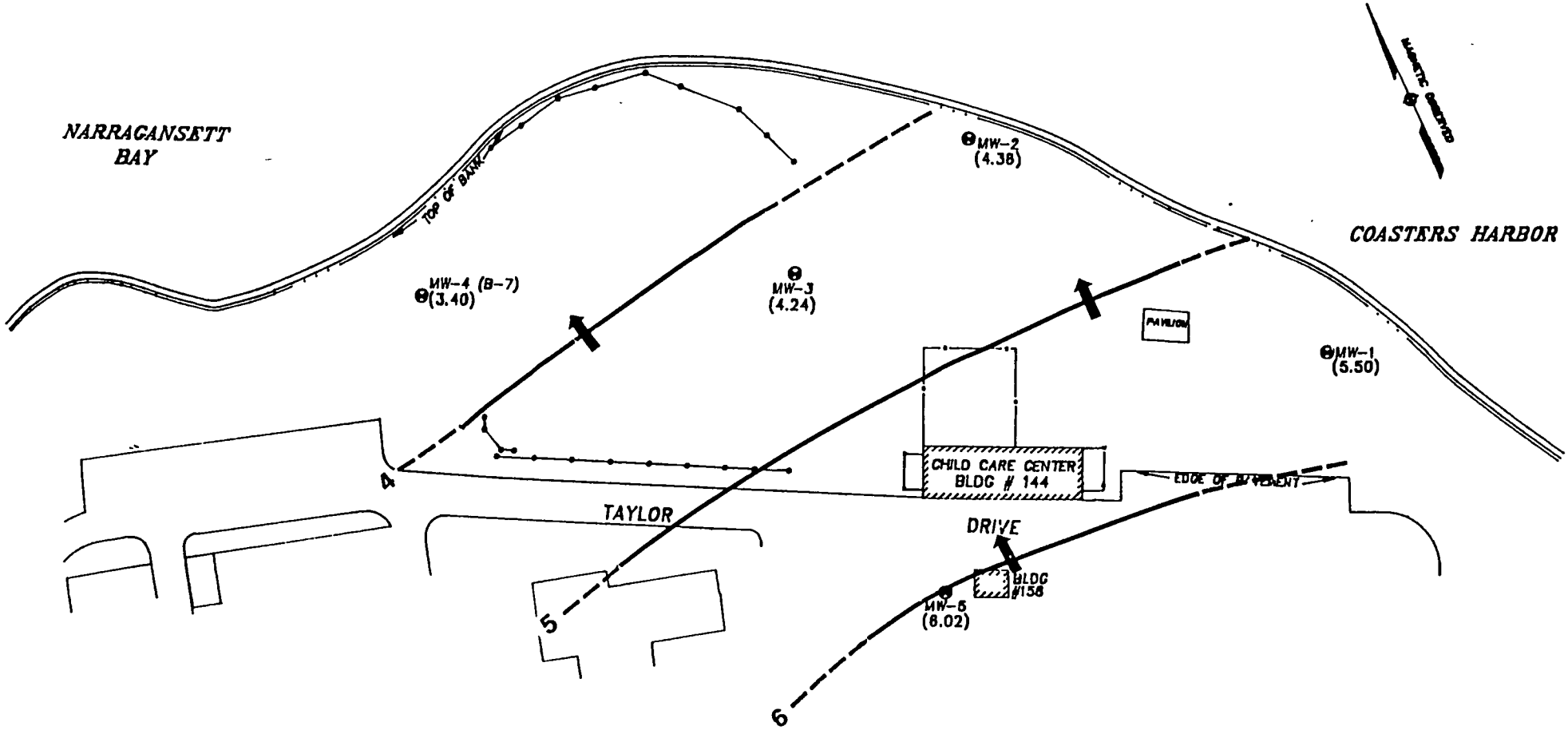
5 Waterside Crossing
Windsor, Ct 06095
(203) 289-8631

NAVAL EDUCATION TRAINING CENTER — NEWPORT RHODE ISLAND

SITE 09 - OLD FIRE FIGHTER TRAINING AREA

FIGURE 2.

GROUND WATER TABLE CONTOUR MAP
09/20/90



LEGEND

MW-3	MONITORING WELL LOCATION
(4.24)	GROUND WATER ELEVATION (feet above mlw)
6	GROUND WATER CONTOUR
	GROUND WATER FLOW DIRECTION

40 0 40 80 120 160 FEET
20 0 20 40 METERS

TRC

TRC Environmental Consultants, Inc.

5 Waterside Crossing
Windsor, CT 06095
(203) 289-8631

NAVAL EDUCATION TRAINING CENTER — NEWPORT RHODE ISLAND

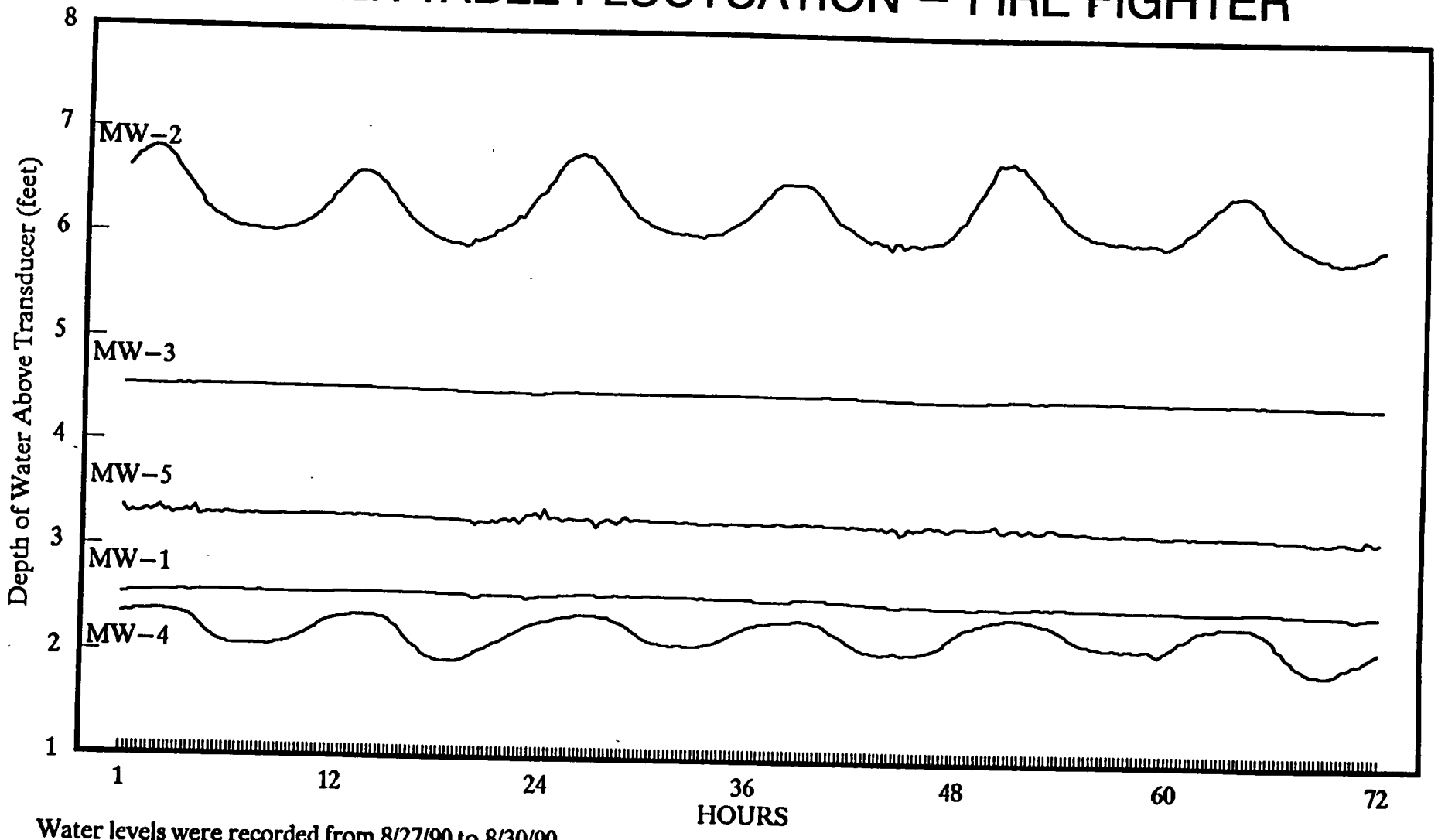
SITE 09 - OLD FIRE FIGHTER TRAINING AREA

FIGURE 3-24.

GROUND WATER TABLE CONTOUR MAP
01/31/91

APPENDIX H-2 PHASE I TIDAL DATA

WATER TABLE FLUCTUATION – FIRE FIGHTER



Water levels were recorded from 8/27/90 to 8/30/90

APPENDIX I

PHASE I AND II RI HYDROGEOLOGICAL INFORMATION AND DATA

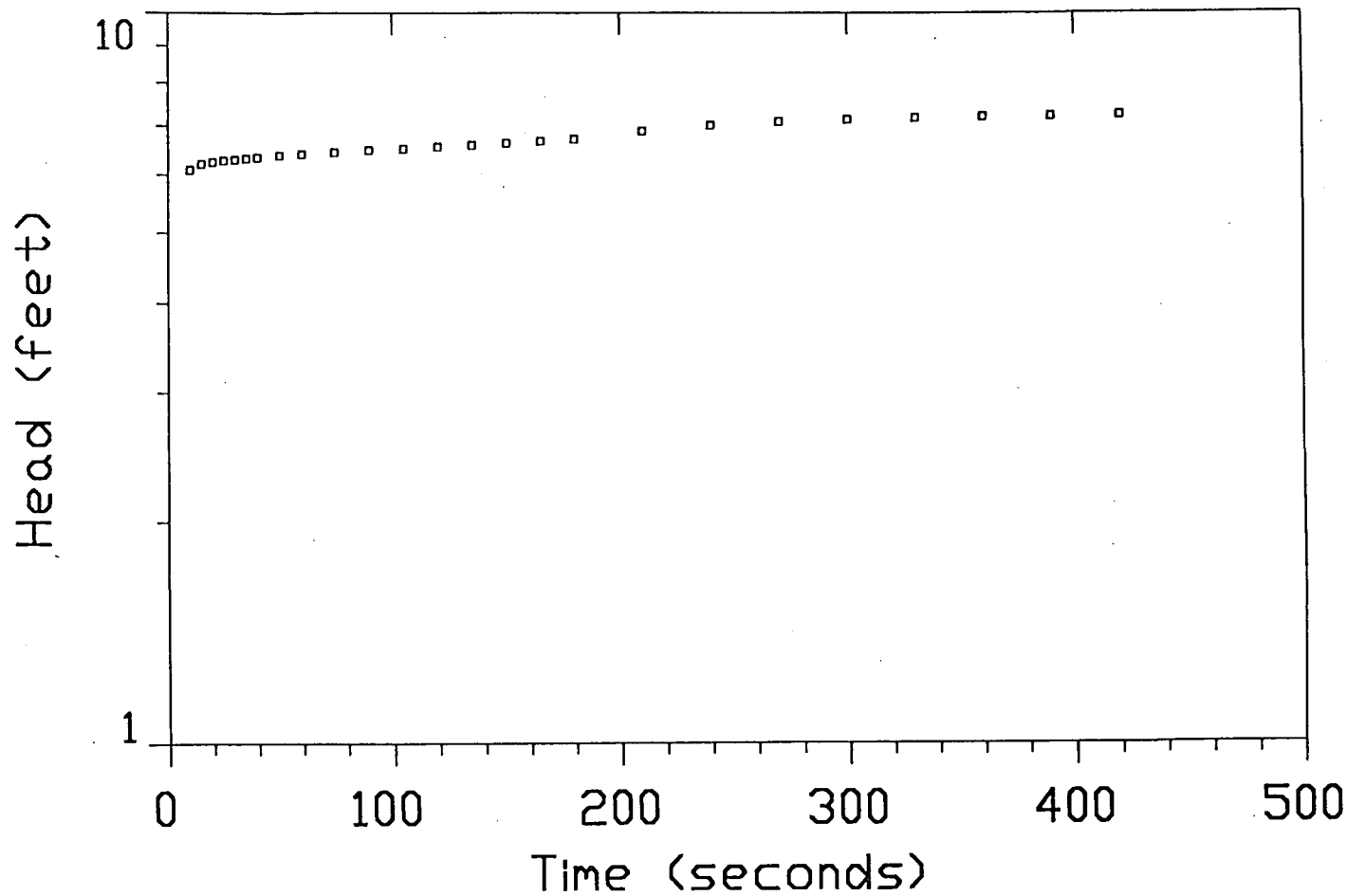
Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

APPENDIX I

- HYDROGEOLOGICAL INFORMATION AND DATA -

APPENDIX I-1	PHASE I SLUG TEST DATA
APPENDIX I-2	PHASE II SLUG TEST DATA
APPENDIX I-3	NOAA PRECIPITATION DATA
APPENDIX I-4	EXAMPLE CALCULATIONS

APPENDIX I-1 PHASE I SLUG TEST DATA



MODEL TYPE: BOUWER and RICE

CONDUCTIVITY: .4402 ft/day

TRANSMISSIVITY: 4.402 sq. ft/day

INITIAL HEAD: 7.360 ft

Data: FF-MW4S | Date: 19-JULY-90

for: NETC-NEWPORT

by: TRC ENVIRONMENTAL CONSULTANTS

WELL DATA: Units: ft

AQUIFER: OVERBURDEN/FILL

THICKNESS: 10.00

SCREEN: top: 3.000 base: 13.00

DIAMETER: casing: [illegible]0 intake: .6660

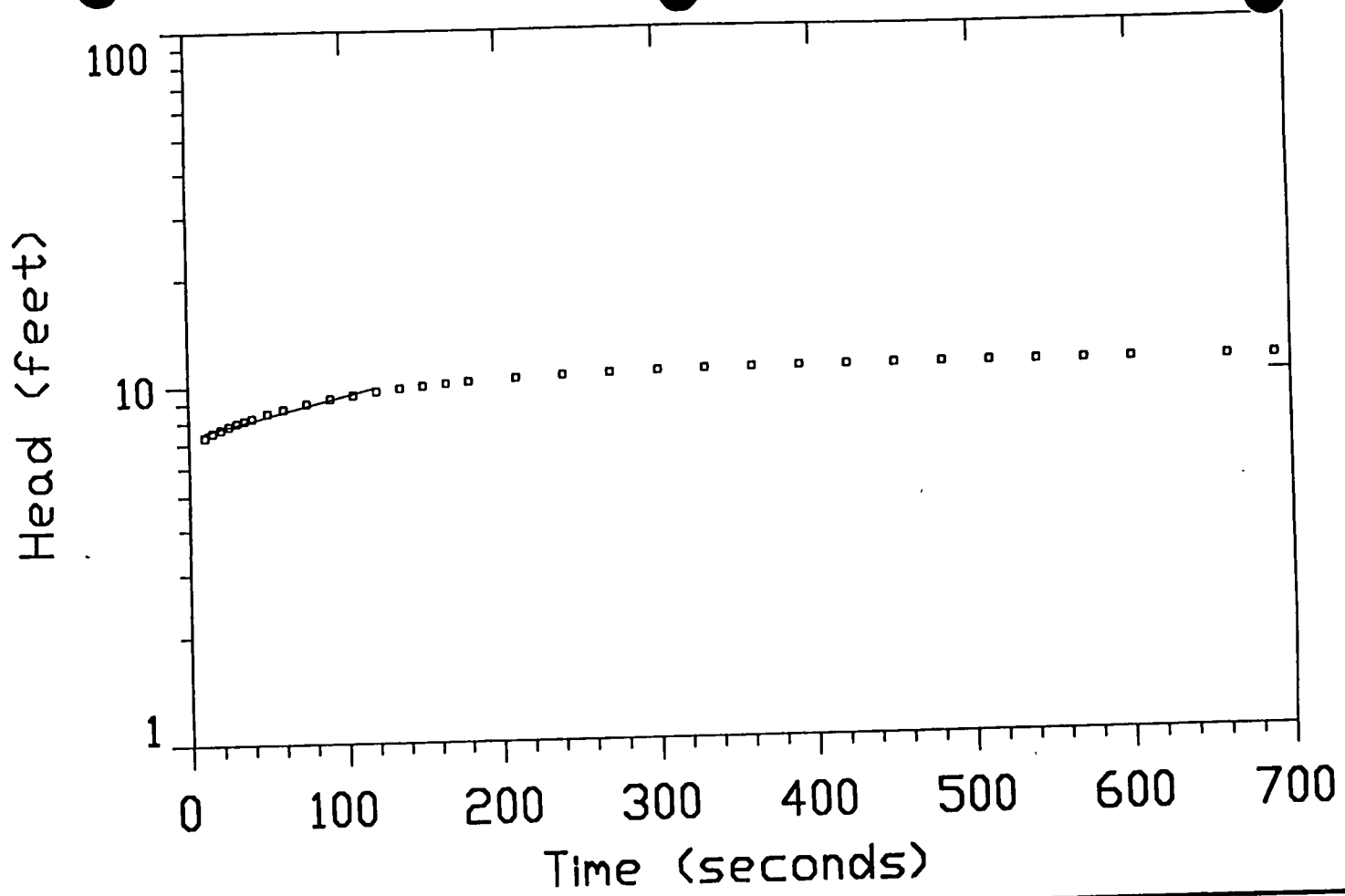
DEPTH: Water To. [illegible]5.930 TD: 13.00

Well Slug Test Data

Well: MW-4S

FIRE FIGHTER

NEWPOR[illegible]



MODEL TYPE: BOUWER and RICE

CONDUCTIVITY: .2926 ft/day

TRANSMISSIVITY: 2.926 sq. ft/day

INITIAL HEAD: 11.07 ft

Data Set: FF-MW5S | Date: 19-JULY-90

for: NETC-NEWPORT

by: TRC ENVIRONMENTAL CONSULTANTS

WELL DATA: Units: ft

AQUIFER: OVERBURDEN

THICKNESS: 10.00

SCREEN: top: 8.000 base: 18.00

DIAMETER: casing: .3340 intake: .6660

DEPTH: Water Table: 6.860 TD: 18.00

Well Slug Test Data

Well: MW-5S

FIRE FIGHTER

NEWPORT

APPENDIX I-2 PHASE II SLUG TEST DATA

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-2S, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.000	20.00	0.00	0.150	21.60	1.60
0.003	24.07	4.07	0.153	21.60	1.60
0.007	23.79	3.79	0.157	21.59	1.59
0.010	21.53	1.53	0.160	21.59	1.58
0.013	21.65	1.65	0.163	21.59	1.58
0.017	21.68	1.68	0.167	21.58	1.58
0.020	21.69	1.69	0.170	21.57	1.57
0.023	21.70	1.70	0.173	21.57	1.57
0.027	21.70	1.70	0.177	21.57	1.57
0.030	21.70	1.70	0.180	21.57	1.57
0.033	21.70	1.70	0.183	21.56	1.56
0.037	21.69	1.69	0.187	21.55	1.55
0.040	21.69	1.69	0.190	21.55	1.55
0.043	21.69	1.69	0.193	21.55	1.55
0.047	21.69	1.69	0.197	21.55	1.55
0.050	21.69	1.69	0.200	21.54	1.54
0.053	21.69	1.69	0.203	21.54	1.54
0.057	21.69	1.69	0.207	21.54	1.54
0.060	21.68	1.68	0.210	21.53	1.53
0.063	21.68	1.68	0.213	21.52	1.52
0.067	21.68	1.68	0.217	21.52	1.52
0.070	21.67	1.67	0.220	21.52	1.52
0.073	21.67	1.67	0.223	21.52	1.52
0.077	21.67	1.67	0.227	21.51	1.51
0.080	21.67	1.67	0.230	21.51	1.51
0.083	21.67	1.67	0.233	21.50	1.50
0.087	21.66	1.66	0.237	21.50	1.50
0.090	21.66	1.66	0.240	21.50	1.50
0.093	21.66	1.66	0.243	21.49	1.49
0.097	21.66	1.66	0.247	21.49	1.49
0.100	21.65	1.65	0.250	21.48	1.48
0.103	21.65	1.65	0.253	21.48	1.48
0.107	21.64	1.64	0.257	21.48	1.48
0.110	21.64	1.64	0.260	21.47	1.47
0.113	21.64	1.64	0.263	21.47	1.47
0.117	21.64	1.64	0.267	21.47	1.47
0.120	21.63	1.63	0.270	21.46	1.46
0.123	21.63	1.63	0.273	21.46	1.46
0.127	21.62	1.62	0.277	21.45	1.45
0.130	21.62	1.62	0.280	21.45	1.45
0.133	21.62	1.62	0.283	21.45	1.45
0.137	21.61	1.61	0.287	21.44	1.44
0.140	21.61	1.61	0.290	21.44	1.44
0.143	21.60	1.60	0.293	21.43	1.43
0.147	21.60	1.60	0.297	21.43	1.43

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-2S, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.300	21.43	1.43	0.917	20.83	0.83
0.303	21.42	1.42	0.933	20.81	0.81
0.307	21.42	1.42	0.950	20.80	0.80
0.310	21.41	1.41	0.967	20.79	0.79
0.313	21.41	1.41	0.983	20.78	0.78
0.317	21.41	1.41	1.000	20.77	0.77
0.320	21.40	1.40	1.200	20.62	0.61
0.323	21.40	1.40	1.400	20.51	0.51
0.327	21.40	1.40	1.600	20.42	0.42
0.330	21.40	1.40	1.800	20.34	0.34
0.333	21.39	1.39	2.000	20.28	0.28
0.350	21.37	1.37	2.200	20.23	0.23
0.367	21.35	1.35	2.400	20.19	0.19
0.383	21.33	1.33	2.600	20.16	0.16
0.400	21.31	1.31	2.800	20.13	0.13
0.417	21.29	1.29	3.000	20.11	0.11
0.433	21.28	1.27	3.200	20.10	0.09
0.450	21.26	1.26	3.400	20.08	0.08
0.467	21.24	1.24	3.600	20.07	0.07
0.483	21.22	1.22	3.800	20.06	0.06
0.500	21.21	1.21	4.000	20.06	0.06
0.517	21.19	1.19	4.200	20.05	0.05
0.533	21.17	1.17	4.400	20.04	0.04
0.550	21.15	1.15	4.600	20.04	0.04
0.567	21.14	1.14	4.800	20.04	0.04
0.583	21.12	1.12	5.000	20.04	0.04
0.600	21.10	1.10	5.200	20.04	0.04
0.617	21.09	1.09	5.400	20.04	0.04
0.633	21.07	1.07	5.600	20.03	0.03
0.650	21.06	1.06	5.800	20.03	0.03
0.667	21.04	1.04	6.000	20.03	0.03
0.683	21.03	1.03	6.200	20.03	0.03
0.700	21.01	1.01	6.400	20.03	0.03
0.717	21.00	1.00	6.600	20.03	0.03
0.733	20.98	0.98	6.800	20.03	0.03
0.750	20.96	0.96	7.000	20.03	0.03
0.767	20.95	0.95	7.200	20.03	0.02
0.783	20.94	0.94	7.400	20.03	0.03
0.800	20.92	0.92	7.600	20.03	0.02
0.817	20.91	0.91	7.800	20.03	0.02
0.833	20.89	0.89	8.000	20.03	0.02
0.850	20.88	0.88	8.200	20.03	0.02
0.867	20.86	0.86	8.400	20.03	0.02
0.883	20.86	0.86	8.600	20.03	0.02
0.900	20.84	0.84	8.800	20.03	0.02

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-2S, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
9.000	20.03	0.02			
9.200	20.03	0.02			
9.400	20.03	0.02			
9.600	20.03	0.02			
9.800	20.02	0.02			
10.000	20.03	0.02			

NOTE: '*' Initial (pre-test) hydraulic head = 20.00 Feet.

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-2D, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.000	22.19	2.18	0.150	23.69	3.69
0.003	26.65	6.65	0.153	23.69	3.69
0.007	31.10	11.10	0.157	23.68	3.68
0.010	30.39	10.39	0.160	23.67	3.67
0.013	26.42	6.42	0.163	23.67	3.67
0.017	24.82	4.82	0.167	23.66	3.66
0.020	24.38	4.38	0.170	23.66	3.66
0.023	24.39	4.39	0.173	23.66	3.66
0.027	24.10	4.10	0.177	23.65	3.65
0.030	23.91	3.91	0.180	23.64	3.64
0.033	24.01	4.01	0.183	23.64	3.64
0.037	24.10	4.09	0.187	23.64	3.64
0.040	23.99	3.99	0.190	23.63	3.63
0.043	23.90	3.90	0.193	23.62	3.62
0.047	23.92	3.92	0.197	23.62	3.62
0.050	23.96	3.96	0.200	23.62	3.62
0.053	23.92	3.92	0.203	23.61	3.61
0.057	23.89	3.89	0.207	23.60	3.60
0.060	23.89	3.89	0.210	23.60	3.60
0.063	23.90	3.90	0.213	23.60	3.60
0.067	23.88	3.88	0.217	23.59	3.59
0.070	23.85	3.85	0.220	23.58	3.58
0.073	23.85	3.85	0.223	23.58	3.58
0.077	23.85	3.85	0.227	23.58	3.58
0.080	23.84	3.84	0.230	23.57	3.57
0.083	23.82	3.82	0.233	23.57	3.57
0.087	23.82	3.82	0.237	23.56	3.56
0.090	23.82	3.82	0.240	23.56	3.56
0.093	23.80	3.80	0.243	23.55	3.55
0.097	23.80	3.80	0.247	23.55	3.55
0.100	23.79	3.79	0.250	23.55	3.55
0.103	23.78	3.78	0.253	23.54	3.54
0.107	23.78	3.78	0.257	23.53	3.53
0.110	23.76	3.76	0.260	23.53	3.53
0.113	23.76	3.76	0.263	23.53	3.53
0.117	23.75	3.75	0.267	23.52	3.52
0.120	23.75	3.75	0.270	23.52	3.52
0.123	23.74	3.74	0.273	23.52	3.51
0.127	23.73	3.73	0.277	23.51	3.51
0.130	23.73	3.73	0.280	23.51	3.51
0.133	23.72	3.72	0.283	23.50	3.50
0.137	23.71	3.71	0.287	23.50	3.50
0.140	23.71	3.71	0.290	23.50	3.50
0.143	23.70	3.70	0.293	23.49	3.49
0.147	23.69	3.69	0.297	23.49	3.49

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-2D, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.300	23.48	3.48	0.917	22.85	2.85
0.303	23.48	3.48	0.933	22.84	2.84
0.307	23.47	3.47	0.950	22.83	2.83
0.310	23.47	3.47	0.967	22.81	2.81
0.313	23.46	3.46	0.983	22.80	2.80
0.317	23.46	3.46	1.000	22.78	2.78
0.320	23.46	3.46	1.200	22.58	2.58
0.323	23.45	3.45	1.400	22.43	2.43
0.327	23.45	3.45	1.600	22.29	2.29
0.330	23.45	3.45	1.800	22.15	2.15
0.333	23.45	3.45	2.000	22.03	2.03
0.350	23.43	3.43	2.200	21.92	1.92
0.367	23.40	3.40	2.400	21.81	1.81
0.383	23.38	3.38	2.600	21.71	1.71
0.400	23.36	3.36	2.800	21.61	1.61
0.417	23.34	3.34	3.000	21.52	1.52
0.433	23.32	3.32	3.200	21.43	1.43
0.450	23.31	3.31	3.400	21.36	1.36
0.467	23.29	3.29	3.600	21.28	1.28
0.483	23.27	3.27	3.800	21.21	1.21
0.500	23.25	3.25	4.000	21.14	1.14
0.517	23.24	3.24	4.200	21.08	1.08
0.533	23.22	3.22	4.400	21.02	1.02
0.550	23.20	3.20	4.600	20.96	0.96
0.567	23.18	3.18	4.800	20.91	0.91
0.583	23.17	3.17	5.000	20.87	0.87
0.600	23.15	3.15	5.200	20.82	0.82
0.617	23.13	3.13	5.400	20.78	0.78
0.633	23.11	3.11	5.600	20.73	0.73
0.650	23.10	3.09	5.800	20.69	0.69
0.667	23.08	3.08	6.000	20.66	0.66
0.683	23.06	3.06	6.200	20.62	0.62
0.700	23.05	3.05	6.400	20.59	0.59
0.717	23.03	3.03	6.600	20.56	0.56
0.733	23.02	3.02	6.800	20.54	0.53
0.750	23.01	3.01	7.000	20.51	0.51
0.767	22.99	2.99	7.200	20.48	0.48
0.783	22.97	2.97	7.400	20.46	0.46
0.800	22.96	2.96	7.600	20.44	0.44
0.817	22.94	2.94	7.800	20.41	0.41
0.833	22.93	2.93	8.000	20.40	0.40
0.850	22.91	2.91	8.200	20.38	0.38
0.867	22.90	2.90	8.400	20.36	0.36
0.883	22.89	2.89	8.600	20.35	0.35
0.900	22.87	2.87	8.800	20.33	0.33

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-2D, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
9.000	20.32	0.32			
9.200	20.31	0.31			
9.400	20.29	0.29			
9.600	20.28	0.28			
9.800	20.27	0.27			
10.000	20.26	0.26			
12.000	20.18	0.18			
14.000	20.14	0.14			
16.000	20.11	0.11			
18.000	20.10	0.09			

NOTE: '*' Initial (pre-test) hydraulic head = 20.00 Feet.

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-4S, TEST 1
JULY 13, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.000	20.01	0.01	0.417	21.30	1.30
0.008	21.13	1.13	0.433	21.30	1.30
0.017	20.64	0.64	0.450	21.30	1.30
0.025	22.05	2.05	0.467	21.29	1.29
0.033	22.24	2.24	0.483	21.29	1.29
0.042	22.04	2.04	0.500	21.28	1.28
0.050	21.92	1.92	0.517	21.28	1.28
0.058	21.83	1.83	0.533	21.28	1.28
0.067	21.75	1.75	0.550	21.27	1.27
0.075	21.66	1.66	0.567	21.27	1.27
0.083	21.60	1.60	0.583	21.26	1.26
0.092	21.56	1.56	0.600	21.26	1.26
0.100	21.53	1.53	0.617	21.25	1.25
0.108	21.50	1.50	0.633	21.25	1.25
0.117	21.47	1.47	0.650	21.24	1.24
0.125	21.45	1.45	0.667	21.24	1.24
0.133	21.44	1.44	0.683	21.23	1.23
0.142	21.43	1.43	0.700	21.23	1.23
0.150	21.42	1.42	0.717	21.23	1.23
0.158	21.41	1.41	0.733	21.22	1.22
0.167	21.40	1.40	0.750	21.22	1.22
0.175	21.40	1.40	0.767	21.22	1.22
0.183	21.39	1.39	0.783	21.21	1.21
0.192	21.38	1.38	0.800	21.21	1.21
0.200	21.38	1.38	0.817	21.20	1.20
0.208	21.37	1.37	0.833	21.20	1.20
0.217	21.37	1.37	0.850	21.19	1.19
0.225	21.37	1.36	0.867	21.19	1.19
0.233	21.36	1.36	0.883	21.18	1.18
0.242	21.36	1.36	0.900	21.18	1.18
0.250	21.36	1.35	0.917	21.17	1.17
0.258	21.35	1.35	0.933	21.17	1.17
0.267	21.35	1.35	0.950	21.16	1.16
0.275	21.35	1.35	0.967	21.16	1.16
0.283	21.34	1.34	0.983	21.15	1.15
0.292	21.34	1.34	1.000	21.15	1.15
0.300	21.34	1.34	1.200	21.02	1.01
0.308	21.34	1.34	1.400	20.89	0.89
0.317	21.33	1.33	1.600	20.79	0.79
0.325	21.33	1.33	1.800	20.70	0.70
0.333	21.33	1.33	2.000	20.62	0.62
0.350	21.32	1.32	2.200	20.54	0.54
0.367	21.32	1.32	2.400	20.49	0.49
0.383	21.31	1.31	2.600	20.44	0.44
0.400	21.31	1.31	2.800	20.39	0.39

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-4S, TEST 1
JULY 13, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
3.000	20.35	0.35			
3.200	20.32	0.32			
3.400	20.28	0.28			
3.600	20.26	0.26			
3.800	20.23	0.23			
4.000	20.21	0.21			
4.200	20.20	0.20			
4.400	20.18	0.18			
4.600	20.17	0.17			
4.800	20.15	0.15			
5.000	20.14	0.14			
5.200	20.13	0.13			
5.400	20.12	0.12			
5.600	20.11	0.11			
5.800	20.11	0.11			
6.000	20.10	0.10			
6.200	20.10	0.10			
6.400	20.09	0.09			
6.600	20.09	0.09			
6.800	20.08	0.08			
7.000	20.08	0.08			
7.200	20.08	0.08			
7.400	20.07	0.07			
7.600	20.07	0.07			
7.800	20.07	0.07			
8.000	20.07	0.07			
8.200	20.06	0.06			
8.400	20.06	0.06			
8.600	20.06	0.06			
8.800	20.06	0.06			
9.000	20.06	0.06			
9.200	20.06	0.06			
9.400	20.06	0.06			
9.600	20.06	0.06			
9.800	20.06	0.06			
10.000	20.06	0.06			

NOTE: '*' Initial (pre-test) hydraulic head = 20.00 Feet.

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-6R, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	R sidual Drawdown* (ft)
0.000	29.39	9.39	0.150	25.57	5.57
0.003	29.78	9.78	0.153	25.57	5.57
0.007	29.69	9.69	0.157	25.56	5.56
0.010	30.18	10.18	0.160	25.55	5.55
0.013	28.24	8.24	0.163	25.55	5.55
0.017	27.65	7.65	0.167	25.54	5.54
0.020	27.42	7.42	0.170	25.53	5.53
0.023	26.14	6.14	0.173	25.52	5.52
0.027	26.36	6.36	0.177	25.52	5.52
0.030	26.05	6.05	0.180	25.51	5.51
0.033	25.95	5.95	0.183	25.50	5.50
0.037	25.93	5.93	0.187	25.50	5.50
0.040	25.90	5.90	0.190	25.49	5.49
0.043	25.89	5.89	0.193	25.48	5.48
0.047	25.88	5.88	0.197	25.48	5.48
0.050	25.87	5.87	0.200	25.47	5.47
0.053	25.85	5.85	0.203	25.46	5.46
0.057	25.85	5.85	0.207	25.46	5.46
0.060	25.83	5.83	0.210	25.45	5.45
0.063	25.82	5.82	0.213	25.45	5.45
0.067	25.81	5.81	0.217	25.44	5.44
0.070	25.79	5.79	0.220	25.43	5.43
0.073	25.78	5.78	0.223	25.43	5.43
0.077	25.77	5.77	0.227	25.42	5.42
0.080	25.76	5.76	0.230	25.41	5.41
0.083	25.75	5.75	0.233	25.41	5.41
0.087	25.74	5.74	0.237	25.40	5.40
0.090	25.73	5.73	0.240	25.39	5.39
0.093	25.72	5.72	0.243	25.39	5.39
0.097	25.71	5.71	0.247	25.39	5.39
0.100	25.70	5.70	0.250	25.38	5.38
0.103	25.69	5.69	0.253	25.38	5.38
0.107	25.68	5.68	0.257	25.37	5.37
0.110	25.67	5.67	0.260	25.36	5.36
0.113	25.67	5.67	0.263	25.36	5.36
0.117	25.65	5.65	0.267	25.35	5.35
0.120	25.65	5.65	0.270	25.34	5.34
0.123	25.64	5.64	0.273	25.34	5.34
0.127	25.63	5.63	0.277	25.34	5.34
0.130	25.62	5.62	0.280	25.33	5.33
0.133	25.62	5.62	0.283	25.32	5.32
0.137	25.60	5.60	0.287	25.32	5.32
0.140	25.60	5.60	0.290	25.31	5.31
0.143	25.59	5.59	0.293	25.31	5.31
0.147	25.58	5.58	0.297	25.31	5.31

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Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.300	25.30	5.30	0.917	24.61	4.60
0.303	25.29	5.29	0.933	24.59	4.59
0.307	25.29	5.29	0.950	24.57	4.57
0.310	25.29	5.29	0.967	24.56	4.56
0.313	25.28	5.28	0.983	24.54	4.54
0.317	25.27	5.27	1.000	24.52	4.52
0.320	25.27	5.27	1.200	24.30	4.30
0.323	25.27	5.27	1.400	24.11	4.11
0.327	25.26	5.26	1.600	23.93	3.92
0.330	25.25	5.25	1.800	23.73	3.73
0.333	25.25	5.25	2.000	23.55	3.55
0.350	25.23	5.23	2.200	23.37	3.37
0.367	25.20	5.20	2.400	23.19	3.19
0.383	25.18	5.18	2.600	23.02	3.02
0.400	25.16	5.16	2.800	22.84	2.84
0.417	25.13	5.13	3.000	22.67	2.67
0.433	25.11	5.11	3.200	22.51	2.51
0.450	25.10	5.09	3.400	22.35	2.35
0.467	25.08	5.08	3.600	22.20	2.20
0.483	25.05	5.05	3.800	22.06	2.06
0.500	25.03	5.03	4.000	21.92	1.92
0.517	25.01	5.01	4.200	21.79	1.79
0.533	24.99	4.99	4.400	21.66	1.66
0.550	24.97	4.97	4.600	21.55	1.55
0.567	24.96	4.96	4.800	21.43	1.43
0.583	24.94	4.94	5.000	21.33	1.33
0.600	24.92	4.92	5.200	21.23	1.23
0.617	24.90	4.90	5.400	21.14	1.14
0.633	24.89	4.89	5.600	21.06	1.06
0.650	24.87	4.87	5.800	20.97	0.97
0.667	24.85	4.85	6.000	20.89	0.89
0.683	24.83	4.83	6.200	20.83	0.83
0.700	24.82	4.82	6.400	20.76	0.76
0.717	24.80	4.80	6.600	20.70	0.70
0.733	24.78	4.78	6.800	20.64	0.64
0.750	24.76	4.76	7.000	20.59	0.58
0.767	24.75	4.75	7.200	20.54	0.54
0.783	24.73	4.73	7.400	20.50	0.50
0.800	24.71	4.71	7.600	20.46	0.46
0.817	24.70	4.70	7.800	20.41	0.41
0.833	24.68	4.68	8.000	20.39	0.39
0.850	24.67	4.67	8.200	20.35	0.35
0.867	24.65	4.65	8.400	20.32	0.32
0.883	24.64	4.64	8.600	20.29	0.29
0.900	24.62	4.62	8.800	20.27	0.27

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Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
9.000	20.25	0.25			
9.200	20.23	0.23			
9.400	20.21	0.21			
9.600	20.19	0.19			
9.800	20.17	0.17			
10.000	20.16	0.16			
12.000	20.07	0.07			
14.000	20.04	0.04			

NOTE: '*' Initial (pre-test) hydraulic head = 20.00 Feet.

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Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.000	19.97	-0.03	0.150	21.12	1.12
0.003	21.45	1.45	0.153	21.11	1.11
0.007	25.36	5.36	0.157	21.10	1.10
0.010	26.14	6.14	0.160	21.07	1.07
0.013	25.11	5.11	0.163	21.07	1.07
0.017	23.12	3.12	0.167	21.05	1.05
0.020	23.14	3.14	0.170	21.03	1.03
0.023	22.68	2.68	0.173	21.02	1.01
0.027	21.09	1.09	0.177	21.00	1.00
0.030	22.04	2.04	0.180	20.98	0.98
0.033	22.08	2.08	0.183	20.97	0.97
0.037	21.54	1.54	0.187	20.95	0.95
0.040	21.87	1.87	0.190	20.93	0.93
0.043	21.83	1.83	0.193	20.92	0.92
0.047	21.62	1.62	0.197	20.90	0.90
0.050	21.76	1.76	0.200	20.89	0.89
0.053	21.69	1.69	0.203	20.88	0.88
0.057	21.63	1.63	0.207	20.86	0.86
0.060	21.67	1.67	0.210	20.84	0.84
0.063	21.62	1.62	0.213	20.83	0.83
0.067	21.59	1.59	0.217	20.82	0.82
0.070	21.59	1.59	0.220	20.81	0.81
0.073	21.56	1.56	0.223	20.79	0.79
0.077	21.54	1.54	0.227	20.77	0.77
0.080	21.52	1.52	0.230	20.76	0.76
0.083	21.49	1.49	0.233	20.75	0.75
0.087	21.48	1.48	0.237	20.74	0.74
0.090	21.46	1.46	0.240	20.73	0.73
0.093	21.43	1.43	0.243	20.72	0.72
0.097	21.42	1.42	0.247	20.70	0.70
0.100	21.40	1.40	0.250	20.69	0.69
0.103	21.38	1.38	0.253	20.68	0.68
0.107	21.36	1.36	0.257	20.67	0.67
0.110	21.35	1.34	0.260	20.65	0.65
0.113	21.32	1.32	0.263	20.65	0.65
0.117	21.31	1.31	0.267	20.63	0.63
0.120	21.29	1.29	0.270	20.62	0.62
0.123	21.27	1.27	0.273	20.61	0.61
0.127	21.25	1.25	0.277	20.60	0.60
0.130	21.24	1.24	0.280	20.59	0.59
0.133	21.22	1.22	0.283	20.58	0.58
0.137	21.20	1.20	0.287	20.57	0.57
0.140	21.18	1.18	0.290	20.57	0.57
0.143	21.17	1.17	0.293	20.55	0.55
0.147	21.15	1.15	0.297	20.55	0.55

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Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.300	20.54	0.54	0.917	20.03	0.02
0.303	20.53	0.53	0.933	20.03	0.02
0.307	20.52	0.52	0.950	20.02	0.02
0.310	20.51	0.51	0.967	20.02	0.02
0.313	20.50	0.50	0.983	20.02	0.02
0.317	20.50	0.50	1.000	20.01	0.01
0.320	20.49	0.49	1.200	20.00	0.00
0.323	20.48	0.48	1.400	19.99	-0.01
0.327	20.47	0.47	1.600	19.99	-0.01
0.330	20.46	0.46	1.800	19.99	-0.01
0.333	20.46	0.46	2.000	19.99	-0.01
0.350	20.42	0.42	2.200	19.99	-0.01
0.367	20.38	0.38	2.400	19.99	-0.01
0.383	20.35	0.35	2.600	19.99	-0.01
0.400	20.32	0.32	2.800	19.99	-0.01
0.417	20.30	0.30	3.000	19.99	-0.01
0.433	20.27	0.27	3.200	19.99	-0.01
0.450	20.25	0.25	3.400	19.99	-0.01
0.467	20.23	0.23	3.600	19.99	-0.01
0.483	20.22	0.22	3.800	19.99	-0.01
0.500	20.20	0.20	4.000	19.99	-0.01
0.517	20.18	0.18	4.200	19.99	-0.01
0.533	20.17	0.17	4.400	20.00	0.00
0.550	20.16	0.16	4.600	19.99	-0.01
0.567	20.15	0.15	4.800	19.99	-0.01
0.583	20.13	0.13	5.000	19.99	-0.01
0.600	20.13	0.13	5.200	19.99	-0.01
0.617	20.11	0.11	5.400	19.99	-0.01
0.633	20.11	0.11	5.600	19.99	-0.01
0.650	20.10	0.10	5.800	20.00	0.00
0.667	20.09	0.09	6.000	20.00	0.00
0.683	20.08	0.08	6.200	20.00	0.00
0.700	20.08	0.08	6.400	20.00	0.00
0.717	20.07	0.07	6.600	20.00	0.00
0.733	20.06	0.06	6.800	20.00	0.00
0.750	20.06	0.06	7.000	20.00	0.00
0.767	20.06	0.06	7.200	20.00	0.00
0.783	20.05	0.05	7.400	20.00	0.00
0.800	20.05	0.05	7.600	20.00	0.00
0.817	20.04	0.04	7.800	20.00	0.00
0.833	20.04	0.04	8.000	20.00	0.00
0.850	20.04	0.04	8.200	20.00	0.00
0.867	20.03	0.03	8.400	20.00	0.00
0.883	20.03	0.03	8.600	20.00	0.00
0.900	20.03	0.02	8.800	20.00	

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Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
9.000	20.00	0.00			
9.200	20.00	0.00			
9.400	20.00	0.00			
9.600	19.99	-0.01			
9.800	20.00	0.00			
10.000	20.00	0.00			

NOTE: '*' Initial (pre-test) hydraulic head = 20.00 Feet.

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Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.000	19.89	-0.11	0.150	20.53	0.53
0.003	23.25	3.25	0.153	20.51	0.51
0.007	25.16	5.16	0.157	20.49	0.49
0.010	23.52	3.52	0.160	20.48	0.48
0.013	21.92	1.92	0.163	20.46	0.46
0.017	21.79	1.79	0.167	20.44	0.44
0.020	21.81	1.81	0.170	20.43	0.43
0.023	21.76	1.76	0.173	20.41	0.41
0.027	21.80	1.80	0.177	20.40	0.40
0.030	21.59	1.59	0.180	20.39	0.39
0.033	21.65	1.65	0.183	20.38	0.38
0.037	21.50	1.50	0.187	20.37	0.37
0.040	21.46	1.46	0.190	20.36	0.36
0.043	21.45	1.45	0.193	20.35	0.35
0.047	21.40	1.40	0.197	20.34	0.34
0.050	21.37	1.37	0.200	20.34	0.34
0.053	21.33	1.33	0.203	20.32	0.32
0.057	21.30	1.30	0.207	20.32	0.32
0.060	21.26	1.26	0.210	20.31	0.31
0.063	21.22	1.22	0.213	20.30	0.30
0.067	21.19	1.19	0.217	20.30	0.30
0.070	21.17	1.17	0.220	20.29	0.29
0.073	21.12	1.12	0.223	20.29	0.28
0.077	21.09	1.09	0.227	20.29	0.28
0.080	21.06	1.06	0.230	20.28	0.28
0.083	21.03	1.03	0.233	20.27	0.27
0.087	21.00	1.00	0.237	20.27	0.27
0.090	20.97	0.97	0.240	20.26	0.26
0.093	20.93	0.93	0.243	20.25	0.25
0.097	20.91	0.91	0.247	20.25	0.25
0.100	20.88	0.88	0.250	20.25	0.25
0.103	20.85	0.85	0.253	20.25	0.25
0.107	20.82	0.82	0.257	20.24	0.24
0.110	20.80	0.80	0.260	20.24	0.24
0.113	20.77	0.77	0.263	20.23	0.23
0.117	20.74	0.74	0.267	20.23	0.23
0.120	20.72	0.72	0.270	20.23	0.23
0.123	20.69	0.69	0.273	20.23	0.23
0.127	20.67	0.67	0.277	20.22	0.22
0.130	20.65	0.65	0.280	20.22	0.22
0.133	20.63	0.63	0.283	20.22	0.22
0.137	20.60	0.60	0.287	20.21	0.21
0.140	20.58	0.58	0.290	20.21	0.21
0.143	20.56	0.56	0.293	20.21	0.21
0.147	20.54	0.54	0.297	20.20	0.20

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Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.300	20.20	0.20	0.917	20.06	0.06
0.303	20.20	0.20	0.933	20.06	0.06
0.307	20.20	0.20	0.950	20.05	0.05
0.310	20.20	0.20	0.967	20.05	0.05
0.313	20.20	0.20	0.983	20.05	0.05
0.317	20.19	0.19	1.000	20.05	0.05
0.320	20.19	0.19	1.200	20.03	0.02
0.323	20.18	0.18	1.400	20.01	0.01
0.327	20.18	0.18	1.600	19.99	-0.01
0.330	20.18	0.18	1.800	19.98	-0.02
0.333	20.18	0.18	2.000	19.97	-0.03
0.350	20.18	0.18	2.200	19.96	-0.05
0.367	20.17	0.17	2.400	19.95	-0.05
0.383	20.17	0.17	2.600	19.94	-0.06
0.400	20.16	0.16	2.800	19.93	-0.07
0.417	20.15	0.15	3.000	19.92	-0.08
0.433	20.15	0.15	3.200	19.92	-0.08
0.450	20.14	0.14	3.400	19.91	-0.09
0.467	20.13	0.13	3.600	19.90	-0.10
0.483	20.13	0.13	3.800	19.90	-0.10
0.500	20.13	0.13	4.000	19.90	-0.10
0.517	20.12	0.12	4.200	19.89	-0.11
0.533	20.12	0.12	4.400	19.89	-0.11
0.550	20.11	0.11	4.600	19.89	-0.11
0.567	20.11	0.11	4.800	19.89	-0.11
0.583	20.11	0.11	5.000	19.88	-0.12
0.600	20.10	0.10	5.200	19.88	-0.12
0.617	20.10	0.10	5.400	19.88	-0.12
0.633	20.10	0.10	5.600	19.87	-0.13
0.650	20.10	0.09	5.800	19.87	-0.13
0.667	20.10	0.09	6.000	19.87	-0.13
0.683	20.09	0.09	6.200	19.87	-0.13
0.700	20.08	0.08	6.400	19.87	-0.13
0.717	20.08	0.08	6.600	19.87	-0.13
0.733	20.08	0.08	6.800	19.87	-0.13
0.750	20.08	0.08	7.000	19.87	-0.13
0.767	20.08	0.08	7.200	19.87	-0.13
0.783	20.08	0.08	7.400	19.87	-0.13
0.800	20.07	0.07	7.600	19.87	-0.13
0.817	20.07	0.07	7.800	19.87	-0.13
0.833	20.07	0.07	8.000	19.86	-0.14
0.850	20.06	0.06	8.200	19.86	-0.14
0.867	20.06	0.06	8.400	19.86	-0.14
0.883	20.06	0.06	8.600	19.86	-0.14
0.900	20.06	0.06	8.800	19.86	-0.14

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Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
9.000	19.86	-0.14			
9.200	19.86	-0.14			
9.400	19.86	-0.14			
9.600	19.86	-0.14			
9.800	19.86	-0.14			
10.000	19.86	-0.14			

NOTE: '*' Initial (pre-test) hydraulic head = 20.00 Feet.

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-9R, TEST 1
JULY 13, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.000	25.08	5.08	0.417	20.58	0.58
0.008	23.46	3.46	0.433	20.56	0.56
0.017	22.31	2.31	0.450	20.53	0.53
0.025	22.20	2.20	0.467	20.51	0.51
0.033	22.12	2.12	0.483	20.49	0.49
0.042	22.04	2.04	0.500	20.47	0.47
0.050	21.95	1.95	0.517	20.45	0.45
0.058	21.88	1.88	0.533	20.43	0.43
0.067	21.83	1.83	0.550	20.42	0.42
0.075	21.72	1.72	0.567	20.40	0.40
0.083	21.60	1.60	0.583	20.38	0.38
0.092	21.51	1.51	0.600	20.37	0.37
0.100	21.47	1.47	0.617	20.35	0.35
0.108	21.43	1.43	0.633	20.34	0.34
0.117	21.37	1.37	0.650	20.32	0.32
0.125	21.32	1.32	0.667	20.31	0.31
0.133	21.29	1.29	0.683	20.30	0.30
0.142	21.25	1.25	0.700	20.29	0.29
0.150	21.22	1.22	0.717	20.28	0.28
0.158	21.19	1.19	0.733	20.26	0.26
0.167	21.16	1.16	0.750	20.25	0.25
0.175	21.13	1.13	0.767	20.25	0.25
0.183	21.10	1.10	0.783	20.24	0.24
0.192	21.07	1.07	0.800	20.22	0.22
0.200	21.05	1.05	0.817	20.22	0.22
0.208	21.02	1.02	0.833	20.21	0.21
0.217	21.00	1.00	0.850	20.20	0.20
0.225	20.97	0.97	0.867	20.19	0.19
0.233	20.95	0.95	0.883	20.18	0.18
0.242	20.93	0.93	0.900	20.18	0.17
0.250	20.91	0.91	0.917	20.17	0.17
0.258	20.89	0.89	0.933	20.16	0.16
0.267	20.87	0.87	0.950	20.15	0.15
0.275	20.84	0.84	0.967	20.15	0.15
0.283	20.83	0.83	0.983	20.14	0.14
0.292	20.81	0.81	1.000	20.14	0.14
0.300	20.79	0.79	1.200	20.08	0.08
0.308	20.77	0.77	1.400	20.04	0.04
0.317	20.75	0.75	1.600	20.02	0.02
0.325	20.74	0.74	1.800	20.00	0.00
0.333	20.72	0.72	2.000	19.99	-0.01
0.350	20.69	0.69	2.200	19.99	-0.01
0.367	20.66	0.66			
0.383	20.63	0.63			
0.400	20.61	0.61			

NOTE: '*' Initial (pre-test) hydraulic head = 20.00 Feet.

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SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-9R, TEST 2
JULY 13, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.000	25.69	5.69	0.417	22.06	2.06
0.008	23.80	3.80	0.433	22.02	2.02
0.017	23.74	3.74	0.450	21.98	1.98
0.025	23.69	3.69	0.467	21.95	1.94
0.033	23.63	3.63	0.483	21.91	1.91
0.042	23.58	3.58	0.500	21.87	1.87
0.050	23.52	3.52	0.517	21.83	1.83
0.058	23.47	3.47	0.533	21.80	1.80
0.067	23.42	3.42	0.550	21.77	1.77
0.075	23.37	3.37	0.567	21.74	1.74
0.083	23.32	3.32	0.583	21.70	1.70
0.092	23.27	3.27	0.600	21.67	1.67
0.100	23.22	3.22	0.617	21.64	1.64
0.108	23.18	3.18	0.633	21.61	1.61
0.117	23.14	3.14	0.650	21.58	1.58
0.125	23.09	3.09	0.667	21.55	1.55
0.133	23.05	3.05	0.683	21.53	1.52
0.142	23.01	3.01	0.700	21.50	1.50
0.150	22.97	2.97	0.717	21.47	1.47
0.158	22.93	2.93	0.733	21.44	1.44
0.167	22.89	2.89	0.750	21.42	1.42
0.175	22.86	2.85	0.767	21.39	1.39
0.183	22.82	2.82	0.783	21.37	1.36
0.192	22.79	2.79	0.800	21.34	1.34
0.200	22.75	2.75	0.817	21.32	1.32
0.208	22.72	2.72	0.833	21.30	1.30
0.217	22.68	2.68	0.850	21.27	1.27
0.225	22.65	2.65	0.867	21.25	1.25
0.233	22.62	2.62	0.883	21.23	1.23
0.242	22.59	2.59	0.900	21.21	1.21
0.250	22.56	2.56	0.917	21.19	1.19
0.258	22.53	2.53	0.933	21.17	1.17
0.267	22.50	2.50	0.950	21.15	1.15
0.275	22.47	2.47	0.967	21.12	1.12
0.283	22.44	2.44	0.983	21.10	1.10
0.292	22.41	2.41	1.000	21.09	1.08
0.300	22.39	2.39	1.200	20.87	0.87
0.308	22.36	2.36	1.400	20.72	0.72
0.317	22.34	2.34	1.600	20.60	0.59
0.325	22.31	2.31	1.800	20.50	0.50
0.333	22.29	2.29	2.000	20.41	0.41
0.350	22.24	2.24	2.200	20.34	0.34
0.367	22.19	2.19	2.400	20.29	0.29
0.383	22.15	2.15	2.600	20.24	0.24
0.400	22.10	2.10	2.800	20.20	0.20

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SLUG TEST DATA
MONITORING WELL MW-9R, TEST 2
JULY 13, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
3.000	20.16	0.16			
3.200	20.14	0.14			
3.400	20.11	0.11			
3.600	20.09	0.09			
3.800	20.08	0.08			
4.000	20.06	0.06			
4.200	20.05	0.05			
4.400	20.04	0.04			
4.600	20.03	0.03			
4.800	20.02	0.02			
5.000	20.02	0.02			
5.200	20.02	0.01			
5.400	20.01	0.01			
5.600	20.01	0.01			
5.800	20.01	0.01			
6.000	20.00	0.00			
6.200	20.00	0.00			
6.400	20.00	0.00			
6.600	20.00	0.00			

NOTE: '*' Initial (pre-test) hydraulic head = 20.00 Feet.

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SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-10S, TEST 1
JULY 13, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.000	21.26	1.26	0.417	20.60	0.60
0.008	21.28	1.27	0.433	20.59	0.59
0.017	21.21	1.21	0.450	20.58	0.58
0.025	21.18	1.18	0.467	20.57	0.57
0.033	21.15	1.15	0.483	20.55	0.55
0.042	21.12	1.12	0.500	20.54	0.54
0.050	21.09	1.09	0.517	20.54	0.54
0.058	21.07	1.07	0.533	20.53	0.53
0.067	21.05	1.05	0.550	20.52	0.52
0.075	21.02	1.02	0.567	20.51	0.51
0.083	21.01	1.00	0.583	20.50	0.50
0.092	20.99	0.99	0.600	20.49	0.49
0.100	20.97	0.97	0.617	20.48	0.48
0.108	20.95	0.95	0.633	20.47	0.47
0.117	20.94	0.93	0.650	20.47	0.47
0.125	20.92	0.92	0.667	20.46	0.46
0.133	20.90	0.90	0.683	20.45	0.45
0.142	20.89	0.89	0.700	20.44	0.44
0.150	20.88	0.88	0.717	20.44	0.43
0.158	20.86	0.86	0.733	20.43	0.43
0.167	20.85	0.85	0.750	20.42	0.42
0.175	20.84	0.84	0.767	20.42	0.42
0.183	20.83	0.83	0.783	20.41	0.41
0.192	20.82	0.82	0.800	20.40	0.40
0.200	20.80	0.80	0.817	20.40	0.40
0.208	20.80	0.80	0.833	20.39	0.39
0.217	20.79	0.78	0.850	20.39	0.39
0.225	20.78	0.78	0.867	20.38	0.38
0.233	20.77	0.77	0.883	20.38	0.38
0.242	20.76	0.76	0.900	20.37	0.37
0.250	20.75	0.75	0.917	20.37	0.36
0.258	20.74	0.74	0.933	20.36	0.36
0.267	20.73	0.73	0.950	20.36	0.36
0.275	20.73	0.73	0.967	20.35	0.35
0.283	20.72	0.72	0.983	20.35	0.35
0.292	20.71	0.71	1.000	20.35	0.35
0.300	20.70	0.70	1.200	20.30	0.30
0.308	20.69	0.69	1.400	20.27	0.27
0.317	20.69	0.69	1.600	20.24	0.24
0.325	20.68	0.68	1.800	20.21	0.21
0.333	20.67	0.67	2.000	20.19	0.19
0.350	20.66	0.66	2.200	20.17	0.17
0.367	20.64	0.64	2.400	20.15	0.15
0.383	20.63	0.63	2.600	20.12	0.12
0.400	20.61	0.61	2.800	20.11	0.11

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SLUG TEST DATA
MONITORING WELL MW-10S, TEST 1
JULY 13, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
3.000	20.10	0.10			
3.200	20.09	0.09			
3.400	20.08	0.08			
3.600	20.07	0.07			
3.800	20.06	0.06			
4.000	20.06	0.06			
4.200	20.05	0.05			
4.400	20.05	0.05			
4.600	20.05	0.05			
4.800	20.05	0.05			
5.000	20.04	0.04			
5.200	20.04	0.04			
5.400	20.04	0.04			
5.600	20.04	0.04			
5.800	20.04	0.03			
6.000	20.04	0.03			
6.200	20.04	0.04			
6.400	20.04	0.03			
6.600	20.03	0.03			
6.800	20.04	0.03			
7.000	20.04	0.04			
7.200	20.04	0.04			
7.400	20.04	0.04			
7.600	20.04	0.04			
7.800	20.04	0.04			
8.000	20.04	0.03			
8.200	20.03	0.03			
8.400	20.04	0.03			

NOTE: '*' Initial (pre-test) hydraulic head = 20.00 Feet.

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SLUG TEST DATA
MONITORING WELL MW-11S, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.000	21.79	1.79	0.150	20.23	0.23
0.003	22.03	2.03	0.153	20.22	0.22
0.007	21.56	1.56	0.157	20.20	0.20
0.010	21.31	1.31	0.160	20.19	0.19
0.013	21.27	1.27	0.163	20.18	0.18
0.017	21.21	1.21	0.167	20.17	0.17
0.020	21.20	1.20	0.170	20.16	0.16
0.023	21.16	1.16	0.173	20.15	0.15
0.027	21.13	1.13	0.177	20.15	0.15
0.030	21.11	1.11	0.180	20.14	0.14
0.033	21.06	1.06	0.183	20.13	0.13
0.037	21.04	1.04	0.187	20.12	0.12
0.040	21.01	1.01	0.190	20.11	0.11
0.043	20.93	0.93	0.193	20.11	0.11
0.047	20.96	0.96	0.197	20.11	0.11
0.050	20.93	0.92	0.200	20.10	0.10
0.053	20.90	0.90	0.203	20.10	0.09
0.057	20.87	0.87	0.207	20.09	0.09
0.060	20.84	0.84	0.210	20.09	0.09
0.063	20.82	0.82	0.213	20.08	0.08
0.067	20.79	0.79	0.217	20.08	0.08
0.070	20.77	0.77	0.220	20.08	0.08
0.073	20.74	0.74	0.223	20.08	0.08
0.077	20.71	0.71	0.227	20.07	0.07
0.080	20.68	0.68	0.230	20.07	0.07
0.083	20.66	0.66	0.233	20.06	0.06
0.087	20.63	0.63	0.237	20.06	0.06
0.090	20.61	0.61	0.240	20.06	0.06
0.093	20.58	0.58	0.243	20.06	0.06
0.097	20.56	0.56	0.247	20.06	0.06
0.100	20.54	0.54	0.250	20.05	0.05
0.103	20.51	0.51	0.253	20.05	0.05
0.107	20.49	0.49	0.257	20.05	0.05
0.110	20.47	0.47	0.260	20.05	0.05
0.113	20.44	0.44	0.263	20.04	0.04
0.117	20.42	0.42	0.267	20.04	0.04
0.120	20.40	0.40	0.270	20.04	0.04
0.123	20.38	0.38	0.273	20.04	0.04
0.127	20.36	0.35	0.277	20.04	0.04
0.130	20.34	0.34	0.280	20.04	0.04
0.133	20.32	0.32	0.283	20.04	0.04
0.137	20.30	0.30	0.287	20.04	0.04
0.140	20.28	0.28	0.290	20.03	0.03
0.143	20.27	0.27	0.293	20.03	0.03
0.147	20.25	0.25	0.297	20.03	0.03

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SLUG TEST DATA
MONITORING WELL MW-11S, TEST 1
JANUARY 7, 1994

Elapsed Tim (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.300	20.03	0.03	0.917	20.00	0.00
0.303	20.03	0.03	0.933	20.00	0.00
0.307	20.03	0.03	0.950	20.00	0.00
0.310	20.03	0.03	0.967	20.00	0.00
0.313	20.03	0.02	0.983	20.00	0.00
0.317	20.03	0.03	1.000	20.00	0.00
0.320	20.03	0.02	1.200	19.99	-0.01
0.323	20.03	0.02	1.400	19.99	-0.01
0.327	20.03	0.02	1.600	19.99	-0.01
0.330	20.03	0.02	1.800	20.00	0.00
0.333	20.03	0.02	2.000	19.99	-0.01
0.350	20.03	0.02	2.200	19.99	-0.01
0.367	20.02	0.02	2.400	19.99	-0.01
0.383	20.02	0.02	2.600	19.99	-0.01
0.400	20.02	0.02	2.800	19.99	-0.01
0.417	20.02	0.02	3.000	19.99	-0.01
0.433	20.01	0.01	3.200	19.99	-0.01
0.450	20.01	0.01	3.400	19.99	-0.01
0.467	20.01	0.01	3.600	19.99	-0.01
0.483	20.01	0.01	3.800	19.99	-0.01
0.500	20.01	0.01	4.000	19.99	-0.01
0.517	20.01	0.01	4.200	19.99	-0.01
0.533	20.01	0.01	4.400	19.99	-0.01
0.550	20.01	0.01	4.600	20.00	0.00
0.567	20.01	0.01	4.800	20.00	0.00
0.583	20.01	0.01	5.000	19.99	-0.01
0.600	20.00	0.00	5.200	19.99	-0.01
0.617	20.00	0.00	5.400	19.99	-0.01
0.633	20.00	0.00	5.600	19.99	-0.01
0.650	20.00	0.00	5.800	20.00	0.00
0.667	20.00	0.00	6.000	20.00	0.00
0.683	20.00	0.00	6.200	20.00	0.00
0.700	20.00	0.00	6.400	19.99	-0.01
0.717	20.00	0.00	6.600	20.00	0.00
0.733	20.00	0.00	6.800	20.00	0.00
0.750	20.00	0.00	7.000	19.99	-0.01
0.767	20.00	0.00	7.200	19.99	-0.01
0.783	20.00	0.00	7.400	20.00	0.00
0.800	20.00	0.00	7.600	20.00	0.00
0.817	20.00	0.00	7.800	19.99	-0.01
0.833	20.00	0.00	8.000	20.00	0.00
0.850	20.00	0.00	8.200	20.00	0.00
0.867	20.00	0.00	8.400	20.00	0.00
0.883	20.00	0.00	8.600	20.00	0.00
0.900	20.00	0.00	8.800	20.00	0.00

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SLUG TEST DATA
MONITORING WELL MW-11S, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
9.000	20.00	0.00			
9.200	20.00	0.00			
9.400	19.99	-0.01			
9.600	20.00	0.00			
9.800	20.00	0.00			
10.000	20.00	0.00			
12.000	20.00	0.00			

NOTE: '*' Initial (pre-test) hydraulic head = 20.00 Feet.

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SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-11R, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.000	20.24	0.24	0.150	27.29	7.29
0.003	29.20	9.20	0.153	27.27	7.27
0.007	32.88	12.88	0.157	27.25	7.25
0.010	31.19	11.19	0.160	27.23	7.23
0.013	32.90	12.90	0.163	27.21	7.21
0.017	32.97	12.97	0.167	27.19	7.19
0.020	27.94	7.94	0.170	27.17	7.17
0.023	28.13	8.13	0.173	27.16	7.16
0.027	28.16	8.16	0.177	27.14	7.14
0.030	28.15	8.15	0.180	27.12	7.12
0.033	28.13	8.13	0.183	27.11	7.11
0.037	28.10	8.10	0.187	27.09	7.08
0.040	28.07	8.07	0.190	27.07	7.07
0.043	28.04	8.04	0.193	27.05	7.05
0.047	28.01	8.01	0.197	27.04	7.04
0.050	27.97	7.97	0.200	27.02	7.02
0.053	27.95	7.95	0.203	27.00	7.00
0.057	27.92	7.92	0.207	26.98	6.98
0.060	27.89	7.89	0.210	26.97	6.97
0.063	27.86	7.86	0.213	26.95	6.95
0.067	27.84	7.83	0.217	26.93	6.93
0.070	27.81	7.81	0.220	26.91	6.91
0.073	27.78	7.78	0.223	26.90	6.90
0.077	27.76	7.76	0.227	26.88	6.88
0.080	27.73	7.73	0.230	26.86	6.86
0.083	27.71	7.71	0.233	26.84	6.84
0.087	27.68	7.68	0.237	26.83	6.83
0.090	27.66	7.66	0.240	26.81	6.81
0.093	27.64	7.64	0.243	26.79	6.79
0.097	27.62	7.62	0.247	26.78	6.78
0.100	27.59	7.59	0.250	26.76	6.76
0.103	27.57	7.57	0.253	26.75	6.75
0.107	27.55	7.55	0.257	26.73	6.73
0.110	27.53	7.53	0.260	26.72	6.72
0.113	27.51	7.51	0.263	26.70	6.70
0.117	27.49	7.49	0.267	26.69	6.69
0.120	27.47	7.47	0.270	26.67	6.67
0.123	27.45	7.45	0.273	26.65	6.65
0.127	27.43	7.43	0.277	26.64	6.64
0.130	27.40	7.40	0.280	26.62	6.62
0.133	27.38	7.38	0.283	26.60	6.60
0.137	27.37	7.37	0.287	26.59	6.59
0.140	27.35	7.35	0.290	26.57	6.57
0.143	27.33	7.33	0.293	26.56	6.56
0.147	27.31	7.31	0.297	26.55	6.55

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-11R, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.300	26.53	6.53	0.917	24.18	4.18
0.303	26.51	6.51	0.933	24.13	4.13
0.307	26.50	6.50	0.950	24.08	4.08
0.310	26.48	6.48	0.967	24.03	4.03
0.313	26.47	6.47	0.983	23.98	3.98
0.317	26.45	6.45	1.000	23.94	3.93
0.320	26.44	6.44	1.200	23.29	3.29
0.323	26.43	6.43	1.400	22.80	2.80
0.327	26.41	6.41	1.600	22.38	2.38
0.330	26.39	6.39	1.800	22.02	2.01
0.333	26.38	6.38	2.000	21.70	1.70
0.350	26.30	6.30	2.200	21.43	1.43
0.367	26.23	6.23	2.400	21.21	1.21
0.383	26.15	6.15	2.600	21.02	1.02
0.400	26.08	6.08	2.800	20.86	0.86
0.417	26.01	6.01	3.000	20.73	0.73
0.433	25.94	5.94	3.200	20.62	0.62
0.450	25.87	5.87	3.400	20.53	0.53
0.467	25.80	5.80	3.600	20.46	0.46
0.483	25.73	5.73	3.800	20.41	0.41
0.500	25.66	5.66	4.000	20.36	0.36
0.517	25.59	5.59	4.200	20.32	0.32
0.533	25.52	5.52	4.400	20.29	0.29
0.550	25.46	5.46	4.600	20.25	0.25
0.567	25.40	5.40	4.800	20.23	0.23
0.583	25.33	5.33	5.000	20.22	0.22
0.600	25.26	5.26	5.200	20.20	0.20
0.617	25.20	5.20	5.400	20.19	0.19
0.633	25.14	5.14	5.600	20.18	0.18
0.650	25.08	5.08	5.800	20.17	0.17
0.667	25.02	5.02	6.000	20.16	0.16
0.683	24.96	4.96	6.200	20.16	0.16
0.700	24.90	4.90	6.400	20.15	0.15
0.717	24.84	4.84	6.600	20.15	0.15
0.733	24.78	4.78	6.800	20.14	0.14
0.750	24.72	4.72	7.000	20.14	0.14
0.767	24.67	4.67	7.200	20.13	0.13
0.783	24.62	4.62	7.400	20.13	0.13
0.800	24.56	4.56	7.600	20.13	0.13
0.817	24.50	4.50	7.800	20.13	0.13
0.833	24.45	4.45	8.000	20.13	0.13
0.850	24.39	4.39	8.200	20.13	0.13
0.867	24.34	4.34	8.400	20.13	0.13
0.883	24.28	4.28	8.600	20.13	0.13
0.900	24.23	4.23	8.800	20.13	0.13

NETC - NEWPORT
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SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-11R, TEST 1
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
9.000	20.13	0.13			
9.200	20.12	0.12			
9.400	20.12	0.12			
9.600	20.12	0.12			
9.800	20.12	0.12			
10.000	20.12	0.12			

NOTE: '*' Initial (pre-test) hydraulic head = 20.00 Feet.

NETC - NEWPORT
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SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-11R, TEST 2
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.000	20.00	0.00	0.150	17.26	-2.74
0.003	20.00	0.00	0.153	17.10	-2.90
0.007	20.00	0.00	0.157	16.96	-3.04
0.010	20.00	0.00	0.160	16.83	-3.17
0.013	20.00	0.00	0.163	16.71	-3.29
0.017	20.00	0.00	0.167	16.60	-3.40
0.020	20.00	0.00	0.170	16.51	-3.49
0.023	20.00	0.00	0.173	16.42	-3.58
0.027	20.00	0.00	0.177	16.35	-3.65
0.030	20.00	0.00	0.180	16.28	-3.72
0.033	20.00	0.00	0.183	16.23	-3.77
0.037	20.00	0.00	0.187	16.18	-3.82
0.040	19.99	-0.01	0.190	16.14	-3.86
0.043	19.99	-0.01	0.193	16.11	-3.89
0.047	19.99	-0.01	0.197	16.09	-3.91
0.050	19.99	-0.01	0.200	16.07	-3.93
0.053	19.99	-0.01	0.203	16.05	-3.95
0.057	19.99	-0.01	0.207	16.04	-3.97
0.060	19.98	-0.02	0.210	16.02	-3.98
0.063	19.97	-0.03	0.213	16.01	-3.99
0.067	19.96	-0.04	0.217	16.00	-4.00
0.070	19.96	-0.05	0.220	15.98	-4.02
0.073	19.94	-0.06	0.223	15.97	-4.03
0.077	19.91	-0.09	0.227	15.97	-4.04
0.080	19.84	-0.16	0.230	15.95	-4.05
0.083	19.80	-0.20	0.233	15.95	-4.05
0.087	19.71	-0.29	0.237	15.93	-4.07
0.090	19.62	-0.38	0.240	15.93	-4.07
0.093	19.53	-0.47	0.243	15.91	-4.09
0.097	19.43	-0.57	0.247	15.90	-4.10
0.100	19.33	-0.67	0.250	15.88	-4.12
0.103	19.22	-0.78	0.253	15.86	-4.14
0.107	19.10	-0.90	0.257	15.84	-4.16
0.110	18.97	-1.03	0.260	15.83	-4.17
0.113	18.84	-1.16	0.263	15.81	-4.19
0.117	18.71	-1.29	0.267	15.80	-4.20
0.120	18.55	-1.45	0.270	15.78	-4.22
0.123	18.42	-1.58	0.273	15.77	-4.23
0.127	18.28	-1.73	0.277	15.75	-4.25
0.130	18.14	-1.86	0.280	15.74	-4.26
0.133	17.98	-2.02	0.283	15.72	-4.28
0.137	17.84	-2.16	0.287	15.70	-4.30
0.140	17.70	-2.30	0.290	15.69	-4.32
0.143	17.56	-2.44	0.293	15.67	-4.33
0.147	17.42	-2.58	0.297	15.66	-4.34

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-11R, TEST 2
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
0.300	15.65	-4.35	0.917	16.94	-3.06
0.303	15.65	-4.35	0.933	16.99	-3.01
0.307	15.65	-4.35	0.950	17.04	-2.96
0.310	15.66	-4.34	0.967	17.09	-2.91
0.313	15.66	-4.34	0.983	17.14	-2.86
0.317	15.67	-4.33	1.000	17.19	-2.81
0.320	15.67	-4.33	1.200	17.79	-2.21
0.323	15.67	-4.33	1.400	18.17	-1.83
0.327	15.69	-4.32	1.600	18.49	-1.51
0.330	15.68	-4.32	1.800	18.75	-1.25
0.333	15.68	-4.32	2.000	18.96	-1.04
0.350	15.69	-4.32	2.200	19.12	-0.88
0.367	15.69	-4.32	2.400	19.26	-0.74
0.383	15.67	-4.33	2.600	19.37	-0.63
0.400	15.67	-4.33	2.800	19.47	-0.53
0.417	15.66	-4.34	3.000	19.55	-0.45
0.433	15.66	-4.34	3.200	19.61	-0.39
0.450	15.67	-4.33	3.400	19.66	-0.34
0.467	15.67	-4.33	3.600	19.71	-0.29
0.483	15.69	-4.32	3.800	19.74	-0.26
0.500	15.69	-4.31	4.000	19.76	-0.24
0.517	15.70	-4.30	4.200	19.78	-0.22
0.533	15.71	-4.29	4.400	19.79	-0.21
0.550	15.74	-4.26	4.600	19.80	-0.20
0.567	15.76	-4.24	4.800	19.82	-0.18
0.583	15.78	-4.22	5.000	19.82	-0.18
0.600	15.81	-4.19	5.200	19.83	-0.17
0.617	15.83	-4.18	5.400	19.84	-0.16
0.633	15.86	-4.14	5.600	19.84	-0.16
0.650	15.93	-4.07	5.800	19.85	-0.15
0.667	16.02	-3.98	6.000	19.85	-0.15
0.683	16.09	-3.91	6.200	19.86	-0.14
0.700	16.16	-3.84	6.400	19.87	-0.13
0.717	16.23	-3.77	6.600	19.87	-0.13
0.733	16.30	-3.70	6.800	19.87	-0.13
0.750	16.36	-3.64	7.000	19.88	-0.12
0.767	16.42	-3.58	7.200	19.88	-0.12
0.783	16.49	-3.51	7.400	19.88	-0.12
0.800	16.55	-3.45	7.600	19.89	-0.11
0.817	16.61	-3.39	7.800	19.89	-0.11
0.833	16.67	-3.33	8.000	19.89	-0.11
0.850	16.72	-3.28	8.200	19.89	-0.11
0.867	16.78	-3.22	8.400	19.89	-0.11
0.883	16.84	-3.16	8.600	19.89	-0.11
0.900	16.89	-3.11	8.800	19.90	-0.10

NETC - NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SLUG TEST DATA
MONITORING WELL MW-11R, TEST 2
JANUARY 7, 1994

Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)	Elapsed Time (min)	Depth to Water Below Top of Riser (ft)	Residual Drawdown* (ft)
9.000	19.90	-0.10			
9.200	19.90	-0.10			
9.400	19.90	-0.10			
9.600	19.90	-0.10			
9.800	19.90	-0.10			
10.000	19.90	-0.10			

NOTES: '*' Initial (pre-test) hydraulic head = 20.00 Feet.
This test conducted by injecting a slug of water into the well and recording the head changes.

DATA SET: MW2S1

CLIENT:	US NAVY - NORTHERN DIVISION	DATE:	07-JAN-94
LOCATION:	NETC	WELL NO.:	MW-2S
COUNTY:	NEWPORT, RI	WELL DEPTH:	14.00 ft
PROJECT:	PHASE II RI SLUG TEST 1	WATER TABLE:	3.870 ft
AQUIFER:	Surficial	THICKNESS:	10.13 ft
INTAKE RADIUS:	0.333 ft	CASING RADIUS:	0.166 ft
SCREEN TOP:	4.000 ft	SCREEN BASE:	14.00 ft
INITIAL HEAD:	4.070 ft	TRANS. RATIO:	1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 61.5 square ft/day

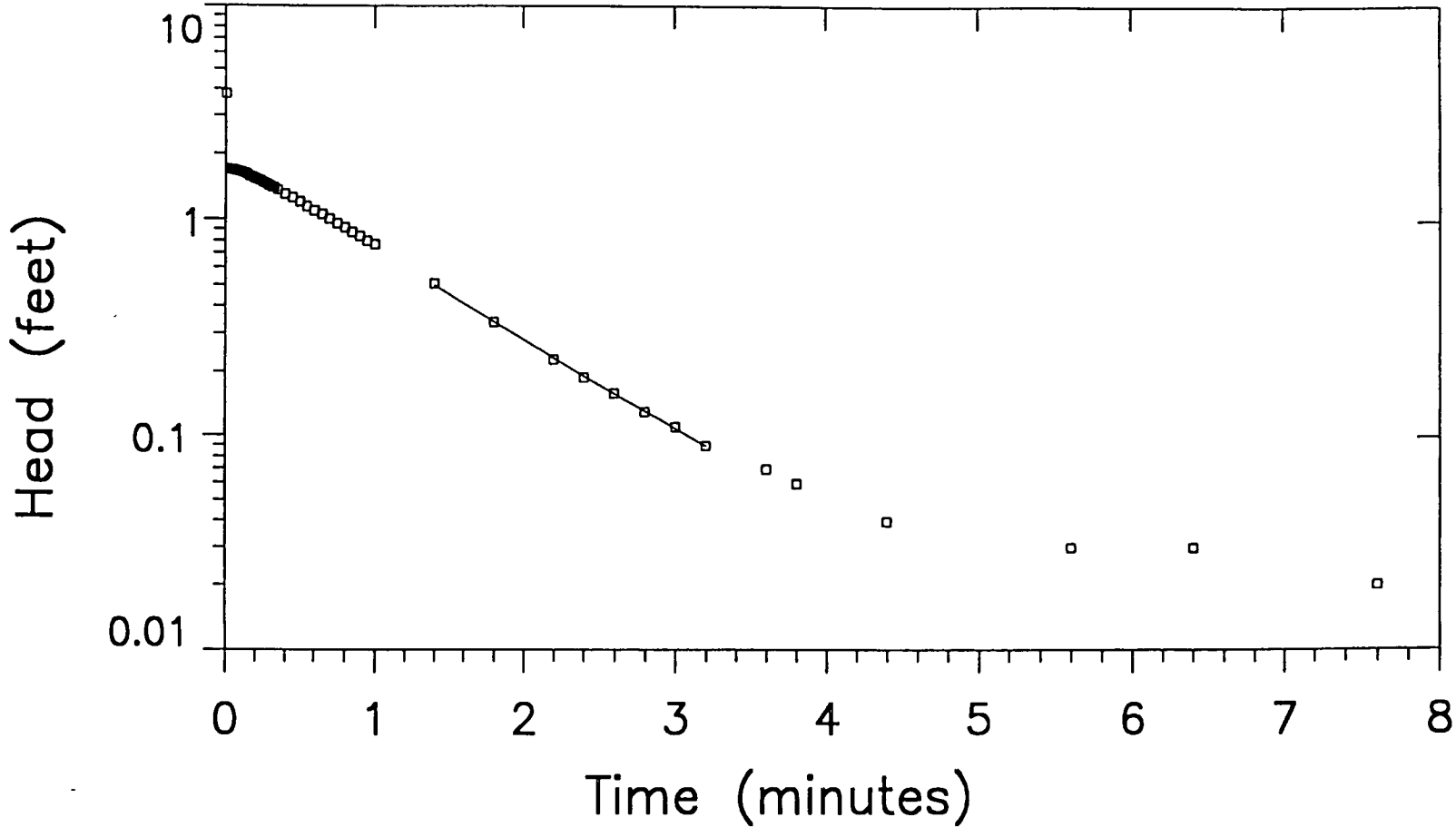
CONDUCTIVITY: 6.07 ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Rice)

No.	TIME (mins)	Head, H (ft) DATA
1	0.00700	3.79
2	0.0230	1.70
3	0.0400	1.69
4	0.0500	1.69
5	0.0600	1.68
6	0.0700	1.67
7	0.0800	1.67
8	0.0900	1.66
9	0.100	1.65
10	0.110	1.64
11	0.120	1.63
12	0.130	1.62
13	0.140	1.61
14	0.150	1.60
15	0.160	1.58
16	0.170	1.57
17	0.180	1.57
18	0.190	1.55
19	0.200	1.54
20	0.210	1.53
21	0.220	1.52
22	0.230	1.51
23	0.240	1.50

No.	TIME (mins)	Head, H (ft) DATA
24	0.250	1.48
25	0.260	1.47
26	0.270	1.46
27	0.280	1.45
28	0.290	1.44
29	0.300	1.43
30	0.310	1.41
31	0.320	1.40
32	0.330	1.40
33	0.350	1.37
34	0.400	1.31
35	0.450	1.26
36	0.500	1.21
37	0.550	1.15
38	0.600	1.10
39	0.650	1.06
40	0.700	1.01
41	0.750	0.960
42	0.800	0.920
43	0.850	0.880
44	0.900	0.840
45	0.950	0.800
46	1.00	0.770
47	1.40	0.510
48	1.80	0.340
49	2.20	0.230
50	2.40	0.190
51	2.60	0.160
52	2.80	0.130
53	3.00	0.110
54	3.20	0.0900
55	3.60	0.0700
56	3.80	0.0600
57	4.40	0.0400
58	5.60	0.0300
59	6.40	0.0300
60	7.60	0.0200

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI SLUG TEST 1
CONDUCTIVITY: 6.070 ft/day	by: TRC ENVIRONMENTAL CONSULTANTS	Well: MW–2S
TRANSMISSIVITY: 61.49 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 4.070 ft	AQUIFER: Surficial	NEWPORT, RI
Data Set: MW2S1 / Date: 07–JAN–94	THICKNESS: 10.13	
	SCREEN: top: 4.000 base: 14.00	
	DIAMETER: casing: .3320 intake: .6660	
	DEPTH: Water Table: 3.870 TD: 14.00	

DATA SET: MW2D1

CLIENT:	US NAVY - NORTHERN DIVISION	DATE:	07-JAN-94
LOCATION:	NETC	WELL NO.:	MW-2D
COUNTY:	NEWPORT, RI	WELL DEPTH:	30.50 ft
PROJECT:	PHASE II RI SLUG TEST 1	WATER TABLE:	4.960 ft
AQUIFER:	Surficial	THICKNESS:	25.04 ft
INTAKE RADIUS:	0.333 ft	CASING RADIUS:	0.083 ft
SCREEN TOP:	20.500 ft	SCREEN BASE:	30.50 ft
INITIAL HEAD:	11.100 ft	TRANS. RATIO:	1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 18.5 square ft/day

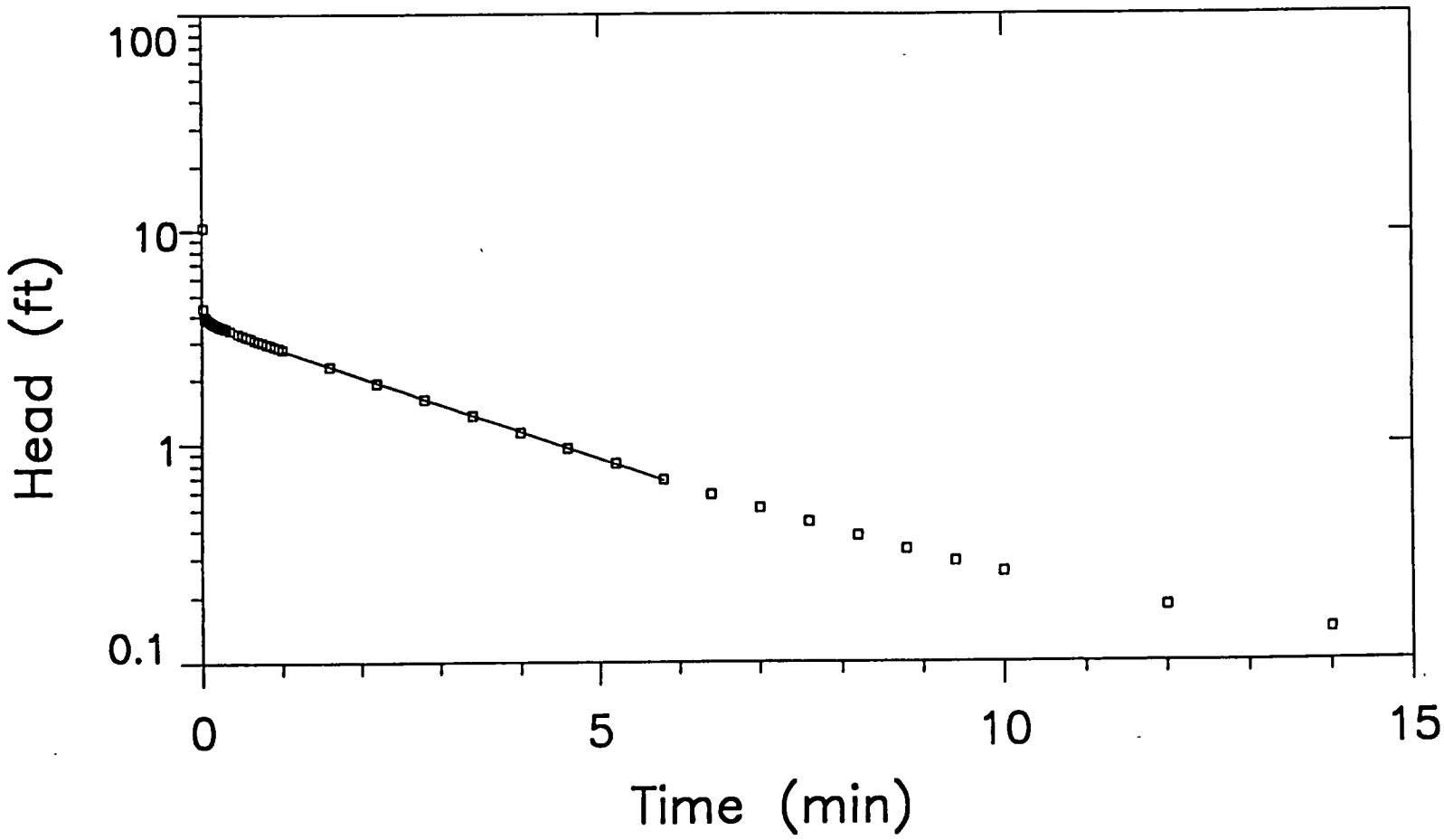
CONDUCTIVITY: .742 ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Rice)

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0100	10.39		
2	0.0200	4.38		
3	0.0300	3.91		
4	0.0400	3.99		
5	0.0500	3.96		
6	0.0600	3.89		
7	0.0700	3.85		
8	0.0800	3.84		
9	0.0900	3.82		
10	0.100	3.79		
11	0.110	3.76		
12	0.120	3.75		
13	0.130	3.73		
14	0.140	3.71		
15	0.150	3.69		
16	0.160	3.67		
17	0.170	3.66		
18	0.180	3.64		
19	0.190	3.63		
20	0.200	3.62		
21	0.210	3.60		
22	0.220	3.58		
23	0.230	3.57		

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
24	0.240	3.56		
25	0.250	3.55		
26	0.260	3.53		
27	0.270	3.52		
28	0.280	3.51		
29	0.290	3.50		
30	0.300	3.48		
31	0.350	3.43		
32	0.450	3.31		
33	0.500	3.25		
34	0.550	3.20		
35	0.600	3.15		
36	0.650	3.09		
37	0.700	3.05		
38	0.750	3.01		
39	0.800	2.96		
40	0.850	2.91		
41	0.900	2.87		
42	0.950	2.83		
43	1.00	2.78	2.73	1.78
44	1.60	2.29	2.29	-0.275
45	2.20	1.92	1.93	-0.588
46	2.80	1.61	1.62	-0.888
47	3.40	1.36	1.36	-0.449
48	4.00	1.14	1.14	-0.786
49	4.60	0.960	0.966	-0.659
50	5.20	0.820	0.812	0.886
51	5.80	0.690	0.683	0.935
52	6.40	0.590		
53	7.00	0.510		
54	7.60	0.440		
55	8.20	0.380		
56	8.80	0.330		
57	9.40	0.290		
58	10.00	0.260		
59	12.00	0.180		
60	14.00	0.140		

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI SLUG TEST 1
CONDUCTIVITY: .7420 ft/day	by: TRC ENVIRONMENTAL CONSULTANTS	Well: MW–2D
TRANSMISSIVITY: 18.58 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 11.10 ft	AQUIFER: Surficial	NEWPORT, RI
Data Set: MW2D1 / Date: 07–JAN–94	THICKNESS: 25.04	
	SCREEN: top: 20.50 base: 30.50	
	DIAMETER: casing: .1660 intake: .6660	
	DEPTH: Water Table: 4.960 TD: 30.50	

DATA SET: MW4S1

CLIENT:	US NAVY - NORTHERN DIVISION	DATE:	13-JUL-94
LOCATION:	NETC	WELL NO.:	MW-4S
COUNTY:	NEWPORT, RI	WELL DEPTH:	13.00 ft
PROJECT:	PHASE II RI SLUG TEST 1	WATER TABLE:	5.120 ft
AQUIFER:	Surficial	THICKNESS:	7.88 ft
INTAKE RADIUS:	0.333 ft	CASING RADIUS:	0.166 ft
SCREEN TOP:	3.000 ft	SCREEN BASE:	13.00 ft
INITIAL HEAD:	2.240 ft	TRANS. RATIO:	1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 23.5 square ft/day

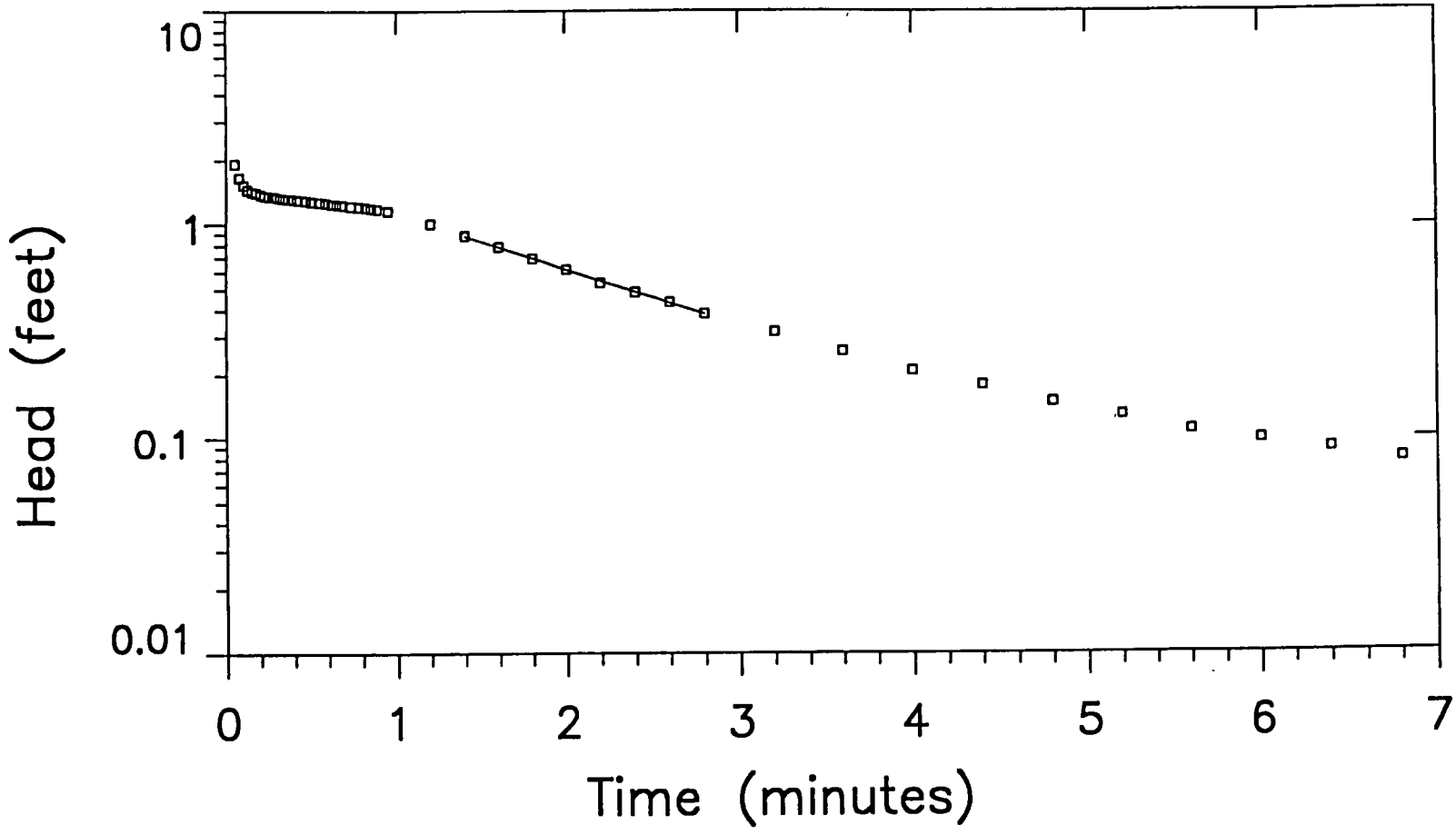
CONDUCTIVITY: 2.99 ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Rice)

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0500	1.92		
2	0.0750	1.66		
3	0.100	1.53		
4	0.125	1.45		
5	0.150	1.42		
6	0.175	1.40		
7	0.200	1.38		
8	0.225	1.36		
9	0.250	1.35		
10	0.283	1.34		
11	0.317	1.33		
12	0.350	1.32		
13	0.383	1.31		
14	0.417	1.30		
15	0.467	1.29		
16	0.500	1.28		
17	0.550	1.27		
18	0.583	1.26		
19	0.617	1.25		
20	0.650	1.24		
21	0.683	1.23		
22	0.733	1.22		
23	0.783	1.21		

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
24	0.817	1.20		
25	0.850	1.19		
26	0.883	1.18		
27	0.950	1.16		
28	1.20	1.01		
29	1.40	0.890	0.885	0.542
30	1.60	0.790	0.786	0.421
31	1.80	0.700	0.699	0.124
32	2.00	0.620	0.621	-0.213
33	2.20	0.540	0.552	-2.25
34	2.40	0.490	0.490	-0.150
35	2.60	0.440	0.436	0.880
36	2.80	0.390	0.387	0.617
37	3.20	0.320		
38	3.60	0.260		
39	4.00	0.210		
40	4.40	0.180		
41	4.80	0.150		
42	5.20	0.130		
43	5.60	0.110		
44	6.00	0.100		
45	6.40	0.0900		
46	6.80	0.0800		

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI SLUG TEST 1
CONDUCTIVITY: 2.992 ft/day	by: TRC, ENVIRONMENTAL CONSULTANTS	Well: MW–4S
TRANSMISSIVITY: 23.57 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 2.240 ft	AQUIFER: Surficial	NEWPORT, RI
Data Set: MW4S1 / Date: 13–JUL–94	THICKNESS: 7.880	
	SCREEN: top: 3.000 base: 13.00	
	DIAMETER: casing: .3320 intake: .6660	
	DEPTH: Water Table: 5.120 TD: 13.00	

DATA SET: MW6R1

CLIENT:	US NAVY - NORTHERN DIVISION	DATE:	07-JAN-94
LOCATION:	NETC	WELL NO.:	MW-6R
COUNTY:	NEWPORT, RI	WELL DEPTH:	26.00 ft
PROJECT:	PHASE II RI SLUG TEST 1	WATER TABLE:	6.580 ft
AQUIFER:	Weathered Bedrock	THICKNESS:	19.42 ft
INTAKE RADIUS:	0.333 ft	CASING RADIUS:	0.083 ft
SCREEN TOP:	16.000 ft	SCREEN BASE:	26.00 ft
INITIAL HEAD:	10.180 ft	TRANS. RATIO:	1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 11.8 square ft/day

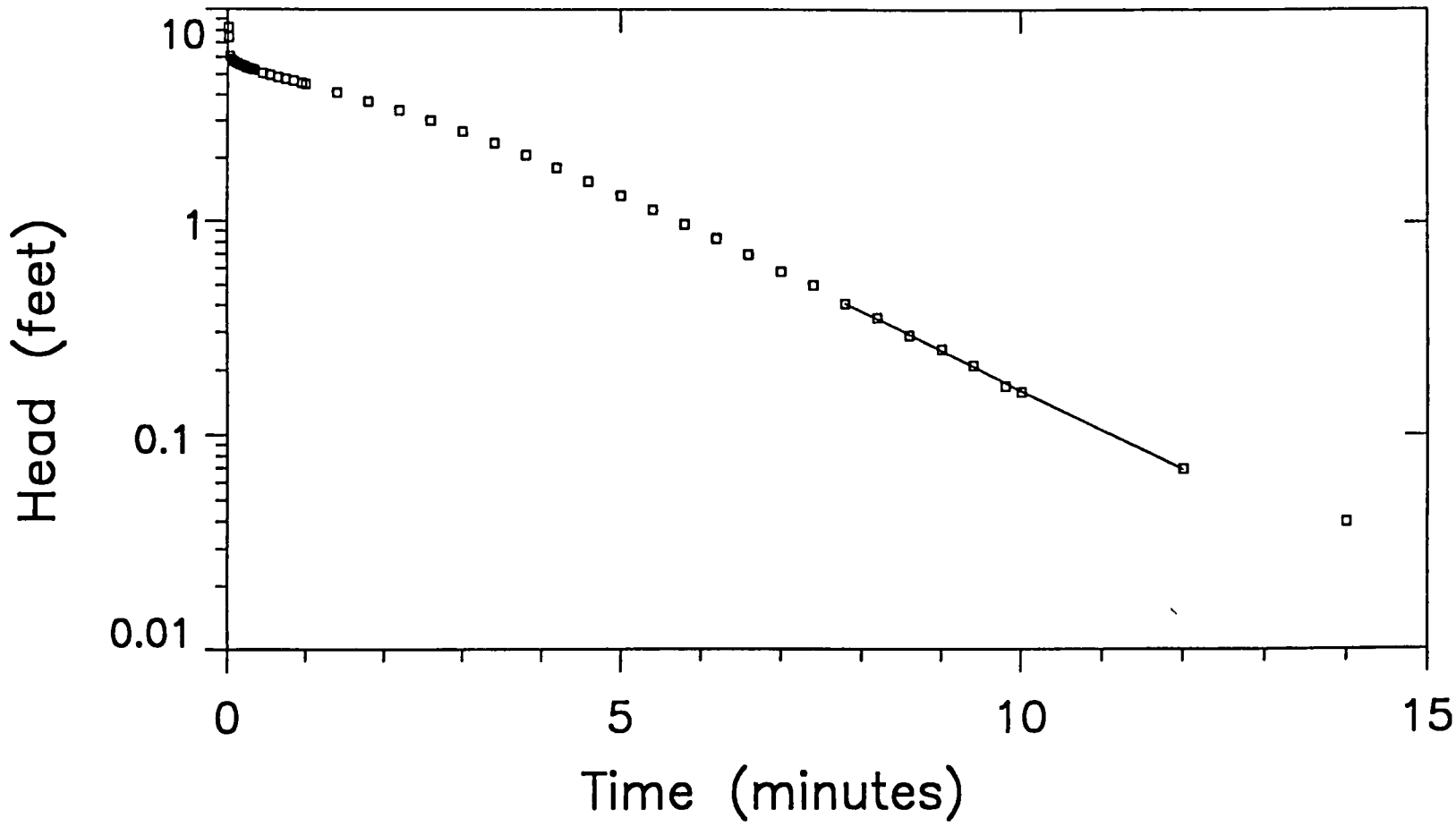
CONDUCTIVITY: .610 ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Rice)

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0130	8.24		
2	0.0200	7.42		
3	0.0300	6.05		
4	0.0500	5.87		
5	0.0700	5.79		
6	0.0900	5.73		
7	0.110	5.67		
8	0.130	5.62		
9	0.150	5.57		
10	0.170	5.53		
11	0.190	5.49		
12	0.210	5.45		
13	0.230	5.41		
14	0.250	5.38		
15	0.270	5.34		
16	0.290	5.31		
17	0.310	5.29		
18	0.330	5.25		
19	0.350	5.23		
20	0.450	5.09		
21	0.550	4.97		
22	0.650	4.87		
23	0.750	4.76		

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
24	0.850	4.67		
25	0.950	4.57		
26	1.00	4.52		
27	1.40	4.11		
28	1.80	3.73		
29	2.20	3.37		
30	2.60	3.02		
31	3.00	2.67		
32	3.40	2.35		
33	3.80	2.06		
34	4.20	1.79		
35	4.60	1.55		
36	5.00	1.33		
37	5.40	1.14		
38	5.80	0.970		
39	6.20	0.830		
40	6.60	0.700		
41	7.00	0.580		
42	7.40	0.500		
43	7.80	0.410	0.409	0.0299
44	8.20	0.350	0.345	1.15
45	8.60	0.290	0.292	-0.697
46	9.00	0.250	0.246	1.40
47	9.40	0.210	0.208	0.925
48	9.80	0.170	0.175	-3.30
49	10.00	0.160	0.161	-0.840
50	12.00	0.0700	0.0691	1.24
51	14.00	0.0400		

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI SLUG TEST 1
CONDUCTIVITY: .6099 ft/day	by: TRC ENVIRONMENTAL CONSULTANTS	Well: MW–6R
TRANSMISSIVITY: 11.84 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 10.18 ft	AQUIFER: Weathered Bedrock	NEWPORT, RI
Data Set: MW6R1 / Date: 07–JAN–94	THICKNESS: 19.42	
	SCREEN: top: 16.00 base: 26.00	
	DIAMETER: casing: .1660 intake: .6660	
	DEPTH: Water Table: 6.580 TD: 26.00	

DATA SET: MW7S1

CLIENT:	US NAVY - NORTHERN DIVISION	DATE:	07-JAN-94
LOCATION:	NETC	WELL NO.:	MW-7S
COUNTY:	NEWPORT, RI	WELL DEPTH:	13.00 ft
PROJECT:	PHASE II RI SLUG TEST 1	WATER TABLE:	4.430 ft
AQUIFER:	Surficial	THICKNESS:	8.57 ft
INTAKE RADIUS:	0.333 ft	CASING RADIUS:	0.166 ft
SCREEN TOP:	4.430 ft	SCREEN BASE:	13.00 ft
INITIAL HEAD:	6.140 ft	TRANS. RATIO:	1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 353. square ft/day

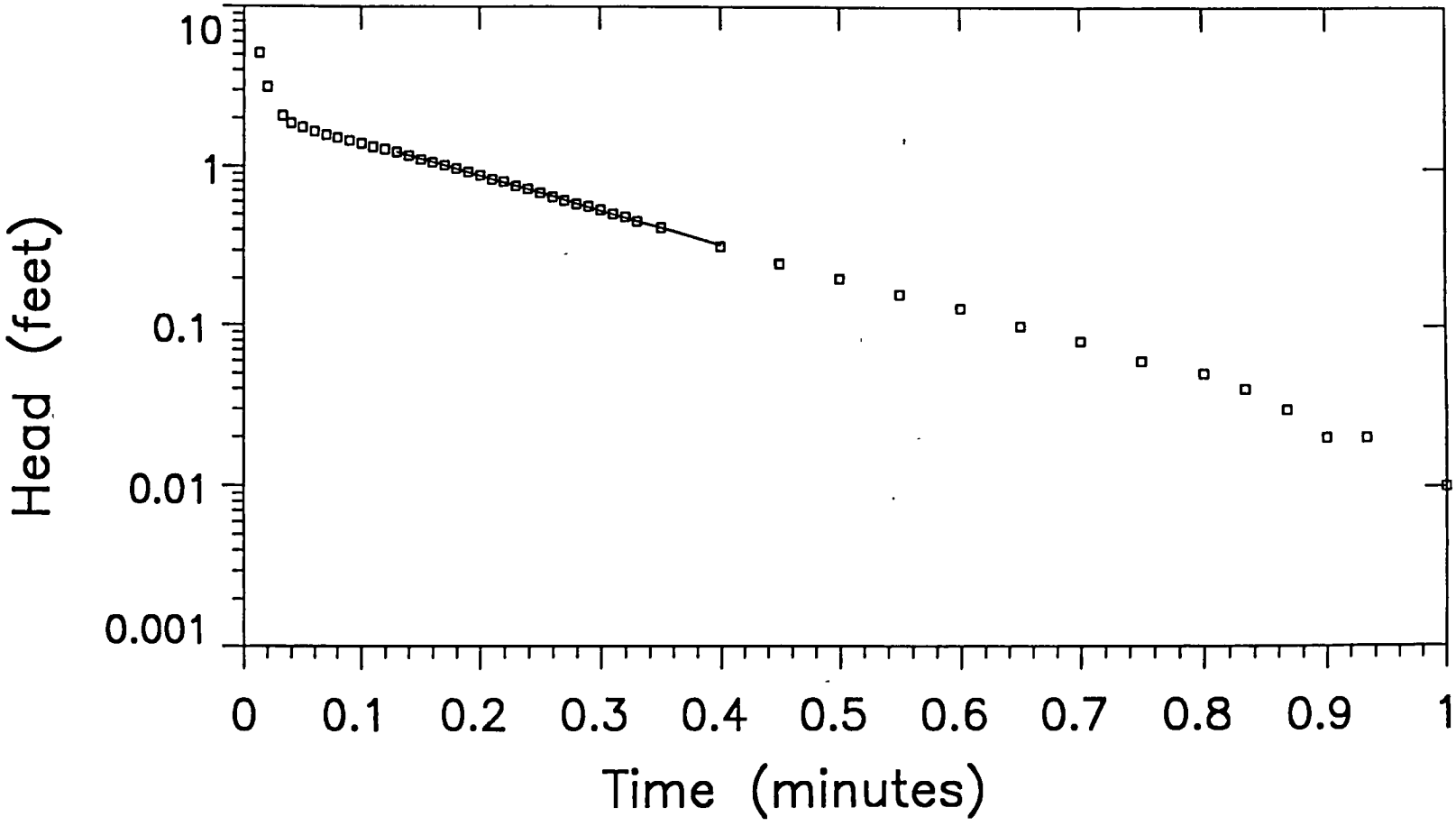
CONDUCTIVITY: 41.2 ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Rice)

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0130	5.11		
2	0.0200	3.14		
3	0.0330	2.08		
4	0.0400	1.87		
5	0.0500	1.76		
6	0.0600	1.67		
7	0.0700	1.59		
8	0.0800	1.52		
9	0.0900	1.46		
10	0.100	1.40		
11	0.110	1.34		
12	0.120	1.29		
13	0.130	1.24	1.25	-0.862
14	0.140	1.18	1.18	-0.843
15	0.150	1.12	1.13	-1.08
16	0.160	1.07	1.07	-0.671
17	0.170	1.03	1.02	0.497
18	0.180	0.980	0.975	0.499
19	0.190	0.930	0.927	0.241
20	0.200	0.890	0.882	0.820
21	0.210	0.840	0.839	0.0200
22	0.220	0.810	0.799	1.35
23	0.230	0.760	0.760	-0.0320

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
24	0.240	0.730	0.723	0.914
25	0.250	0.690	0.688	0.261
26	0.260	0.650	0.654	-0.734
27	0.270	0.620	0.622	-0.480
28	0.280	0.590	0.592	-0.462
29	0.290	0.570	0.563	1.06
30	0.300	0.540	0.536	0.637
31	0.310	0.510	0.510	-0.0978
32	0.320	0.490	0.485	0.875
33	0.330	0.460	0.462	-0.461
34	0.350	0.420	0.418	0.398
35	0.400	0.320	0.326	-1.92
36	0.450	0.250		
37	0.500	0.200		
38	0.550	0.160		
39	0.600	0.130		
40	0.650	0.100		
41	0.700	0.0800		
42	0.750	0.0600		
43	0.800	0.0500		
44	0.833	0.0400		
45	0.867	0.0300		
46	0.900	0.0200		
47	0.933	0.0200		
48	1.00	0.0100		

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI SLUG TEST 1
CONDUCTIVITY: 41.21 ft/day	by: TRC ENVIRONMENTAL CONSULTANTS	Well: MW–7S
TRANSMISSIVITY: 353.2 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 6.140 ft	AQUIFER: Surficial	NEWPORT, RI
Data Set: MW7S1 / Date: 07–JAN–94	THICKNESS: 8.570	
	SCREEN: top: 4.430 base: 13.00	
	DIAMETER: casing: .3320 intake: .6660	
	DEPTH: Water Table: 4.430 TD: 13.00	

DATA SET: MW8R1

CLIENT:	US NAVY - NORTHERN DIVISION	DATE:	07-JAN-94
LOCATION:	NETC	WELL NO.:	MW-8R
COUNTY:	NEWPORT, RI	WELL DEPTH:	14.00 ft
PROJECT:	PHASE II RI SLUG TEST 1	WATER TABLE:	7.150 ft
AQUIFER:	Bedrock	THICKNESS:	6.85 ft
INTAKE RADIUS:	0.333 ft	CASING RADIUS:	0.166 ft
SCREEN TOP:	7.150 ft	SCREEN BASE:	14.00 ft
INITIAL HEAD:	5.160 ft	TRANS. RATIO:	1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 625. square ft/day

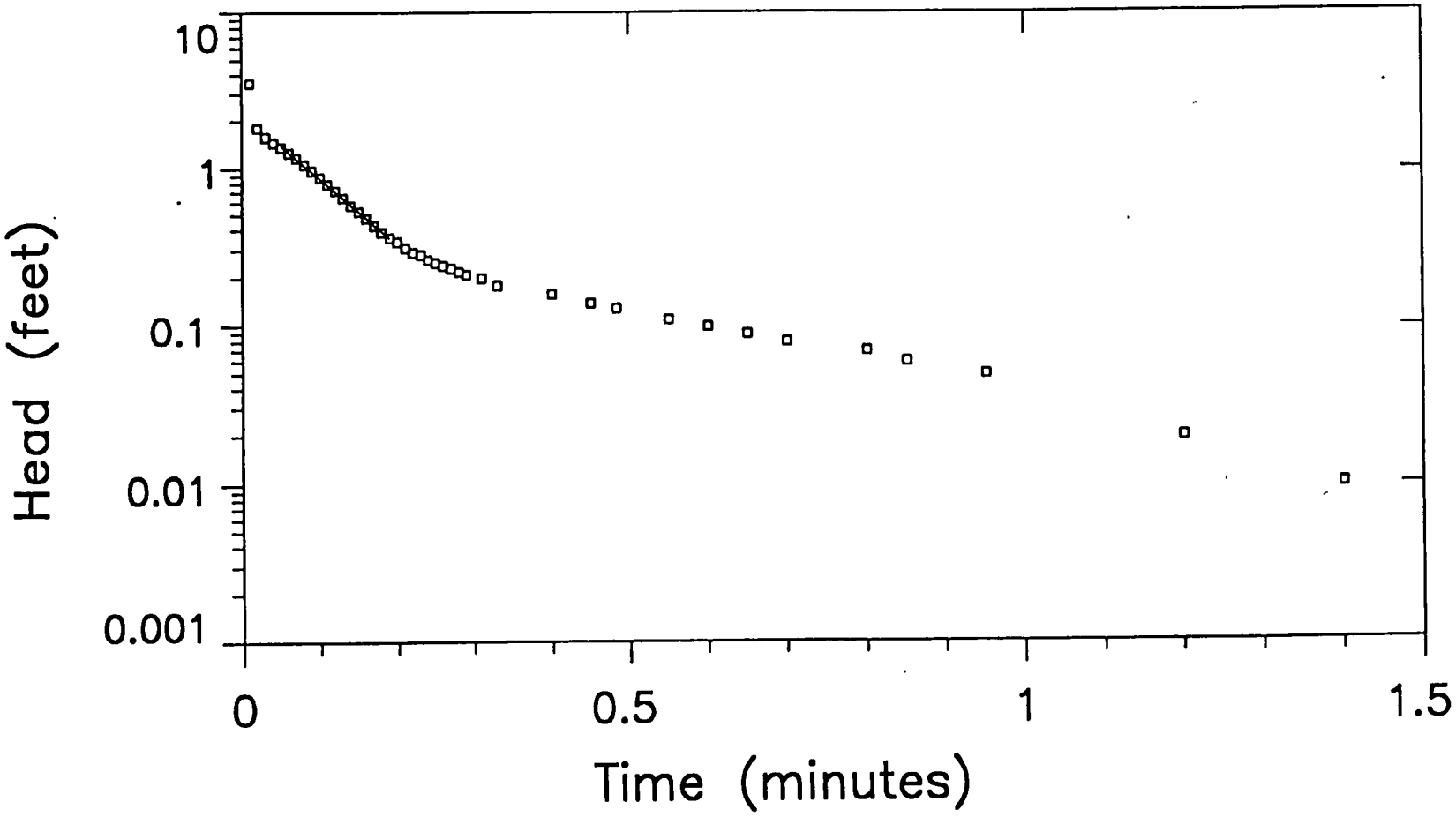
CONDUCTIVITY: 91.2 ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Rice)

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0100	3.52		
2	0.0200	1.81		
3	0.0300	1.59		
4	0.0400	1.46		
5	0.0500	1.37	1.41	-3.11
6	0.0600	1.26	1.28	-1.65
7	0.0700	1.17	1.16	0.735
8	0.0800	1.06	1.05	0.655
9	0.0900	0.970	0.954	1.56
10	0.100	0.880	0.865	1.61
11	0.110	0.800	0.784	1.87
12	0.120	0.720	0.711	1.14
13	0.130	0.650	0.645	0.714
14	0.140	0.580	0.585	-0.888
15	0.150	0.530	0.530	-0.107
16	0.160	0.480	0.481	-0.223
17	0.170	0.430	0.436	-1.44
18	0.180	0.390	0.395	-1.41
19	0.190	0.360	0.358	0.386
20	0.200	0.340		
21	0.210	0.310		
22	0.220	0.290		
23	0.230	0.280		

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
24	0.240	0.260		
25	0.250	0.250		
26	0.260	0.240		
27	0.270	0.230		
28	0.280	0.220		
29	0.290	0.210		
30	0.310	0.200		
31	0.330	0.180		
32	0.400	0.160		
33	0.450	0.140		
34	0.483	0.130		
35	0.550	0.110		
36	0.600	0.100		
37	0.650	0.0900		
38	0.700	0.0800		
39	0.800	0.0700		
40	0.850	0.0600		
41	0.950	0.0500		
42	1.20	0.0200		
43	1.40	0.0100		

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI SLUG TEST 1
CONDUCTIVITY: 91.23 ft/day	by: TRC ENVIRONMENTAL CONSULTANTS	Well: MW–8R
TRANSMISSIVITY: 624.9 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 5.160 ft	AQUIFER: Bedrock	NEWPORT, RI
Data Set: MW8R1 / Date: 07–JAN–94	THICKNESS: 6.850	
	SCREEN: top: 7.150 base: 14.00	
	DIAMETER: casing: .3320 intake: .6660	
	DEPTH: Water Table: 7.150 TD: 14.00	

DATA SET: MW9R1

CLIENT:	US NAVY - NORTHERN DIVISION	DATE:	13-JUL-94
LOCATION:	NETC	WELL NO.:	MW-9R
COUNTY:	NEWPORT, RI	WELL DEPTH:	15.00 ft
PROJECT:	PHASE II RI SLUG TEST 1	WATER TABLE:	6.770 ft
AQUIFER:	Bedrock	THICKNESS:	8.23 ft
INTAKE RADIUS:	0.333 ft	CASING RADIUS:	0.166 ft
SCREEN TOP:	5.000 ft	SCREEN BASE:	15.00 ft
INITIAL HEAD:	5.080 ft	TRANS. RATIO:	1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 168. square ft/day

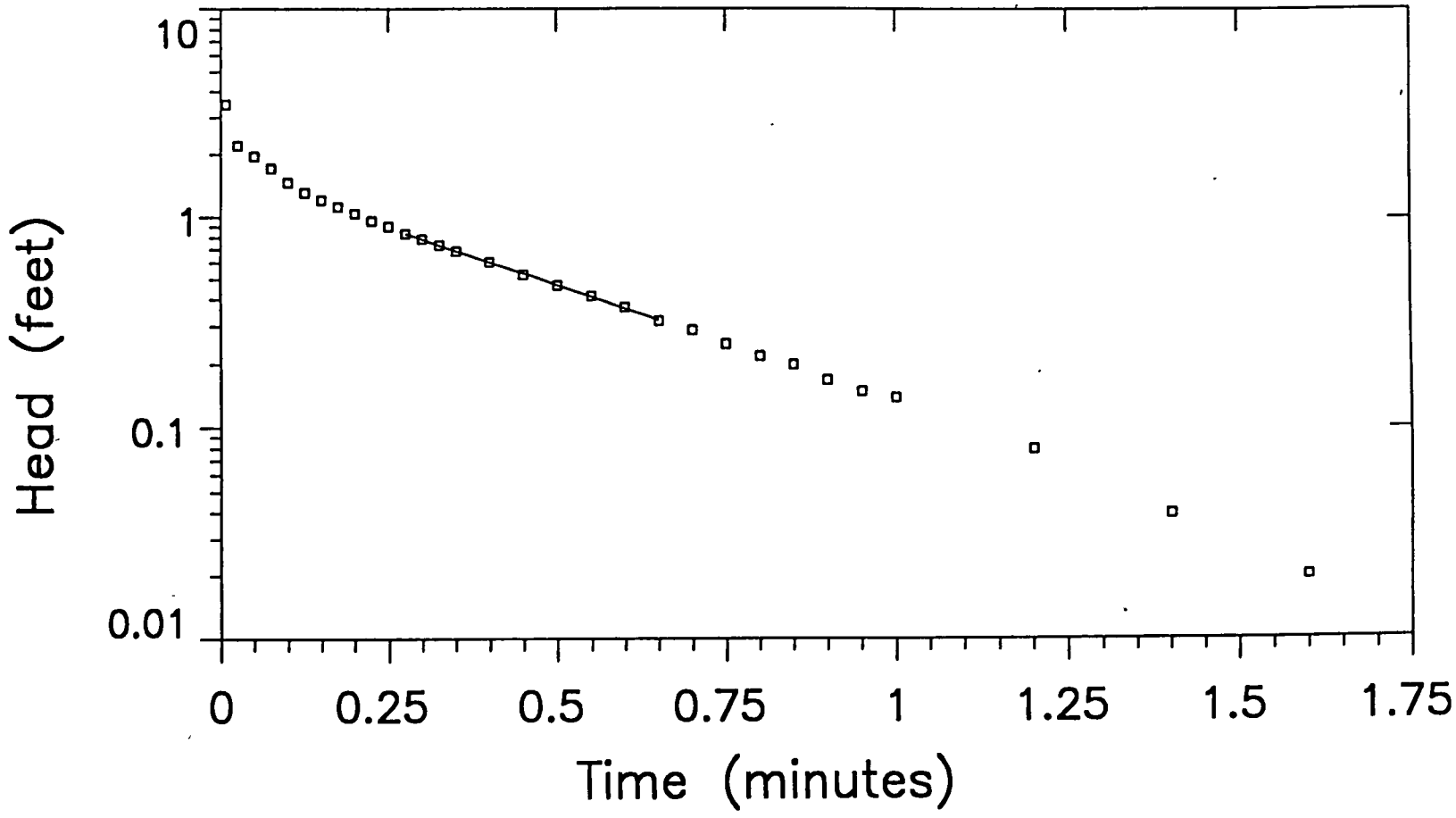
CONDUCTIVITY: 20.5 ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Rice)

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.00800	3.46		
2	0.0250	2.20		
3	0.0500	1.95		
4	0.0750	1.72		
5	0.100	1.47		
6	0.125	1.32		
7	0.150	1.22		
8	0.175	1.13		
9	0.200	1.05		
10	0.225	0.970		
11	0.250	0.910		
12	0.275	0.840	0.838	0.167
13	0.300	0.790	0.786	0.404
14	0.325	0.740	0.738	0.241
15	0.350	0.690	0.692	-0.379
16	0.400	0.610	0.609	0.0470
17	0.450	0.530	0.536	-1.26
18	0.500	0.470	0.472	-0.527
19	0.550	0.420	0.415	0.970
20	0.600	0.370	0.366	1.04
21	0.650	0.320	0.322	-0.721
22	0.700	0.290		
23	0.750	0.250		

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
24	0.800	0.220		
25	0.850	0.200		
26	0.900	0.170		
27	0.950	0.150		
28	1.00	0.140		
29	1.20	0.0800		
30	1.40	0.0400		
31	1.60	0.0200		

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI SLUG TEST 1
CONDUCTIVITY: 20.49 ft/day	by: TRC ENVIRONMENTAL CONSULTANTS	Well: MW–9R
TRANSMISSIVITY: 168.6 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 5.080 ft	AQUIFER: Bedrock	NEWPORT, RI
Data Set: MW9R1 / Date: 13–JUL–94	THICKNESS: 8.230	
	SCREEN: top: 5.000 base: 15.00	
	DIAMETER: casing: .3320 intake: .6660	
	DEPTH: Water Table: 6.770 TD: 15.00	

DATA SET: MW9R2

CLIENT:	US NAVY - NORTHERN DIVISION	DATE:	13-JUL-94
LOCATION:	NETC	WELL NO.:	MW-9R
COUNTY:	NEWPORT, RI	WELL DEPTH:	15.00 ft
PROJECT:	PHASE II RI SLUG TEST 2	WATER TABLE:	6.770 ft
AQUIFER:	Bedrock	THICKNESS:	8.23 ft
INTAKE RADIUS:	0.333 ft	CASING RADIUS:	0.166 ft
SCREEN TOP:	5.000 ft	SCREEN BASE:	15.00 ft
INITIAL HEAD:	5.690 ft	TRANS. RATIO:	1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 62.2 square ft/day

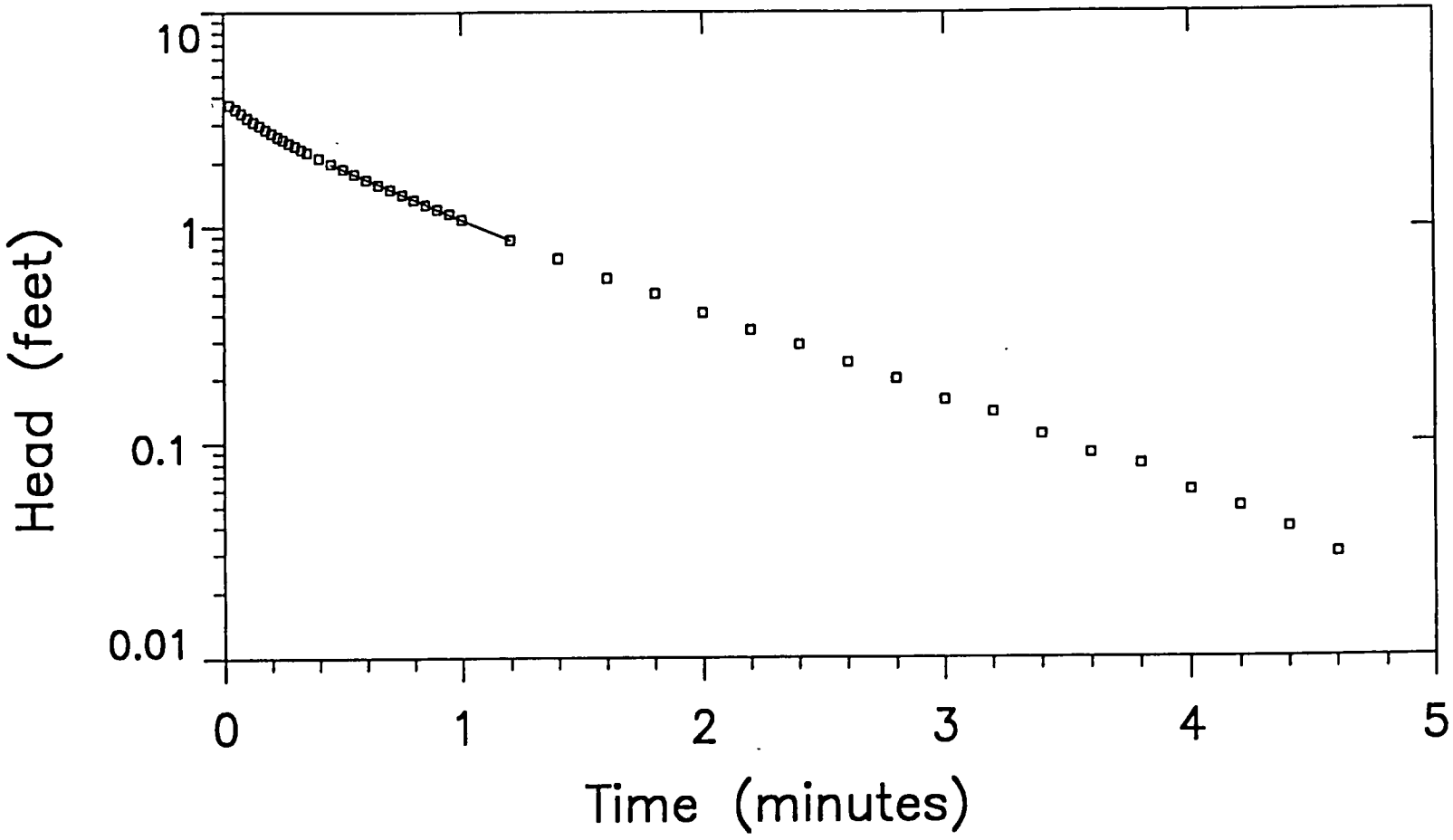
CONDUCTIVITY: 7.56 ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Rice)

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0250	3.69		
2	0.0500	3.52		
3	0.0750	3.37		
4	0.100	3.22		
5	0.125	3.09		
6	0.150	2.97		
7	0.175	2.85		
8	0.200	2.75		
9	0.225	2.65		
10	0.250	2.56		
11	0.275	2.47		
12	0.300	2.39		
13	0.325	2.31		
14	0.350	2.24		
15	0.400	2.10		
16	0.450	1.98	1.97	0.400
17	0.500	1.87	1.86	0.144
18	0.550	1.77	1.76	0.107
19	0.600	1.67	1.67	-0.249
20	0.650	1.58	1.58	-0.329
21	0.700	1.50	1.50	-0.0660
22	0.750	1.42	1.42	-0.0876
23	0.800	1.34	1.34	-0.428

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
24	0.850	1.27	1.27	-0.333
25	0.900	1.21	1.20	0.286
26	0.950	1.15	1.14	0.657
27	1.00	1.08	1.08	-0.161
28	1.20	0.870	0.869	0.0536
29	1.40	0.720		
30	1.60	0.590		
31	1.80	0.500		
32	2.00	0.410		
33	2.20	0.340		
34	2.40	0.290		
35	2.60	0.240		
36	2.80	0.200		
37	3.00	0.160		
38	3.20	0.140		
39	3.40	0.110		
40	3.60	0.0900		
41	3.80	0.0800		
42	4.00	0.0600		
43	4.20	0.0500		
44	4.40	0.0400		
45	4.60	0.0300		

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI SLUG TEST 2
CONDUCTIVITY: 7.561 ft/day	by: TRC ENVIRONMENTAL CONSULTANTS	Well: MW–9R
TRANSMISSIVITY: 62.23 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 5.690 ft	AQUIFER: Bedrock	NEWPORT, RI
Data Set: MW9R2 / Date: 13–JUL–94	THICKNESS: 8.230	
	SCREEN: top: 5.000 base: 15.00	
	DIAMETER: casing: .3320 intake: .6660	
	DEPTH: Water Table: 6.770 TD: 15.00	

DATA SET: MW10S2

CLIENT:	US NAVY - NORTHERN DIVISION	DATE:	13-JUL-94
LOCATION:	NETC	WELL NO.:	MW-10S
COUNTY:	NEWPORT, RI	WELL DEPTH:	12.00 ft
PROJECT:	PHASE II RI SLUG TEST 1	WATER TABLE:	6.690 ft
AQUIFER:	Surficial	THICKNESS:	5.31 ft
INTAKE RADIUS:	0.333 ft	CASING RADIUS:	0.166 ft
SCREEN TOP:	4.000 ft	SCREEN BASE:	12.00 ft
INITIAL HEAD:	1.270 ft	TRANS. RATIO:	1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 44.8 square ft/day

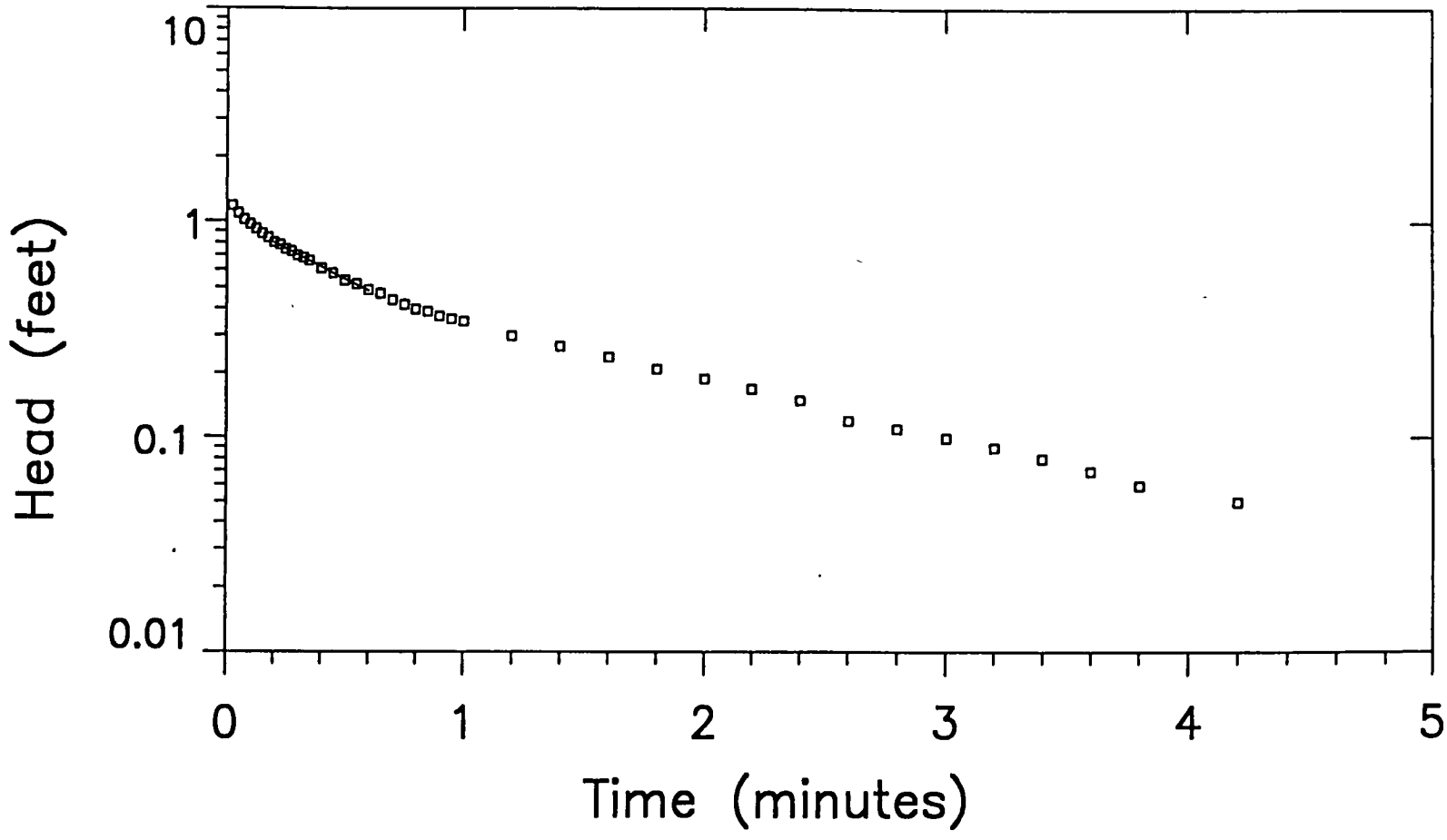
CONDUCTIVITY: 8.44 ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Rice)

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0250	1.18		
2	0.0500	1.09		
3	0.0750	1.02		
4	0.100	0.970		
5	0.125	0.920		
6	0.150	0.880		
7	0.175	0.840		
8	0.200	0.800	0.797	0.364
9	0.225	0.780	0.772	0.955
10	0.250	0.750	0.748	0.164
11	0.275	0.730	0.725	0.587
12	0.300	0.700	0.703	-0.481
13	0.325	0.680	0.681	-0.252
14	0.350	0.660	0.660	-0.110
15	0.400	0.610	0.620	-1.74
16	0.450	0.580	0.583	-0.525
17	0.500	0.540	0.547	-1.42
18	0.550	0.520	0.514	1.05
19	0.600	0.490	0.483	1.36
20	0.650	0.470		
21	0.700	0.440		
22	0.750	0.420		
23	0.800	0.400		

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
24	0.850	0.390		
25	0.900	0.370		
26	0.950	0.360		
27	1.00	0.350		
28	1.20	0.300		
29	1.40	0.270		
30	1.60	0.240		
31	1.80	0.210		
32	2.00	0.190		
33	2.20	0.170		
34	2.40	0.150		
35	2.60	0.120		
36	2.80	0.110		
37	3.00	0.100		
38	3.20	0.0900		
39	3.40	0.0800		
40	3.60	0.0700		
41	3.80	0.0600		
42	4.20	0.0500		

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI SLUG TEST 1
CONDUCTIVITY: 8.438 ft/day	by: TRC ENVIRONMENTAL CONSULTANTS	Well: MW–10S
TRANSMISSIVITY: 44.80 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 1.270 ft	AQUIFER: Surficial	NEWPORT, RI
Data Set: MW10S2 / Date: 13-JUL-94	THICKNESS: 5.310	
	SCREEN: top: 4.000 base: 12.00	
	DIAMETER: casing: .3320 intake: .6660	
	DEPTH: Water Table: 6.690 TD: 12.00	

DATA SET: MW11S1

CLIENT:	US NAVY - NORTHERN DIVISION	DATE:	07-JAN-94
LOCATION:	NETC	WELL NO.:	MW-11S
COUNTY:	NEWPORT, RI	WELL DEPTH:	9.00 ft
PROJECT:	PHASE II RI SLUG TEST 1	WATER TABLE:	4.070 ft
AQUIFER:	Surficial	THICKNESS:	4.93 ft
INTAKE RADIUS:	0.333 ft	CASING RADIUS:	0.166 ft
SCREEN TOP:	4.070 ft	SCREEN BASE:	9.00 ft
INITIAL HEAD:	2.030 ft	TRANS. RATIO:	1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 599. square ft/day

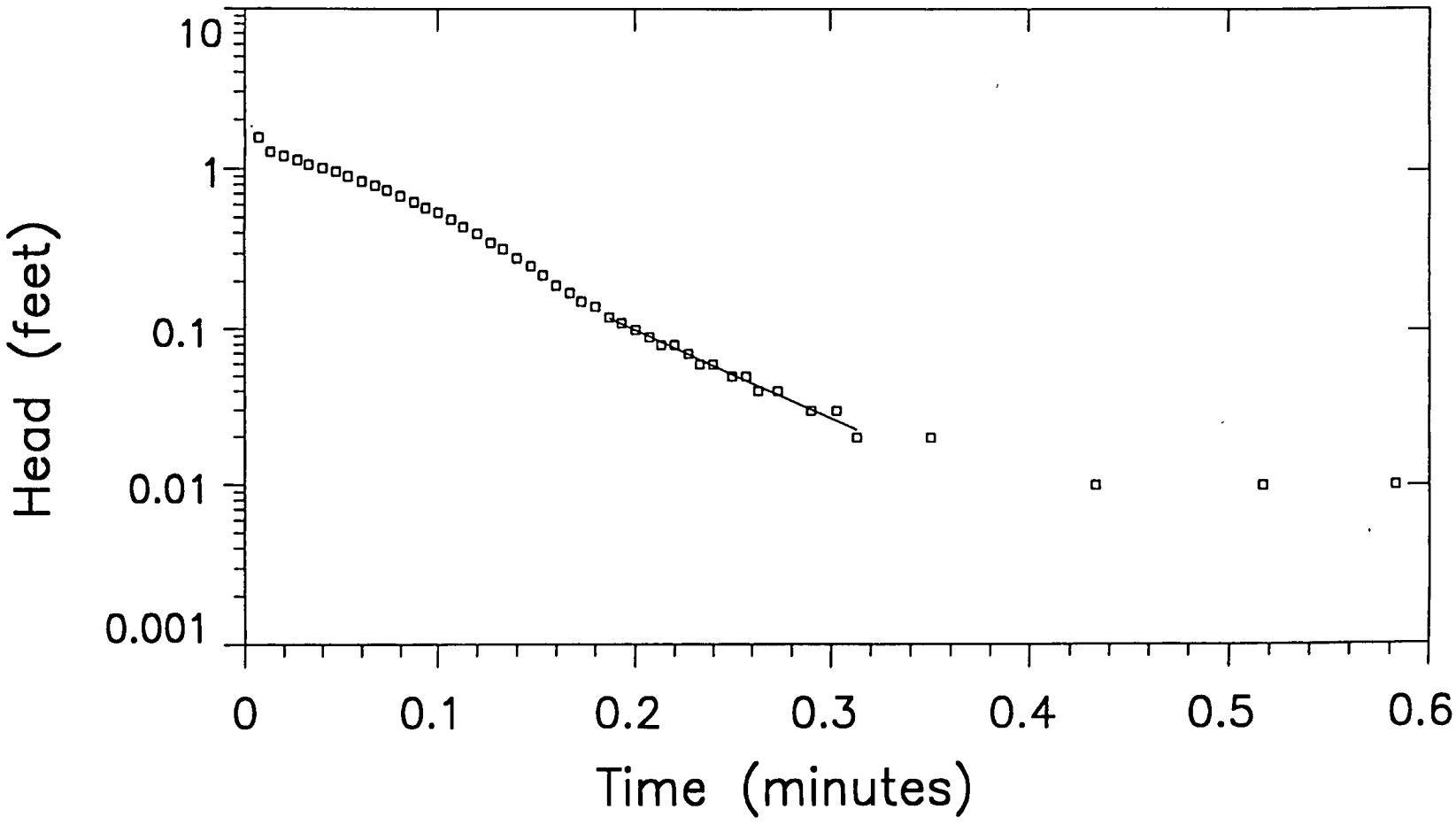
CONDUCTIVITY: 121. ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Rice)

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.00700	1.56		
2	0.0130	1.27		
3	0.0200	1.20		
4	0.0270	1.13		
5	0.0330	1.06		
6	0.0400	1.01		
7	0.0470	0.960		
8	0.0530	0.900		
9	0.0600	0.840		
10	0.0670	0.790		
11	0.0730	0.740		
12	0.0800	0.680		
13	0.0870	0.630		
14	0.0930	0.580		
15	0.100	0.540		
16	0.107	0.490		
17	0.113	0.440	0.442	-0.626
18	0.120	0.400	0.392	1.93
19	0.127	0.350	0.347	0.704
20	0.133	0.320	0.313	2.10
21	0.140	0.280	0.277	0.874
22	0.147	0.250	0.245	1.63
23	0.153	0.220	0.221	-0.755

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
24	0.160	0.190	0.196	-3.36
25	0.167	0.170	0.173	-2.34
26	0.173	0.150	0.156	-4.55
27	0.180	0.140	0.138	0.747
28	0.187	0.120	0.123	-2.59
29	0.193	0.110	0.110	-0.884
30	0.200	0.100	0.0983	1.68
31	0.207	0.0900	0.0871	3.21
32	0.213	0.0800	0.0785	1.85
33	0.220	0.0800		
34	0.227	0.0700		
35	0.233	0.0600		
36	0.240	0.0600		
37	0.250	0.0500		
38	0.257	0.0500		
39	0.263	0.0400		
40	0.273	0.0400		
41	0.290	0.0300		
42	0.303	0.0300		
43	0.313	0.0200		
44	0.350	0.0200		
45	0.433	0.0100		
46	0.517	0.0100		
47	0.583	0.0100		

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI SLUG TEST 1
CONDUCTIVITY: 114.4 ft/day	by: TRC ENVIRONMENTAL CONSULTANTS	Well: MW–11S
TRANSMISSIVITY: 564.4 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 2.030 ft	AQUIFER: Surficial	NEWPORT, RI
Data Set: MW11S1 / Date: 07–JAN–94	THICKNESS: 4.930	
	SCREEN: top: 4.070 base: 9.000	
	DIAMETER: casing: .3320 intake: .6660	
	DEPTH: Water Table: 4.070 TD: 9.000	

DATA SET: MW11R1

CLIENT: US NAVY - NORTHERN DIVISION
LOCATION: NETC
COUNTY: NEWPORT, RI
PROJECT: PHASE II RI SLUG TEST 1
AQUIFER: Bedrock
INTAKE RADIUS: 0.333 ft
SCREEN TOP: 16.000 ft
INITIAL HEAD: 12.970 ft

DATE: 07-JAN-94
WELL NO.: MW-11R
WELL DEPTH: 21.00 ft
WATER TABLE: 3.790 ft
THICKNESS: 17.21 ft
CASING RADIUS: 0.083 ft
SCREEN BASE: 21.00 ft
TRANS. RATIO: 1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 42.9 square ft/day

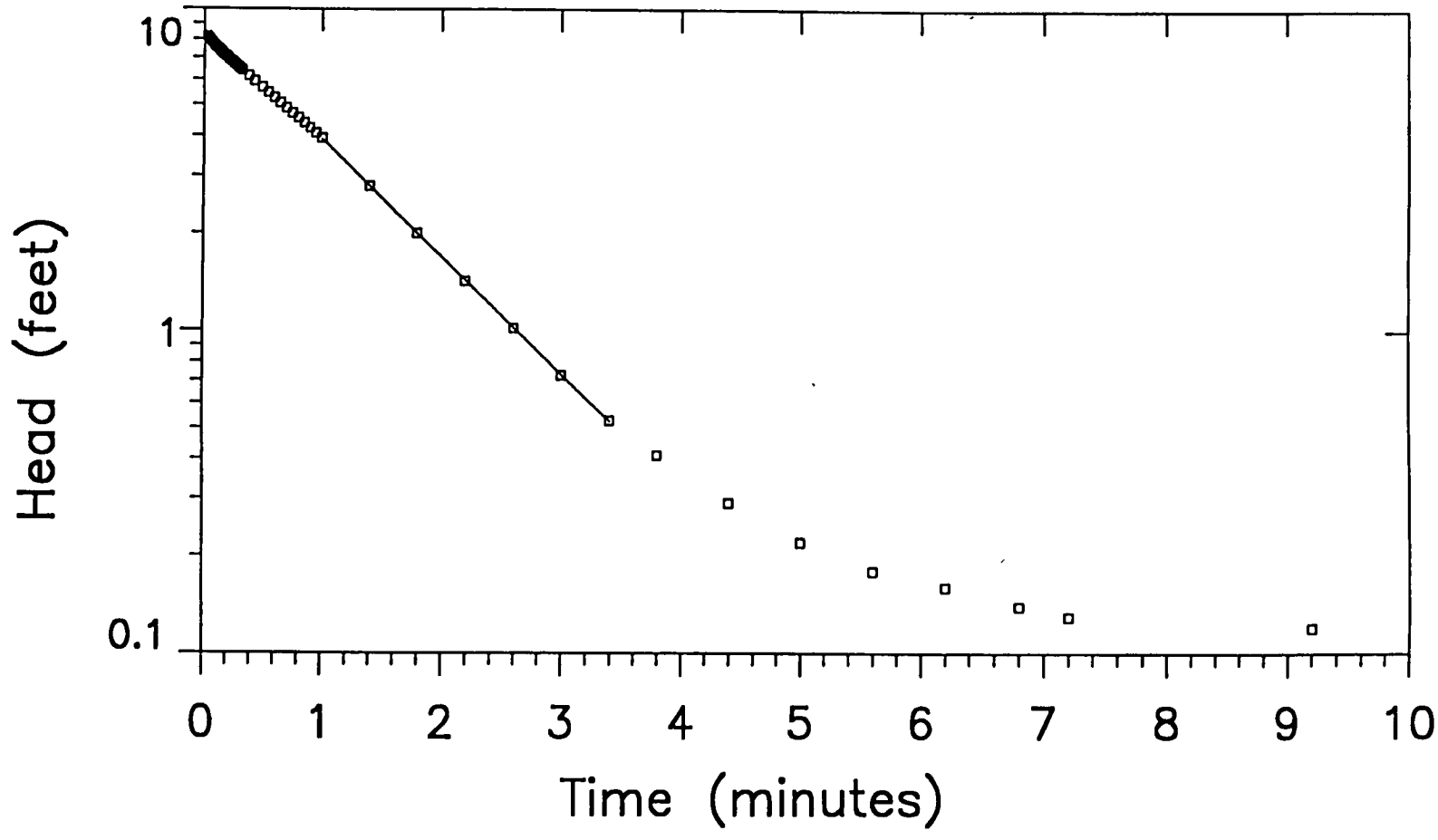
CONDUCTIVITY: 2.49 ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Ric)

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0270	8.16		
2	0.0400	8.07		
3	0.0500	7.97		
4	0.0600	7.89		
5	0.0700	7.81		
6	0.0800	7.73		
7	0.0900	7.66		
8	0.100	7.59		
9	0.110	7.53		
10	0.120	7.47		
11	0.130	7.40		
12	0.140	7.35		
13	0.150	7.29		
14	0.160	7.23		
15	0.170	7.17		
16	0.180	7.12		
17	0.190	7.07		
18	0.200	7.02		
19	0.210	6.97		
20	0.220	6.91		
21	0.230	6.86		
22	0.240	6.81		
23	0.250	6.76		

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
24	0.260	6.72		
25	0.270	6.67		
26	0.280	6.62		
27	0.290	6.57		
28	0.300	6.53		
29	0.310	6.48		
30	0.320	6.44		
31	0.330	6.39		
32	0.383	6.15		
33	0.433	5.94		
34	0.500	5.66		
35	0.550	5.46		
36	0.600	5.26		
37	0.650	5.08		
38	0.700	4.90		
39	0.750	4.72		
40	0.800	4.56		
41	0.850	4.39		
42	0.900	4.23		
43	0.950	4.08		
44	1.00	3.93	3.91	0.328
45	1.40	2.80	2.80	-0.0816
46	1.80	2.01	2.00	0.260
47	2.20	1.43	1.43	-0.294
48	2.60	1.02	1.02	-0.591
49	3.00	0.730	0.734	-0.551
50	3.40	0.530	0.525	0.920
51	3.80	0.410		
52	4.40	0.290		
53	5.00	0.220		
54	5.60	0.180		
55	6.20	0.160		
56	6.80	0.140		
57	7.20	0.130		
58	9.20	0.120		

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI SLUG TEST 1
CONDUCTIVITY: 2.492 ft/day	by: TRC ENVIRONMENTAL CONSULTANTS	Well: MW–11R
TRANSMISSIVITY: 42.88 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 12.97 ft	AQUIFER: Bedrock	NEWPORT, RI
Data Set: MW11R1 / Date: 07–JAN–94	THICKNESS: 17.21	
	SCREEN: top: 16.00 base: 21.00	
	DIAMETER: casing: .1660 intake: .6660	
	DEPTH: Water Table: 3.790 TD: 21.00	

DATA SET: MW11R2

CLIENT:	US NAVY - NORTHERN DIVISION	DATE:	07-JAN-94
LOCATION:	NETC	WELL NO.:	MW-11R
COUNTY:	NEWPORT, RI	WELL DEPTH:	21.00 ft
PROJECT:	PHASE II RI INJECTION TEST 2	WATER TABLE:	3.790 ft
AQUIFER:	Bedrock	THICKNESS:	17.21 ft
INTAKE RADIUS:	0.333 ft	CASING RADIUS:	0.083 ft
SCREEN TOP:	16.000 ft	SCREEN BASE:	21.00 ft
INITIAL HEAD:	4.350 ft	TRANS. RATIO:	1.0000

MODEL PARAMETERS:

TRANSMISSIVITY: 23.7 square ft/day

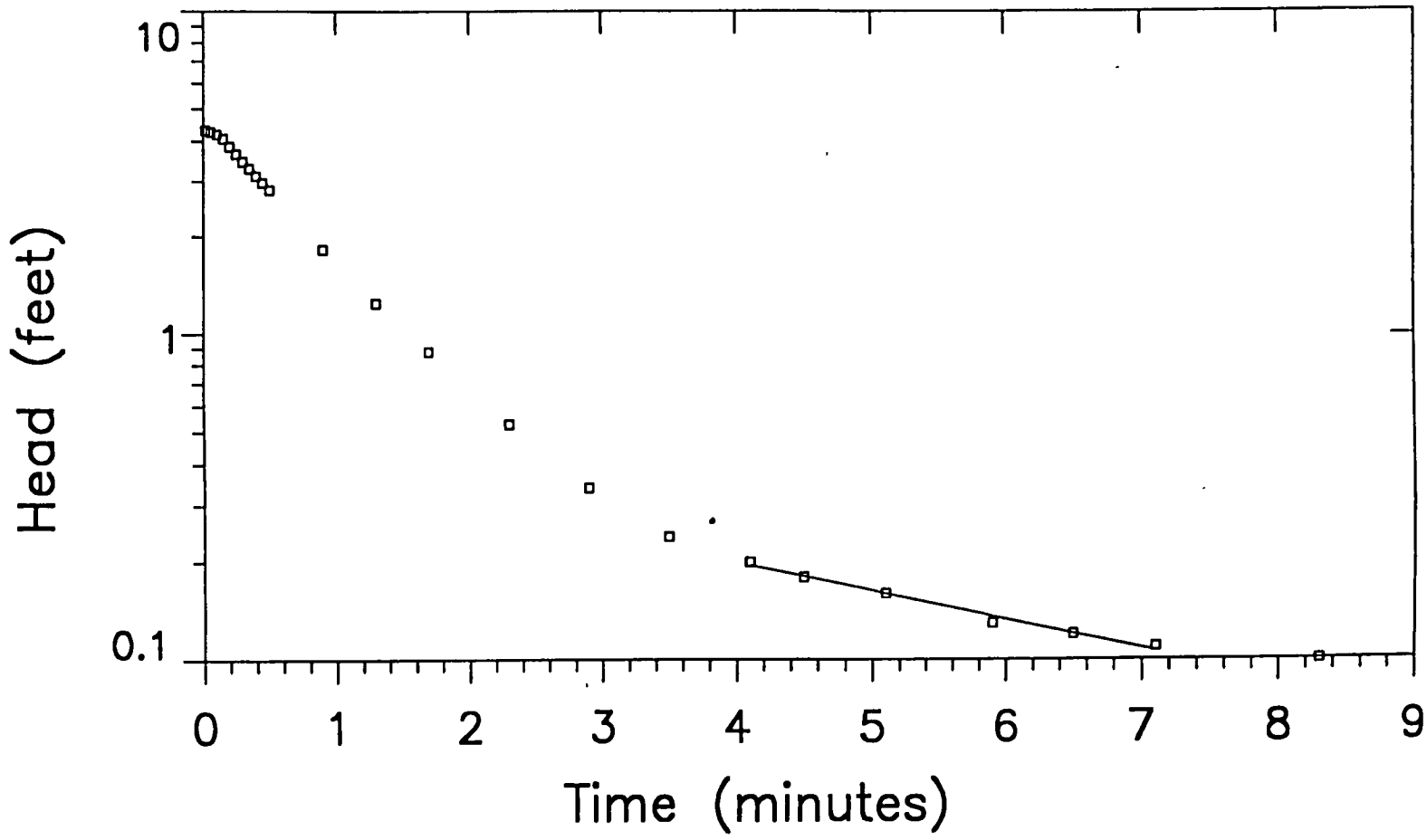
CONDUCTIVITY: 1.38 ft/day

MODEL TYPE: UNCONFINED PARTIALLY PENETRATED AQUIFER (Bouwer & Rice)

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
1	0.0170	4.30		
2	0.0550	4.26		
3	0.100	4.19		
4	0.150	4.07		
5	0.200	3.84		
6	0.250	3.64		
7	0.300	3.45		
8	0.350	3.28		
9	0.400	3.11		
10	0.450	2.96		
11	0.500	2.81		
12	0.900	1.83		
13	1.30	1.25		
14	1.70	0.880		
15	2.30	0.530		
16	2.90	0.340		
17	3.50	0.240		
18	4.10	0.200		
19	4.50	0.180		
20	5.10	0.160		
21	5.90	0.130		
22	6.50	0.120		
23	7.10	0.110		

No.	TIME (mins)	Head, H (ft) DATA	SYNTHETIC	DIFFERENCE (percent)
24	8.30	0.100		

CURRENT RESOLUTION MATRIIX NOT AVAILABLE



MODEL TYPE: BOUWER and RICE	for: US NAVY – NORTHERN DIVISION	PHASE II RI INJECTION TEST 2
CONDUCTIVITY: 1.379 ft/day	by: TRC ENVIRONMENTAL CONSULTANTS	Well: MW–11R
TRANSMISSIVITY: 23.74 sq. ft/day	WELL DATA: Units: ft	NETC
INITIAL HEAD: 4.350 ft	AQUIFER: Bedrock	NEWPORT, RI
Data Set: MW11R2 / Date: 07–JAN–94	THICKNESS: 17.21	
	SCREEN: top: 16.00 base: 21.00	
	DIAMETER: casing: .1660 intake: .6660	
	DEPTH: Water Table: 3.790 TD: 21.00	

APPENDIX I-3 NOAA PRECIPITATION DATA

COMPARATIVE CLIMATIC DATA

for the United States through 1992

noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE / NATIONAL CLIMATIC DATA CENTER ASHEVILLE, NC

APPENDIX I-4 EXAMPLE CALCULATIONS

EXAMPLE CALCULATION: Horizontal Hydraulic Gradients

- Horizontal hydraulic gradients are calculated as an intermediary step toward calculation of average linear ground water velocities. The horizontal hydraulic gradient is the change in water level elevation over horizontal difference (i.e., the "slope" of the ground water).

- Horizontal hydraulic gradients are calculated in a three step process:

a) Calculate the head difference between an up- and a down-gradient monitoring well. Note: These wells should preferably be screened within similar geologic units and be oriented such that a line drawn between the two wells would be perpendicular to ground water flow lines.

Example: MW-7S to MW-11S 1/4/94 Data

Head Difference = 6.48 - 3.78 (See Table 3-2)
= 2.7 ft

b) Measure the horizontal difference between the two data points.

MW-7S to MW-11S = 280 ft (See Figure 3-10)

c) Divide the head difference by the horizontal difference to obtain the horizontal hydraulic gradient.

$$\frac{2.7 \text{ ft}}{280 \text{ ft}} = 0.0096 \text{ ft/ft}$$

EXAMPLE CALCULATION: Vertical Hydraulic Gradients

- Vertical hydraulic gradients are calculated to assess the extent to which ground water will move in a vertical direction in the local vicinity of a ground water monitoring well cluster.

- Vertical hydraulic gradients are calculated in a three step procedure:

a) Calculate head difference between deep and shallow well by subtracting the shallow well (water table) head elevation from the deep (piezometric) well head elevation.

Example: MW-2S, 2R Cluster 1/4/94 Data

4.20 - 3.56 (See Table 3-2)
= 0.64 ft

b) Calculate vertical distance between the water table elevation in the shallow well and the elevation of the mid-point of the deep well screened interval. This distance represents the distance over which pressure changes occur.

Example: MW-2S Water Table Elevation = 3.56 feet (Table 3-2)

MW-2D Elevation of Mid-Point of Screened Interval

$$= \frac{(-21.34) + (-11.34)}{2} = -16.34 \quad \text{(Table 2-8)}$$

Vertical Distance = 3.56 - (-16.34) = 19.90 feet

c) Divide head difference by vertical distance to obtain the vertical hydraulic gradient:

$$\frac{0.64 \text{ ft}}{19.90 \text{ ft}} = 0.0322 \text{ ft/ft}$$

EXAMPLE CALCULATION: Average Linear Velocities

- Average linear velocities are calculated to assess ground water flow rates over geologic units.

- Average linear velocities are calculated using the following form of Darcy's Law:

$v = Ki/n$

where:

v = average linear velocity (ft/day)
i = horizontal hydraulic gradient (unitless or ft/ft)
K = hydraulic conductivity (ft/day)
n = effective porosity (unitless or volume voids/tot. vol.)

Example: MW-7S to MW-11S 1/4/94 Data

K = 81 ft/day	Calculated as the average K from slug tests conducted at MW-7S (41 ft/day) and at MW-11S (120 ft/day)
i = 0.0096	From Table 3-5 and as shown on example calculation sheet for horizontal hydraulic gradients
n = 0.25	Estimated value for geologic unit comprised of sand and silt

$$v = \frac{(81\ \text{ft/day})(0.0096\ \text{ft/ft})}{0.25} = \underline{3.1\ \text{ft/day}}$$

APPENDIX J

PHASE I AND II RI SAMPLE INDICES

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

APPENDIX J

- PHASE I AND II RI SAMPLE INDICES -

APPENDIX J-1 - PHASE I RI SAMPLE INDEX

APPENDIX J-2 - PHASE II RI SAMPLE INDEX

APPENDIX J-1

- PHASE I RI SAMPLE INDEX -

SITE 09 – FIRE FIGHTING TRAINING AREA
SAMPLE INDEX
PAGE 1 OF 2

SAMPLE NUMBER	DATE	TIME	MATRIX	DEPTH (FT)	ANALYSIS	SAMPLER	NOTES	WESTON BATCH NUMBER
FF-SS5-411	04/11/90	1315	SOIL	0-0.5	VOA, BNA, PEST/PCB, INORG, DIOXIN(ARCH)	JP/CG	SURFACE SOIL SAMPLE SS-5	9004-046-004
FF-SS4-411	04/11/90	1325	SOIL	0-0.5	VOA, BNA, PEST/PCB, INORG, DIOXIN(ARCH)	JP/CG	SURFACE SOIL SAMPLE SS-4	9004-046-003
FF-SS3-411	04/11/90	1345	SOIL	0-0.5	VOA, BNA, PEST/PCB, INORG, DIOXIN(ARCH)	JP/CG	SURFACE SOIL SAMPLE SS-3	9004-046-002
FF-SS6-411	04/11/90	1350	SOIL	0-0.5	VOA, BNA, PEST/PCB, INORG, DIOXIN(ARCH)	JP/CG	SURFACE SOIL SAMPLE SS-6	9004-046-005
FF-SS1-411	04/11/90	1410	SOIL	0-0.5	VOA, BNA, PEST/PCB, INORG, DIOXIN(ARCH)	JP/CG	SURFACE SOIL SAMPLE SS-1	9004-046-001
FF-TB-412	04/12/90	--	WATER	--	VOA		TRIP BLANK	9004-046-006
FF-B051-417	04/17/90	1640	SOIL	4-6	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-5 (4-6')	9004-114-003
FF-B052-417	04/17/90	1650	SOIL	6-8	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-5 (6-8')	9004-114-004
FF-B031-418	04/18/90	1030	SOIL	6-8	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-3 (6-8')	9004-115-013
FF-B032-418	04/18/90	1100	SOIL	8-10	VOA, BNA, PEST/PCB	CG/TM	SOIL BORING B-3 (8-10')	9004-115-014
FF-B033-418	04/18/90	1145	SOIL	12-14	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-3 (12-14')	9004-115-015
FF-B011-418	04/18/90	1450	SOIL	6-8	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-1 (6-8')	9004-115-016
FF-B021-418	04/18/90	1550	SOIL	2-4	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-2 (2-4')	9004-115-021
FF-B022-418	04/18/90	1715	SOIL	6-8	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-2 (6-8')	9004-115-022
FF-B023-418	04/18/90	1735	SOIL	8-10	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-2 (8-10')	9004-115-023
FF-B071-419	04/19/90	1245	SOIL	4-6	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-7 (4-6')	9004-133-005
FF-B072-419	04/19/90	1255	SOIL	6-8	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-7 (6-8')	9004-133-006
FF-B081-419	04/19/90	1515	SOIL	4-6	VOA, BNA, PEST/PCB	CG/TM	SOIL BORING B-8 (4-6')	9004-133-003
FF-B082-419	04/19/90	1710	SOIL	10-12	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-8 (10-12')	9004-133-004
FF-FB-419	04/19/90	0915	WATER	--	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	FELD BLANK	9004-133-001
FF-TB-419	04/19/90	--	WATER	--	VOA		TRIP BLANK	9004-115-012
FF-B041-420	04/20/90	915	SOIL	4-6	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-4 (4-6')	9004-133-016
FF-B042-420	04/20/90	1015	SOIL	10-12	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	SOIL BORING B-4 (10-12')	9004-133-017
FF-M21-423	04/23/90	925	SOIL	6-8	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	WELL BORING FOR MW-2 (6-8')	9004-168-002
FF-M22-423	04/23/90	945	SOIL	12-14	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	WELL BORING FOR MW-2 (12-14')	9004-168-003
FF-M31-424	04/24/90	825	SOIL	6-8	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	WELL BORING FOR MW-3 (6-8')	9004-188-001
FF-M32-424	04/24/90	915	SOIL	12-14	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	WELL BORING FOR MW-3 (12-14')	9004-188-002
FF-TB-424	04/24/90	--	WATER	--	VOA		TRIP BLANK	9004-168-004
FF-M51-425	04/25/90	1220	SOIL	8-10	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	WELL BORING FOR MW-5 (8-10')	9004-186-003
FF-M52-425	04/25/90	1250	SOIL	12-14	VOA, BNA, PEST/PCB, INORGANICS	CG/TM	WELL BORING FOR MW-5 (12-14')	9004-186-004
FF-SS2-425	04/25/90	1030	SOIL	0-0.5	VOA, BNA, PEST/PCB, INORG, DIOXIN(ARCH)	JP/MM	MS/MSD; (SAMPLE SPLIT WITH EPA)	9004-168-005

SITE 09 – FIRE FIGHTING TRAINING AREA
SAMPLE INDEX
PAGE 2 OF 2

SAMPLE NUMBER	DATE	TIME	MATRIX	DEPTH (FT)	ANALYSIS	SAMPLER	NOTES	WESTON BATCH NUMBER
FF-MW5-719	07/19/90	850	WATER	--	VOA, BNA, PEST/PCB, INORGANICS	JP/CG	GROUND WATER FROM MW-5	9007-121-006
FF-MW4-719	07/19/90	915	WATER	--	VOA, BNA, PEST/PCB, INORGANICS	JP/CG	GROUND WATER FROM MW-4	9007-121-003
FF-MW3-719	07/19/90	935	WATER	--	VOA, BNA, PEST/PCB, INORGANICS	JP/CG	GROUND WATER FROM MW-3	9007-121-005
FF-MW2-719	07/19/90	1005	WATER	--	VOA, BNA, PEST/PCB, INORGANICS	JP/CG	GROUND WATER FROM MW-2	9007-121-002
FF-MW1-719	07/19/90	1025	WATER	--	VOA, BNA, PEST/PCB, INORGANICS	JP/CG	GROUND WATER FROM MW-1	9007-121-001
FF-TB1-719	07/19/90	--	WATER	--	VOA		TRIP BLANK	9007-121-004
FF-TB2-719	07/19/90	--	WATER	--	VOA		TRIP BLANK	9007-121-007

APPENDIX J-2

- PHASE II RI SAMPLE INDEX -

SOIL SAMPLE INDEX
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
NETC NEWPORT
PHASE II - REMEDIAL INVESTIGATION

SAMPLE ID	MATRIX	DATE SAMPLED	TIME	INTERVAL	ANALYSIS								LAB	SDG #
					TCL VOC	TCL BNA	TCL Pest/ PCB	TAL Metals	Cyanide	TOC	Grain Size	Cation Exchange		
Begin Surface Soil Sampling														
MP-FB-110293 (Field Blank)	Water	11/02/93	1400	-	X	X	X	X	X				ENSECO	31384
FF-SS12-110393	Soil	11/03/93	0850	0 5-1.0'	X								ENSECO	31384
				0 0-0.25'		X	X	X	X					
FF-SS13-110393	Soil	11/03/93	0915	0.5-1.0'	X								ENSECO	31384
				0.0-0.25'		X	X	X	X					
FF-SS14-110393	Soil	11/03/93	0940	0.5-1.0'	X								ENSECO	31384
				0.0-0.25'		X	X	X	X					
FF-SS15-110393	Soil	11/03/93	1005	0.5-1 0'	X								ENSECO	31384
				0.0-0.25'		X	X	X	X					
FF-SS16-110393	Soil	11/03/93	1035	0.5-1.0'	X								ENSECO	31384
				0 0-0.25'		X	X	X	X					
FF-SS17-110393	Soil	11/03/93	1100	0.5-1.0'	X								ENSECO	31384
				0.0-0.25'		X	X	X	X					
FF-SS18-110393	Soil	11/03/93	1120	0 5-1.0'	X								ENSECO	31384
				0.0-0.25'		X	X	X	X					
FF-SS19-110393	Soil	11/03/93	1200	0.5-1.0'	X								ENSECO	31384
				0 0-0.25'		X	X	X	X					
FF-SS20-110393	Soil	11/03/93	1225	0.5-1.0'	X								ENSECO	31384
				0.0-0.25'		X	X	X	X					
FF-FB-110393 Field Blank)	Water	11/03/93	1515	-	X	X	X	X	X				ENSECO	31384
FF-TB-110393 (Trip Blank)	Water	11/03/93	-	-	X								ENSECO	31384
FF-SS21-110393	Soil	11/04/93	0805	0.5-1.0'	X								ENSECO	31390
				0.0-0.25'		X	X	X	X					

SOIL SAMPLE INDEX
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
NETC NEWPORT
PHASE II - REMEDIAL INVESTIGATION

SAMPLE ID	MATRIX	DATE SAMPLED	TIME	INTERVAL	ANALYSIS								LAB	SDG #
					TCL VOC	TCL BNA	TCL Pest/ PCB	TAL Metals	Cyanide	TOC	Grain Size	Cation Exchange		
FF-SS22-110393	Soil	11/04/93	0830	0.5-1.0'	X								ENSECO	31390
				0.0-0.25'		X	X	X	X					
FF-SS23-110393	Soil	11/04/93	0850	0 5-1.0'	X								ENSECO	31390
				0.0-0.25'		X	X	X	X					
FF-SS24-110393	Soil	11/04/93	0905	0 0-0 25'		X	X	X					ENSECO	31390
FF-SS25-110393	Soil	11/04/93	0925	0.0-0.25'		X	X	X					ENSECO	31390
FF-SS26-110393	Soil	11/04/93	0950	0 0-0.25'		X	X	X					ENSECO	31390
FF-SS27-110393	Soil	11/04/93	1200	0.5-1.0'	X								ENSECO	31390
				0.0-0 25'		X	X	X	X					
FF-SS28-110393	Soil	11/04/93	1020	0.0-0 25'		X	X	X					ENSECO	31390
FF-SS29-110393	Soil	11/04/93	1045	0.5-1.0'	X								ENSECO	31390
				0.0-0 25'		X	X	X	X					
FF-SS30-110393	Soil	11/04/93	1125	0.5-1.0'	X								ENSECO	31390
				0.0-0.25'		X	X	X	X					
FF-SS31-110393	Soil	11/04/93	1200	0 5-1.0'	X								ENSECO	31390
				0.0-0.25'		X	X	X	X					
FF-SS35-110393 (Duplicate of FF-SS27)	Soil	11/04/93	1305	0.5-1.0'	X								ENSECO	31390
				0.0-0.25'		X	X	X	X					
FF-TB-110493 (Trip Blank)	Water	11/04/93	-	-	X								ENSECO	31390

SOIL SAMPLE INDEX
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
NETC NEWPORT
PHASE II - REMEDIAL INVESTIGATION

SAMPLE ID	MATRIX	DATE SAMPLED	TIME	INTERVAL	ANALYSIS								LAB	SDG #
					TCL VOC	TCL BNA	TCL Pest/ PCB	TAL Metals	Cyanide	TOC	Grain Size	Cation Exchange		
Begin Soil and Well Boring Sampling														
FF-B81-112293	Soil	11/22/93	0935	0-1'	X	X	X	X	X				ENSECO	31806
FF-B82-112293	Soil	11/22/93	1255	8-10'	X	X	X	X	X				ENSECO	31806
FF-B91-112393	Soil	11/23/93	0840	0-1'	X	X	X	X	X				ENSECO	31806
FF-B131-112393	Soil	11/23/93	1300	0-1'	X	X	X	X	X				ENSECO	31806
FF-B132-112393	Soil	11/23/93	1305	4-6'	X	X	X	X	X				ENSECO	31806
FF-B161-112393	Soil	11/23/93	0930	0-1'	X	X	X	X	X				ENSECO	31806
FF-B162-112393	Soil	11/23/93	0941	2-4'	X	X	X	X	X				ENSECO	31806
FF-B163-112393	Soil	11/23/93	0955	6-8'	X								ENSECO	31806
FF-B164-112393 (Duplicate of B161)	Soil	11/23/93	1030	0-1'	X	X	X	X	X				ENSECO	31806
FF-B181-112393	Soil	11/23/93	0810	0-1'	X	X	X	X	X				ENSECO	31806
FF-B101-112393	Soil	11/23/93	1420	0-1'	X	X	X	X	X				ENSECO	31813
FF-FB112393 (Field Blank)	Water	11/23/93	1230	-	X	X	X	X	X				ENSECO	31806
FF-TB112393 (Trip Blank)	Water	11/23/93	-	-	X								ENSECO	31806
FF-B111-112493	Soil	11/24/93	0805	0-1'	X	X	X	X	X				ENSECO	31813
FF-B112-112493	Soil	11/24/93	0815	4-6'	X	X	X	X	X				ENSECO	31813
FF-B121-112493	Soil	11/24/93	0812	0-1'	X	X	X	X	X				ENSECO	31813

SOIL SAMPLE INDEX
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
NETC NEWPORT
PHASE II - REMEDIAL INVESTIGATION

SAMPLE ID	MATRIX	DATE SAMPLED	TIME	INTERVAL	ANALYSIS								LAB	SDG #
					TCL VOC	TCL BNA	TCL Pest/ PCB	TAL Metals	Cyanide	TOC	Grain Size	Cation Exchange		
FF-B122-112493	Soil	11/24/93	0822	2-4'	X	X	X	X	X				ENSECO	31813
FF-B171-112493	Soil	11/24/93	0717	0-1'	X	X	X	X	X				ENSECO	31813
FF-B172-112493	Soil	11/24/93	0720	2-4'	X	X	X	X	X				ENSECO	31813
FF-TB112493 (Trip Blank)	Water	11/24/93	-	-	X								ENSECO	31813
FF-M111-112993	Soil	11/29/93	1020	0-1'	X	X	X	X	X				ENSECO	31875
FF-M112-112993	Soil	11/29/93	1030	2-4'	X	X	X	X	X				ENSECO	31875
FF-M71-112993	Soil	11/29/93	1311	0-1'	X	X	X	X	X				ENSECO	31875
FF-M72-112993	Soil	11/29/93	1316	2-4'	X	X	X	X	X				ENSECO	31875
FF-M73-112993	Soil	11/29/93	1336	10-12'						X	X	X	ENSECO	31875
FF-M101-112993	Soil	11/29/93	0830	0-1'	X	X	X	X	X				ENSECO	31875
FF-M102-112993	Soil	11/29/93	0850	4-6'	X	X	X	X	X				ENSECO	31875
FF-M103-112993	Soil	11/29/93	0855	10-12'						X	X	X	ENSECO	31875
FF-M61-113093	Soil	11/30/93	0800	0-1'	X	X	X	X	X				ENSECO	31875
FF-M62-113093	Soil	11/30/93	0830	4-6'	X	X	X	X	X				ENSECO	31875
FF-M81-113093	Soil	11/30/93	0800	0-1'	X	X	X	X	X				ENSECO	31875
FF-FB113093 (Field Blank)	Water	11/30/93	0845	-	X	X	X	X	X				ENSECO	31875
FF-SWB113093 (Source Water Blank)	Water	11/30/93	0830	-	X	X	X	X	X				ENSECO	31875

SOIL SAMPLE INDEX
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
NETC NEWPORT
PHASE II - REMEDIAL INVESTIGATION

SAMPLE ID	MATRIX	DATE SAMPLED	TIME	INTERVAL	ANALYSIS								LAB	SDG #
					TCL VOC	TCL BNA	TCL Pest/ PCB	TAL Metals	Cyanide	TOC	Grain Size	Cation Exchange		
FF-TB113093 (Trip Blank)	Water	11/30/93	-	-	X								ENSECO	31875
FF-M91-120193	Soil	12/01/93	0720	0-1'	X	X	X	X	X				ENSECO	31915
FF-M92-120193	Soil	12/01/93	0740	2-4'	X								ENSECO	31915
FF-M93-120193 (Duplicate of FF-M91))	Soil	12/01/93	0800	0-1'	X	X	X	X	X				ENSECO	31915
FF-M63-120193	Soil	12/01/93	1127	4-6'						X	X	X	ENSECO	32060
FF-TB120193 (Trip Blank)	Water	12/01/93	-	-	X								ENSECO	31915
FF-B141-121393	Soil	12/13/93	1150	0-1'	X	X	X	X	X				ENSECO	32184
FF-B142-121393	Soil	12/13/93	1000	15-17'	X	X	X	X	X				ENSECO	32184
FF-B151-121393	Soil	12/13/93	1315	0-1'	X	X	X	X	X				ENSECO	32184
FF-B152-121393	Soil	12/13/93	1410	10-12'	X	X	X	X	X				ENSECO	32184
FF-B153-121393	Soil	12/13/93	1425	15-17'	X	X	X	X	X				ENSECO	32184
TB-121393 (Trip Blank)	Water	12/14/93	-	-	X								ENSECO	32184

SOIL SAMPLE INDEX
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
NETC NEWPORT
PHASE II - REMEDIAL INVESTIGATION

SAMPLE ID	MATRIX	DATE SAMPLED	TIME	INTERVAL	ANALYSIS								LAB	SDG #
					TCL VOC	TCL BNA	TCL Pest/ PCB	TAL Metals	Cyanide	TOC	Grain Size	Cation Exchange		
Begin Test Pit Sampling														
FF-TP11-011194	Soil	1/11/94	1415	-	X	X	X	X	X	(Also GC Petroleum ID)			WESTON	9401L245
FF-TP12-011194	Soil	1/11/94	1425	-	X	X	X	X	X				WESTON	9401L245
FF-TP13-011194	Soil	1/11/94	1440	-	X	X	X	X	X				WESTON	9401L245
FF-TP21-011194	Soil	1/11/94	1135	-	X	X	X	X	X				WESTON	9401L245
FF-TP22-011194	Soil	1/11/94	1210	-	X	X	X	X	X				WESTON	9401L245
FF-TP23-011194	Soil	1/11/94	1440	-	X	X	X	X	X				WESTON	9401L245
FF-TP31-011194	Soil	1/11/94	1430	-	X	X	X	X	X				WESTON	9401L245
FF-TP32-011194	Soil	1/11/94	1515	-	X	X	X	X	X				WESTON	9401L245
FF-TP33-011194	Soil	1/11/94	1520	-	X	X	X	X	X				WESTON	9401L245
FB-011194 (Field Blank)	Water	1/11/94	1400	-	X	X	X	X	X				WESTON	9401L245
TB-011294 (Trip Blank)	Water	1/12/94	-	-	X								WESTON	9401L245

GROUND WATER SAMPLE INDEX
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
NETC NEWPORT
PHASE II - REMEDIAL INVESTIGATION

SAMPLE ID	MATRIX	DATE SAMPLED	TIME	ANALYSIS									LAB	SDG #
				TCL VOC	TCL BNA	TCL Pest/ PCB	TAL Metals	Cyanide	Total Chloride	TSS	BOD	COD		
Begin Storm Sewer Sampling														
FF-ST1	Water	12/06/93	1620	X	X	X	X	X					ENSECO	32060
FF-ST2	Water	12/06/93	1520	X	X	X	X	X					ENSECO	32060
TB-120793 (Trip Blank)	Water	12/07/93	-	X									ENSECO	32060
Begin Ground Water Sampling														
FF-MW-3S	Water	01/04/94	1105	X	X	X	X	X	X				WESTON	9401L166
FF-MW-4S	Water	01/04/94	1030	X	X	X	X	X	X	X	X	X	WESTON	9401L166
FF-MW-4SF (Filtered Sample)	Water	01/04/94	1030				X						WESTON	9401L166
FF-MW-7S	Water	01/04/94	1130	X	X	X	X	X	X	X	X	X	WESTON	9401L166
FF-MW-7SF (Filtered Sample)	Water	01/04/94	1130				X						WESTON	9401L166
TB-010494 (Trip Blank)	Water	-	-	X									WESTON	9401L166
FF-MW-11S	Water	01/05/94	1035	X	X	X	X	X	X				WESTON	9401L176
FF-MW-11R	Water	01/05/94	1120	X	X	X	X	X	X				WESTON	9401L176
FF-MW-12S (Duplicate of MW-11S)	Water	01/05/94	1230	X	X	X	X	X	X				WESTON	9401L176
FF-MW-2S	Water	01/05/94	1155	X	X	X	X	X	X	X	X	X	WESTON	9401L175

GROUND WATER SAMPLE INDEX
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
NETC NEWPORT
PHASE II - REMEDIAL INVESTIGATION

SAMPLE ID	MATRIX	DATE SAMPLED	TIME	ANALYSIS									LAB	SDG #
				TCL VOC	TCL BNA	TCL Pest/ PCB	TAL Metals	Cyanide	Total Chloride	TSS	BOD	COD		
FF-MW-2SF (Filtered Sample)	Water	01/05/94	1155				X						WESTON	9401L175
FF-MW-2D (MS/MSD)	Water	01/05/94	1445	X	X	X	X	X	X	X	X	X	WESTON	9401L177
FF-MW-2DF (Filtered Sample)	Water	01/05/94	1445				X						WESTON	9401L177
FB-010594 (Field Blank)	Water	01/05/94	1415	X	X	X	X	X	X				WESTON	9401L176
TB-010594 (Trip Blank)	Water	01/05/94	-	X									WESTON	9401L177
FF-MW-1S	Water	01/06/94	0935	X	X	X	X	X	X				WESTON	9401L191
FF-MW-5S	Water	01/06/94	1105	X	X	X	X	X	X				WESTON	9401L191
FF-MW-6S	Water	01/06/94	1335	X	X	X	X	X	X				WESTON	9401L191
FF-MW-6R	Water	01/06/94	1310	X	X	X	X	X	X				WESTON	9401L191
FF-MW-8R	Water	01/05/94	1130	X	X	X	X	X	X	X	X	X	WESTON	9401L191
FF-MW-8RF (Filtered Sample)	Water	01/05/94	1130				X						WESTON	9401L191
FF-MW-9R	Water	01/06/94	1335	X	X	X	X	X	X				WESTON	9401L191
FF-MW-10S	Water	01/06/94	1310	X	X	X	X	X	X				WESTON	9401L191
TB-010694 (Trip Blank)	Water	01/06/94	-	X									WESTON	9401L191

APPENDIX K

PHASE I AND II RI ANALYTICAL HITS TABLE

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

APPENDIX K

- PHASE I RI ANALYTICAL HITS TABLES -

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN SURFACE SOIL SAMPLES

SAMPLE IDENTIFICATION:	SS-01	SS-02	SS-03	SS-04	SS-05	SS-06	FB-041290	TB-041290
**** VOLATILE ORGANICS (PPB) ***								
METHYLENE CHLORIDE.....	10 U*	14 U*	24 U*	11 U*	13 U*	12 U*	7 B	8 B
ACETONE.....		12 U**	10 U**	10 U**	10 U**		5 J	11
CARBON DISULFIDE.....								
CHLOROFORM.....								
2-BUTANONE.....								
TETRACHLOROETHENE.....		2 J						
TOLUENE.....								
ETHYLBENZENE.....								
XYLENE.....								
TOTAL VOLATILE ORGANICS....	0	2	0	0	0	0	12	19
** BASE NEUTRAL / ACIDS (PPB) **								
PHENOL.....								N/A
BENZOIC ACID.....								|
NAPHTHALENE.....@						480 J		|
2-METHYLNAPHTHALENE.....@								|
ACENAPHTHYLENE.....@								|
ACENAPHTHENE.....@						940 J		|
DIBENZOFURAN.....						650 J		|
FLUORENE.....@						1200 J		|
PHENANTHRENE.....@	83 J	350 J		250 J	100 J	7200		|
ANTHRACENE.....@						1500 J		|
DI-N-BUTYLPHTHALATE.....								|
FLUORANTHENE.....@	97 J	250 J	44 J	290 J	180 J	8000		|
PYRENE.....@	160 J	480		300 J	190 J	5700 J*		|
BUTYLBENZYLPHTHALATE.....								|
BENZO(a)ANTHRACENE.....@@		150 J		130 J	76 J	3300		|
CHRYSENE.....@@		170 J		110 J	78 J	2800		|
BIS(2-ETHYLHEXYL)PHTHALATE.	590 *	450 U**		340 U*				|
BENZO(b)FLUORANTHENE.....@@		130 J		120 J	65 J	2800		|
BENZO(k)FLUORANTHENE.....@@		91 J		110 J		3100		|
BENZO(a)PYRENE.....@@		130 J		120 J	61 J	2700		|
INDENO(1,2,3-cd)PYRENE.....@@								|
DIBENZO(a,h)ANTHRACENE.....@@								|
BENZO(g,h,i)PERYLENE.....@								N/A
TOTAL BNA'S.....	930	1751	44	1430	750	40370	0	
TOTAL PAH'S.....	340	1751	44	1430	750	39720	0	
TOTAL CARCINOGENIC PAH'S...	0	671	0	590	280	14700	0	

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
**- INDICATES THAT THE CONTAMINANT VALUE HAS CHANGED ACCORDING TO DATA VALIDATION.
@ - INDICATES THAT THE COMPOUND IS A POLYNUCLEAR AROMATIC HYDROCARBON (PAH).
@@ - INDICATES THAT THE COMPOUND IS A CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBON.
N/A - INDICATES THAT THE COMPOUNDS WERE NOT ANALYZED FOR.

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN SURFACE SOIL SAMPLES

SAMPLE IDENTIFICATION:	SS-01	SS-02	SS-03	SS-04	SS-05	SS-06	FB-041290	TB-041290
**** PESTICIDES/PCB'S (PPB) ****								
4,4'-DDE.....	7.3 J	7.2 J	8.1 J	2.9 J	3.7 J			N/A
4,4'-DDT.....	8.3 J	8.8 U*	6.3 J	8.8 J	3.7 J	2.3 J		|
AROCLOR-1254.....	80 J							N/A
******* INORGANICS (PPM) *******								
SILVER.....		0.68 J*						N/A
ALUMINUM.....	8800	6080	8730	5070	10500	10600		|
ARSENIC.....	6.2	5.1 J*	5.5	2	5.8	8.9		|
BARIUM.....	25.8	18.7	21.8	21.7	28.3	8		|
BERYLLIUM.....	0.47		0.41		0.48	0.39		|
CALCIUM.....	1100	673	540	21000	1480	1870	0.19 B1	|
CADMIUM.....				0.94				|
COBALT.....	7.5	5.7	7.1	4.7	9.3	20		|
CHROMIUM.....	15.9	6.8	18.8	8.8	16.7	16.4		|
COPPER.....	27.1	11.2	16.8	15.4	23	44.3		|
IRON.....	17400	10100	14500	10300	17800	35600		|
MERCURY.....				0.17				|
POTASSIUM.....	261	229	247	442	503	424		|
MAGNESIUM.....	1480	917	1530	7340	1820	5010		|
MANGANESE.....	249	174	185	174	251	750		|
SODIUM.....	60.8 U*	49	47.6 U*	93.6 U*	91.9 U*	907	0.198	|
NICKEL.....	12.3	5.4	10.9	7	12.8	25.6		|
LEAD.....	52.5	19	21		28.1	77.8		|
ANTIMONY.....						5.6		|
SELENIUM.....	0.53						0.0022	|
VANADIUM.....	24.5	9.8	19.5	19.3	27.4	36.3		|
ZINC.....	80.1	26.2	32.4	34.5	70.4	142	0.0111	|
CYANIDE.....								N/A

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
N/A - INDICATES THAT THE COMPOUNDS WERE NOT ANALYZED FOR.

TABLE 1

SITE 09 - OLD FIRE FIGHTING TRAINING AREA
CONSTITUENTS DETECTED IN SURFACE SOIL SAMPLES

SAMPLE IDENTIFICATION:	SS-07 (1)	SS-08 (2)	SS-12	SS-09	SS-10	SS-11	FB-1219
******* INORGANICS (ppm) *******							
SILVER.....							
ALUMINUM.....	4160	3430	2420	6120	6350	6570	
ARSENIC.....	3.5	2.2 B	2 B	5.6	4	4.4	
BARIUM.....	17 B	19.4 B	14 B	22.7 B	28.4 B	21.9 B	
BERYLLIUM.....			0.32 B	0.31 B	0.43 B	0.5 B	
CALCIUM.....	1090 B	859 B	628 B	1090 B	1220 B	1100 B	
CADMIUM.....							
COBALT.....	2.7 B	2.4 B	1.8 B	4.2 B	4 B	4.5 B	
CHROMIUM.....	8.7	5.8	4.3	10.3	10	8.5	
COPPER.....	8.4	9.8	6.9	9.7	13.4	11.4	
IRON.....	6760	6160	4470	9670	9470	10100	
MERCURY.....		0.08 B	0.07 B	0.07 B	0.09 B		
POTASSIUM.....	273 B	433 B	373 B	290 B	411 B		
MAGNESIUM.....	783 B	932 B	717 B	886 B	1010 B	945 B	
MANGANESE.....	143	166	117	189	197	201	
SODIUM.....							
NICKEL.....				8.6 B	6.2 B	5.1 B	
LEAD.....	22.2	27.5	26	32.4	38.7	20.6	
ANTIMONY.....							
SELENIUM.....							
THALLIUM.....							
VANADIUM.....	6.2 B	5.3 B	4.6 B	9.1 B	9.8 B	10.1 B	5.5 B
ZINC.....	36.1	38.1	26.6	34.9	46.5	35.3	

Note: (1) SS-07 was collected from the same location as SS-02.
(2) SS-12 is a duplicate sample of SS-8.
B = Indicates that the reported value is less than the CRDL

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN TEST BORING SAMPLES
BORINGS 1 - 3

SAMPLE IDENTIFICATION:	B01-1	B02-1	B02-2	B02-3	B03-1	B03-2	B03-3
SAMPLE DEPTH (FT):	6-8	2-4	6-8	8-10	6-8	8-10	12-14
**** VOLATILE ORGANICS (PPB) ***							
METHYLENE CHLORIDE.....	18 U*	22 U*	16 U*	11 U*	15 U*	26 U*	21 U*
ACETONE.....	30 U*		21 U*	33 U*	14 U*	170 U*	37 U*
CARBON DISULFIDE.....			3 J				
CHLOROFORM.....							
2-BUTANONE.....						100 J*	
TETRACHLOROETHANE.....							
TOLUENE.....	1 J					5 J	2 J
ETHYLBENZENE.....							
XYLENE.....							
TOTAL VOLATILE ORGANICS.....	1	0	3	0	0	105	2
** BASE NEUTRAL / ACIDS (PPB) **							
PHENOL.....							
BENZOIC ACID.....	2000 U**						
NAPHTHALENE.....@							
2-METHYLNAPHTHALENE.....@					240 J		
ACENAPHTHYLENE.....@							
ACENAPHTHENE.....@					240 J		
DIBENZOFURAN.....					230 J		
FLUORENE.....@					300 J		
PHENANTHRENE.....@	490	61 J	57 J		670	200 J	82 J
ANTHRACENE.....@	97 J				310 J	440 J	130 J
DI-N-BUTYLPHTHALATE.....	400 U**	390 U**					1400 *
FLUORANTHENE.....@	840	150 J			1600	800	170 J
PYRENE.....@	850	110 J	72 J	82 J	990 J*	690 J*	230 J
BUTYLBENZYLPHTHALATE.....							
BENZO(a)ANTHRACENE.....@@	330 J	89 J			670		73 J
CHRYSENE.....@@	330 J	92 J			770		62 J
BIS(2-ETHYLHEXYL)PHTHALATE.....	400 U**	390 U**	400 U**	390 U**	930 U**		430 U**
BENZO(b)FLUORANTHENE.....@@	330 J	85 J			580	300 J	
BENZO(k)FLUORANTHENE.....@@	240 J	62 J			510	210 J	
BENZO(a)PYRENE.....@@	300 J	84 J			660	330 J	
INDENO(1,2,3-cd)PYRENE.....@@	180 J	71 J			620	280 J	
DIBENZO(a,h)ANTHRACENE.....@@	60 J				140 J	93 J	
BENZO(g,h,i)PERYLENE.....@	210 J	84 J			740	310 J	
TOTAL BNA'S.....	4257	888	129	82	9270	3653	2147
TOTAL PAH'S.....	4257	888	129	82	9040	3653	747
TOTAL CARCINOGENIC PAH'S.....	1770	483	0	0	3950	1213	135

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
**- INDICATES THAT THE CONTAMINANT VALUE HAS CHANGED ACCORDING TO DATA VALIDATION.
@ - INDICATES THAT THE COMPOUND IS A POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)
@@ - INDICATES THAT THE COMPOUND IS A CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBON.

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN SOIL BORING SAMPLES
BORINGS 1 - 3

SAMPLE IDENTIFICATION:	B01-1	B02-1	B02-2	B02-3	B03-1	B03-2	B03-3
SAMPLE DEPTH (FT):	6-8	2-4	6-8	8-10	6-8	8-10	12-14
**** PESTICIDES/PCB'S (PPB) ****							
4,4'-DDE.....							
4,4'-DDT.....							
AROCLOR-1254.....							
******* INORGANICS (PPM) *******							
SILVER.....						N/A	
ALUMINUM.....	5030	8120	8120	5670	7820		6180
ARSENIC.....	9.6 J*	3.1 J*	8.6	5.4 J*	4.1 J*		13.5 J*
BARIUM.....	22.4	19.9	17.1	16.6	13.3		6.3
BERYLLIUM.....							
CALCIUM.....	91300	1430	7520	7100	1340		1380
CADMIUM.....	0.9 J*				0.56 J*		
COBALT.....	6.4 J*	11.4	14.1	11.1	9.8 J*		16.2 J*
CHROMIUM.....	7 J*	15.1 J*	9.5 J*	7.5 J*	11.8 J*		11.9 J*
COPPER.....	108 J*	22.7 J*	18.4 J*	12 U*	26.4 J*		25.3 J*
IRON.....	19900	21400	19900	16300	17100		17000
MERCURY.....	0.21						0.18
POTASSIUM.....	210	470	607	519	346		184
MAGNESIUM.....	1710	2920	4000	3580	2750		2900
MANGANESE.....	301 J*	492 J*	584 J*	646 J*	243 J*		285 J*
SODIUM.....	1310	57.6	58.9	56.6	374		601
NICKEL.....	9	16.2	27	18	15.3		10.5
LEAD.....	529	61	66	5.2	118		67.6
ANTIMONY.....	9.5 U*				9.5 U*		
SELENIUM.....							
VANADIUM.....	22 J*	19.2 J*	18.3 J*	14 J*	16.2 J*		13 J*
ZINC.....	222 J*	52.3 U*	69.6	39.4 U*	77.7 J*		48.4 U*
CYANIDE.....						N/A	

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
N/A - INSUFFICIENT SAMPLE VOLUME FOR ANALYSIS.

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN SOIL BORING SAMPLES
BORINGS 4 - 7

SAMPLE IDENTIFICATION:	B04-1	B04-2	B05-1	B05-2	B06-1	B06-2	B07-1	B07-2
SAMPLE DEPTH (FT):	4-6	10-12	4-6	6-8	4-6	10-12	4-6	6-8
**** VOLATILE ORGANICS (PPB) ***								
METHYLENE CHLORIDE.....	12 U*	10 U*	25 U*	21 U*	58 U*	14 U*	61 U*	2300 U*
ACETONE.....	32 U*	17 U*	40 U*	34 U*	97 U*	22 U*	210 U*	
CARBON DISULFIDE.....			11					
CHLOROFORM.....								
2-BUTANONE.....								
TETRACHLOROETHENE.....								
TOLUENE.....					67			
ETHYLBENZENE.....					89			
XYLENE.....					1200			
TOTAL VOLATILE ORGANICS.....	0	0	11	0	1356	0	0	0
** BASE NEUTRAL / ACIDS (PPB) **								
PHENOL.....	250 J							490
BENZOIC ACID.....	1900 U**							
NAPHTHALENE.....@					120 J			
2-METHYLNAPHTHALENE.....@					670 J*			
ACENAPHTHYLENE.....@								
ACENAPHTHENE.....@					130 J			1600
DIBENZOFURAN.....								
FLUORENE.....@					200 J			
PHENANTHRENE.....@	190 J			90 J	490 J*		1700 J	4600
ANTHRACENE.....@	66 J				84 J		640 J	620
DI-N-BUTYLPHTHALATE.....	390 U**							400 U*
FLUORANTHENE.....@	300 J		300 J	88 J	130 J		2300	1200
PYRENE.....@	280 J		480	110 J	180 J		2200	1300
BUTYLBENZYLPHTHALATE.....								
BENZO(a)ANTHRACENE.....@@	140 J		110 J				1300 J	550
CHRYSENE.....@@	140 J		76 J				1000 J	540
BIS(2-ETHYLHEXYL)PHTHALATE.....			480 U**	470 U**	460 U**			
BENZO(b)FLUORANTHENE.....@@	97 J		83 J				1300 J	400
BENZO(k)FLUORANTHENE.....@@	120 J		89 J		98 J		520 J	530
BENZO(a)PYRENE.....@@	100 J		100 J				1000 J	490
INDENO(1,2,3-cd)PYRENE.....@@							420 J	380 J
DIBENZO(a,h)ANTHRACENE.....@@								140 J
BENZO(g,h,i)PERYLENE.....@					75 J			520
TOTAL BNA'S.....	1683	0	1238	288	2177	0	12380	13360
TOTAL PAH'S.....	1433	0	1238	288	2177	0	12380	12870
TOTAL CARCINOGENIC PAH'S.....	597	0	458	0	98	0	5540	3030

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
**- INDICATES THAT THE CONTAMINANT VALUE HAS CHANGED ACCORDING TO DATA VALIDATION.
@ - INDICATES THAT THE COMPOUND IS A POLYNUCLEAR AROMATIC HYDROCARBON (PAH).
@@ - INDICATES THAT THE COMPOUND IS A CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBON.

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN SOIL BORING SAMPLES
BORINGS 4 - 7

SAMPLE IDENTIFICATION:	B04-1	B04-2	B05-1	B05-2	B06-1	B06-2	B07-1	B07-2
SAMPLE DEPTH (FT):	4-6	10-12	4-6	6-8	4-6	10-12	4-6	6-8
**** PESTICIDES/PCB'S (PPB) ****								
4,4'-DDE								
4,4'-DDT								
AROCLOR-1254								
******* INORGANICS (PPM) *******								
SILVER				2.4 U*	N/A	0.66 U*		
ALUMINUM	8720	3210	8580	6080		7580	4570	4950
ARSENIC	3.4 J*	5.3 J*	2.4	1.4		1.3 J*	1.9 J*	3 J*
BARIUM	25.6	6.9	8.1	4.9		24.4	6.8	5.9
BERYLLIUM	0.26	0.2				0.31		
CALCIUM	749	705	3320	1170		523	702	957
CADMIUM			0.55					
COBALT	9.4 J*	10.1 J*	9.4 J*	2.8		20.5 J*	8.5	5.8
CHROMIUM	9.3 J*	6.3 J*	9.5 J*	5.4		14.2 J*	9.9	8.2
COPPER	22.3 J*	18.1 J*	30.9 J*	6.1		30.9 J*	33.8 J*	31.8 J*
IRON	15400	15600	20600	5230		30200	15400	14700
MERCURY								
POTASSIUM	304 J*	217 J*	214 J*	471 J*		901 J*	332 J*	216 J*
MAGNESIUM	1780 J*	602 J*	3790	1710		2870	1640	2150
MANGANESE	215	72.4	960 J*	70.7		780 J*	138	167
SODIUM	61.3	67.4 U*	551	3820		475	44.4 U*	55.8 U*
NICKEL	13.6	8	19.6 J*	5.8		28.8	14.5	11.2
LEAD		2.2 J*	104	7		6.6 J*	52 J*	67 J*
ANTIMONY						5.5	5.3	
SELENIUM	0.55 U*		0.34 U*	0.69 U*			0.54 U*	
VANADIUM	13.7 J*	8.3 J*	19.9 J*	12.5		21 J*	10.5	9.2
ZINC	45.5 J*	27.9 J*	76.7 J*	23.6 J*		58.8 J*	46.7 J*	36.2 J*
CYANIDE					N/A			

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
N/A - INSUFFICIENT SAMPLE VOLUME FOR ANALYSIS.

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN WELL BORING SAMPLES
MONITORING WELL BORINGS 2-5

SAMPLE IDENTIFICATION:	M02-1	M02-2	M03-1	M03-2	M05-1	M05-2
SAMPLE DEPTH (FT):	6-8	12-14	6-8	12-14	8-10	12-14
**** VOLATILE ORGANICS (PPB) ***						
METHYLENE CHLORIDE.....	2000 U*	3100 U*		11 U*	17 U*	10 U*
ACETONE.....	3000 U**	5600 U*		69 U*	57 U*	30 U*
CARBON DISULFIDE.....			14 U*			
CHLOROFORM.....						
2-BUTANONE.....	1100 J					
TETRACHLOROETHENE.....						
TOLUENE.....						
ETHYLBENZENE.....			160			
XYLENE.....			14 J			
TOTAL VOLATILE ORGANICS.....	1100	0	174	0	0	0
** BASE NEUTRAL / ACIDS (PPB) **						
PHENOL.....		490			45 J	
BENZOIC ACID.....				48 J	200 J	43 J
NAPHTHALENE.....@					78 J	
2-METHYLNAPHTHALENE.....@					88 J	
ACENAPHTHYLENE.....@					54 J	
ACENAPHTHENE.....@			500		190 J	
DIBENZOFURAN.....					170 J	
FLUORENE.....@			730		280 J	
PHENANTHRENE.....@	3500 J	14000	1600		2300	
ANTHRACENE.....	1100 J		160 J		620	
DI-N-BUTYLPHTHALATE.....			63 U*	44 U*	100 U*	
FLUORANTHENE.....@	3700 J	2200 J	120 J		2400	
PYRENE.....@	4900 J	4200 J	240 J		1800	
BUTYLBENZYLPHTHALATE.....						
BENZO(a)ANTHRACENE.....@@	1800 J		52 J		880	
CHRYSENE.....@@	1700 J		51 J		950	
BIS(2-ETHYLHEXYL)PHTHALATE.....			220 U*	340 U*	200 U*	170 U*
BENZO(b)FLUORANTHENE.....@@	1400 J				680	
BENZO(k)FLUORANTHENE.....@@	1400 J				500	
BENZO(a)PYRENE.....@@	1600 J				700	
INDENO(1,2,3-cd)PYRENE.....@@					440	
DIBENZO(a,h)ANTHRACENE.....@@						
BENZO(g,h,i)PERYLENE.....@					500	
TOTAL BNA'S.....	21100	20890	3453	48	12875	43
TOTAL PAH'S.....	21100	20400	3453	0	12460	0
TOTAL CARCINOGENIC PAH'S.....	7900	0	103	0	4150	0

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
**- INDICATES THAT THE CONTAMINANT VALUE HAS CHANGED ACCORDING TO DATA VALIDATION.
@ - INDICATES THAT THE COMPOUND IS A POLYNUCLEAR AROMATIC HYDROCARBON (PAH).
@@ - INDICATES THAT THE COMPOUND IS A CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBON.

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN SOIL BORING SAMPLES
MONITORING WELL BORINGS

SAMPLE IDENTIFICATION:	M02-1	M02-2	M03-1	M03-2	M05-1	M05-2
SAMPLE DEPTH (FT):	6-8	12-14	6-8	12-14	8-10	12-14
**** PESTICIDES/PCB'S (PPB) ****						
4,4'-DDE						
4,4'-DDT						
AROCLOR-1254						
******* INORGANICS (PPM) *******						
SILVER						
ALUMINUM	7160 J*	6600 J*	11900 J*	8120 J*	9280 J*	7380 J*
ARSENIC	6.3 J*	8.7 J*	4.4 J*	3.1 J*	4 J*	3.7 J*
BARIUM	57.5	112	19.9 B1	23.8 B1	22.1 B1	21.9 B1
BERYLLIUM	0.28 B1		0.24 B1	0.48 B1	0.35 B1	0.24 B1
CALCIUM	5810	10300	819 B1	755 B1	1080 B1	1290
CADMIUM	8.1	4.8			0.93 J*	
COBALT	9.7 J*	16.6 J*	9.8 J*	13 J*	19.4 J*	15.6 J*
CHROMIUM	13.7 J*	20.6 J*	12.5 J*	13 J*	15.2 J*	13.9 J*
COPPER	312 J*	277 J*	40.2 J*	30.3 J*	26.3 J*	24 J*
IRON	36200 J*	112000 J*	31300 J*	32600 J*	29000 J*	25900 J*
MERCURY	0.16	0.18				
POTASSIUM	403 B1	302 B1	354 J*	749 J*	661 J*	628 J*
MAGNESIUM	2830 J*	3720 J*	4010 J*	3030 J*	2940 J*	2790 J*
MANGANESE	323 J*	464 J*	311 J*	292 J*	476 J*	1020 J*
SODIUM	605 B1	746 B1	166 B1	275 B1	62.3 B1	48.1 B1
NICKEL	15.9 J*	15.7 J*	15.3 J*	23.8 J*	26.1 J*	26.2 J*
LEAD	777 J*	962 J*	24 J*	7.8 J*	12 J*	16 J*
ANTIMONY	4.7 U*	12.2 U*				
SELENIUM	0.58 J*	0.39 J*	1.7 B1		1.2 B1	
VANADIUM	20.4 J*	30.3 J*	19.1 J*	24.3 J*	22.1 J*	20.7 J*
ZINC	2580 J*	2810 J*	70.1 J*	69 J*	148 J*	93.1 J*
CYANIDE						

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN FIELD BLANK AND TRIP BLANK SAMPLES
FOR SOIL BORINGS AND WELL BORING SAMPLES

SAMPLE IDENTIFICATION:	FB-041990	TB-041990	TB-042090	TB-042490
**** VOLATILE ORGANICS (PPB) ***				
METHYLENE CHLORIDE.....	10 *	11 *	7 *	5 *
ACETONE.....	9 J*	3 J		8 J*
CARBON DISULFIDE.....				
CHLOROFORM.....			2 J	
2-BUTANONE.....				
TETRACHLOROETHANE.....				
TOLUENE.....				
ETHYLBENZENE.....				
XYLENE.....				
TOTAL VOLATILE ORGANICS.....	19	14	9	13
** BASE NEUTRAL / ACIDS (PPB) **				
PHENOL.....		N/A	N/A	N/A
BENZOIC ACID.....		|	|	|
NAPHTHALENE.....@		|	|	|
2-METHYLNAPHTHALENE.....@		|	|	|
ACENAPHTHYLENE.....@		|	|	|
ACENAPHTHENE.....@		|	|	|
DIBENZOFURAN.....		|	|	|
FLUORENE.....@		|	|	|
PHENANTHRENE.....@		|	|	|
ANTHRACENE.....@		|	|	|
DI-N-BUTYLPHTHALATE.....	1 J*	|	|	|
FLUORANTHENE.....@		|	|	|
PYRENE.....@		|	|	|
BUTYLBENZYLPHTHALATE.....		|	|	|
BENZO(a)ANTHRACENE.....@@		|	|	|
CHRYSENE.....@@		|	|	|
BIS(2-ETHYLHEXYL)PHTHALATE.....		|	|	|
BENZO(b)FLUORANTHENE.....@@		|	|	|
BENZO(k)FLUORANTHENE.....@@		|	|	|
BENZO(a)PYRENE.....@@		|	|	|
INDENO(1,2,3-cd)PYRENE.....@@		|	|	|
DIBENZO(a,h)ANTHRACENE.....@@		|	|	|
BENZO(g,h,i)PERYLENE.....@		N/A	N/A	N/A
TOTAL BNA'S.....	1			
TOTAL PAH'S.....	0			
TOTAL CARCINOGENIC PAH'S.....	0			

* - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
@ - INDICATES THAT THE COMPOUND IS A POLYNUCLEAR AROMATIC HYDROCARBON (PAH).
@@ - INDICATES THAT THE COMPOUND IS A CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBON.
N/A - INDICATES THAT THE COMPOUNDS WERE NOT ANALYZED FOR.

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN FIELD BLANK AND TRIP BLANK SAMPLES
FOR SOIL BORINGS AND WELL BORING SAMPLES

SAMPLE IDENTIFICATION:	FB-041990	TB-041990	TB-042090	TB-042490
**** PESTICIDES/PCB'S (PPB) ****				
4,4'-DDE		N/A	N/A	N/A
4,4'-DDT		|	|	|
AROCLOR-1254		N/A	N/A	N/A
******* INORGANICS (PPM) *******				
SILVER		N/A	N/A	N/A
ALUMINUM		|	|	|
ARSENIC		|	|	|
BARIUM		|	|	|
BERYLLIUM		|	|	|
CALCIUM	0.0927	|	|	|
CADMIUM		|	|	|
COBALT		|	|	|
CHROMIUM		|	|	|
COPPER	0.0097	|	|	|
IRON	0.29 J*	|	|	|
MERCURY		|	|	|
POTASSIUM		|	|	|
MAGNESIUM	0.143 J*	|	|	|
MANGANESE	0.007	|	|	|
SODIUM	0.218	|	|	|
NICKEL		|	|	|
LEAD		|	|	|
ANTIMONY		|	|	|
SELENIUM		|	|	|
VANADIUM		|	|	|
ZINC	0.0223	|	|	|
CYANIDE		N/A	N/A	N/A

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
N/A - INDICATES THAT THE COMPOUNDS WERE NOT ANALYZED FOR.

SITE 09 - OLD FIRE FIGHTER TRAINING AREA
CONSTITUENTS DETECTED IN GROUND WATER SAMPLES

SAMPLE IDENTIFICATION:	MW-1	MW-2	MW-3	MW-4	MW-5	FB-072090	TB1-071990	TB2-071990
**** VOLATILE ORGANICS (PPB) ***								
METHYLENE CHLORIDE.....	14 U*	900 U*	140 U*	11 U*	15 U*	45 J*	15 B	160 B
ACETONE.....		1100 U*	100 U**				4 J	
CHLOROFORM.....	2 J							
TOTAL VOLATILE ORGANICS.....	2	0	0	0	0	45	19	160
** BASE NEUTRAL / ACIDS (PPB) **								
ACENAPHTHENE.....@		24 J*	2 J				N/A	N/A
DIBENZOFURAN.....@			1 J					
FLUORENE.....@		21 J*	1 J					
PHENANTHRENE.....@		44 J*						
ANTHRACENE.....@		9 J						
DI-N-BUTYLPHTHALATE.....	12 U**							
FLUORANTHENE.....@		6 J						
PYRENE.....@		23						
BENZO(a)ANTHRACENE.....@@		3						
CHRYSENE.....@@		4 J						
BIS(2-ETHYLHEXYL)PHTHALATE.....	12 U**	740	10 U**					
BENZO(b)FLUORANTHENE.....@@		1 J						
BENZO(a)PYRENE.....@@		2 J					N/A	N/A
TOTAL BNA'S.....	12	877	4	0	0	0		
TOTAL PAH'S.....	0	137	3	0	0	0		
TOTAL CARCINOGENIC PAH'S.....	0	10	0	0	0	0		
**** PESTICIDES/PCB'S (PPB) ****							N/A	N/A
******* INORGANICS (PPB) *******								
SILVER.....		10 U*	9.6 U*	4.7 U*	3.3 U*		N/A	N/A
ALUMINUM.....	1890 J*	16100 J*	44600 J*	18800 J*	14500 J*			
ARSENIC.....	2.2 J*	16.6 J*		4.6 J*				
BARIUM.....	37.9	569	247	39.9	50.1			
BERYLLIUM.....			2.4					
CALCIUM.....	40300	189000	76000	17900	115000	170		
CADMIUM.....		48.8						
COBALT.....	19.5 U*	31.4 J*	50 J*	30.6	26.5			
CHROMIUM.....	5.4	36.1 J*	47 J*	32.7	20.1			
COPPER.....	10.8 U*	1030 J*	148 J*	38.5 J*	31.8 J*	5.3		
IRON.....	5750	132000	157000	43900	41700	103 J*		
MERCURY.....		2.1	1.3					
POTASSIUM.....	3020 J*	199000	26900	9320 J*	8000 J*			
MAGNESIUM.....	5250 J*	414000	66500	21500	40000	82.9		
MANGANESE.....	4620	1410 J*	5020 J*	8720	6140			
SODIUM.....	26700	2800000	419000	88400	65600	458 J*		
NICKEL.....	57.3 U*	81.5 J*	79.3 J*	38.1 U*	51.5 U*	10.2		
LEAD.....	17 J*	4120 J*	448 J*	48.2 J*	11.7 J*			
ANTIMONY.....		24.5 U*						
VANADIUM.....	12.5 U*	76.2 U*	59.8 U*	24.4 U*	33.7 U*	6.9		
ZINC.....	115	12400	877	108	130	24.8		
CYANIDE.....			23.3				N/A	N/A

NOTE: * - INDICATES THAT THE QUALIFIER HAS CHANGED ACCORDING TO DATA VALIDATION.
**- INDICATES THAT THE CONTAMINANT VALUE HAS CHANGED ACCORDING TO DATA VALIDATION.
@ - INDICATES THAT THE COMPOUND IS A POLYNUCLEAR AROMATIC HYDROCARBON (PAH).
@@ - INDICATES THAT THE COMPOUND IS A CARCINOGENIC POLYNUCLEAR AROMATIC HYDROCARBON.
N/A - INDICATES THAT THE COMPOUNDS WERE NOT ANALYZED FOR.

APPENDIX L

PHASE I AND II RI ANALYTICAL SUMMARY TABLE

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

APPENDIX L

- PHASE II RI ANALYTICAL SUMMARY TABLES -

TABLE # SCHEME

PHASE II DATA SUMMARIES

Appendix L — L1.A — L = Appendix L

1. where
   - 1 = Surface Soil
   - 2 = Subsurface Soil
   - 3 = Test Pit Soil
   - 4 = Ground Water
   - 5 = Storm Sewer Water

1.A where
   - A = Volatiles
   - B = Semivolatiles
   - C = Pesticides/PCBs
   - D = Inorganics
   - E = Physical (BOD,COD,TSS)

NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
DATA REPORTING QUALIFIERS

Organic Compound Qualifiers

Value → If the result is a value greater than or equal to the detection limit, then the value is reported

U → Indicates compound was analyzed for but not detected.

J → Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or when the mass spectral data indicated the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero. If the limit of detection is 10μg and a concentration of 3μg is calculated, then value is reported as 3J.

UJ → Reported quantitation limit is qualified as estimated.

B → Indicates the analyte is found in the blank as well as a sample. It indicates possible/probable blank contamination and warns the data user to take appropriate action.

NJ → Indicates the compound was detected. The associated numerical value is qualified as presumtively present at an estimated level.

Inorganic Compound Qualifiers

Value → If the result is a value greater than or equal to the instrument detection limit, then the value is reported.

U → Indicates element was analyzed for but not detected.

J → Indicates an estimated value.

UJ → Reported quantitation limit is qualified as estimated.

B → Indicates the result is a value greater than the instrument detection limit but less than the contract required detection limit (CRQL).

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=	FF-SS12-110393				FF-SS13-110393			FF-SS14-110393			FF-SS15-110393		
Sample Designation=	031384-0001-SA				031384-0002-SA			031384-0003-SA			031384-0004-SA		
Sample Collection Date=	03 NOV 93				03 NOV 93			03 NOV 93			03 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Bromomethane	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Vinyl Chloride	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Chloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Methylene chloride	ug/kg	ND	U	12	ND	U*	12	ND	U	18	2	J	12
Acetone	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Carbon disulfide	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
1,1-Dichloroethene	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
1,1-Dichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Chloroform	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
1,2-Dichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
2-Butanone	ug/kg	ND	U	12	ND	U*	12	ND	U*	18	1	J	12
1,1,1-Trichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Carbon tetrachloride	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Bromodichloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
1,2-Dichloropropane	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
cis-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Trichloroethene	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Dibromochloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
1,1,2-Trichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Benzene	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
trans-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Bromoform	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
4-Methyl-2-Pentanone	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
2-Hexanone	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Tetrachloroethene	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Toluene	ug/kg	ND	U	12	ND	U	12	2	J	18	ND	U	12
Chlorobenzene	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Ethylbenzene	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Styrene	ug/kg	ND	U	12	ND	U	12	ND	U	18	ND	U	12
Xylenes (total)	ug/kg	ND	U	12	2	J	12	3	J	18	2	J	12
Total VOCs		**0**			**2**			**5**			**5**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SS16-110393			FF-SS17-110393			FF-SS18-110393			FF-SS19-110393		
Sample Designation=		031384-0005-SA			031384-0006-SA			031384-0007-SA			031384-0008-SA		
Sample Collection Date=		03 NOV 93			03 NOV 93			03 NOV 93			03 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Bromomethane	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Vinyl Chloride	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Chloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Methylene chloride	ug/kg	2	J	12	3	J	12	2	J	11	2	J	12
Acetone	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Carbon disulfide	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
1,1-Dichloroethene	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
1,1-Dichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Chloroform	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
1,2-Dichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
2-Butanone	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U*	12
1,1,1-Trichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Carbon tetrachloride	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Bromodichloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
1,2-Dichloropropane	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
cis-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Trichloroethene	ug/kg	ND	U	12	1	J	12	ND	U	11	ND	U	12
Dibromochloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
1,1,2-Trichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Benzene	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
trans-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Bromoform	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
4-Methyl-2-Pentanone	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
2-Hexanone	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Tetrachloroethene	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Toluene	ug/kg	ND	U	12	2	J	12	ND	U	11	ND	U	12
Chlorobenzene	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Ethylbenzene	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Styrene	ug/kg	ND	U	12	ND	U	12	ND	U	11	ND	U	12
Xylenes (total)	ug/kg	2	J	12	3	J	12	ND	U	11	ND	U	12
Total VOCs		4			9			2			2		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SS20-110393			FF-SS21-110493			FF-SS22-110493			FF-SS23-110493		
Sample Designation=		031384-0009-SA			031390-0001-SA			031390-0002-SA			031390-0003-SA		
Sample Collection Date=		03 NOV 93			04 NOV 93			04 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Bromomethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Vinyl Chloride	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Chloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Methylene chloride	ug/kg	ND	U*	12	ND	U*	12	2	J	12	ND	U	12
Acetone	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U*	12
Carbon disulfide	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
1,1-Dichloroethene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
1,1-Dichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Chloroform	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
1,2-Dichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
2-Butanone	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
1,1,1-Trichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	2	J	12
Carbon tetrachloride	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Bromodichloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
1,2-Dichloropropane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
cis-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Trichloroethene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Dibromochloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
1,1,2-Trichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Benzene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
trans-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Bromoform	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
4-Methyl-2-Pentanone	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
2-Hexanone	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Tetrachloroethene	ug/kg	ND	U	12	ND	U	12	ND	U	12	1	J	12
Toluene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Chlorobenzene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Ethylbenzene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Styrene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Xylenes (total)	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	12
Total VOCs		0			0			2			3		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SS27-110493			FF-SS35-110493 (Dup of SS27)			FF-SS29-110493			FF-SS30-110493		
Sample Designation=		031390-0007-SA			031390-0013-SA			031390-0010-SA			031390-0011-SA		
Sample Collection Date=		04 NOV 93			04 NOV 93			04 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Bromomethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Vinyl Chloride	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Chloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Methylene chloride	ug/kg	ND	U	12	ND	U	12	ND	U	12	4	J	11
Acetone	ug/kg	ND	U*	12	ND	U	12	ND	U*	12	ND	U	11
Carbon disulfide	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
1,1-Dichloroethene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
1,1-Dichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Chloroform	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
1,2-Dichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
2-Butanone	ug/kg	ND	U	12	ND	U	12	ND	U*	12	ND	U	11
1,1,1-Trichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Carbon tetrachloride	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Bromodichloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
1,2-Dichloropropane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
cis-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Trichloroethene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Dibromochloromethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
1,1,2-Trichloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Benzene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
trans-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Bromoform	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
4-Methyl-2-Pentanone	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
2-Hexanone	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Tetrachloroethene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Toluene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Chlorobenzene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Ethylbenzene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Styrene	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Xylenes (total)	ug/kg	ND	U	12	ND	U	12	ND	U	12	ND	U	11
Total VOCs		0			0			0			4		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SS31-110493			FF-B81-112293			FF-B91-112393			FF-B101-112393		
Sample Designation=		031390-0012-SA			031806-0005-SA			031806-0008-SA			031813-0008-SA		
Sample Collection Date=		04 NOV 93			22 NOV 93			23 NOV 93			23 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Bromomethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Vinyl Chloride	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Chloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Methylene chloride	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Acetone	ug/kg	ND	U*	12	ND	UJ	12	ND	UJ	11	ND	U	11
Carbon disulfide	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,1-Dichloroethene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,1-Dichloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Chloroform	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,2-Dichloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
2-Butanone	ug/kg	ND	U*	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,1,1-Trichloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Carbon tetrachloride	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Bromodichloromethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,2-Dichloropropane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
cis-1,3-Dichloropropene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Trichloroethene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Dibromochloromethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,1,2-Trichloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Benzene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
trans-1,3-Dichloropropene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Bromoform	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
4-Methyl-2-Pentanone	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
2-Hexanone	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Tetrachloroethene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	16		11
Toluene	ug/kg	ND	U	12	ND	UJ	12	2	J	11	ND	U	11
Chlorobenzene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Ethylbenzene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Styrene	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Xylenes (total)	ug/kg	ND	U	12	ND	UJ	12	ND	UJ	11	ND	U	11
Total VOCs		**0**			**0**			**2**			**16**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B111-112493			FF-B121-112493			FF-B131-112393			FF-B141-121393		
Sample Designation=		031813-0001-SA			031813-0003-SA			031806-0009-SA			32184-01-SA		
Sample Collection Date=		24 NOV 93			24 NOV 93			23 NOV 93			13 DEC 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Bromomethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	UJ	12
Vinyl Chloride	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	3	J	12
Chloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Methylene chloride	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Acetone	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Carbon disulfide	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,1-Dichloroethene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,1-Dichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	17		12
Chloroform	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,2-Dichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
2-Butanone	ug/kg	3	J	11	3	J	11	ND	UJ	11	1	J	12
1,1,1-Trichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Carbon tetrachloride	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Bromodichloromethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,2-Dichloropropane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
cis-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Trichloroethene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Dibromochloromethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,1,2-Trichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Benzene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
trans-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Bromoform	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
4-Methyl-2-Pentanone	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
2-Hexanone	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Tetrachloroethene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Toluene	ug/kg	ND	U	11	2	J	11	ND	UJ	11	ND	U	12
Chlorobenzene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Ethylbenzene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Styrene	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Xylenes (total)	ug/kg	ND	U	11	ND	U	11	ND	UJ	11	ND	U	12
Total VOCs		**3**			**5**			**0**			**21**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B151-121393			FF-B161-112393			FF-B164-112393 (Dup of B161)			FF-B171-112493		
Sample Designation=		32184-03-SA			031806-0011-SA			031806-0014-SA			031813-0005-SA		
Sample Collection Date=		13 DEC 93			23 NOV 93			23 NOV 93			24 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Bromomethane	ug/kg	ND	UJ	11	ND	UJ	11	ND	UJ	11	ND	U	11
Vinyl Chloride	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Chloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Methylene chloride	ug/kg	1	J	11	ND	UJ	11	ND	UJ	11	ND	U	11
Acetone	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Carbon disulfide	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,1-Dichloroethene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,1-Dichloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Chloroform	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,2-Dichloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
2-Butanone	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,1,1-Trichloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Carbon tetrachloride	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Bromodichloromethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,2-Dichloropropane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
cis-1,3-Dichloropropene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Trichloroethene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Dibromochloromethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,1,2-Trichloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Benzene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
trans-1,3-Dichloropropene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Bromoform	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
4-Methyl-2-Pentanone	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
2-Hexanone	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Tetrachloroethene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Toluene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Chlorobenzene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Ethylbenzene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Styrene	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	ND	U	11
Xylenes (total)	ug/kg	ND	U	11	ND	UJ	11	ND	UJ	11	1	J	11
Total VOCs		1			0			0			1		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B181-112393			FF-M61-113093			FF-M71-112993			FF-M81-113093		
Sample Designation=		031806-0015-SA			31875-07-SA			31875-03-SA			31875-09-SA		
Sample Collection Date=		23 NOV 93			30 NOV 93			29 NOV 93			30 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Bromomethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Vinyl Chloride	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Chloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Methylene chloride	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Acetone	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U*	12
Carbon disulfide	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
1,1-Dichloroethene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
1,1-Dichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
1,2-Dichloroethene (cis/trans)	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Chloroform	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
1,2-Dichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
2-Butanone	ug/kg	ND	UJ*	11	ND	U*	11	ND	U	11	ND	U*	12
1,1,1-Trichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Carbon tetrachloride	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Bromodichloromethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
1,2-Dichloropropane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
cis-1,3-Dichloropropene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Trichloroethene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Dibromochloromethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
1,1,2-Trichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Benzene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
trans-1,3-Dichloropropene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Bromoform	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
4-Methyl-2-Pentanone	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
2-Hexanone	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
1,1,2,2-Tetrachloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Tetrachloroethene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Toluene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Chlorobenzene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Ethylbenzene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Styrene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Xylenes (total)	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	12
Total VOCs		0			0			0			0		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-M91-120193			FF-M93-120193 (Dup of M91)			FF-M101-112993			FF-M111-112993		
Sample Designation=		31915-01-SA			31915-03-SA			31875-05-SA			31875-01-SA		
Sample Collection Date=		01 DEC 93			01 DEC 93			29 NOV 93			29 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Bromomethane	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Vinyl Chloride	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Chloroethane	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Methylene chloride	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Acetone	ug/kg	ND	U	11	2	J	11	ND	U	12	ND	U*	12
Carbon disulfide	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
1,1-Dichloroethene	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
1,1-Dichloroethane	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Chloroform	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
1,2-Dichloroethane	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
2-Butanone	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
1,1,1-Trichloroethane	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Carbon tetrachloride	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Bromodichloromethane	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
1,2-Dichloropropane	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
cis-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Trichloroethene	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Dibromochloromethane	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
1,1,2-Trichloroethane	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Benzene	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
trans-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Bromoform	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
4-Methyl-2-Pentanone	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
2-Hexanone	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Tetrachloroethene	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Toluene	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Chlorobenzene	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Ethylbenzene	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Styrene	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Xylenes (total)	ug/kg	ND	U	11	ND	U	11	ND	U	12	ND	U	12
Total VOCs		**0**			**2**			**0**			**0**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

BLANKS

Sample Location=		MP-FB1-110293			FF-FB2-110393			MP-TB1-110393			FF-TB2-110493		
Sample Designation=		31384-17-FB			31384-18-FB			31384-23-TB			31390-21-TB		
Sample Collection Date=		02 NOV 93			03 NOV 93			03 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromomethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Vinyl Chloride	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Methylene chloride	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Acetone	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Carbon disulfide	ug/kg	2	J	10	4	J	10	2	J	10	5	J	10
1,1-Dichloroethene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chloroform	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
2-Butanone	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1,1-Trichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Carbon tetrachloride	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromodichloromethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Trichloroethene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Dibromochloromethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Benzene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromoform	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
2-Hexanone	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Tetrachloroethene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Toluene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chlorobenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Ethylbenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Styrene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Xylenes (total)	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Total VOCs		**2**			**4**			**2**			**5**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

BLANKS

Sample Location=		FF-FB112393			FF-TB112393			FF-TB112493			FF-FB113093		
Sample Designation=		31806-07-FB			31806-16-TB			31813-07-TB			31875-13-FB		
Sample Collection Date=		23 NOV 93			23 NOV 93			24 NOV 93			30 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Bromomethane	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Vinyl Chloride	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Chloroethane	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Methylene chloride	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Acetone	ug/kg	1	J	10	ND	UJ	10	2	J	10	2	J	10
Carbon disulfide	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
1,1-Dichloroethene	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Chloroform	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
2-Butanone	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
1,1,1-Trichloroethane	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Carbon tetrachloride	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Bromodichloromethane	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Trichloroethene	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Dibromochloromethane	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Benzene	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Bromoform	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
2-Hexanone	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Tetrachloroethene	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Toluene	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Chlorobenzene	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Ethylbenzene	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Styrene	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Xylenes (total)	ug/kg	ND	UJ	10	ND	UJ	10	ND	U	10	ND	U	10
Total VOCs		1			0			2			2		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

BLANKS

Sample Location=		FF-TB113093			FF-SWB-113093			FF-TB120193			FF-TB121393.		
Sample Designation=		31875-14-TB			31875-10-SA			31915-04-SA			32184-06-TB		
Sample Collection Date=		30 NOV 93			30 NOV 93			01 DEC 93			14 DEC 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromomethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Vinyl Chloride	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Methylene chloride	ug/kg	1	J	10	ND	U	10	ND	U	10	ND	U	10
Acetone	ug/kg	6	J	10	2	J	10	ND	U	10	2	J	10
Carbon disulfide	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chloroform	ug/kg	ND	U	10	14		10	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
2-Butanone	ug/kg	ND	U	10	ND	U	10	ND	U*	10	ND	U	10
1,1,1-Trichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Carbon tetrachloride	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromodichloromethane	ug/kg	ND	U	10	6	J	10	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Trichloroethene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Dibromochloromethane	ug/kg	ND	U	10	3	J	10	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Benzene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromoform	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
2-Hexanone	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Tetrachloroethene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Toluene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chlorobenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Ethylbenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Styrene	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Xylenes (total)	ug/kg	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Total VOCs		**7**			**25**			**0**			**2**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=	FF-SS12-110393			FF-SS13-110393			FF-SS14-110393		
Sample Designation=	031384-0001-SA			031384-0002-SA			031384-0003-SA		
Sample Collection Date=	03 NOV 93			03 NOV 93			03 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	52	J	390	ND	U	390	ND	U	420
Acenaphthylene	ug/kg	ND	U	390	ND	U	390	ND	U	420
Anthracene	ug/kg	46	J	390	ND	U	390	ND	U	420
9H-Carbazole	ug/kg	ND	U	390	ND	U	390	ND	U	420
Benzo(a)anthracene	ug/kg	190	J	390	ND	U	390	93	J	420
Benzo(a)pyrene	ug/kg	170	J	390	ND	U	390	82	J	420
Benzo(b)fluoranthene	ug/kg	230	J	390	47	J	390	150	J	420
Benzo(g,h,i)perylene	ug/kg	93	J	390	ND	U	390	54	J	420
Benzo(k)fluoranthene	ug/kg	ND	U	390	ND	U	390	ND	U	420
4-Bromophenyl phenyl ether	ug/kg	ND	U	390	ND	U	390	ND	U	420
Butyl benzyl phthalate	ug/kg	ND	U	390	ND	U	390	ND	U	420
4-Chloroaniline	ug/kg	ND	U	390	ND	U	390	ND	U	420
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	390	ND	U	390	ND	U	420
bis(2-Chloroethyl) ether	ug/kg	ND	U	390	ND	U	390	ND	U	420
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	390	ND	U	390	ND	U	420
4-Chloro-3-methylphenol	ug/kg	ND	U	390	ND	U	390	ND	U	420
2-Chloronaphthalene	ug/kg	ND	U	390	ND	U	390	ND	U	420
2-Chlorophenol	ug/kg	ND	U	390	ND	U	390	ND	U	420
4-Chlorophenyl phenyl ether	ug/kg	ND	U	390	ND	U	390	ND	U	420
Chrysene	ug/kg	230	J	390	ND	U	390	110	J	420
Di-n-butyl phthalate	ug/kg	ND	U	390	ND	U	390	ND	U	420
Dibenz(a,h)anthracene	ug/kg	ND	U	390	ND	U	390	ND	U	420
Dibenzofuran	ug/kg	ND	U	390	ND	U	390	ND	U	420
1,2-Dichlorobenzene	ug/kg	ND	U	390	ND	U	390	ND	U	420
1,3-Dichlorobenzene	ug/kg	ND	U	390	ND	U	390	ND	U	420
4-Dichlorobenzene	ug/kg	ND	U	390	ND	U	390	ND	U	420
'-Dichlorobenzidine	ug/kg	ND	U	390	ND	U	390	ND	U	420
-Dichlorophenol	ug/kg	ND	U	390	ND	U	390	ND	U	420
Diethyl phthalate	ug/kg	ND	U	390	ND	U	390	ND	U	420
2,4-Dimethylphenol	ug/kg	ND	U	390	ND	U	390	ND	U	420
Dimethyl phthalate	ug/kg	ND	U	390	ND	U	390	ND	U	420
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	960	ND	U	960	ND	U	1000
2,4-Dinitrophenol	ug/kg	ND	U	960	ND	U	960	ND	U	1000
2,4-Dinitrotoluene	ug/kg	ND	U	390	ND	U	390	ND	U	420
2,6-Dinitrotoluene	ug/kg	ND	U	390	ND	U	390	ND	U	420
Di-n-octyl phthalate	ug/kg	ND	U	390	ND	U	390	ND	U	420
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	390	ND	U*	390	ND	U*	420
Fluoranthene	ug/kg	400		390	60	J	390	200	J	420
Fluorene	ug/kg	51	J	390	ND	U	390	ND	U	420
Hexachlorobenzene	ug/kg	ND	U	390	ND	U	390	ND	U	420
Hexachlorobutadiene	ug/kg	ND	U	390	ND	U	390	ND	U	420
Hexachlorocyclo-pentadiene	ug/kg	ND	U	390	ND	U	390	ND	U	420
Hexachloroethane	ug/kg	ND	U	390	ND	U	390	ND	U	420
Indeno(1,2,3-cd)pyrene	ug/kg	84	J	390	ND	U	390	49	J	420
Isophorone	ug/kg	ND	U	390	ND	U	390	ND	U	420
2-Methylnaphthalene	ug/kg	ND	U	390	ND	U	390	ND	U	420
2-Methylphenol	ug/kg	ND	U	390	ND	U	390	ND	U	420
4-Methylphenol	ug/kg	ND	U	390	ND	U	390	ND	U	420
Naphthalene	ug/kg	ND	U	390	ND	U	390	ND	U	420
2-Nitroaniline	ug/kg	ND	U	960	ND	U	960	ND	U	1000
3-Nitroaniline	ug/kg	ND	U	960	ND	U	960	ND	U	1000
4-Nitroaniline	ug/kg	ND	U	960	ND	U	960	ND	U	1000
Nitrobenzene	ug/kg	ND	U	390	ND	U	390	ND	U	420
2-Nitrophenol	ug/kg	ND	U	390	ND	U	390	ND	U	420
4-Nitrophenol	ug/kg	ND	U	960	ND	U	960	ND	U	1000
N-Nitrosodiphenylamine	ug/kg	ND	U	390	ND	U	390	ND	U	420
N-Nitroso-di-n-propylamine	ug/kg	ND	U	390	ND	U	390	ND	U	420
Pentachlorophenol	ug/kg	ND	U	960	ND	U	960	ND	U	1000
Phenanthrene	ug/kg	640		390	ND	U	390	150	J	420
Phenol	ug/kg	ND	U	390	ND	U	390	ND	U	420
Pyrene	ug/kg	680		390	61	J	390	220	J	420
1,2,4-Trichlorobenzene	ug/kg	ND	U	390	ND	U	390	ND	U	420
2,4,5-Trichlorophenol	ug/kg	ND	U	960	ND	U	960	ND	U	1000
4,6-Trichlorophenol	ug/kg	ND	U	390	ND	U	390	ND	U	420
il PAHs		2866			168			1108		
Total Carcinogenic PAHs		997			47			538		
Total SVOCs		2866			168			1108		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SS15-110393			FF-SS16-110393			FF-SS17-110393		
Sample Designation=		031384-0004-SA			031384-0005-SA			031384-0006-SA		
Sample Collection Date=		03 NOV 93			03 NOV 93			03 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	410	ND	U	400	ND	U	420
Acenaphthylene	ug/kg	ND	U	410	ND	U	400	ND	U	420
Anthracene	ug/kg	ND	U	410	ND	U	400	ND	U	420
9H-Carbazole	ug/kg	ND	U	410	ND	U	400	ND	U	420
Benzo(a)anthracene	ug/kg	ND	U	410	ND	U	400	56	J	420
Benzo(a)pyrene	ug/kg	ND	U	410	ND	U	400	53	J	420
Benzo(b)fluoranthene	ug/kg	ND	U	410	ND	U	400	130	J	420
Benzo(g,h,i)perylene	ug/kg	ND	U	410	ND	U	400	ND	U	420
Benzo(k)fluoranthene	ug/kg	ND	U	410	ND	U	400	ND	U	420
4-Bromophenyl phenyl ether	ug/kg	ND	U	410	ND	U	400	ND	U	420
Butyl benzyl phthalate	ug/kg	ND	U	410	ND	U	400	ND	U	420
4-Chloroaniline	ug/kg	ND	U	410	ND	U	400	ND	U	420
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	410	ND	U	400	ND	U	420
bis(2-Chloroethyl) ether	ug/kg	ND	U	410	ND	U	400	ND	U	420
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	410	ND	UJ	400	ND	UJ	420
4-Chloro-3-methylphenol	ug/kg	ND	U	410	ND	U	400	ND	U	420
2-Chloronaphthalene	ug/kg	ND	U	410	ND	U	400	ND	U	420
2-Chlorophenol	ug/kg	ND	U	410	ND	U	400	ND	U	420
4-Chlorophenyl phenyl ether	ug/kg	ND	U	410	ND	U	400	ND	U	420
Chrysene	ug/kg	ND	U	410	ND	U	400	75	J	420
Di-n-butyl phthalate	ug/kg	ND	U	410	ND	U	400	ND	U	420
Dibenz(a,h)anthracene	ug/kg	ND	U	410	ND	U	400	ND	U	420
Dibenzofuran	ug/kg	ND	U	410	ND	U	400	ND	U	420
1,2-Dichlorobenzene	ug/kg	ND	U	410	ND	U	400	ND	U	420
1,3-Dichlorobenzene	ug/kg	ND	U	410	ND	U	400	ND	U	420
1,4-Dichlorobenzene	ug/kg	ND	U	410	ND	U	400	ND	U	420
3,3'-Dichlorobenzidine	ug/kg	ND	U	410	ND	U	400	ND	U	420
2,4-Dichlorophenol	ug/kg	ND	U	410	ND	U	400	ND	U	420
Diethyl phthalate	ug/kg	ND	U	410	ND	U	400	ND	U	420
2,4-Dimethylphenol	ug/kg	ND	U	410	ND	U	400	ND	U	420
Dimethyl phthalate	ug/kg	ND	U	410	ND	U	400	ND	U	420
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	1000	ND	U	970	ND	U	1000
2,4-Dinitrophenol	ug/kg	ND	U	1000	ND	U	970	ND	U	1000
2,4-Dinitrotoluene	ug/kg	ND	U	410	ND	U	400	ND	U	420
2,6-Dinitrotoluene	ug/kg	ND	U	410	ND	U	400	ND	U	420
Di-n-octyl phthalate	ug/kg	ND	U	410	ND	U	400	ND	U	420
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	410	ND	U*	400	ND	U*	420
Fluoranthene	ug/kg	42	J	410	ND	U	400	140	J	420
Fluorene	ug/kg	ND	U	410	ND	U	400	ND	U	420
Hexachlorobenzene	ug/kg	ND	U	410	ND	U	400	ND	U	420
Hexachlorobutadiene	ug/kg	ND	U	410	ND	U	400	ND	U	420
Hexachlorocyclo-pentadiene	ug/kg	ND	U	410	ND	U	400	ND	U	420
Hexachloroethane	ug/kg	ND	U	410	ND	U	400	ND	U	420
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	410	ND	U	400	ND	U	420
Isophorone	ug/kg	ND	U	410	ND	U	400	ND	U	420
2-Methylnaphthalene	ug/kg	ND	U	410	ND	U	400	ND	U	420
2-Methylphenol	ug/kg	ND	U	410	ND	U	400	ND	U	420
4-Methylphenol	ug/kg	ND	U	410	ND	U	400	ND	U	420
Naphthalene	ug/kg	ND	U	410	ND	U	400	ND	U	420
2-Nitroaniline	ug/kg	ND	U	1000	ND	U	970	ND	U	1000
3-Nitroaniline	ug/kg	ND	U	1000	ND	U	970	ND	U	1000
4-Nitroaniline	ug/kg	ND	U	1000	ND	U	970	ND	U	1000
Nitrobenzene	ug/kg	ND	U	410	ND	U	400	ND	U	420
2-Nitrophenol	ug/kg	ND	U	410	ND	U	400	ND	U	420
4-Nitrophenol	ug/kg	ND	U	1000	ND	U	970	ND	U	1000
N-Nitrosodiphenylamine	ug/kg	ND	U	410	ND	U	400	ND	U	420
N-Nitroso-di-n-propylamine	ug/kg	ND	U	410	ND	U	400	ND	U	420
Pentachlorophenol	ug/kg	ND	U	1000	ND	U	970	ND	U	1000
Phenanthrene	ug/kg	ND	U	410	ND	U	400	70	J	420
Phenol	ug/kg	ND	U	410	ND	U	400	ND	U	420
Pyrene	ug/kg	54	J	410	ND	U	400	120	J	420
1,2,4-Trichlorobenzene	ug/kg	ND	U	410	ND	U	400	ND	U	420
2,4,5-Trichlorophenol	ug/kg	ND	U	1000	ND	U	970	ND	U	1000
2,4,6-Trichlorophenol	ug/kg	ND	U	410	ND	U	400	ND	U	420
Total PAHs		96			0			644		
Total Carcinogenic PAHs		0			0			314		
Total SVOCs		96			0			644		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SS18-110393			FF-SS19-110393			FF-SS20-110393		
Sample Designation=		031384-0007-SA			031384-0008-SA			031384-0009-SA		
Sample Collection Date=		03 NOV 93			03 NOV 93			03 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	UJ	410	ND	UJ	390	470	J	520
Acenaphthylene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Anthracene	ug/kg	ND	UJ	410	ND	UJ	390	630		520
9H-Carbazole	ug/kg	ND	UJ	410	ND	UJ	390	380	J	520
Benzo(a)anthracene	ug/kg	82	J	410	43	J	390	1200		520
Benzo(a)pyrene	ug/kg	78	J	410	41	J	390	960		520
Benzo(b)fluoranthene	ug/kg	140	J	410	81	J	390	1800		520
Benzo(g,h,i)perylene	ug/kg	ND	UJ	410	ND	UJ	390	450	J	520
Benzo(k)fluoranthene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
4-Bromophenyl phenyl ether	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Butyl benzyl phthalate	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
4-Chloroaniline	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
bis(2-Chloroethoxy)-methane	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
bis(2-Chloroethyl) ether	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
bis(2-Chloroisopropyl) ether	ug/kg	ND	UJ	410	ND	UJ	390	ND	UJ	520
4-Chloro-3-methylphenol	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
2-Chloronaphthalene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
2-Chlorophenol	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
4-Chlorophenyl phenyl ether	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Chrysene	ug/kg	82	J	410	49	J	390	1100		520
Di-n-butyl phthalate	ug/kg	120	J	410	170	J	390	ND	U	520
Dibenz(a,h)anthracene	ug/kg	ND	UJ	410	ND	UJ	390	270	J	520
Dibenzofuran	ug/kg	ND	UJ	410	ND	UJ	390	340	J	520
1,2-Dichlorobenzene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
1,3-Dichlorobenzene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
,4-Dichlorobenzene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
,3'-Dichlorobenzidine	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
2,4-Dichlorophenol	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Diethyl phthalate	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
2,4-Dimethylphenol	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Dimethyl phthalate	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
4,6-Dinitro-2-methylphenol	ug/kg	ND	UJ	980	ND	UJ	940	ND	U	1300
2,4-Dinitrophenol	ug/kg	ND	UJ	980	ND	UJ	940	ND	U	1300
2,4-Dinitrotoluene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
2,6-Dinitrotoluene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Di-n-octyl phthalate	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	410	130	J	390	ND	U*	520
Fluoranthene	ug/kg	160	J	410	84	J	390	1800		520
Fluorene	ug/kg	ND	UJ	410	ND	UJ	390	570		520
Hexachlorobenzene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Hexachlorobutadiene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Hexachlorocyclo-pentadiene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Hexachloroethane	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Indeno(1,2,3-cd)pyrene	ug/kg	45	J	410	ND	UJ	390	490	J	520
Isophorone	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
2-Methylnaphthalene	ug/kg	ND	UJ	410	ND	UJ	390	290	J	520
2-Methylphenol	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
4-Methylphenol	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Naphthalene	ug/kg	ND	UJ	410	ND	UJ	390	740		520
2-Nitroaniline	ug/kg	ND	UJ	980	ND	UJ	940	ND	U	1300
3-Nitroaniline	ug/kg	ND	UJ	980	ND	UJ	940	ND	U	1300
4-Nitroaniline	ug/kg	ND	UJ	980	ND	UJ	940	ND	U	1300
Nitrobenzene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
2-Nitrophenol	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
4-Nitrophenol	ug/kg	ND	UJ	980	ND	UJ	940	ND	U	1300
N-Nitrosodiphenylamine	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
N-Nitroso-di-n-propylamine	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Pentachlorophenol	ug/kg	ND	UJ	980	ND	UJ	940	ND	U	1300
Phenanthrene	ug/kg	81	J	410	ND	UJ	390	1900		520
Phenol	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Pyrene	ug/kg	140	J	410	80	J	390	1600		520
1,2,4-Trichlorobenzene	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
2,4,5-Trichlorophenol	ug/kg	ND	UJ	980	ND	UJ	940	ND	U	1300
,4,6-Trichlorophenol	ug/kg	ND	UJ	410	ND	UJ	390	ND	U	520
Total PAHs		808			378			14270		
Total Carcinogenic PAHs		427			214			6270		
Total SVOCs		928			678			14990		

NOTE * indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SS21-110493			FF-SS22-110493			FF-SS23-110493		
Sample Designation=		031390-0001-SA			031390-0002-SA			031390-0003-SA		
Sample Collection Date=		04 NOV 93			04 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	400	ND	U	400	ND	U	390
Acenaphthylene	ug/kg	47	J	400	ND	U	400	ND	U	390
Anthracene	ug/kg	72	J	400	ND	U	400	ND	U	390
9H-Carbazole	ug/kg	ND	U	400	ND	U	400	ND	U	390
Benzo(a)anthracene	ug/kg	180	J	400	47	J	400	ND	U	390
Benzo(a)pyrene	ug/kg	130	J	400	45	J	400	ND	U	390
Benzo(b)fluoranthene	ug/kg	240	J	400	96	J	400	ND	U	390
Benzo(g,h,i)perylene	ug/kg	50	J	400	ND	U	400	ND	U	390
Benzo(k)fluoranthene	ug/kg	ND	U	400	ND	U	400	ND	U	390
4-Bromophenyl phenyl ether	ug/kg	ND	U	400	ND	U	400	ND	U	390
Butyl benzyl phthalate	ug/kg	ND	U	400	ND	U	400	ND	U	390
4-Chloroaniline	ug/kg	ND	U	400	ND	U	400	ND	U	390
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	400	ND	U	400	ND	U	390
bis(2-Chloroethyl) ether	ug/kg	ND	U	400	ND	U	400	ND	U	390
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	400	ND	U	400	ND	U	390
4-Chloro-3-methylphenol	ug/kg	ND	U	400	ND	U	400	ND	U	390
2-Chloronaphthalene	ug/kg	ND	U	400	ND	U	400	ND	U	390
2-Chlorophenol	ug/kg	ND	U	400	ND	U	400	ND	U	390
4-Chlorophenyl phenyl ether	ug/kg	ND	U	400	ND	U	400	ND	U	390
Chrysene	ug/kg	180	J	400	51	J	400	ND	U	390
Di-n-butyl phthalate	ug/kg	ND	U	400	ND	U	400	ND	U	390
Dibenz(a,h)anthracene	ug/kg	ND	U	400	ND	U	400	ND	U	390
Dibenzofuran	ug/kg	ND	U	400	ND	U	400	ND	U	390
1,2-Dichlorobenzene	ug/kg	ND	U	400	ND	U	400	ND	U	390
1,3-Dichlorobenzene	ug/kg	ND	U	400	ND	U	400	ND	U	390
1,4-Dichlorobenzene	ug/kg	ND	U	400	ND	U	400	ND	U	390
3,3'-Dichlorobenzidine	ug/kg	ND	U	400	ND	U	400	ND	U	390
2,4-Dichlorophenol	ug/kg	ND	U	400	ND	U	400	ND	U	390
Diethyl phthalate	ug/kg	ND	U	400	ND	U	400	ND	U	390
2,4-Dimethylphenol	ug/kg	ND	U	400	ND	U	400	ND	U	390
Dimethyl phthalate	ug/kg	ND	U	400	ND	U	400	ND	U	390
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	960	ND	U	980	ND	U	950
2,4-Dinitrophenol	ug/kg	ND	U	960	ND	U	980	ND	U	950
2,4-Dinitrotoluene	ug/kg	ND	U	400	ND	U	400	ND	U	390
2,6-Dinitrotoluene	ug/kg	ND	U	400	ND	U	400	ND	U	390
Di-n-octyl phthalate	ug/kg	ND	U	400	ND	U	400	ND	U	390
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	400	ND	U*	400	ND	U*	390
Fluoranthene	ug/kg	400		400	83	J	400	ND	U	390
Fluorene	ug/kg	74	J	400	ND	U	400	ND	U	390
Hexachlorobenzene	ug/kg	ND	U	400	ND	U	400	ND	U	390
Hexachlorobutadiene	ug/kg	ND	U	400	ND	U	400	ND	U	390
Hexachlorocyclo-pentadiene	ug/kg	ND	U	400	ND	U	400	ND	U	390
Hexachloroethane	ug/kg	ND	U	400	ND	U	400	ND	U	390
Indeno(1,2,3-cd)pyrene	ug/kg	64	J	400	ND	U	400	ND	U	390
Isophorone	ug/kg	ND	U	400	ND	U	400	ND	U	390
2-Methylnaphthalene	ug/kg	ND	U	400	ND	U	400	ND	U	390
2-Methylphenol	ug/kg	ND	U	400	ND	U	400	ND	U	390
4-Methylphenol	ug/kg	ND	U	400	ND	U	400	ND	U	390
Naphthalene	ug/kg	ND	U	400	ND	U	400	ND	U	390
2-Nitroaniline	ug/kg	ND	U	960	ND	U	980	ND	U	950
3-Nitroaniline	ug/kg	ND	U	960	ND	U	980	ND	U	950
4-Nitroaniline	ug/kg	ND	U	960	ND	U	980	ND	U	950
Nitrobenzene	ug/kg	ND	U	400	ND	U	400	ND	U	390
2-Nitrophenol	ug/kg	ND	U	400	ND	U	400	ND	U	390
4-Nitrophenol	ug/kg	ND	U	960	ND	U	980	ND	U	950
N-Nitrosodiphenylamine	ug/kg	ND	U	400	ND	U	400	ND	U	390
N-Nitroso-di-n-propylamine	ug/kg	ND	U	400	ND	U	400	ND	U	390
Pentachlorophenol	ug/kg	ND	U	960	ND	U	980	ND	U	950
Phenanthrene	ug/kg	480		400	ND	U	400	ND	U	390
Phenol	ug/kg	ND	U	400	ND	U	400	ND	U	390
Pyrene	ug/kg	400		400	77	J	400	53	J	390
1,2,4-Trichlorobenzene	ug/kg	ND	U	400	ND	U	400	ND	U	390
2,4,5-Trichlorophenol	ug/kg	ND	U	960	ND	U	980	ND	U	950
2,4,6-Trichlorophenol	ug/kg	ND	U	400	ND	U	400	ND	U	390
Total PAHs		2317			399			53		
Total Carcinogenic PAHs		844			239			0		
Total SVOCs		2317			399			53		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SS24-110493			FF-SS25-110493			FF-SS26-110493		
Sample Designation=		031390-0004-SA			031390-0005-SA			031390-0006-SA		
Sample Collection Date=		04 NOV 93			04 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Acenaphthylene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Anthracene	ug/kg	ND	U	420	ND	U	350	ND	U	390
9H-Carbazole	ug/kg	ND	U	420	ND	U	350	ND	U	390
Benzo(a)anthracene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Benzo(a)pyrene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Benzo(b)fluoranthene	ug/kg	46	J	420	36	J	350	ND	U	390
Benzo(g,h,i)perylene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Benzo(k)fluoranthene	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Bromophenyl phenyl ether	ug/kg	ND	U	420	ND	U	350	ND	U	390
Butyl benzyl phthalate	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Chloroaniline	ug/kg	ND	U	420	ND	U	350	ND	U	390
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	420	ND	U	350	ND	U	390
bis(2-Chloroethyl) ether	ug/kg	ND	U	420	ND	U	350	ND	U	390
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Chloro-3-methylphenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Chloronaphthalene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Chlorophenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Chlorophenyl phenyl ether	ug/kg	ND	U	420	ND	U	350	ND	U	390
Chrysene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Di-n-butyl phthalate	ug/kg	ND	U	420	ND	U	350	ND	U	390
Dibenz(a,h)anthracene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Dibenzofuran	ug/kg	ND	U	420	ND	U	350	ND	U	390
1,2-Dichlorobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
1,3-Dichlorobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
1,4-Dichlorobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
3'-Dichlorobenzidine	ug/kg	ND	U	420	ND	U	350	ND	U	390
2,4-Dichlorophenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
Diethyl phthalate	ug/kg	ND	U	420	ND	U	350	ND	U	390
2,4-Dimethylphenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
Dimethyl phthalate	ug/kg	ND	U	420	ND	U	350	ND	U	390
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	1000	ND	U	850	ND	U	940
2,4-Dinitrophenol	ug/kg	ND	U	1000	ND	U	850	ND	U	940
2,4-Dinitrotoluene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2,6-Dinitrotoluene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Di-n-octyl phthalate	ug/kg	ND	U	420	ND	U	350	ND	U	390
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	420	ND	U*	350	ND	U*	390
Fluoranthene	ug/kg	46	J	420	38	J	350	ND	U	390
Fluorene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Hexachlorobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Hexachlorobutadiene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Hexachlorocyclo-pentadiene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Hexachloroethane	ug/kg	ND	U	420	ND	U	350	ND	U	390
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Isophorone	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Methylnaphthalene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Methylphenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Methylphenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
Naphthalene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Nitroaniline	ug/kg	ND	U	1000	ND	U	850	ND	U	940
3-Nitroaniline	ug/kg	ND	U	1000	ND	U	850	ND	U	940
4-Nitroaniline	ug/kg	ND	U	1000	ND	U	850	ND	U	940
Nitrobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2-Nitrophenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
4-Nitrophenol	ug/kg	ND	U	1000	ND	U	850	ND	U	940
N-Nitrosodiphenylamine	ug/kg	ND	U	420	ND	U	350	ND	U	390
N-Nitroso-di-n-propylamine	ug/kg	ND	U	420	ND	U	350	ND	U	390
Pentachlorophenol	ug/kg	ND	U	1000	ND	U	850	ND	U	940
Phenanthrene	ug/kg	ND	U	420	ND	U	350	ND	U	390
Phenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
Pyrene	ug/kg	48	J	420	40	J	350	49	J	390
1,2,4-Trichlorobenzene	ug/kg	ND	U	420	ND	U	350	ND	U	390
2,4,5-Trichlorophenol	ug/kg	ND	U	1000	ND	U	850	ND	U	940
2,4,6-Trichlorophenol	ug/kg	ND	U	420	ND	U	350	ND	U	390
Total PAHs		140			114			49		
Total Carcinogenic PAHs		46			36			0		
Total SVOCs		140			114			49		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SS27-110493			FF-SS35-110493 (Dup of SS27)			FF-SS28-110493		
Sample Designation=		031390-0007-SA			031390-0013-SA			031390-0008-SA		
Sample Collection Date=		04 NOV 93			04 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Acenaphthylene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Anthracene	ug/kg	ND	U	410	ND	U	420	ND	U	400
9H-Carbazole	ug/kg	ND	U	410	ND	U	420	ND	U	400
Benzo(a)anthracene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Benzo(a)pyrene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Benzo(b)fluoranthene	ug/kg	47	J	410	66	J	420	62	J	400
Benzo(g,h,i)perylene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Benzo(k)fluoranthene	ug/kg	ND	U	410	ND	U	420	ND	U	400
4-Bromophenyl phenyl ether	ug/kg	ND	U	410	ND	U	420	ND	U	400
Butyl benzyl phthalate	ug/kg	ND	U	410	ND	U	420	ND	U	400
4-Chloroaniline	ug/kg	ND	U	410	ND	U	420	ND	U	400
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	410	ND	U	420	ND	U	400
bis(2-Chloroethyl) ether	ug/kg	ND	U	410	ND	U	420	ND	U	400
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	410	ND	U	420	ND	U	400
4-Chloro-3-methylphenol	ug/kg	ND	U	410	ND	U	420	ND	U	400
2-Chloronaphthalene	ug/kg	ND	U	410	ND	U	420	ND	U	400
2-Chlorophenol	ug/kg	ND	U	410	ND	U	420	ND	U	400
4-Chlorophenyl phenyl ether	ug/kg	ND	U	410	ND	U	420	ND	U	400
Chrysene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Di-n-butyl phthalate	ug/kg	ND	U	410	ND	U	420	ND	U	400
Dibenz(a,h)anthracene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Dibenzofuran	ug/kg	ND	U	410	ND	U	420	ND	U	400
1,2-Dichlorobenzene	ug/kg	ND	U	410	ND	U	420	ND	U	400
1,3-Dichlorobenzene	ug/kg	ND	U	410	ND	U	420	ND	U	400
1,4-Dichlorobenzene	ug/kg	ND	U	410	ND	U	420	ND	U	400
3,3'-Dichlorobenzidine	ug/kg	ND	U	410	ND	U	420	ND	U	400
2,4-Dichlorophenol	ug/kg	ND	U	410	ND	U	420	ND	U	400
Diethyl phthalate	ug/kg	ND	U	410	ND	U	420	ND	U	400
2,4-Dimethylphenol	ug/kg	ND	U	410	ND	U	420	ND	U	400
Dimethyl phthalate	ug/kg	ND	U	410	ND	U	420	ND	U	400
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	1000	ND	U	1000	ND	U	960
2,4-Dinitrophenol	ug/kg	ND	U	1000	ND	U	1000	ND	U	960
2,4-Dinitrotoluene	ug/kg	ND	U	410	ND	U	420	ND	U	400
2,6-Dinitrotoluene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Di-n-octyl phthalate	ug/kg	ND	U	410	ND	U	420	ND	U	400
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	410	ND	U*	420	ND	U*	400
Fluoranthene	ug/kg	54	J	410	76	J	420	69	J	400
Fluorene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Hexachlorobenzene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Hexachlorobutadiene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Hexachlorocyclo-pentadiene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Hexachloroethane	ug/kg	ND	U	410	ND	U	420	ND	U	400
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	410	ND	U	420	ND	U	400
Isophorone	ug/kg	ND	U	410	ND	U	420	ND	U	400
2-Methylnaphthalene	ug/kg	ND	U	410	ND	U	420	ND	U	400
2-Methylphenol	ug/kg	ND	U	410	ND	U	420	ND	U	400
4-Methylphenol	ug/kg	ND	U	410	ND	U	420	ND	U	400
Naphthalene	ug/kg	ND	U	410	ND	U	420	ND	U	400
2-Nitroaniline	ug/kg	ND	U	1000	ND	U	1000	ND	U	960
3-Nitroaniline	ug/kg	ND	U	1000	ND	U	1000	ND	U	960
4-Nitroaniline	ug/kg	ND	U	1000	ND	U	1000	ND	U	960
Nitrobenzene	ug/kg	ND	U	410	ND	U	420	ND	U	400
2-Nitrophenol	ug/kg	ND	U	410	ND	U	420	ND	U	400
4-Nitrophenol	ug/kg	ND	U	1000	ND	U	1000	ND	U	960
N-Nitrosodiphenylamine	ug/kg	ND	U	410	ND	U	420	ND	U	400
N-Nitroso-di-n-propylamine	ug/kg	ND	U	410	ND	U	420	ND	U	400
Pentachlorophenol	ug/kg	ND	U	1000	ND	U	1000	ND	U	960
Phenanthrene	ug/kg	66	J	410	67	J	420	43	J	400
Phenol	ug/kg	ND	U	410	ND	U	420	ND	U	400
Pyrene	ug/kg	91	J	410	110	J	420	73	J	400
1,2,4-Trichlorobenzene	ug/kg	ND	U	410	ND	U	420	ND	U	400
2,4,5-Trichlorophenol	ug/kg	ND	U	1000	ND	U	1000	ND	U	960
2,4,6-Trichlorophenol	ug/kg	ND	U	410	ND	U	420	ND	U	400
Total PAHs		258			319			247		
Total Carcinogenic PAHs		47			66			62		
Total SVOCs		258			319			247		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SS29-110493			FF-SS30-110493			FF-SS31-110493		
Sample Designation=		031390-0010-SA			031390-0011-SA			031390-0012-SA		
Sample Collection Date=		04 NOV 93			04 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	400	ND	U	360	ND	U	400
Acenaphthylene	ug/kg	ND	U	400	ND	U	360	ND	U	400
Anthracene	ug/kg	ND	U	400	67	J	360	ND	U	400
9H-Carbazole	ug/kg	ND	U	400	49	J	360	ND	U	400
Benzo(a)anthracene	ug/kg	42	J	400	350	J	360	160	J	400
Benzo(a)pyrene	ug/kg	ND	U	400	300	J	360	140	J	400
Benzo(b)fluoranthene	ug/kg	89	J	400	610		360	310	J	400
Benzo(g,h,i)perylene	ug/kg	ND	U	400	150	J	360	66	J	400
Benzo(k)fluoranthene	ug/kg	ND	U	400	ND	U	360	ND	U	400
4-Bromophenyl phenyl ether	ug/kg	ND	U	400	ND	U	360	ND	U	400
Butyl benzyl phthalate	ug/kg	ND	U	400	ND	U	360	ND	U	400
4-Chloroaniline	ug/kg	ND	U	400	ND	U	360	ND	U	400
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	400	ND	U	360	ND	U	400
bis(2-Chloroethyl) ether	ug/kg	ND	U	400	ND	U	360	ND	U	400
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	400	ND	U	360	ND	U	400
4-Chloro-3-methylphenol	ug/kg	ND	U	400	ND	U	360	ND	U	400
2-Chloronaphthalene	ug/kg	ND	U	400	ND	U	360	ND	U	400
2-Chlorophenol	ug/kg	ND	U	400	ND	U	360	ND	U	400
4-Chlorophenyl phenyl ether	ug/kg	ND	U	400	ND	U	360	ND	U	400
Chrysene	ug/kg	53	J	400	400		360	180	J	400
Di-n-butyl phthalate	ug/kg	ND	U	400	54	J	360	ND	U	400
Dibenz(a,h)anthracene	ug/kg	ND	U	400	77	J	360	ND	U	400
Dibenzofuran	ug/kg	ND	U	400	ND	U	360	ND	U	400
1,2-Dichlorobenzene	ug/kg	ND	U	400	ND	U	360	ND	U	400
1,3-Dichlorobenzene	ug/kg	ND	U	400	ND	U	360	ND	U	400
1,4-Dichlorobenzene	ug/kg	ND	U	400	ND	U	360	ND	U	400
3,3'-Dichlorobenzidine	ug/kg	ND	U	400	ND	U	360	ND	U	400
2,4-Dichlorophenol	ug/kg	ND	U	400	ND	U	360	ND	U	400
Diethyl phthalate	ug/kg	ND	U	400	ND	U	360	ND	U	400
2,4-Dimethylphenol	ug/kg	ND	U	400	ND	U	360	ND	U	400
Dimethyl phthalate	ug/kg	ND	U	400	ND	U	360	ND	U	400
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	960	ND	U	870	ND	U	960
2,4-Dinitrophenol	ug/kg	ND	U	960	ND	U	870	ND	U	960
2,4-Dinitrotoluene	ug/kg	ND	U	400	ND	U	360	ND	U	400
2,6-Dinitrotoluene	ug/kg	ND	U	400	ND	U	360	ND	U	400
Di-n-octyl phthalate	ug/kg	ND	U	400	ND	U	360	ND	U	400
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	400	ND	U*	360	ND	U*	400
Fluoranthene	ug/kg	84	J	400	710		360	280	J	400
Fluorene	ug/kg	ND	U	400	ND	U	360	ND	U	400
Hexachlorobenzene	ug/kg	ND	U	400	ND	U	360	ND	U	400
Hexachlorobutadiene	ug/kg	ND	U	400	ND	U	360	ND	U	400
Hexachlorocyclo-pentadiene	ug/kg	ND	U	400	ND	U	360	ND	U	400
Hexachloroethane	ug/kg	ND	U	400	ND	U	360	ND	U	400
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	400	170	J	360	86	J	400
Isophorone	ug/kg	ND	U	400	ND	U	360	ND	U	400
2-Methylnaphthalene	ug/kg	ND	U	400	ND	U	360	ND	U	400
2-Methylphenol	ug/kg	ND	U	400	ND	U	360	ND	U	400
4-Methylphenol	ug/kg	ND	U	400	ND	U	360	ND	U	400
Naphthalene	ug/kg	ND	U	400	ND	U	360	ND	U	400
2-Nitroaniline	ug/kg	ND	U	960	ND	U	870	ND	U	960
3-Nitroaniline	ug/kg	ND	U	960	ND	U	870	ND	U	960
4-Nitroaniline	ug/kg	ND	U	960	ND	U	870	ND	U	960
Nitrobenzene	ug/kg	ND	U	400	ND	U	360	ND	U	400
2-Nitrophenol	ug/kg	ND	U	400	ND	U	360	ND	U	400
4-Nitrophenol	ug/kg	ND	U	960	ND	U	870	ND	U	960
N-Nitrosodiphenylamine	ug/kg	ND	U	400	ND	U	360	ND	U	400
N-Nitroso-di-n-propylamine	ug/kg	ND	U	400	ND	U	360	ND	U	400
Pentachlorophenol	ug/kg	ND	U	960	ND	U	870	ND	U	960
Phenanthrene	ug/kg	43	J	400	470		360	120	J	400
Phenol	ug/kg	ND	U	400	ND	U	360	ND	U	400
Pyrene	ug/kg	90	J	400	770		360	290	J	400
1,2,4-Trichlorobenzene	ug/kg	ND	U	400	ND	U	360	ND	U	400
2,4,5-Trichlorophenol	ug/kg	ND	U	960	ND	U	870	ND	U	960
2,4,6-Trichlorophenol	ug/kg	ND	U	400	ND	U	360	ND	U	400
Total PAHs		401			4074			1632		
Total Carcinogenic PAHs		184			2057			942		
Total SVOCs		401			4177			1632		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B81-112293			FF-B91-112393			FF-B101-112393		
Sample Designation=		031806-0005-SA			031806-0008-SA			031813-0008-SA		
Sample Collection Date=		22 NOV 93			23 NOV 93			23 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	92	J	380	62	J	380	ND	U	360
Acenaphthylene	ug/kg	270	J	380	ND	U	380	ND	U	360
Anthracene	ug/kg	320	J	380	130	J	380	68	J	360
9H-Carbazole	ug/kg	61	J	380	68	J	380	ND	U	360
Benzo(a)anthracene	ug/kg	1400		380	350	J	380	240	J	360
Benzo(a)pyrene	ug/kg	1200		380	310	J	380	220	J	360
Benzo(b)fluoranthene	ug/kg	1700		380	540		380	440		360
Benzo(g,h,i)perylene	ug/kg	420		380	140	J	380	59	J	360
Benzo(k)fluoranthene	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Bromophenyl phenyl ether	ug/kg	ND	U	380	ND	U	380	ND	U	360
Butyl benzyl phthalate	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Chloroaniline	ug/kg	ND	U	380	ND	U	380	ND	U	360
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	380	ND	U	380	ND	U	360
bis(2-Chloroethyl) ether	ug/kg	ND	U	380	ND	U	380	ND	U	360
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Chloro-3-methylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
2-Chloronaphthalene	ug/kg	ND	U	380	ND	U	380	ND	U	360
2-Chlorophenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Chlorophenyl phenyl ether	ug/kg	ND	U	380	ND	U	380	ND	U	360
Chrysene	ug/kg	1400		380	380		380	250	J	360
Di-n-butyl phthalate	ug/kg	41	J	380	ND	U	380	140	J	360
Dibenz(a,h)anthracene	ug/kg	270	J	380	59	J	380	43	J	360
Dibenzofuran	ug/kg	130	J	380	46	J	380	ND	U	360
1,2-Dichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
1,3-Dichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
1,4-Dichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
3,3'-Dichlorobenzidine	ug/kg	ND	U	380	ND	U	380	ND	U	360
2,4-Dichlorophenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
Diethyl phthalate	ug/kg	80	J	380	ND	U	380	ND	U	360
2,4-Dimethylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
Dimethyl phthalate	ug/kg	ND	U	380	ND	U	380	ND	U	360
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	910	ND	U	910	ND	U	880
2,4-Dinitrophenol	ug/kg	ND	U	910	ND	U	910	ND	U	880
2,4-Dinitrotoluene	ug/kg	ND	U	380	ND	U	380	ND	U	360
2,6-Dinitrotoluene	ug/kg	ND	U	380	ND	U	380	ND	U	360
Di-n-octyl phthalate	ug/kg	ND	U	380	ND	U	380	ND	U	360
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	380	ND	U*	380	59	J	360
Fluoranthene	ug/kg	2100		380	740		380	430		360
Fluorene	ug/kg	190	J	380	75	J	380	ND	U	360
Hexachlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
Hexachlorobutadiene	ug/kg	ND	U	380	ND	U	380	ND	U	360
Hexachlorocyclo-pentadiene	ug/kg	ND	U	380	ND	U	380	ND	U	360
Hexachloroethane	ug/kg	ND	U	380	ND	U	380	ND	U	360
Indeno(1,2,3-cd)pyrene	ug/kg	560		380	170	J	380	100	J	360
Isophorone	ug/kg	ND	U	380	ND	U	380	ND	U	360
2-Methylnaphthalene	ug/kg	ND	U	380	45	J	380	ND	U	360
2-Methylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Methylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
Naphthalene	ug/kg	ND	U	380	39	J	380	ND	U	360
2-Nitroaniline	ug/kg	ND	U	910	ND	U	910	ND	U	880
3-Nitroaniline	ug/kg	ND	U	910	ND	U	910	ND	U	880
4-Nitroaniline	ug/kg	ND	U	910	ND	U	910	ND	U	880
Nitrobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
2-Nitrophenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
4-Nitrophenol	ug/kg	ND	U	910	ND	U	910	ND	U	880
N-Nitrosodiphenylamine	ug/kg	ND	U	380	ND	U	380	ND	U	360
N-Nitroso-di-n-propylamine	ug/kg	ND	U	380	ND	U	380	ND	U	360
Pentachlorophenol	ug/kg	ND	U	910	ND	U	910	ND	U	880
Phenanthrene	ug/kg	1600		380	640		380	210	J	360
Phenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
Pyrene	ug/kg	2300		380	710		380	490		360
1,2,4-Trichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	360
2,4,5-Trichlorophenol	ug/kg	ND	U	910	ND	U	910	ND	U	880
2,4,6-Trichlorophenol	ug/kg	ND	U	380	ND	U	380	ND	U	360
Total PAHs		13822			4390			2550		
Total Carcinogenic PAHs		6950			1949			1352		
Total SVOCs		14134			4504			2749		

NOTE: "*" indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B111-112493			FF-B121-112493			FF-B131-112393		
Sample Designation=		031813-0001-SA			031813-0003-SA			031806-0009-SA		
Sample Collection Date=		24 NOV 93			24 NOV 93			23 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	380	ND	U	370	680		370
Acenaphthylene	ug/kg	ND	U	380	ND	U	370	140	J	370
Anthracene	ug/kg	ND	U	380	83	J	370	1300		370
9H-Carbazole	ug/kg	ND	U	380	ND	U	370	690		370
Benzo(a)anthracene	ug/kg	130	J	380	180	J	370	ND	R*	1100
Benzo(a)pyrene	ug/kg	130	J	380	170	J	370	2800		370
Benzo(b)fluoranthene	ug/kg	280	J	380	320	J	370	ND	R*	1100
Benzo(g,h,i)perylene	ug/kg	43	J	380	77	J	370	980		370
Benzo(k)fluoranthene	ug/kg	ND	U	380	ND	U	370	ND	U	370
4-Bromophenyl phenyl ether	ug/kg	ND	U	380	ND	U	370	ND	U	370
Butyl benzyl phthalate	ug/kg	ND	U	380	ND	U	370	ND	U	370
4-Chloroaniline	ug/kg	ND	U	380	ND	U	370	ND	U	370
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	380	ND	U	370	ND	U	370
bis(2-Chloroethyl) ether	ug/kg	ND	U	380	ND	U	370	ND	U	370
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	380	ND	U	370	ND	U	370
4-Chloro-3-methylphenol	ug/kg	ND	U	380	ND	U	370	ND	U	370
2-Chloronaphthalene	ug/kg	ND	U	380	ND	U	370	ND	U	370
2-Chlorophenol	ug/kg	ND	U	380	ND	U	370	ND	U	370
4-Chlorophenyl phenyl ether	ug/kg	ND	U	380	ND	U	370	ND	U	370
Chrysene	ug/kg	150	J	380	180	J	370	ND	R*	1100
Di-n-butyl phthalate	ug/kg	ND	U	380	ND	U	370	ND	U	370
Dibenz(a,h)anthracene	ug/kg	ND	U	380	ND	U	370	610		370
Dibenzofuran	ug/kg	ND	U	380	ND	U	370	500		370
1,2-Dichlorobenzene	ug/kg	ND	U	380	ND	U	370	ND	U	370
1,3-Dichlorobenzene	ug/kg	ND	U	380	ND	U	370	ND	U	370
' 4-Dichlorobenzene	ug/kg	ND	U	380	ND	U	370	ND	U	370
Y-Dichlorobenzidine	ug/kg	ND	U	380	ND	U	370	ND	U	370
,4-Dichlorophenol	ug/kg	ND	U	380	ND	U	370	ND	U	370
Diethyl phthalate	ug/kg	ND	U	380	ND	U	370	ND	U	370
2,4-Dimethylphenol	ug/kg	ND	U	380	ND	U	370	ND	U	370
Dimethyl phthalate	ug/kg	ND	U	380	ND	U	370	ND	U	370
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	930	ND	U	890	ND	U	900
2,4-Dinitrophenol	ug/kg	ND	U	930	ND	UJ	890	ND	U	900
2,4-Dinitrotoluene	ug/kg	ND	U	380	ND	U	370	ND	U	370
2,6-Dinitrotoluene	ug/kg	ND	U	380	ND	U	370	ND	U	370
Di-n-octyl phthalate	ug/kg	ND	U	380	ND	U	370	ND	U	370
bis(2-Ethylhexyl) phthalate	ug/kg	48	J	380	ND	U	370	ND	U*	370
Fluoranthene	ug/kg	270	J	380	370		370	ND	R*	1100
Fluorene	ug/kg	ND	U	380	ND	U	370	740		370
Hexachlorobenzene	ug/kg	ND	U	380	ND	U	370	ND	U	370
Hexachlorobutadiene	ug/kg	ND	U	380	ND	U	370	ND	U	370
Hexachlorocyclo-pentadiene	ug/kg	ND	U	380	ND	U	370	ND	U	370
Hexachloroethane	ug/kg	ND	U	380	ND	U	370	ND	U	370
Indeno(1,2,3-cd)pyrene	ug/kg	61	J	380	96	J	370	1200		370
Isophorone	ug/kg	ND	U	380	ND	U	370	ND	U	370
2-Methylnaphthalene	ug/kg	ND	U	380	ND	U	370	270	J	370
2-Methylphenol	ug/kg	ND	U	380	ND	U	370	ND	U	370
4-Methylphenol	ug/kg	ND	U	380	ND	U	370	ND	U	370
Naphthalene	ug/kg	ND	U	380	ND	U	370	380		370
2-Nitroaniline	ug/kg	ND	U	930	ND	U	890	ND	U	900
3-Nitroaniline	ug/kg	ND	U	930	ND	U	890	ND	U	900
4-Nitroaniline	ug/kg	ND	U	930	ND	U	890	ND	U	900
Nitrobenzene	ug/kg	ND	U	380	ND	U	370	ND	U	370
2-Nitrophenol	ug/kg	ND	U	380	ND	U	370	ND	U	370
4-Nitrophenol	ug/kg	ND	U	930	ND	U	890	ND	U	900
N-Nitrosodiphenylamine	ug/kg	ND	U	380	ND	U	370	150	J	370
N-Nitroso-di-n-propylamine	ug/kg	ND	U	380	ND	U	370	ND	U	370
Pentachlorophenol	ug/kg	ND	U	930	ND	U	890	ND	U	900
Phenanthrene	ug/kg	140	J	380	250	J	370	ND	R*	1100
Phenol	ug/kg	ND	U	380	ND	U	370	ND	U	370
Pyrene	ug/kg	300	J	380	360	J	370	ND	R*	1100
1,2,4-Trichlorobenzene	ug/kg	ND	U	380	ND	U	370	ND	U	370
2,4,5-Trichlorophenol	ug/kg	ND	U	930	ND	U	890	ND	U	900
? 4,6-Trichlorophenol	ug/kg	ND	U	380	ND	U	370	ND	U	370
,al PAHs		1504			2086			9100		
Total Carcinogenic PAHs		794			1023			5590		
Total SVOCs		1552			2086			10440		

NOTE "*" indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B141-121393			FF-B151-121393			FF-B161-112393		
Sample Designation=		32184-01-SA			32184-0003-SA			031806-0011-SA		
Sample Collection Date=		13 DEC 93			13 DEC 93			23 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	390	ND	U	370	330	J	1400
Acenaphthylene	ug/kg	ND	U	390	40	J	370	ND	U	1400
Anthracene	ug/kg	ND	U	390	170	J	370	720	J	1400
9H-Carbazole	ug/kg	ND	U	390	ND	U	370	240	J	1400
Benzo(a)anthracene	ug/kg	ND	U	390	440		370	2400		1400
Benzo(a)pyrene	ug/kg	ND	U	390	240	J	370	2600		1400
Benzo(b)fluoranthene	ug/kg	ND	U	390	440		370	3900		1400
Benzo(g,h,i)perylene	ug/kg	ND	U	390	120	J	370	1300	J	1400
Benzo(k)fluoranthene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Bromophenyl phenyl ether	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Butyl benzyl phthalate	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Chloroaniline	ug/kg	ND	U	390	ND	U	370	ND	U	1400
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	390	ND	U	370	ND	U	1400
bis(2-Chloroethyl) ether	ug/kg	ND	U	390	ND	U	370	ND	U	1400
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Chloro-3-methylphenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2-Chloronaphthalene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2-Chlorophenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Chlorophenyl phenyl ether	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Chrysene	ug/kg	ND	U	390	390		370	2400		1400
Di-n-butyl phthalate	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Dibenz(a,h)anthracene	ug/kg	ND	U	390	77	J	370	350	J	1400
Dibenzofuran	ug/kg	ND	U	390	ND	U	370	ND	U	1400
1,2-Dichlorobenzene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
1,3-Dichlorobenzene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
1,4-Dichlorobenzene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
3,3'-Dichlorobenzidine	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2,4-Dichlorophenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Diethyl phthalate	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2,4-Dimethylphenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Dimethyl phthalate	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	950	ND	U	900	ND	U	3600
2,4-Dinitrophenol	ug/kg	ND	U	950	ND	U	900	ND	U	3600
2,4-Dinitrotoluene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2,6-Dinitrotoluene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Di-n-octyl phthalate	ug/kg	ND	U	390	ND	U	370	ND	U	1400
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	390	ND	U*	370	ND	U*	1400
Fluoranthene	ug/kg	ND	U	390	740		370	3200		1400
Fluorene	ug/kg	ND	U	390	ND	U	370	380	J	1400
Hexachlorobenzene	ug/kg	ND	U	390	43	J	370	ND	U	1400
Hexachlorobutadiene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Hexachlorocyclo-pentadiene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Hexachloroethane	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	390	130	J	370	1100	J	1400
Isophorone	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2-Methylnaphthalene	ug/kg	ND	U	390	ND	U	370	190	J	1400
2-Methylphenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Methylphenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Naphthalene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2-Nitroaniline	ug/kg	ND	U	950	ND	U	900	ND	U	3500
3-Nitroaniline	ug/kg	ND	U	950	ND	U	900	ND	U	3500
4-Nitroaniline	ug/kg	ND	U	950	ND	U	900	ND	U	3500
Nitrobenzene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2-Nitrophenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
4-Nitrophenol	ug/kg	ND	U	950	ND	U	900	ND	U	3500
N-Nitrosodiphenylamine	ug/kg	ND	U	390	ND	U	370	ND	U	1400
N-Nitroso-di-n-propylamine	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Pentachlorophenol	ug/kg	ND	U	950	ND	U	900	ND	U	3500
Phenanthrene	ug/kg	ND	U	390	500		370	3300		1400
Phenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Pyrene	ug/kg	ND	U	390	800		370	4600		1400
1,2,4-Trichlorobenzene	ug/kg	ND	U	390	ND	U	370	ND	U	1400
2,4,5-Trichlorophenol	ug/kg	ND	U	950	ND	U	900	ND	U	3500
2,4,6-Trichlorophenol	ug/kg	ND	U	390	ND	U	370	ND	U	1400
Total PAHs		0			4087			26770		
Total Carcinogenic PAHs		0			1837			14050		
Total SVOCs		0			4130			27010		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B164-112393 (Dup of B161)			FF-B171-112493			FF-B181-112393		
Sample Designation=		031806-0014-SA			031813-0005-SA			031806-0015-SA		
Sample Collection Date=		23 NOV 93			24 NOV 93			23 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	37	J	370	63	J	370	ND	U	380
Acenaphthylene	ug/kg	58	J	370	ND	U	370	ND	U	380
Anthracene	ug/kg	190	J	370	100	J	370	ND	U	380
9H-Carbazole	ug/kg	40	J	370	ND	U	370	ND	U	380
Benzo(a)anthracene	ug/kg	400		370	320	J	370	ND	U	380
Benzo(a)pyrene	ug/kg	410		370	310	J	370	ND	U	380
Benzo(b)fluoranthene	ug/kg	750		370	480		370	63	J	380
Benzo(g,h,i)perylene	ug/kg	320	J	370	87	J	370	ND	U	380
Benzo(k)fluoranthene	ug/kg	ND	U	370	ND	U	370	ND	U	380
4-Bromophenyl phenyl ether	ug/kg	ND	U	370	ND	U	370	ND	U	380
Butyl benzyl phthalate	ug/kg	ND	U	370	ND	U	370	ND	U	380
4-Chloroaniline	ug/kg	ND	U	370	ND	U	370	ND	U	380
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	370	ND	U	370	ND	U	380
bis(2-Chloroethyl) ether	ug/kg	ND	U	370	ND	U	370	ND	U	380
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	370	ND	U	370	ND	U	380
4-Chloro-3-methylphenol	ug/kg	ND	U	370	ND	U	370	ND	U	380
2-Chloronaphthalene	ug/kg	ND	U	370	ND	U	370	ND	U	380
2-Chlorophenol	ug/kg	ND	U	370	ND	U	370	ND	U	380
4-Chlorophenyl phenyl ether	ug/kg	ND	U	370	ND	U	370	ND	U	380
Chrysene	ug/kg	450		370	320	J	370	41	J	380
Di-n-butyl phthalate	ug/kg	ND	U	370	ND	U	370	ND	U	380
Dibenz(a,h)anthracene	ug/kg	120	J	370	60	J	370	ND	U	380
Dibenzofuran	ug/kg	ND	U	370	ND	U	370	ND	U	380
1,2-Dichlorobenzene	ug/kg	ND	U	370	ND	U	370	ND	U	380
[illegible]3-Dichlorobenzene	ug/kg	ND	U	370	ND	U	370	ND	U	380
[illegible]ichlorobenzene	ug/kg	ND	U	370	ND	U	370	ND	U	380
[illegible]Dichlorobenzidine	ug/kg	ND	U	370	ND	U	370	ND	U	380
2,4-Dichlorophenol	ug/kg	ND	U	370	ND	U	370	ND	U	380
Diethyl phthalate	ug/kg	ND	U	370	ND	U	370	ND	U	380
2,4-Dimethylphenol	ug/kg	ND	U	370	ND	U	370	ND	U	380
Dimethyl phthalate	ug/kg	ND	U	370	ND	U	370	ND	U	380
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	890	ND	U	910	ND	U	930
2,4-Dinitrophenol	ug/kg	ND	U	890	ND	U	910	ND	U	930
2,4-Dinitrotoluene	ug/kg	ND	U	370	ND	U	370	ND	U	380
2,6-Dinitrotoluene	ug/kg	ND	U	370	ND	U	370	ND	U	380
Di-n-octyl phthalate	ug/kg	ND	U	370	ND	U	370	ND	U	380
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	370	45	J	370	ND	U*	380
Fluoranthene	ug/kg	670		370	480		370	67	J	380
Fluorene	ug/kg	47	J	370	63	J	370	ND	U	380
Hexachlorobenzene	ug/kg	ND	U	370	ND	U	370	ND	U	380
Hexachlorobutadiene	ug/kg	ND	U	370	ND	U	370	ND	U	380
Hexachlorocyclo-pentadiene	ug/kg	ND	U	370	ND	U	370	ND	U	380
Hexachloroethane	ug/kg	ND	U	370	ND	U	370	ND	U	380
Indeno(1,2,3-cd)pyrene	ug/kg	290	J	370	110	J	370	ND	U	380
Isophorone	ug/kg	ND	U	370	ND	U	370	ND	U	380
2-Methylnaphthalene	ug/kg	75	J	370	50	J	370	ND	U	380
2-Methylphenol	ug/kg	ND	U	370	ND	U	370	ND	U	380
4-Methylphenol	ug/kg	ND	U	370	ND	U	370	ND	U	380
Naphthalene	ug/kg	ND	U	370	ND	U	370	ND	U	380
2-Nitroaniline	ug/kg	ND	U	890	ND	U	910	ND	U	930
3-Nitroaniline	ug/kg	ND	U	890	ND	U	910	ND	U	930
4-Nitroaniline	ug/kg	ND	U	890	ND	U	910	ND	U	930
Nitrobenzene	ug/kg	ND	U	370	ND	U	370	ND	U	380
2-Nitrophenol	ug/kg	ND	U	370	ND	U	370	ND	U	380
4-Nitrophenol	ug/kg	ND	U	890	ND	U	910	ND	U	930
N-Nitrosodiphenylamine	ug/kg	ND	U	370	ND	U	370	ND	U	380
N-Nitroso-di-n-propylamine	ug/kg	ND	U	370	ND	U	370	ND	U	380
Pentachlorophenol	ug/kg	350	J	370	ND	U	910	ND	U	930
Phenanthrene	ug/kg	470		370	580		370	ND	U	380
Phenol	ug/kg	ND	U	370	ND	U	370	ND	U	380
Pyrene	ug/kg	610		370	870		370	68	J	380
1,2,4-Trichlorobenzene	ug/kg	ND	U	370	ND	U	370	ND	U	380
[illegible]4,5-Trichlorophenol	ug/kg	ND	U	890	ND	U	910	ND	U	930
[illegible]-Trichlorophenol	ug/kg	ND	U	370	ND	U	370	ND	U	380
Total PAHs		4897			3893			239		
Total Carcinogenic PAHs		2740			1687			104		
Total SVOCs		5287			3938			239		

NOTE: "*" indicates a value which was changed to "ND" following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-M61-113093			FF-M71-112993			FF-M81-113093		
Sample Designation=		31875-07-SA			31875-03-SA			31875-09-SA		
Sample Collection Date=		30 NOV 93			29 NOV 93			30 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	370	ND	U	360	ND	U	390
Acenaphthylene	ug/kg	ND	U	370	ND	U	360	ND	U	390
Anthracene	ug/kg	42	J	370	ND	U	360	ND	U	390
9H-Carbazole	ug/kg	ND	U	370	ND	U	360	ND	U	390
Benzo(a)anthracene	ug/kg	180	J	370	71	J	360	ND	U	390
Benzo(a)pyrene	ug/kg	180	J	370	63	J	360	ND	U	390
Benzo(b)fluoranthene	ug/kg	350	J	370	130	J	360	54	J	390
Benzo(g,h,i)perylene	ug/kg	46	J	370	40	J	360	ND	U	390
Benzo(k)fluoranthene	ug/kg	ND	U	370	ND	U	360	ND	U	390
4-Bromophenyl phenyl ether	ug/kg	ND	U	370	ND	U	360	ND	U	390
Butyl benzyl phthalate	ug/kg	ND	U	370	ND	U	360	ND	U	390
4-Chloroaniline	ug/kg	ND	U	370	ND	U	360	ND	U	390
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	370	ND	U	360	ND	U	390
bis(2-Chloroethyl) ether	ug/kg	ND	U	370	ND	U	360	ND	U	390
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	370	ND	U	360	ND	U	390
4-Chloro-3-methylphenol	ug/kg	ND	U	370	ND	U	360	ND	U	390
2-Chloronaphthalene	ug/kg	ND	U	370	ND	U	360	ND	U	390
2-Chlorophenol	ug/kg	ND	U	370	ND	U	360	ND	U	390
4-Chlorophenyl phenyl ether	ug/kg	ND	U	370	ND	U	360	ND	U	390
Chrysene	ug/kg	170	J	370	78	J	360	ND	U	390
Di-n-butyl phthalate	ug/kg	ND	U	370	ND	U	360	ND	U	390
Dibenz(a,h)anthracene	ug/kg	ND	U	370	ND	U	360	ND	U	390
Dibenzofuran	ug/kg	ND	U	370	ND	U	360	ND	U	390
1,2-Dichlorobenzene	ug/kg	ND	U	370	ND	U	360	ND	U	390
1,3-Dichlorobenzene	ug/kg	ND	U	370	ND	U	360	ND	U	390
1,4-Dichlorobenzene	ug/kg	ND	U	370	ND	U	360	ND	U	390
3,3'-Dichlorobenzidine	ug/kg	ND	U	370	ND	U	360	ND	U	390
2,4-Dichlorophenol	ug/kg	ND	U	370	ND	U	360	ND	U	390
Diethyl phthalate	ug/kg	ND	U	370	ND	U	360	ND	U	390
2,4-Dimethylphenol	ug/kg	ND	U	370	ND	U	360	ND	U	390
Dimethyl phthalate	ug/kg	ND	U	370	ND	U	360	ND	U	390
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	890	ND	U	880	ND	U	940
2,4-Dinitrophenol	ug/kg	ND	U	890	ND	U	880	ND	U	940
2,4-Dinitrotoluene	ug/kg	ND	U	370	ND	U	360	ND	U	390
2,6-Dinitrotoluene	ug/kg	ND	U	370	ND	U	360	ND	U	390
Di-n-octyl phthalate	ug/kg	ND	U	370	ND	U	360	ND	U	390
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U	370	ND	U	360	ND	U	390
Fluoranthene	ug/kg	280	J	370	130	J	360	53	J	390
Fluorene	ug/kg	ND	U	370	ND	U	360	ND	U	390
Hexachlorobenzene	ug/kg	210	J	370	ND	U	360	ND	U	390
Hexachlorobutadiene	ug/kg	ND	U	370	ND	U	360	ND	U	390
Hexachlorocyclo-pentadiene	ug/kg	ND	U	370	ND	U	360	ND	U	390
Hexachloroethane	ug/kg	ND	U	370	ND	U	360	ND	U	390
Indeno(1,2,3-cd)pyrene	ug/kg	62	J	370	48	J	360	ND	U	390
Isophorone	ug/kg	ND	U	370	ND	U	360	ND	U	390
2-Methylnaphthalene	ug/kg	ND	U	370	ND	U	360	ND	U	390
2-Methylphenol	ug/kg	ND	U	370	ND	U	360	ND	U	390
4-Methylphenol	ug/kg	ND	U	370	ND	U	360	ND	U	390
Naphthalene	ug/kg	ND	U	370	ND	U	360	ND	U	390
2-Nitroaniline	ug/kg	ND	U	890	ND	U	880	ND	U	940
3-Nitroaniline	ug/kg	ND	U	890	ND	U	880	ND	U	940
4-Nitroaniline	ug/kg	ND	U	890	ND	U	880	ND	U	940
Nitrobenzene	ug/kg	ND	U	370	ND	U	360	ND	U	390
2-Nitrophenol	ug/kg	ND	U	370	ND	U	360	ND	U	390
4-Nitrophenol	ug/kg	ND	U	890	ND	U	880	ND	U	940
N-Nitrosodiphenylamine	ug/kg	ND	U	370	ND	U	360	ND	U	390
N-Nitroso-di-n-propylamine	ug/kg	ND	U	370	ND	U	360	ND	U	390
Pentachlorophenol	ug/kg	ND	U	890	ND	U	880	ND	U	940
Phenanthrene	ug/kg	120	J	370	77	J	360	ND	U	390
Phenol	ug/kg	ND	U	370	ND	U	360	ND	U	390
Pyrene	ug/kg	330	J	370	120	J	360	76	J	390
1,2,4-Trichlorobenzene	ug/kg	ND	U	370	ND	U	360	ND	U	390
2,4,5-Trichlorophenol	ug/kg	ND	U	890	ND	U	880	ND	U	940
2,4,6-Trichlorophenol	ug/kg	ND	U	370	ND	U	360	ND	U	390
Total PAHs		1760			757			183		
Total Carcinogenic PAHs		988			430			54		
Total SVOCs		1970			757			183		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-M91-120193			FF-M93-120193 (Dup of M91)			FF-M101-112993		
Sample Designation=		31915-01-SA			31915-03-SA			31875-05-SA		
Sample Collection Date=		01 DEC 93			01 DEC 93			29 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	46	J	350	83	J	360	78	J	370
Acenaphthylene	ug/kg	37	J	350	39	J	360	59	J	370
Anthracene	ug/kg	160	J	350	290	J	360	220	J	370
9H-Carbazole	ug/kg	56	J	350	75	J	360	86	J	370
Benzo(a)anthracene	ug/kg	490		350	790		360	890		370
Benzo(a)pyrene	ug/kg	280	J	350	380		360	890		370
Benzo(b)fluoranthene	ug/kg	510		350	680		360	1600		370
Benzo(g,h,i)perylene	ug/kg	90	J	350	110	J	360	280	J	370
Benzo(k)fluoranthene	ug/kg	ND	U	350	ND	U	360	ND	U	370
4-Bromophenyl phenyl ether	ug/kg	ND	U	350	ND	U	360	ND	U	370
Butyl benzyl phthalate	ug/kg	ND	U	350	ND	U	360	ND	U	370
4-Chloroaniline	ug/kg	ND	U	350	ND	U	360	ND	U	370
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	350	ND	U	360	ND	U	370
bis(2-Chloroethyl) ether	ug/kg	ND	U	350	ND	U	360	ND	U	370
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	350	ND	U	360	ND	U	370
4-Chloro-3-methylphenol	ug/kg	ND	U	350	ND	U	360	ND	U	370
2-Chloronaphthalene	ug/kg	ND	U	350	ND	U	360	ND	U	370
2-Chlorophenol	ug/kg	ND	U	350	ND	U	360	ND	U	370
4-Chlorophenyl phenyl ether	ug/kg	ND	U	350	ND	U	360	ND	U	370
Chrysene	ug/kg	450		350	660		360	750		370
Di-n-butyl phthalate	ug/kg	ND	U	350	ND	U	360	ND	U	370
Dibenz(a,h)anthracene	ug/kg	42	J	350	55	J	360	160	J	370
Dibenzofuran	ug/kg	ND	U	350	39	J	360	38	J	370
1,2-Dichlorobenzene	ug/kg	ND	U	350	ND	U	360	ND	U	370
1,3-Dichlorobenzene	ug/kg	ND	U	350	ND	U	360	ND	U	370
4-Dichlorobenzene	ug/kg	ND	U	350	ND	U	360	ND	U	370
'-Dichlorobenzidine	ug/kg	ND	U	350	ND	U	360	ND	U	370
,4-Dichlorophenol	ug/kg	ND	U	350	ND	U	360	ND	U	370
Diethyl phthalate	ug/kg	ND	U	350	ND	U	360	ND	U	370
2,4-Dimethylphenol	ug/kg	ND	U	350	ND	U	360	ND	U	370
Dimethyl phthalate	ug/kg	ND	U	350	ND	U	360	ND	U	370
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	860	ND	U	880	ND	U	890
2,4-Dinitrophenol	ug/kg	ND	UJ	860	ND	UJ	880	ND	U	890
2,4-Dinitrotoluene	ug/kg	ND	U	350	ND	U	360	ND	U	370
2,6-Dinitrotoluene	ug/kg	ND	U	350	ND	U	360	ND	U	370
Di-n-octyl phthalate	ug/kg	ND	U	350	ND	U	360	ND	U	370
bis(2-Ethylhexyl) phthalate	ug/kg	48	J	350	ND	U	360	ND	U	370
Fluoranthene	ug/kg	910		350	1400		360	1400		370
Fluorene	ug/kg	49	J	350	110	J	360	88	J	370
Hexachlorobenzene	ug/kg	ND	U	350	ND	U	360	ND	U	370
Hexachlorobutadiene	ug/kg	ND	U	350	ND	U	360	ND	U	370
Hexachlorocyclo-pentadiene	ug/kg	ND	U	350	ND	U	360	ND	U	370
Hexachloroethane	ug/kg	ND	U	350	ND	U	360	ND	U	370
Indeno(1,2,3-cd)pyrene	ug/kg	120	J	350	120	J	360	360	J	370
Isophorone	ug/kg	ND	U	350	ND	U	360	ND	U	370
2-Methylnaphthalene	ug/kg	41	J	350	42	J	360	ND	U	370
2-Methylphenol	ug/kg	ND	U	350	ND	U	360	ND	U	370
4-Methylphenol	ug/kg	ND	U	350	ND	U	360	ND	U	370
Naphthalene	ug/kg	ND	U	350	39	J	360	ND	U	370
2-Nitroaniline	ug/kg	ND	U	860	ND	U	880	ND	U	890
3-Nitroaniline	ug/kg	ND	U	860	ND	U	880	ND	U	890
4-Nitroaniline	ug/kg	ND	U	860	ND	U	880	ND	U	890
Nitrobenzene	ug/kg	ND	U	350	ND	U	360	ND	U	370
2-Nitrophenol	ug/kg	ND	U	350	ND	U	360	ND	U	370
4-Nitrophenol	ug/kg	ND	U	860	ND	U	880	ND	U	890
N-Nitrosodiphenylamine	ug/kg	ND	U	350	ND	U	360	ND	U	370
N-Nitroso-di-n-propylamine	ug/kg	ND	U	350	ND	U	360	ND	U	370
Pentachlorophenol	ug/kg	ND	U	860	ND	U	880	ND	U	890
Phenanthrene	ug/kg	600		350	1300		360	790		370
Phenol	ug/kg	60	J	350	ND	U	360	ND	U	370
Pyrene	ug/kg	1000		350	1800		360	1400		370
1,2,4-Trichlorobenzene	ug/kg	ND	U	350	ND	U	360	ND	U	370
2,4,5-Trichlorophenol	ug/kg	ND	U	860	ND	U	880	ND	U	890
4,6-Trichlorophenol	ug/kg	ND	U	350	ND	U	360	ND	U	370
Total PAHs		4885			7898			8965		
Total Carcinogenic PAHs		1982			2795			4930		
Total SVOCs		4989			8012			9089		

NOTE: "" indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-M111-112993			MP-FB1-110293			FF-FB2-110393		
Sample Designation=		31875-01-SA			31384-17-FB			31384-18-FB		
Sample Collection Date=		29 NOV 93			02 NOV 93			03 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	450	ND	U	10	ND	U	10
Acenaphthylene	ug/kg	ND	U	450	ND	U	10	ND	U	10
Anthracene	ug/kg	51	J	450	ND	U	10	ND	U	10
9H-Carbazole	ug/kg	ND	U	450	ND	U	10	ND	U	10
Benzo(a)anthracene	ug/kg	68	J	450	ND	U	10	ND	U	10
Benzo(a)pyrene	ug/kg	ND	U	450	ND	U	10	ND	U	10
Benzo(b)fluoranthene	ug/kg	100	J	450	ND	U	10	ND	U	10
Benzo(g,h,i)perylene	ug/kg	46	J	450	ND	U	10	ND	U	10
Benzo(k)fluoranthene	ug/kg	ND	U	450	ND	U	10	ND	U	10
4-Bromophenyl phenyl ether	ug/kg	ND	U	450	ND	U	10	ND	U	10
Butyl benzyl phthalate	ug/kg	ND	U	450	ND	U	10	ND	U	10
4-Chloroaniline	ug/kg	ND	U	450	ND	U	10	ND	U	10
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	450	ND	U	10	ND	U	10
bis(2-Chloroethyl) ether	ug/kg	ND	U	450	ND	U	10	ND	U	10
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	450	ND	U	10	ND	U	10
4-Chloro-3-methylphenol	ug/kg	ND	U	450	ND	U	10	ND	U	10
2-Chloronaphthalene	ug/kg	ND	U	450	ND	U	10	ND	U	10
2-Chlorophenol	ug/kg	ND	U	450	ND	U	10	ND	U	10
4-Chlorophenyl phenyl ether	ug/kg	ND	U	450	ND	U	10	ND	U	10
Chrysene	ug/kg	83	J	450	ND	U	10	ND	U	10
Di-n-butyl phthalate	ug/kg	ND	U	450	ND	U	10	ND	U	10
Dibenz(a,h)anthracene	ug/kg	ND	U	450	ND	U	10	ND	U	10
Dibenzofuran	ug/kg	72	J	450	ND	U	10	ND	U	10
1,2-Dichlorobenzene	ug/kg	ND	U	450	ND	U	10	ND	U	10
1,3-Dichlorobenzene	ug/kg	ND	U	450	ND	U	10	ND	U	10
1,4-Dichlorobenzene	ug/kg	ND	U	450	ND	U	10	ND	U	10
3,3'-Dichlorobenzidine	ug/kg	ND	U	450	ND	U	10	ND	U	10
2,4-Dichlorophenol	ug/kg	ND	U	450	ND	U	10	ND	U	10
Diethyl phthalate	ug/kg	ND	U	450	ND	U	10	ND	U	10
2,4-Dimethylphenol	ug/kg	ND	U	450	ND	U	10	ND	U	10
Dimethyl phthalate	ug/kg	ND	U	450	ND	U	10	ND	U	10
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	1100	ND	U	25	ND	U	25
2,4-Dinitrophenol	ug/kg	ND	U	1100	ND	U	25	ND	U	25
2,4-Dinitrotoluene	ug/kg	ND	U	450	ND	U	10	ND	U	10
2,6-Dinitrotoluene	ug/kg	ND	U	450	ND	U	10	ND	U	10
Di-n-octyl phthalate	ug/kg	54	J	450	ND	U	10	ND	U	10
bis(2-Ethylhexyl) phthalate	ug/kg	170	J	450	ND	U	10	ND	U	10
Fluoranthene	ug/kg	130	J	450	ND	U	10	ND	U	10
Fluorene	ug/kg	ND	U	450	ND	U	10	ND	U	10
Hexachlorobenzene	ug/kg	ND	U	450	ND	U	10	ND	U	10
Hexachlorobutadiene	ug/kg	ND	U	450	ND	U	10	ND	U	10
Hexachlorocyclo-pentadiene	ug/kg	ND	U	450	ND	U	10	ND	U	10
Hexachloroethane	ug/kg	ND	U	450	ND	U	10	ND	U	10
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	450	ND	U	10	ND	U	10
Isophorone	ug/kg	ND	U	450	ND	U	10	ND	U	10
2-Methylnaphthalene	ug/kg	660		450	ND	U	10	ND	U	10
2-Methylphenol	ug/kg	ND	U	450	ND	U	10	ND	U	10
4-Methylphenol	ug/kg	ND	U	450	ND	U	10	ND	U	10
Naphthalene	ug/kg	120	J	450	ND	U	10	ND	U	10
2-Nitroaniline	ug/kg	ND	U	1100	ND	U	25	ND	U	25
3-Nitroaniline	ug/kg	ND	U	1100	ND	U	25	ND	U	25
4-Nitroaniline	ug/kg	ND	U	1100	ND	U	25	ND	U	25
Nitrobenzene	ug/kg	ND	U	450	ND	U	10	ND	U	10
2-Nitrophenol	ug/kg	ND	U	450	ND	U	10	ND	U	10
4-Nitrophenol	ug/kg	ND	U	1100	ND	U	25	ND	U	25
N-Nitrosodiphenylamine	ug/kg	ND	U	450	ND	U	10	ND	U	10
N-Nitroso-di-n-propylamine	ug/kg	ND	U	450	ND	U	10	ND	U	10
Pentachlorophenol	ug/kg	ND	U	1100	ND	U	25	ND	U	25
Phenanthrene	ug/kg	350	J	450	ND	U	10	ND	U	10
Phenol	ug/kg	ND	U	450	ND	U	10	ND	U	10
Pyrene	ug/kg	260	J	450	ND	U	10	ND	U	10
1,2,4-Trichlorobenzene	ug/kg	ND	U	450	ND	U	10	ND	U	10
2,4,5-Trichlorophenol	ug/kg	ND	U	1100	ND	U	25	ND	U	25
2,4,6-Trichlorophenol	ug/kg	ND	U	450	ND	U	10	ND	U	10
Total PAHs		1868			0			0		
Total Carcinogenic PAHs		297			0			0		
Total SVOCs		2164			0			0		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L1.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-FB112393			FF-FB113093			FF-SWB-113093		
Sample Designation=		31806-07-FB			31875-13-FB			31875-10-SA		
Sample Collection Date=		23 NOV 93			30 NOV 93			30 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Acenaphthylene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Anthracene	ug/kg	ND	U	10	ND	U	10	ND	U	10
9H-Carbazole	ug/kg	ND	U	10	ND	U	10	ND	U	10
Benzo(a)anthracene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Benzo(a)pyrene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Benzo(b)fluoranthene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Benzo(g,h,i)perylene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Benzo(k)fluoranthene	ug/kg	ND	U	10	ND	U	10	ND	U	10
4-Bromophenyl phenyl ether	ug/kg	ND	U	10	ND	U	10	ND	U	10
Butyl benzyl phthalate	ug/kg	ND	U	10	ND	U	10	ND	U	10
4-Chloroaniline	ug/kg	ND	U	10	ND	U	10	ND	U	10
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	10	ND	U	10	ND	U	10
bis(2-Chloroethyl) ether	ug/kg	ND	U	10	ND	U	10	ND	U	10
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	10	ND	U	10	ND	U	10
4-Chloro-3-methylphenol	ug/kg	ND	U	10	ND	U	10	ND	U	10
2-Chloronaphthalene	ug/kg	ND	U	10	ND	U	10	ND	U	10
2-Chlorophenol	ug/kg	ND	U	10	ND	U	10	ND	U	10
4-Chlorophenyl phenyl ether	ug/kg	ND	U	10	ND	U	10	ND	U	10
Chrysene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Di-n-butyl phthalate	ug/kg	ND	U	10	ND	U	10	ND	U	10
Dibenz(a,h)anthracene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Dibenzofuran	ug/kg	ND	U	10	ND	U	10	ND	U	10
1,2-Dichlorobenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10
1,3-Dichlorobenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10
[illegible]-Dichlorobenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10
[illegible]-Dichlorobenzidine	ug/kg	ND	U	10	ND	U	10	ND	U	10
[illegible],4-Dichlorophenol	ug/kg	ND	U	10	ND	U	10	ND	U	10
Diethyl phthalate	ug/kg	ND	U	10	ND	U	10	ND	U	10
2,4-Dimethylphenol	ug/kg	ND	U	10	ND	U	10	ND	U	10
Dimethyl phthalate	ug/kg	ND	U	10	ND	U	10	ND	U	10
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	25	ND	U	25	ND	U	25
2,4-Dinitrophenol	ug/kg	ND	UJ	25	ND	U	25	ND	U	25
2,4-Dinitrotoluene	ug/kg	ND	U	10	ND	U	10	ND	U	10
2,6-Dinitrotoluene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Di-n-octyl phthalate	ug/kg	ND	U	10	ND	U	10	ND	U	10
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U	10	ND	U*	10	ND	U*	10
Fluoranthene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Fluorene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Hexachlorobenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Hexachlorobutadiene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Hexachlorocyclo-pentadiene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Hexachloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Isophorone	ug/kg	ND	U	10	ND	U	10	ND	U	10
2-Methylnaphthalene	ug/kg	ND	U	10	ND	U	10	ND	U	10
2-Methylphenol	ug/kg	ND	U	10	ND	U	10	ND	U	10
4-Methylphenol	ug/kg	ND	U	10	ND	U	10	ND	U	10
Naphthalene	ug/kg	ND	U	10	ND	U	10	ND	U	10
2-Nitroaniline	ug/kg	ND	U	25	ND	U	25	ND	U	25
3-Nitroaniline	ug/kg	ND	U	25	ND	U	25	ND	U	25
4-Nitroaniline	ug/kg	ND	U	25	ND	U	25	ND	U	25
Nitrobenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10
2-Nitrophenol	ug/kg	ND	U	10	ND	U	10	ND	U	10
4-Nitrophenol	ug/kg	ND	UJ	25	ND	U	25	ND	U	25
N-Nitrosodiphenylamine	ug/kg	ND	U	10	ND	U	10	ND	U	10
N-Nitroso-di-n-propylamine	ug/kg	ND	U	10	ND	U	10	ND	U	10
Pentachlorophenol	ug/kg	ND	U	25	ND	U	25	ND	U	25
Phenanthrene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Phenol	ug/kg	ND	U	10	ND	U	10	ND	U	10
Pyrene	ug/kg	ND	U	10	ND	U	10	ND	U	10
1,2,4-Trichlorobenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10
2,4,5-Trichlorophenol	ug/kg	ND	U	25	ND	U	25	ND	U	25
[illegible],6-Trichlorophenol	ug/kg	ND	U	10	ND	U	10	ND	U	10
[illegible]al PAHs		0			0			0		
Total Carcinogenic PAHs		0			0			0		
Total SVOCs		0			0			0		

NOTE: * indicates a value which was changed to "ND" following data validation.

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-SS12-110393			FF-SS13-110393			FF-SS14-110393			FF-SS15-110393		
Sample Designation=		031384-0001-SA			031384-0002-SA			031384-0003-SA			031384-0004-SA		
Sample Collection Date=		03 NOV 93			03 NOV 93			03 NOV 93			03 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	2 0	ND	U	2 0	1 2	NJ	2.2	ND	U	2 1
beta-BHC	ug/kg	ND	U	2.0	ND	U	2.0	ND	U	2.2	ND	U	2.1
delta-BHC	ug/kg	ND	U	2 0	ND	U	2 0	ND	U	2.2	ND	U	2 1
gamma-BHC (Lindane)	ug/kg	ND	U	2.0	ND	U	2 0	1.9	J	2.2	ND	U	2.1
Heptachlor	ug/kg	ND	U	2 0	ND	U	2.0	ND	U	2.2	ND	U	2 1
Aldrin	ug/kg	ND	U	2.0	ND	U	2 0	ND	U	2.2	1.5	J	2.1
Heptachlor epoxide	ug/kg	1.7	J	2 0	ND	U	2 0	3 5		2.2	ND	U	2.1
Endosulfan I	ug/kg	1	J	2.0	ND	U	2 0	ND	U	2.2	ND	U	2.1
Dieldrin	ug/kg	ND	UJ*	36	3 8	J	4 0	2.8	NJ	4 2	1 5	J	4.1
4,4'-DDE	ug/kg	9.5	J	4 0	21		4 0	18		4.2	14	J	4.1
Endrin	ug/kg	17	J	4 0	5.3	J	4 0	ND	U	4.2	3 3	J	4.1
Endosulfan II	ug/kg	4.2	J	4.0	ND	U	4 0	1 9	J	4.2	0.9	J	4.1
4,4'-DDD	ug/kg	ND	U	4 0	9.2	J	4 0	10	J	4.2	6 2	J	4.1
Endosulfan sulfate	ug/kg	ND	U	4 0	ND	U*	4 0	2 2	NJ	4.2	ND	U	4 1
4,4'-DDT	ug/kg	21		4 0	19	J	4 0	27	J	4.2	20	J	4 1
Methoxychlor	ug/kg	8	J	20	ND	UJ	20	ND	UJ	22	ND	UJ	21
Endrin ketone	ug/kg	2.9	NJ	4 0	ND	UJ	4.0	ND	UJ*	4.2	ND	UJ	4.1
Endrin aldehyde	ug/kg	ND	U	4.0	ND	U	4.0	20		4.2	5 8	J	4 1
alpha-Chlordane	ug/kg	0.7	J	2 0	3 6	J	2 0	2 2	J	2 2	2.4	J	2 1
gamma-Chlordane	ug/kg	ND	U	2.0	1.7	J	2.0	2 4		2 2	ND	U	2.1
Toxaphene	ug/kg	ND	U	200	ND	U	200	ND	U	220	ND	U	210
Aroclor 1016	ug/kg	ND	U	40	ND	U	40	ND	U	42	ND	U	41
Aroclor 1221	ug/kg	ND	U	81	ND	U	81	ND	U	86	ND	U	84
Aroclor 1232	ug/kg	ND	U	40	ND	U	40	ND	U	42	ND	U	41
Aroclor 1242	ug/kg	ND	U	40	ND	U	40	ND	U	42	ND	U	41
Aroclor 1248	ug/kg	ND	U	40	ND	U	40	ND	U	42	ND	U	41
Aroclor 1254	ug/kg	ND	U	40	ND	U	40	ND	U	42	ND	U	41
Aroclor 1260	ug/kg	ND	U	40	ND	U	40	ND	U	42	ND	U	41

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-SS16-110393			FF-SS17-110393			FF-SS18-110393			FF-SS19-110393		
Sample Designation=		031384-0005-SA			031384-0006-SA			031384-0007-SA			031384-0008-SA		
Sample Collection Date=		03 NOV 93			03 NOV 93			03 NOV 93			03 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	2 1	ND	U	2.1	ND	U	2.1	ND	U	2.0
beta-BHC	ug/kg	0 27	J	2 1	0 99	J	2.1	ND	U	2.1	0.44	JP	2.0
delta-BHC	ug/kg	ND	U	2.1	ND	U	2.1	ND	U	2.1	ND	U	2 0
gamma-BHC (Lindane)	ug/kg	ND	U	2.1	0.55	J	2.1	ND	U	2 1	ND	U	2 0
Heptachlor	ug/kg	ND	U	2.1	ND	U	2.1	ND	U	2.1	ND	U	2.0
Aldrin	ug/kg	0.078	J	2 1	0.059	J	2.1	ND	U	2.1	ND	U	2.0
Heptachlor epoxide	ug/kg	0 34	J	2.1	0.63	J	2.1	2 3	J	2.1	ND	U	2.0
Endosulfan I	ug/kg	ND	U	2.1	ND	U	2 1	ND	U	2.1	ND	UJ*	2.2
Dieldrin	ug/kg	0 47	J	4.0	3 3	J	4 2	11	J	4 1	ND	UJ*	6.9
4,4'-DDE	ug/kg	1 9	J	4 0	42		4 2	11	J	4.1	10	J	3.9
Endrin	ug/kg	0.98	J	4 0	3 3	J	4 2	8.7	J	4.1	4.1		3 9
Endosulfan II	ug/kg	0.024	NJ	4.0	0.91	J	4.2	2 2	J	4.1	0.63	NJ	3.9
4,4'-DDD	ug/kg	0.82	J	4.0	15		4.2	ND	U	4.1	4.8	J	3.9
Endosulfan sulfate	ug/kg	0.3	NJ	4.0	0 55	J	4 2	ND	U	4 1	ND	U	3 9
4,4'-DDT	ug/kg	2.3	J	4.0	74		4.2	23		4 1	17	J	3.9
Methoxychlor	ug/kg	ND	UJ*	21	ND	UJ*	21	6 6	J	21	ND	UJ*	20
Endrin ketone	ug/kg	ND	UJ	4 0	ND	UJ	4.2	ND	UJ	4.1	ND	UJ	3 9
Endrin aldehyde	ug/kg	ND	U	4 0	ND	UJ	2.1	ND	U	4.1	ND	U	3.9
alpha-Chlordane	ug/kg	1.2	J	2.1	1.9	J	2.1	14		2.1	ND	U*	2 0
gamma-Chlordane	ug/kg	ND	U	2.1	0.71	J	2 1	7.8		2.1	0.21	NJ	2 0
Toxaphene	ug/kg	ND	U	210	ND	U	210	ND	U	210	ND	U	200
Aroclor 1016	ug/kg	ND	U	40	ND	U	42	ND	U	41	ND	U	39
Aroclor 1221	ug/kg	ND	U	82	ND	U	85	ND	U	83	ND	U	79
Aroclor 1232	ug/kg	ND	U	40	ND	U	42	ND	U	41	ND	U	39
Aroclor 1242	ug/kg	ND	U	40	ND	U	42	ND	U	41	ND	U	39
Aroclor 1248	ug/kg	ND	U	40	ND	U	42	ND	U	41	ND	U	39
Aroclor 1254	ug/kg	ND	U	40	ND	U	42	ND	U	41	ND	U	39
Aroclor 1260	ug/kg	ND	U	40	ND	U	42	ND	U	41	ND	U	39

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-SS20-110393			FF-SS21-110493			FF-SS22-110493			FF-SS23-110493		
Sample Designation=		031384-0009-SA			031390-0001-SA			031390-0002-SA			031390-0003-SA		
Sample Collection Date=		03 NOV 93			04 NOV 93			04 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	UJ	2.7	ND	U	2.0	ND	U	2.1	1.7	J	2.0
beta-BHC	ug/kg	ND	UJ	2.7	ND	U	2.0	ND	U	2.1	ND	U	2.0
delta-BHC	ug/kg	ND	UJ	2 7	ND	U	2 0	ND	U	2.1	ND	U	2.0
gamma-BHC (Lindane)	ug/kg	ND	UJ	2 7	ND	U	2 0	0 054	NJ	2.1	0.33	J	2.0
Heptachlor	ug/kg	ND	UJ	2.7	0 74	J	2 0	ND	U	2.1	ND	U	2.0
Aldrin	ug/kg	ND	UJ	2 7	ND	U	2.0	ND	U	2.1	ND	U	2.0
Heptachlor epoxide	ug/kg	1.6	J	2.7	1.1	J	2 0	0 96	J	2.1	0.38	J	2.0
Endosulfan I	ug/kg	1.1	J	2.7	ND	U	2 0	ND	U	2 1	0.35	J	2.0
Dieldrin	ug/kg	4.3	J	5.2	ND	UJ*	6 7	ND	U	4.0	ND	UJ*	3.9
4,4'-DDE	ug/kg	2.1	J	5 2	14		4.0	9.7	J	4.0	9.1	J	3 9
Endrin	ug/kg	6.2	J	5.2	7.6	J	4.0	4.7	J	4.0	1.8	NJ	3.9
Endosulfan II	ug/kg	4 3	J	5 2	ND	U	4.0	ND	U	4 0	ND	U	3.9
4,4'-DDD	ug/kg	4.9	J	5.2	8		4.0	2.1	J	4.0	3.8	J	3 9
Endosulfan sulfate	ug/kg	3 5	J	5 2	ND	U	4 0	ND	U	4.0	ND	U	3.9
4,4'-DDT	ug/kg	7.9	J	5 2	27		4.0	13	J	4 0	16		3 9
Methoxychlor	ug/kg	ND	UJ	27	ND	U	20	ND	U*	21	ND	U	20
Endrin ketone	ug/kg	ND	UJ	5 2	ND	U	4.0	ND	U	4.0	ND	U	3 9
Endrin aldehyde	ug/kg	ND	UJ	5.2	10	J	4.0	8.3	J	4 0	5.9		3.9
alpha-Chlordane	ug/kg	ND	UJ	2.7	ND	U	2.0	ND	UJ*	2.1	ND	U	2.0
gamma-Chlordane	ug/kg	ND	UJ	2.7	0.46	J	2.0	0 076	NJ	2.1	0.17	J	2.0
Toxaphene	ug/kg	ND	UJ	270	ND	U	200	ND	U	210	ND	U	200
Aroclor 1016	ug/kg	ND	UJ	52	ND	U	40	ND	U	40	ND	U	39
Aroclor 1221	ug/kg	ND	UJ	110	ND	U	80	ND	U	82	ND	U	79
Aroclor 1232	ug/kg	ND	UJ	52	ND	U	40	ND	U	40	ND	U	39
Aroclor 1242	ug/kg	ND	UJ	52	ND	U	40	ND	U	40	ND	U	39
Aroclor 1248	ug/kg	ND	UJ	52	ND	U	40	ND	U	40	ND	U	39
Aroclor 1254	ug/kg	ND	UJ	52	ND	U	40	ND	U	40	ND	U	39
Aroclor 1260	ug/kg	ND	UJ	52	ND	U	40	ND	U	40	ND	U	39

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-SS24-110493			FF-SS25-110493			FF-SS26-110493			FF-SS27-110493		
Sample Designation=		031390-0004-SA			031390-0005-SA			031390-0006-SA			031390-0007-SA		
Sample Collection Date=		04 NOV 93			04 NOV 93			04 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	2 1	ND	U	1 8	ND	U	2.0	ND	R	2.1
beta-BHC	ug/kg	ND	U	2.1	ND	U	1.8	ND	U	2.0	ND	R	2.1
delta-BHC	ug/kg	ND	U	2.1	ND	U	1.8	ND	U	2.0	ND	R	2.1
gamma-BHC (Lindane)	ug/kg	0 37	J	2.1	0.096	J	1.8	ND	UJ*	2.0	ND	R	2.1
Heptachlor	ug/kg	ND	U	2.1	ND	U	1.8	ND	U	2.0	ND	R	2.1
Aldrin	ug/kg	ND	U	2 1	ND	U	1.8	ND	U	2.0	ND	R	2.1
Heptachlor epoxide	ug/kg	ND	U	2 1	ND	U	1.8	0 58	J	2 0	ND	R	2.1
Endosulfan I	ug/kg	ND	U	2.1	ND	U	1.8	ND	U	2 0	ND	R	2.1
Dieldrin	ug/kg	0.91	NJ	4 1	0.66	J	3.5	ND	UJ*	6 2	ND	R	4.1
4,4'-DDE	ug/kg	12		4 1	10		3 5	5.1	J	3 9	ND	R	4 1
Endrin	ug/kg	3.6	J	4 1	2 2	NJ	3 5	ND	U	3.9	ND	R	4 1
Endosulfan II	ug/kg	ND	U	4 1	ND	U	3 5	ND	U	3.9	ND	R	4.1
4,4'-DDD	ug/kg	2.3	J	4 1	5 5		3 5	ND	U	3 9	ND	R	4 1
Endosulfan sulfate	ug/kg	ND	U	4.1	ND	U	3 5	ND	U	3.9	ND	R	4.1
4,4'-DDT	ug/kg	14		4 1	17		3.5	9.4	J	3 9	ND	R	4.1
Methoxychlor	ug/kg	ND	U*	21	3.8	J	18	ND	U	20	ND	R	21
Endrin ketone	ug/kg	ND	U	4 1	ND	U	3 5	ND	U	3 9	ND	R	4.1
Endrin aldehyde	ug/kg	6.9	J	4 1	5.1	J	3 5	9.4		3.9	ND	R	4.1
alpha-Chlordane	ug/kg	ND	U	2.1	ND	U	1.8	0.62	J	2.0	ND	R	2.1
gamma-Chlordane	ug/kg	ND	U	2 1	ND	U	1.8	ND	U	2.0	ND	R	2.1
Toxaphene	ug/kg	ND	U	210	ND	U	180	ND	U	200	ND	R	210
Aroclor 1016	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41
Aroclor 1221	ug/kg	ND	U	84	ND	U	71	ND	U	79	ND	R	84
Aroclor 1232	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41
Aroclor 1242	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41
Aroclor 1248	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41
Aroclor 1254	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41
Aroclor 1260	ug/kg	ND	U	41	ND	U	35	ND	U	39	ND	R	41

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-SS35-110493 (Dup of SS27)			FF-SS28-110493			FF-SS29-110493			FF-SS30-110493		
Sample Designation=		031390-0013-SA			031390-0008-SA			031390-0010-SA			031390-0011-SA		
Sample Collection Date=		04 NOV 93			04 NOV 93			04 NOV 93			04 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	2.1	ND	U	2.0	ND	U	2.0	ND	U	46
beta-BHC	ug/kg	ND	U	2.1	ND	U	2.0	ND	U	2.0	ND	U	46
delta-BHC	ug/kg	ND	U	2.1	ND	U	2.0	ND	U	2.0	ND	U	46
gamma-BHC (Lindane)	ug/kg	ND	U	2.1	ND	U	2.0	0.18	J	2.0	ND	U	46
Heptachlor	ug/kg	0.74	J	2.1	ND	U	2.0	1.2	J	2.0	ND	U	46
Aldrin	ug/kg	ND	U	2.1	ND	U	2.0	ND	U	2.0	ND	U	46
Heptachlor epoxide	ug/kg	0.35	J	2.1	0.65	J	2.0	4.2	J	2.0	3.5	NJ	46
Endosulfan I	ug/kg	ND	U	2.1	ND	U	2.0	ND	U	2.0	ND	U	46
Dieldrin	ug/kg	ND	U*	4.1	2.3	J	4.0	4.2	J	4.0	15	J	89
4,4'-DDE	ug/kg	6.7		4.1	13		4.0	14		4.0	4500		89
Endrin	ug/kg	1.8	J	4.1	5.1	J	4.0	10		4.0	22	J	89
Endosulfan II	ug/kg	ND	U	4.1	ND	U	4.0	ND	U	4.0	ND	U	89
4,4'-DDD	ug/kg	1.5	J	4.1	ND	U	4.0	ND	U	4.0	500	J	89
Endosulfan sulfate	ug/kg	ND	U	4.1	ND	U	4.0	3.5	J	4.0	ND	U	89
4,4'-DDT	ug/kg	7.9		4.1	11	J	4.0	23		4.0	14000		89
Methoxychlor	ug/kg	ND	U	21	ND	U*	20	ND	U	20	ND	U	460
Endrin ketone	ug/kg	ND	U	4.1	ND	U	4.0	ND	U	4.0	ND	U	89
Endrin aldehyde	ug/kg	2.5	NJ	4.1	6.6		4.0	5.7	J	4.0	16	NJ	89
alpha-Chlordane	ug/kg	ND	U	2.1	2.5	J	2.0	8.9	J	2.0	ND	UJ	30
gamma-Chlordane	ug/kg	ND	U	2.1	1	J	2.0	2.7	J	2.0	ND	UJ	45
Toxaphene	ug/kg	ND	U	210	ND	U	200	ND	U	200	ND	U	4600
Aroclor 1016	ug/kg	ND	U	41	ND	U	40	ND	U	40	ND	U	890
Aroclor 1221	ug/kg	ND	U	84	ND	U	80	ND	U	81	ND	U	1800
Aroclor 1232	ug/kg	ND	U	41	ND	U	40	ND	U	40	ND	U	890
Aroclor 1242	ug/kg	ND	U	41	ND	U	40	ND	U	40	ND	U	890
Aroclor 1248	ug/kg	ND	U	41	ND	U	40	ND	U	40	ND	U	890
Aroclor 1254	ug/kg	ND	U	41	ND	U	40	ND	U	40	ND	U	890
Aroclor 1260	ug/kg	ND	U	41	ND	U	40	ND	U	40	ND	U	890

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-SS31-110493			FF-B81-112293			FF-B91-112393			FF-B101-112393		
Sample Designation=		031390-0012-SA			031806-0005-SA			031806-0008-SA			031813-0008-SA		
Sample Collection Date=		04 NOV 93			22 NOV 93			23 NOV 93			23 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	UJ	2 0	ND	UJ	1 9	ND	UJ	1 9	ND	UJ	1.9
beta-BHC	ug/kg	ND	UJ	2 0	ND	UJ	1.9	ND	UJ	1.9	ND	UJ	1.9
delta-BHC	ug/kg	ND	UJ	2 0	ND	UJ	1.9	ND	UJ	1.9	ND	UJ	1.9
gamma-BHC (Lindane)	ug/kg	ND	UJ	2.0	ND	UJ	1.9	ND	UJ	1 9	ND	UJ*	4 6
Heptachlor	ug/kg	ND	UJ	2 0	ND	UJ	1.9	ND	UJ	1.9	ND	UJ	1.9
Aldrin	ug/kg	ND	UJ	2.0	ND	UJ	1.9	ND	UJ	1 9	ND	UJ	1.9
Heptachlor epoxide	ug/kg	0.17	J	2 0	1.3	J	1.9	0 81	J	1.9	0.06	NJ	1.9
Endosulfan I	ug/kg	ND	UJ	2.0	ND	UJ	1 9	ND	UJ	1.9	ND	UJ	1 9
Dieldrin	ug/kg	ND	UJ*	4.0	3 5	J	3 8	ND	UJ*	6 1	0.61	J	3 6
4,4'-DDE	ug/kg	72	J	4 0	9 2	J	3 8	8.3	J	3.8	6.5	J	3.6
Endrin	ug/kg	ND	UJ	4 0	7.6	J	3 8	2 5	J	3.8	ND	UJ	3 6
Endosulfan II	ug/kg	ND	UJ	4 0	1.6	J	3.8	0.92	J	3.8	ND	UJ	3.6
4,4'-DDD	ug/kg	3 4	J	4 0	3.8	J	3.8	3.3	J	3 8	ND	UJ	3 6
Endosulfan sulfate	ug/kg	ND	UJ	4 0	ND	UJ	3 8	ND	UJ	3.8	0.56	J	3.6
4,4'-DDT	ug/kg	38	J	4.0	15	J	3.8	12	J	3.8	11	J	3.6
Methoxychlor	ug/kg	ND	UJ*	20	ND	UJ	19	1 4	NJ	19	ND	UJ	19
Endrin ketone	ug/kg	ND	UJ	4 0	ND	UJ	3 8	ND	UJ	3 8	ND	UJ	3 6
Endrin aldehyde	ug/kg	ND	UJ*	4.0	ND	UJ	3 8	ND	UJ	3.8	3.3	J	3 6
alpha-Chlordane	ug/kg	0.17	J	2.0	ND	UJ	1.9	ND	UJ*	1.9	0.33	J	1 9
gamma-Chlordane	ug/kg	ND	U	2 0	ND	UJ*	1.9	ND	UJ*	1 9	ND	UJ	1.9
Toxaphene	ug/kg	ND	U	200	ND	UJ	190	ND	UJ	190	ND	UJ	190
Aroclor 1016	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36
Aroclor 1221	ug/kg	ND	U	80	ND	UJ	77	ND	UJ	76	ND	UJ	74
Aroclor 1232	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36
Aroclor 1242	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36
Aroclor 1248	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36
Aroclor 1254	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36
Aroclor 1260	ug/kg	ND	U	40	ND	UJ	38	ND	UJ	38	ND	UJ	36

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-B111-112493			FF-B121-112493			FF-B131-112393			FF-B141-121393		
Sample Designation=		031813-0001-SA			031813-0003-SA			031806-0009-SA			32184-0001-SA		
Sample Collection Date=		24 NOV 93			24 NOV 93			23 NOV 93			13 DEC 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	2 0	0.048	J	1 9	ND	UJ	3 8	ND	U	2.0
beta-BHC	ug/kg	ND	U	2.0	ND	UJ	1.9	ND	UJ	3.8	ND	U	2.0
delta-BHC	ug/kg	ND	U	2 0	ND	UJ	1.9	ND	UJ	3.8	ND	U	2 0
gamma-BHC (Lindane)	ug/kg	ND	UJ*	3 3	ND	UJ*	5.0	ND	UJ	3 8	0.24	J	2.0
Heptachlor	ug/kg	ND	U	2 0	ND	UJ	1.9	ND	UJ	3 8	0.27	J	2.0
Aldrin	ug/kg	ND	U	2 0	ND	UJ	1.9	ND	UJ	3 8	ND	U	2 0
Heptachlor epoxide	ug/kg	0 24	J	2 0	0 66	J	1.9	1.4	J	3.8	0.34	J	2.0
Endosulfan I	ug/kg	ND	U	2 0	ND	UJ	1 9	0.66	NJ	3.8	ND	U	2.0
Dieldrin	ug/kg	ND	UJ*	3 3	ND	UJ*	7.1	5.6	NJ	7.4	0.88	J	3 9
4,4'-DDE	ug/kg	6 5		3 8	0 41	J	3 7	ND	UJ*	7.4	20	J	3 9
Endrin	ug/kg	3 2	J	3 8	4 8	J	3.7	9.7	NJ	7.4	0.59	NJ	3 9
Endosulfan II	ug/kg	0.98	J	3 8	ND	UJ	3 7	7.3	NJ	7.4	0.72	J	3 9
4,4'-DDD	ug/kg	1.8	J	3 8	ND	UJ	3 7	ND	UJ	7.4	2.6	NJ	3.9
Endosulfan sulfate	ug/kg	ND	U	3 8	ND	UJ*	4 3	ND	UJ	7.4	ND	U	3.9
4,4'-DDT	ug/kg	11		3.8	7.2	J	3.7	ND	UJ	7.4	34	J	3.9
Methoxychlor	ug/kg	ND	U	20	5.4	J	19	ND	UJ*	54	ND	U	20
Endrin ketone	ug/kg	ND	U	3 8	ND	U	3 7	ND	UJ	7.4	ND	U	3.9
Endrin aldehyde	ug/kg	ND	UJ*	12	ND	UJ*	32	ND	UJ	7.4	1.4	NJ	3.9
alpha-Chlordane	ug/kg	0 61	J	2 0	ND	U	1.9	ND	UJ*	5.7	ND	U	2 0
gamma-Chlordane	ug/kg	0.29	J	2.0	ND	U	1.9	ND	UJ*	3.8	ND	U	2.0
Toxaphene	ug/kg	ND	U	200	ND	U	190	ND	UJ	380	ND	U	200
Aroclor 1016	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39
Aroclor 1221	ug/kg	ND	U	78	ND	U	74	ND	UJ	150	ND	U	80
Aroclor 1232	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39
Aroclor 1242	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39
Aroclor 1248	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39
Aroclor 1254	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39
Aroclor 1260	ug/kg	ND	U	38	ND	U	37	ND	UJ	74	ND	U	39

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-B151-121393			FF-B161-112393			FF-B164-112393 (Dup of B161)			FF-B171-112493		
Sample Designation=		32184-0003-SA			031806-0011-SA			031806-0014-SA			031813-0005-SA		
Sample Collection Date=		13 DEC 93			23 NOV 93			23 NOV 93			24 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	1 9	ND	UJ	9 2	ND	UJ	1.9	ND	U	1.9
beta-BHC	ug/kg	ND	U	1.9	ND	UJ	9.2	ND	UJ	1.9	ND	U	1.9
delta-BHC	ug/kg	ND	U	1.9	ND	UJ	9.2	ND	UJ	1.9	ND	U	1.9
gamma-BHC (Lindane)	ug/kg	0 21	J	1.9	ND	UJ	9.2	ND	UJ	1.9	ND	UJ*	4.7
Heptachlor	ug/kg	ND	U	1.9	ND	UJ	9.2	ND	UJ	1.9	ND	U	1.9
Aldrin	ug/kg	ND	U	1.9	ND	UJ*	9 2	ND	UJ	1.9	ND	U	1 9
Heptachlor epoxide	ug/kg	1.1	NJ	1.9	8 1	J	9.2	2	J	1.9	ND	UJ*	4.2
Endosulfan I	ug/kg	ND	U	1.9	9.4	J	9.2	2	J	1.9	ND	U	1.9
Dieldrin	ug/kg	ND	UJ*	8.4	ND	UJ*	100	ND	UJ*	28	ND	U	3.7
4,4'-DDE	ug/kg	3.3	J	3.7	ND	UJ	18	ND	UJ	3 7	1.5	J	3.7
Endrin	ug/kg	13	J	3 7	74	J	18	25	J	3.7	ND	U	3.7
Endosulfan II	ug/kg	3.6	J	3.7	25	NJ	18	6 5	J	3.7	ND	UJ*	3.7
4,4'-DDD	ug/kg	ND	U	3 7	17	J	18	4.7	J	3 7	ND	U	3.7
Endosulfan sulfate	ug/kg	1.7	J	3.7	33	J	18	11	J	3.7	ND	U	3.7
4,4'-DDT	ug/kg	ND	U*	28	ND	UJ	18	9.6	J	3.7	3.6	J	3.7
Methoxychlor	ug/kg	ND	U	19	ND	UJ	92	ND	UJ	19	1.4	J	19
Endrin ketone	ug/kg	ND	U	3 7	ND	UJ	18	ND	UJ	3.7	ND	U	3 7
Endrin aldehyde	ug/kg	6.8	NJ	3 7	ND	UJ	18	ND	UJ	3.7	3.9	NJ	3.7
alpha-Chlordane	ug/kg	ND	U*	1 9	ND	UJ	9 2	ND	UJ	1.9	ND	U	1.9
gamma-Chlordane	ug/kg	ND	U*	1.9	3.5	J	9 2	ND	UJ	1.9	ND	U	1.9
Toxaphene	ug/kg	ND	U	190	ND	UJ	920	ND	UJ	190	ND	U	190
Aroclor 1016	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37
Aroclor 1221	ug/kg	ND	U	75	ND	UJ	360	ND	UJ	75	ND	U	76
Aroclor 1232	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37
Aroclor 1242	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37
Aroclor 1248	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37
Aroclor 1254	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37
Aroclor 1260	ug/kg	ND	U	37	ND	UJ	180	ND	UJ	37	ND	U	37

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-B181-112393			FF-M61-113093			FF-M71-112993			FF-M81-113093		
Sample Designation=		031806-0015-SA			31875-07-SA			31875-03-SA			31875-09-SA		
Sample Collection Date=		23 NOV 93			30 NOV 93			29 NOV 93			30 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	UJ	2.0	0 38	J	1 9	ND	UJ	1 9	ND	U	2.0
beta-BHC	ug/kg	ND	UJ	2.0	ND	U	1 9	ND	UJ	1.9	ND	U	2 0
delta-BHC	ug/kg	ND	UJ	2 0	ND	U	1.9	ND	UJ	1.9	ND	U	2.0
gamma-BHC (Lindane)	ug/kg	ND	UJ	2.0	ND	UJ*	4 9	ND	UJ	1 9	ND	U	2.0
Heptachlor	ug/kg	ND	UJ	2.0	ND	U	1.9	ND	UJ	1 9	ND	U	2.0
Aldrin	ug/kg	ND	UJ	2.0	ND	U	1.9	ND	UJ	1.9	ND	U	2.0
Heptachlor epoxide	ug/kg	1.2	J	2.0	5 6	J	1.9	ND	UJ*	11	ND	U	2.0
Endosulfan I	ug/kg	ND	UJ	2 0	3 3	J	1.9	ND	UJ	1.9	ND	U*	2.0
Dieldrin	ug/kg	1.6	NJ	3 8	ND	UJ*	23	ND	UJ	3.7	ND	U	3 9
4,4'-DDE	ug/kg	7	J	3.8	6 9	J	3.7	7.1	J	3.7	13	J	3.9
Endrin	ug/kg	ND	UJ*	50	16	J	3.7	6	J	3 7	ND	U	3.9
Endosulfan II	ug/kg	ND	UJ	3 8	ND	U	3.7	ND	UJ	3.7	2.9	J	3 9
4,4'-DDD	ug/kg	5 2	J	3 8	5.1	J	3 7	ND	UJ	3.7	3 8	J	3.9
Endosulfan sulfate	ug/kg	0 97	J	3 8	ND	U	3.7	0 86	NJ	3.7	ND	U	3 9
4,4'-DDT	ug/kg	14	J	3.8	29	J	3 7	42	J	3.7	16	J	3.9
Methoxychlor	ug/kg	10	J	20	32	J	19	ND	UJ	19	ND	U	20
Endrin ketone	ug/kg	ND	UJ	3.8	ND	UJ	3 7	ND	UJ	3 7	ND	UJ	3.9
Endrin aldehyde	ug/kg	ND	UJ	3.8	10	NJ	3.7	ND	UJ*	28	6.1	NJ	2.0
alpha-Chlordane	ug/kg	2 6	J	2.0	ND	U	1.9	1 9	NJ	1.9	ND	UJ*	3 0
gamma-Chlordane	ug/kg	ND	UJ	2 0	1.7	J	1.9	0 57	J	1.9	ND	U	2.0
Toxaphene	ug/kg	ND	UJ	200	ND	U	190	ND	UJ	190	ND	U	200
Aroclor 1016	ug/kg	ND	UJ	38	ND	U	37	ND	UJ	37	ND	U	39
Aroclor 1221	ug/kg	ND	UJ	78	ND	U	74	ND	UJ	74	ND	U	78
Aroclor 1232	ug/kg	ND	UJ	38	ND	U	37	ND	UJ	37	ND	U	39
Aroclor 1242	ug/kg	ND	UJ	38	ND	U	37	ND	UJ	37	ND	U	39
Aroclor 1248	ug/kg	ND	UJ	38	ND	U	37	ND	UJ	37	ND	U	39
Aroclor 1254	ug/kg	ND	UJ	38	ND	U	37	ND	UJ	37	ND	U	39
Aroclor 1260	ug/kg	ND	UJ	38	ND	U	37	ND	UJ	37	ND	U	39

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=	FF-M91-120193			FF-M93-120193 (Dup of M91)			FF-M101-112993			FF-M111-112993		
Sample Designation=	31915-01-SA			31915-03-SA			31875-05-SA			31875-01-SA		
Sample Collection Date=	01 DEC 93			01 DEC 93			29 NOV 93			29 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	UJ	1.8	0.98	J	1.9	ND	U	3 8	ND	U	2.3
beta-BHC	ug/kg	ND	UJ	1 8	ND	U	1.9	ND	U	3.8	ND	U	2.3
delta-BHC	ug/kg	ND	UJ	1.8	ND	U	1.9	ND	U	3.8	ND	U	2 3
gamma-BHC (Lindane)	ug/kg	ND	UJ*	5.0	2.4	J	1.9	ND	U	3.8	ND	U	2.3
Heptachlor	ug/kg	ND	UJ	1.8	ND	U	1 9	ND	UJ*	16	ND	U	2.3
Aldrin	ug/kg	ND	UJ	1.8	ND	U	1 9	ND	U	3.8	ND	U	2.3
Heptachlor epoxide	ug/kg	ND	UJ	1 8	0 95	J	1.9	ND	UJ*	34	2.2	J	1.7
Endosulfan I	ug/kg	ND	UJ	1 8	ND	U	1 9	5 5	J	3 8	2 1	J	1 7
Dieldrin	ug/kg	0 74	J	3 5	1.7	NJ	3.6	ND	U	7.3	2	J	3 3
4,4'-DDE	ug/kg	0 68	J	3 5	4 7		3 6	13	J	7.3	3.5	J	3.3
Endrin	ug/kg	0 86	NJ	3 5	12	J	3.6	11	J	7.3	2.3	NJ	3.3
Endosulfan II	ug/kg	1.4	J	3 5	2 8	J	3.6	20		7.3	ND	U	4 5
4,4'-DDD	ug/kg	ND	UJ	3.5	7.2	J	3 6	ND	U	7.3	ND	U	4 5
Endosulfan sulfate	ug/kg	0.57	NJ	3 5	2	J	3 6	ND	U	7.3	0 83	J	3 3
4,4'-DDT	ug/kg	60	J	3.5	52		3.6	25	NJ	7.3	25	J	3 3
Methoxychlor	ug/kg	ND	U*	18	ND	U	19	ND	U	38	1.9	J	17
Endrin ketone	ug/kg	ND	UJ	3 5	ND	U	3.6	ND	UJ	7.3	ND	UJ	4 5
Endrin aldehyde	ug/kg	3.1	J	3 5	ND	UJ*	37	25	NJ	7.3	2.3	J	3.3
alpha-Chlordane	ug/kg	ND	UJ	1.8	2 4		1.9	ND	U	3.8	ND	U	2.3
gamma-Chlordane	ug/kg	0.32	J	1.8	1.9	J	1.9	ND	U	3 8	ND	U	2.3
Toxaphene	ug/kg	ND	UJ	180	ND	U	190	ND	U	380	ND	U	230
Aroclor 1016	ug/kg	ND	UJ	35	ND	U	36	ND	U	73	ND	U	45
Aroclor 1221	ug/kg	ND	UJ	72	ND	U	73	ND	U	150	ND	U	92
Aroclor 1232	ug/kg	ND	UJ	35	ND	U	36	ND	U	73	ND	U	45
Aroclor 1242	ug/kg	ND	UJ	35	ND	U	36	ND	U	73	ND	U	45
Aroclor 1248	ug/kg	ND	UJ	35	ND	U	36	ND	U	73	ND	U	45
Aroclor 1254	ug/kg	ND	UJ	35	ND	U	36	530	C	73	ND	U	45
Aroclor 1260	ug/kg	ND	UJ	35	ND	U	36	ND	U	73	ND	U	45

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		MP-FB1-110293			FF-FB2-110393			FF-FB112393			FF-FB113093		
Sample Designation=		31384-17-FB			31384-18-FB			31806-07-FB			31875-13-FB		
Sample Collection Date=		01 NOV 93			03 NOV 93			23 NOV 93			30 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	0.050	ND	U	0 050	0.0025	J	0 050	0.0018	J	0.050
beta-BHC	ug/kg	ND	U	0 050	ND	U	0 050	ND	U	0.050	ND	U	0.050
delta-BHC	ug/kg	ND	U	0.050	ND	U	0.050	ND	U	0.050	ND	U	0 050
gamma-BHC (Lindane)	ug/kg	ND	U	0 050	ND	U	0.050	ND	U	0.050	ND	U	0 050
Heptachlor	ug/kg	ND	U	0 050	ND	U	0 050	0 003	J	0.050	ND	U	0 050
Aldrin	ug/kg	ND	U	0 050	ND	U	0.050	ND	U	0 050	ND	U	0.050
Heptachlor epoxide	ug/kg	ND	U	0 050	ND	U	0 050	ND	U	0.050	ND	U	0.050
Endosulfan I	ug/kg	ND	U	0 050	0.0002	NJ	0.050	ND	U	0.050	ND	U	0.050
Dieldrin	ug/kg	ND	U	0.10	ND	U	0 10	ND	U	0.10	ND	U	0.10
4,4'-DDE	ug/kg	ND	U	0.10	ND	U	0 10	ND	U	0.10	0.0015	J	0.10
Endrin	ug/kg	ND	U	0.10	ND	U	0.10	ND	U	0.10	0.0012	J	0.10
Endosulfan II	ug/kg	ND	U	0.10	ND	U	0.10	0.0004	NJ	0.10	ND	U	0.10
4,4'-DDD	ug/kg	ND	U	0.10	ND	U	0.10	ND	U	0.10	ND	U	0.10
Endosulfan sulfate	ug/kg	ND	U	0.10	ND	U	0.10	ND	U	0.10	ND	U	0.10
4,4'-DDT	ug/kg	ND	U	0.10	ND	U	0 10	ND	U	0.10	0 038	J	0.10
Methoxychlor	ug/kg	ND	UJ	0.50	ND	UJ	0.50	ND	UJ	0 50	0.035	J	0.50
Endrin ketone	ug/kg	ND	UJ	0.10	ND	UJ	0.10	ND	UJ	0.10	ND	UJ	0.10
Endrin aldehyde	ug/kg	ND	U	0.10	ND	U	0.10	ND	UJ	0.12	ND	U	0.10
alpha-Chlordane	ug/kg	ND	U	0 050	ND	U	0.050	ND	U	0 050	ND	U	0.050
gamma-Chlordane	ug/kg	ND	U	0.050	ND	U	0 050	ND	UJ	0.050	ND	U*	0.050
Toxaphene	ug/kg	ND	U	5 0	ND	U	5 0	ND	U	5.0	ND	U	5.0
Aroclor 1016	ug/kg	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0
Aroclor 1221	ug/kg	ND	U	2 0	ND	U	2 0	ND	U	2 0	ND	U	2 0
Aroclor 1232	ug/kg	ND	U	1 0	ND	U	1.0	ND	U	1.0	ND	U	1.0
Aroclor 1242	ug/kg	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0
Aroclor 1248	ug/kg	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0
Aroclor 1254	ug/kg	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0
Aroclor 1260	ug/kg	ND	U	1.0	ND	U	1.0	ND	U	1.0	ND	U	1.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location= FF-SWB-113093
Sample Designation= 31875-10-SA
Sample Collection Date= 30 NOV 93

Compound	Units	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	0 050
beta-BHC	ug/kg	ND	U	0.050
delta-BHC	ug/kg	ND	U	0 050
gamma-BHC (Lindane)	ug/kg	ND	U*	0 050
Heptachlor	ug/kg	ND	U	0.050
Aldrin	ug/kg	ND	U	0 050
Heptachlor epoxide	ug/kg	ND	U	0 050
Endosulfan I	ug/kg	ND	U	0.050
Dieldrin	ug/kg	ND	U	0.10
4,4'-DDE	ug/kg	0.0009	J	0.10
Endrin	ug/kg	0 0012	J	0.10
Endosulfan II	ug/kg	ND	U	0.10
4,4'-DDD	ug/kg	ND	U	0.10
Endosulfan sulfate	ug/kg	0.0058	J	0.10
4,4'-DDT	ug/kg	0 022	J	0.10
Methoxychlor	ug/kg	0 021	*J	0.50
Endrin ketone	ug/kg	ND	UJ	0.10
Endrin aldehyde	ug/kg	ND	U*	0.10
alpha-Chlordane	ug/kg	ND	U	0 050
gamma-Chlordane	ug/kg	0.0007	NJ	0 050
Toxaphene	ug/kg	ND	U	5.0
Aroclor 1016	ug/kg	ND	U	1.0
Aroclor 1221	ug/kg	ND	U	2.0
Aroclor 1232	ug/kg	ND	U	1 0
Aroclor 1242	ug/kg	ND	U	1 0
Aroclor 1248	ug/kg	ND	U	1.0
Aroclor 1254	ug/kg	ND	U	1.0
Aroclor 1260	ug/kg	ND	U	1.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-SS12-110393			FF-SS13-110393			FF-SS14-110393			FF-SS15-110393		
Sample Designation=		031384-0001-SA			031384-0002-SA			031384-0003-SA			031384-0004-SA		
Sample Collection Date=		03 NOV 93			03 NOV 93			03 NOV 93			03 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	9800		NA	11600		NA	10900		NA	10000		NA
Antimony	mg/kg	6 2	UN	NA	6.3	UJ	NA	6.4	UJ	NA	6.2	UJ	NA
Arsenic	mg/kg	5.9	J	NA	5.3	J	NA	6.3	J	NA	6.3	J	NA
Barium	mg/kg	27	B	NA	30 8	B	NA	26.1	B	NA	24.7	B	NA
Beryllium	mg/kg	0.44	B	NA	0 46	B	NA	0.38	B	NA	0.36	B	NA
Cadmium	mg/kg	0 75	U	NA	0.76	U	NA	0 77	U	NA	0 74	U	NA
Calcium	mg/kg	901	B	NA	1190	B	NA	1140	B	NA	764	B	NA
Chromium	mg/kg	13.7		NA	13.1		NA	31.5		NA	11.9		NA
Cobalt	mg/kg	5 5	B	NA	6.2	B	NA	6.8	B	NA	5.4	B	NA
Copper	mg/kg	12.6	J	NA	12.7	J	NA	20.5	J	NA	10.3	J	NA
Iron	mg/kg	13700		NA	15400		NA	17500		NA	13800		NA
Lead	mg/kg	22 1		NA	25 1		NA	69.4		NA	27		NA
Magnesium	mg/kg	1690		NA	2000		NA	2620		NA	1800		NA
Manganese	mg/kg	214		NA	245		NA	246		NA	199		NA
Mercury	mg/kg	0.07	B	NA	0 06	B	NA	0.08	B	NA	0.07	B	NA
Nickel	mg/kg	13		NA	12.1		NA	16.4		NA	13.1		NA
Potassium	mg/kg	286	B	NA	363	B	NA	168	B	NA	252	B	NA
Selenium	mg/kg	0.53	B	NA	0.61	B	NA	0.64	B	NA	0.49	U	NA
Silver	mg/kg	0 99	U	NA	1	U	NA	1	U	NA	0.99	U	NA
Sodium	mg/kg	298	U	NA	302	U	NA	308	U	NA	296	U	NA
Thallium	mg/kg	0.5	U	NA	0.5	U	NA	0.51	U	NA	0.49	U	NA
Vanadium	mg/kg	17.3		NA	20		NA	19.5		NA	17.2		NA
Zinc	mg/kg	57.5		NA	63.3		NA	93.3		NA	42		NA
Cyanide, Total	mg/kg	0.62	U	NA	0.63	U	NA	0.64	U	NA	0.62	U	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-SS16-110393			FF-SS17-110393			FF-SS18-110393			FF-SS19-110393		
Sample Designation=		031384-0005-SA			031384-0006-SA			031384-0007-SA			031384-0008-SA		
Sample Collection Date=		03 NOV 93			03 NOV 93			03 NOV 93			03 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	5470		NA	10600		NA	8950		NA	10900		NA
Antimony	mg/kg	6 2	UJ	NA	6 2	UJ	NA	6.2	UJ	NA	5.9	UJ	NA
Arsenic	mg/kg	1.7	J	NA	5 6	J	NA	6	J	NA	6.7	J	NA
Barium	mg/kg	16.8	B	NA	24.6	B	NA	24.9	B	NA	22.1	B	NA
Beryllium	mg/kg	0.28	B	NA	0.35	B	NA	0.36	B	NA	0 41	B	NA
Cadmium	mg/kg	0.74	U	NA	0.75	U	NA	0.74	U	NA	0.71	U	NA
Calcium	mg/kg	1320		NA	871	B	NA	3370		NA	473	B	NA
Chromium	mg/kg	8 5		NA	12		NA	12.2		NA	11.8		NA
Cobalt	mg/kg	4.4	B	NA	5.3	B	NA	5 3	B	NA	6.3	B	NA
Copper	mg/kg	8.9	J	NA	13 9	J	NA	19	J	NA	11.4	J	NA
Iron	mg/kg	9770		NA	14600		NA	14400		NA	15300		NA
Lead	mg/kg	7.5		NA	28.9		NA	36 2		NA	29.9		NA
Magnesium	mg/kg	2490		NA	1970		NA	3410		NA	2020		NA
Manganese	mg/kg	196		NA	194		NA	212		NA	211		NA
Mercury	mg/kg	0 06	U	NA	0.14		NA	0 61		NA	0.08	B	NA
Nickel	mg/kg	8.6	B	NA	13		NA	12.4		NA	13.3		NA
Potassium	mg/kg	1030	B	NA	234	B	NA	405	B	NA	309	B	NA
Selenium	mg/kg	0.5	U	NA	0.5	UW	NA	0.49	U	NA	0.61	B	NA
Silver	mg/kg	0.99	U	NA	1	U	NA	0.99	U	NA	0.95	U	NA
Sodium	mg/kg	298	U	NA	300	U	NA	296	U	NA	377	B	NA
Thallium	mg/kg	0.5	U	NA	0.5	U	NA	0.49	U	NA	0.47	U	NA
Vanadium	mg/kg	14		NA	19.7		NA	17		NA	18.5		NA
Zinc	mg/kg	40.3		NA	44		NA	54.8		NA	40 2		NA
Cyanide, Total	mg/kg	0.62	U	NA	0.67	U	NA	0.62	U	NA	0.59	U	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-SS20-110393			FF-SS21-110493			FF-SS22-110493			FF-SS23-110493		
Sample Designation=		031384-0009-SA			031390-0001-SA			031390-0002-SA			031390-0003-SA		
Sample Collection Date=		03 NOV 93			04 NOV 93			04 NOV 93			04 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	9810		NA	9530		NA	10000		NA	9340		NA
Antimony	mg/kg	5.8	UJ	NA	6.1	UJ	NA	6.2	UJ	NA	5.9	UJ	NA
Arsenic	mg/kg	7.4	J	NA	6.1	J	NA	5.6	J	NA	8 5	J	NA
Barium	mg/kg	24.8	B	NA	14.9	B	NA	25	B	NA	21.8	B	NA
Beryllium	mg/kg	0.37	B	NA	0 37	B	NA	0.34	B	NA	0.34	B	NA
Cadmium	mg/kg	0.7	U	NA	0 73	U	NA	0.74	U	NA	0.71	U	NA
Calcium	mg/kg	823	B	NA	697	J	NA	894	J	NA	621	J	NA
Chromium	mg/kg	18.1		NA	12.9		NA	11.8		NA	10 8		NA
Cobalt	mg/kg	9.3	B	NA	9 2	B	NA	5.4	B	NA	5.1	B	NA
Copper	mg/kg	54.7	J	NA	18.3		NA	10.1		NA	9.2		NA
Iron	mg/kg	22000		NA	19600		NA	14800		NA	14200		NA
Lead	mg/kg	100		NA	39.5	J	NA	16.1	J	NA	22.1	J	NA
Magnesium	mg/kg	2680		NA	2390		NA	1920		NA	1780		NA
Manganese	mg/kg	313		NA	336		NA	203		NA	203		NA
Mercury	mg/kg	0.07	B	NA	0.07	B	NA	0.07	B	NA	0.07	B	NA
Nickel	mg/kg	20.7		NA	16.3		NA	12.3		NA	11.7		NA
Potassium	mg/kg	471	B	NA	321	B	NA	374	B	NA	234	B	NA
Selenium	mg/kg	0.47	UW	NA	0 49	U	NA	0.5	U	NA	0.48	U	NA
Silver	mg/kg	0.93	U	NA	0.98	U	NA	0.99	U	NA	0.95	U	NA
Sodium	mg/kg	280	U	NA	293	U	NA	297	U	NA	285	U	NA
Thallium	mg/kg	0.47	U	NA	0 49	U	NA	0.5	U	NA	0.48	U	NA
Vanadium	mg/kg	20.3		NA	20.7		NA	16.6		NA	14.9		NA
Zinc	mg/kg	414		NA	57.8		NA	42.1		NA	38.8		NA
Cyanide, Total	mg/kg	0.58	U	NA	0.61	U	NA	0.62	U	NA	0.59	U	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-SS24-110493			FF-SS25-110493			FF-SS26-110493			FF-SS27-110493		
Sample Designation=		031390-0004-SA			031390-0005-SA			031390-0006-SA			031390-0007-SA		
Sample Collection Date=		04 NOV 93			04 NOV 93			04 NOV 93			04 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	9360		NA	9890		NA	9090		NA	7650		NA
Antimony	mg/kg	6.3	UJ	NA	5.4	UJ	NA	5.9	UJ	NA	6.2	UJ	NA
Arsenic	mg/kg	5.2	J	NA	5.5	J	NA	5.2	J	NA	4 3	J	NA
Barium	mg/kg	24	B	NA	22 9	B	NA	22.8	B	NA	20.9	B	NA
Beryllium	mg/kg	0.36	B	NA	0.34	B	NA	0 33	B	NA	0.31	B	NA
Cadmium	mg/kg	0.75	U	NA	0 65	U	NA	0.71	U	NA	0.75	U	NA
Calcium	mg/kg	907	J	NA	604	J	NA	643	J	NA	743	J	NA
Chromium	mg/kg	16.7		NA	10 5		NA	12.1		NA	9		NA
Cobalt	mg/kg	5 5	B	NA	5.6	B	NA	5.6	B	NA	4.5	B	NA
Copper	mg/kg	9.8		NA	14 2		NA	8.8		NA	8.7		NA
Iron	mg/kg	13300		NA	14200		NA	14300		NA	11800		NA
Lead	mg/kg	16.5	J	NA	15.1	J	NA	16.1	J	NA	14 9	J	NA
Magnesium	mg/kg	1720		NA	1720		NA	1790		NA	1460		NA
Manganese	mg/kg	191		NA	205		NA	210		NA	173		NA
Mercury	mg/kg	0.06	U	NA	0 07	B	NA	0 06	U	NA	0.06	U	NA
Nickel	mg/kg	11.5		NA	12.8		NA	12		NA	11.3		NA
Potassium	mg/kg	351	B	NA	249	B	NA	286	B	NA	163	U	NA
Selenium	mg/kg	0.5	U	NA	0 43	U	NA	0.47	U	NA	0.5	U	NA
Silver	mg/kg	1	U	NA	0 86	U	NA	0.94	U	NA	1	U	NA
Sodium	mg/kg	302	U	NA	259	U	NA	283	U	NA	300	U	NA
Thallium	mg/kg	0.5	U	NA	0.43	U	NA	0.47	U	NA	0.5	UW	NA
Vanadium	mg/kg	16 9		NA	16		NA	15.3		NA	13		NA
Zinc	mg/kg	40.6		NA	38.2		NA	37.2		NA	41.5		NA
Cyanide, Total	mg/kg	NA	NA	NA	NA	NA	NA	NA	NA	NA	0.62	U	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-SS35-110493 (Dup of SS27)			FF-SS28-110493			FF-SS29-110493			FF-SS30-110493		
Sample Designation=		031390-0013-SA			031390-0008-SA			031390-0010-SA			031390-0011-SA		
Sample Collection Date=		04 NOV 93			04 NOV 93			04 NOV 93			04 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	7890		NA	10100		NA	10200		NA	8000		NA
Antimony	mg/kg	6.3	UJ	NA	5.9	UJ	NA	6	UJ	NA	5.5	UJ	NA
Arsenic	mg/kg	4.7	J	NA	6.2	J	NA	3.7	J	NA	34	J	NA
Barium	mg/kg	19.9	B	NA	25.2	B	NA	23.1	B	NA	43.7	B	NA
Beryllium	mg/kg	0 28	B	NA	0.33	B	NA	0.32	B	NA	0.38	B	NA
Cadmium	mg/kg	0.76	U	NA	0.71	U	NA	0.72	U	NA	0.68	B	NA
Calcium	mg/kg	774	J	NA	766	J	NA	1170	J	NA	539	J	NA
Chromium	mg/kg	9		NA	10 8		NA	11.8		NA	10.6		NA
Cobalt	mg/kg	4.4	B	NA	7	B	NA	6 8	B	NA	4.8	B	NA
Copper	mg/kg	8.1		NA	11.2		NA	15.3		NA	17.2		NA
Iron	mg/kg	11400		NA	16200		NA	17100		NA	13200		NA
Lead	mg/kg	14.3	J	NA	21.8	J	NA	33 6	J	NA	349		NA
Magnesium	mg/kg	1530		NA	2080		NA	2300		NA	1510		NA
Manganese	mg/kg	166		NA	222		NA	223		NA	165		NA
Mercury	mg/kg	0 06	U	NA	0.07	B	NA	0.08	B	NA	0.29		NA
Nickel	mg/kg	11.5		NA	12.2		NA	13 3		NA	13.9		NA
Potassium	mg/kg	225	B	NA	281	B	NA	340	B	NA	251	B	NA
Selenium	mg/kg	0.51	U	NA	0.47	U	NA	0.48	U	NA	0 46	B	NA
Silver	mg/kg	1	U	NA	0.94	U	NA	0.97	U	NA	0.88	U	NA
Sodium	mg/kg	303	U	NA	283	U	NA	290	U	NA	263	U	NA
Thallium	mg/kg	0.51	U	NA	0.47	UW	NA	0.48	U	NA	0.44	U	NA
Vanadium	mg/kg	13.5		NA	17.2		NA	16.8		NA	38.6		NA
Zinc	mg/kg	40.5		NA	41.5		NA	59.9		NA	102		NA
Cyanide, Total	mg/kg	0.63	U	NA	NA	NA	NA	0 60	U	NA	0.55	U	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-SS31-110493			FF-B81-112293			FF-B91-112393			FF-B101-112393		
Sample Designation=		031390-0012-SA			031806-0005-SA			031806-0008-SA			031813-0008-SA		
Sample Collection Date=		04 NOV 93			22 NOV 93			23 NOV 93			23 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	R porting Limit
Aluminum	mg/kg	10000		NA	10300		NA	11200		NA	9910		NA
Antimony	mg/kg	6	UJ	NA	5.7	UJ	NA	5 6	UJ	NA	5.7	J	NA
Arsenic	mg/kg	6.2	J	NA	6.3	J	NA	6	J	NA	5	J	NA
Barium	mg/kg	27.2	B	NA	25.6	B	NA	29.9	B	NA	25.4	B	NA
Beryllium	mg/kg	0.4	B	NA	0 33	B	NA	0.43	B	NA	0.39	B	NA
Cadmium	mg/kg	0.72	U	NA	0.71	U	NA	0.7	U	NA	0.69	U	NA.
Calcium	mg/kg	668	J	NA	644	B	NA	1830		NA	1170		NA
Chromium	mg/kg	11.6		NA	12.1		NA	13 2		NA	11 5		NA
Cobalt	mg/kg	5 8	B	NA	6.7	B	NA	9.7	B	NA	6.5	B	NA
Copper	mg/kg	17.2		NA	11.3		NA	19.8		NA	16.4		NA
Iron	mg/kg	17300		NA	16500		NA	19800		NA	16800		NA
Lead	mg/kg	133		NA	35.1	S	NA	68.7		NA	60.4		NA
Magnesium	mg/kg	1900		NA	1930		NA	2390		NA	2120		NA
Manganese	mg/kg	211		NA	233	J	NA	331	J	NA	221	J	NA
Mercury	mg/kg	0.19		NA	0.06	U	NA	0.06	U	NA	0.07	B	NA
Nickel	mg/kg	14.3		NA	12		NA	15.7		NA	15.4		NA
Potassium	mg/kg	280	B	NA	446	B	NA	419	B	NA	402	B	NA
Selenium	mg/kg	0.48	UW	NA	0.47	UW	NA	0.47	U	NA	0.46	U	NA
Silver	mg/kg	0 96	U	NA	1.2	U	NA	1.2	U	NA	1.1	U	NA
Sodium	mg/kg	289	U	NA	401	U	NA	396	U	NA	388	U	NA
Thallium	mg/kg	0.48	U	NA	0.47	UJ	NA	0.47	UJ	NA	0.46	UJ	NA
Vanadium	mg/kg	29.5		NA	18.3	J	NA	22.5		NA	41.2		NA
Zinc	mg/kg	82		NA	42.8	UJ	NA	73.4	J	NA	65.1	J	NA
Cyanide, Total	mg/kg	0.60	U	NA	0.59	U	NA	0.59	UJ	NA	0.57	UJ	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-B111-112493			FF-B121-112493			FF-B131-112393			FF-B141-121393		
Sample Designation=		031813-0001-SA			031813-0003-SA			031806-0009-SA			32184-01-SA		
Sample Collection Date=		24 NOV 93			24 NOV 93			23 NOV 93			13 DEC 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	10500		NA	10500		NA	8380		NA	10700		NA
Antimony	mg/kg	5 3	UJ	NA	5.3	UJ	NA	5.4	UJ	NA	5 9	UJ	NA
Arsenic	mg/kg	6 6	J	NA	6.6	J	NA	10	J	NA	8.5		NA
Barium	mg/kg	25.9	B	NA	25 9	B	NA	32.4	B	NA	27.4	B	NA
Beryllium	mg/kg	0.28	B	NA	0 28	B	NA	0.37	B	NA	0.35	B	NA
Cadmium	mg/kg	0.66	U	NA	0.66	U	NA	0 67	U	NA	0.74	U	NA
Calcium	mg/kg	1400	B	NA	1400		NA	4520		NA	937	B	NA
Chromium	mg/kg	13.7		NA	13.7		NA	19.3		NA	11.8		NA
Cobalt	mg/kg	10.8	B	NA	10.8	B	NA	10.6	B	NA	5.8	B	NA
Copper	mg/kg	33 9		NA	33.9		NA	63.8		NA	9.1		NA
Iron	mg/kg	23000		NA	23000		NA	31000		NA	15400		NA
L ad	mg/kg	108		NA	108		NA	125		NA	22.5	S	NA
Magnesium	mg/kg	3280		NA	3280		NA	3540		NA	1930		NA
Manganese	mg/kg	439	J	NA	439	J	NA	325	J	NA	215	J	NA
Mercury	mg/kg	0.080	B	NA	0 08	B	NA	0.14		NA	0.06	U	NA
Nickel	mg/kg	18.3		NA	18.3		NA	20.8		NA	11.7		NA
Potassium	mg/kg	382	B	NA	382	B	NA	443	B	NA	279	B	NA
Selenium	mg/kg	0.47	U	NA	0.47	U	NA	0.58	B	NA	0.49	U	NA
Silver	mg/kg	1.1	U	NA	1.1	U	NA	1.1	U	NA	1.2	U	NA
Sodium	mg/kg	372	U	NA	372	U	NA	378	U	NA	415	U	NA
Thallium	mg/kg	0.44	UJ	NA	0.44	UJ	NA	0.45	UJ	NA	0.49	UJ	NA
Vanadium	mg/kg	19.0		NA	19		NA	21.9		NA	18.7		NA
Zinc	mg/kg	104	J	NA	104	J	NA	168	J	NA	38	J	NA
Cyanide, Total	mg/kg	0.55	UJ	NA	0.55	UJ	NA	0.56	UJ	NA	0.61	U	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=	FF-B151-121393			FF-B161-112393			FF-B164-112393 (Dup of B161)			FF-B171-112493		
Sample Designation=	32184-0003-SA			031806-0011-SA			031806-0014-SA			031813-0005-SA		
Sample Collection Date=	13 DEC 93			23 NOV 93			23 NOV 93			24 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	9540		NA	7080		NA	9580		NA	6270		NA
Antimony	mg/kg	5.1	UJ	NA	5.2	UJ	NA	6.5	J	NA	5.1	UJ	NA
Arsenic	mg/kg	7		NA	6.9	J	NA	7.3	J	NA	3.4	J	NA
Barium	mg/kg	26.9	B	NA	46.5		NA	10.2	B	NA	13.3	B	NA
Beryllium	mg/kg	0.36	B	NA	0.22	B	NA	0.4	B	NA	0.23	B	NA
Cadmium	mg/kg	0.72	B	NA	0.65	U	NA	0.66	U	NA	0.64	U	NA
Calcium	mg/kg	1640		NA	1550		NA	849	B	NA	732	B	NA
Chromium	mg/kg	12.1		NA	28 4		NA	17 6		NA	7.2		NA
Cobalt	mg/kg	11.1		NA	7.4	B	NA	14.9		NA	7	B	NA
Copper	mg/kg	20 5		NA	87		NA	45.1		NA	11.6		NA
Iron	mg/kg	22700		NA	39200		NA	31100		NA	12700		NA
Lead	mg/kg	77.4		NA	126		NA	83.2		NA	23.6	S	NA
Magnesium	mg/kg	2640		NA	3330		NA	3320		NA	2170		NA
Manganese	mg/kg	506	J	NA	290	J	NA	554	J	NA	404	J	NA
Mercury	mg/kg	0.05	U	NA	0.11	B	NA	0.1	B	NA	0.05	U	NA
Nickel	mg/kg	19.5		NA	26.8		NA	19.1		NA	11		NA
Potassium	mg/kg	329	B	NA	1160		NA	339	B	NA	330	B	NA
Selenium	mg/kg	0.43	UW	NA	0.44	U	NA	0.44	U	NA	0.43	U	NA
Silver	mg/kg	1.1	U	NA	1.1	U	NA	1.1	U	NA	1.1	U	NA
Sodium	mg/kg	362	U	NA	368	U	NA	372	U	NA	362	U	NA
Thallium	mg/kg	0.43	UJ	NA	0.44	UJ	NA	0.44	UJ	NA	0.43	UJ	NA
Vanadium	mg/kg	19.3		NA	27.3		NA	16.4		NA	9	B	NA
Zinc	mg/kg	89.3	J	NA	207	J	NA	125	J	NA	39.5	J	NA
Cyanide, Total	mg/kg	0.54	U	NA	0.54	UJ	NA	0.55	UJ	NA	0.46	UJ	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-B181-112393			FF-M61-113093			FF-M71-112993			FF-M81-113093		
Sample Designation=		031806-0015-SA			31875-07-SA			31875-03-SA			31875-09-SA		
Sample Collection Date=		23 NOV 93			30 NOV 93			29 NOV 93			30 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	10300		NA	10100		NA	11200		NA	5130		NA
Antimony	mg/kg	5.8	J	NA	5.3	UJ	NA	5 3	UJ	NA	5.7	UJ	NA
Arsenic	mg/kg	4.4	J	NA	4.6		NA	5.6		NA	5.7		NA
Barium	mg/kg	21.7	B	NA	20.0	B	NA	27.2	B	NA	12.4	B	NA
Beryllium	mg/kg	0.34	B	NA	0 39	B	NA	0.46	B	NA	0.24	U	NA
Cadmium	mg/kg	0.71	U	NA	0 67	U	NA	0.66	U	NA	0.71	U	NA
Calcium	mg/kg	1120	B	NA	876	B	NA	1650		NA	325	B	NA
Chromium	mg/kg	12.1		NA	16.5		NA	13.2		NA	6.5		NA
Cobalt	mg/kg	6.5	B	NA	9.1	B	NA	7.5	B	NA	4.4	B	NA
Copper	mg/kg	14.1		NA	16 8		NA	19.3		NA	9.1		NA
Iron	mg/kg	16300		NA	22900		NA	20400		NA	9880		NA
Lead	mg/kg	43.7		NA	41.1		NA	43.8		NA	22.5		NA
Magnesium	mg/kg	2400		NA	2900		NA	2550		NA	1240		NA
Manganese	mg/kg	236	J	NA	306	J	NA	232	J	NA	168	J	NA
Mercury	mg/kg	0.06	U	NA	0.06	U	NA	0 07	B	NA	0.06	U	NA
Nickel	mg/kg	11.1		NA	16.0		NA	15.5		NA	7.0	B	NA
Potassium	mg/kg	321	B	NA	456	B	NA	396	B	NA	296	B	NA
Selenium	mg/kg	0.47	U	NA	0 44	U	NA	0.44	U	NA	0.47	U	NA
Silver	mg/kg	1.2	U	NA	1.1	U	NA	1.1	U	NA	1.2	U	NA
Sodium	mg/kg	398	U	NA	376	U	NA	373	U	NA	400	U	NA
Thallium	mg/kg	0.47	UJ	NA	0.44	UJ	NA	0.44	UJ	NA	0.47	UJ	NA
Vanadium	mg/kg	16		NA	18.8		NA	18.9		NA	9.2	B	NA
Zinc	mg/kg	52.9	J	NA	70.6	J	NA	77.5	J	NA	30.0	J	NA
Cyanide, Total	mg/kg	0.59	UJ	NA	0.56	U	NA	0.55	U	NA	0.59	U	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=	FF-M91-120193			FF-M93-120193 (Dup of M91)			FF-M101-112993			FF-M111-112993		
Sample Designation=	31915-01-SA			31915-03-SA			31875-05-SA			31875-01-SA		
Sample Collection Date=	01 DEC 93			01 DEC 93			29 NOV 93			29 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	10500		NA	11000		NA	9230		NA	7370		NA
Antimony	mg/kg	5.3	UJ	NA	5 3	UJ	NA	5.4	UJ	NA	9.1	J	NA
Arsenic	mg/kg	5.8		NA	5 2		NA	7.0		NA	4.7		NA
Barium	mg/kg	31.9	B	NA	37.8	B	NA	49.9		NA	282		NA
Beryllium	mg/kg	0.43	B	NA	0 36	B	NA	0.35	B	NA	0 26	B	NA
Cadmium	mg/kg	0.66	U	NA	0.67	U	NA	0.84	B	NA	0.75	U	NA
Calcium	mg/kg	2420		NA	2380		NA	4680		NA	3200		NA
Chromium	mg/kg	13 4		NA	13.9		NA	18.7		NA	25.9		NA
Cobalt	mg/kg	11.3		NA	10 3	B	NA	10.8	B	NA	10.1	B	NA
Copper	mg/kg	27.1		NA	25.8		NA	80.3		NA	220		NA
Iron	mg/kg	23800		NA	22900		NA	45400		NA	29100		NA
Lead	mg/kg	97.3		NA	82		NA	372		NA	2970		NA
Magnesium	mg/kg	3820		NA	3540		NA	3060		NA	2580		NA
Manganese	mg/kg	451	J	NA	389	J	NA	697	J	NA	374	J	NA
Mercury	mg/kg	0.06	U	NA	0.08	B	NA	0.39		NA	0.06	U	NA
Nickel	mg/kg	17.8		NA	18.5		NA	22.9		NA	221		NA
Potassium	mg/kg	378	B	NA	375	B	NA	424	B	NA	542	B	NA
Selenium	mg/kg	0.46	B	NA	0.44	UW	NA	0 45	U	NA	0.50	U	NA
Silver	mg/kg	1.1	U	NA	1.1	U	NA	1.1	U	NA	1.3	U	NA
Sodium	mg/kg	372	U	NA	375	U	NA	381	U	NA	852	B	NA
Thallium	mg/kg	0.44	UJ	NA	0.44	UJ	NA	0.45	UJ	NA	0.50	UJ	NA
Vanadium	mg/kg	22.1		NA	21.3		NA	15.4		NA	17.4		NA
Zinc	mg/kg	124	J	NA	126	J	NA	571	J	NA	1910	J	NA
Cyanide, Total	mg/kg	0.43	U	NA	0.55	U	NA	0.56	U	NA	0.49	U	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-FB1-110293			FF-FB2-110393			FF-FB112393			FF-FB113093		
Sample Designation=		31384-17-FB			31384-18-FB			31806-07-FB			31875-13-FB		
Sample Collection Date=		01 NOV 93			03 NOV 93			23 NOV 93			30 NOV 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	0.053	U	NA	0 053	U	NA	0 042	U	NA	0.042	U	NA
Antimony	mg/kg	0.025	U	NA	0.025	U	NA	0.024	U	NA	0 024	U	NA
Arsenic	mg/kg	0.003	U	NA	0.003	U	NA	0.001	U	NA	0.001	U	NA
Barium	mg/kg	0.002	U	NA	0.002	U	NA	0.001	U	NA	0.001	U	NA
Beryllium	mg/kg	0.001	U	NA	0.001	U	NA	0 001	U	NA	0.001	U	NA
Cadmium	mg/kg	0.003	U	NA	0.003	U	NA	0.003	U	NA	0.003	U	NA
Calcium	mg/kg	0.0104	U	NA	0.0104	U	NA	0 071	U	NA	0.0126	U	NA
Chromium	mg/kg	0.004	U	NA	0.004	U	NA	0 004	U	NA	0 004	U	NA
Cobalt	mg/kg	0 003	U	NA	0.003	U	NA	0.004	U	NA	0.004	U	NA
Copper	mg/kg	0.003	U	NA	0.003	U	NA	0.004	U	NA	0.004	U	NA
Iron	mg/kg	0.0396	U	NA	0 0396	U	NA	0.141		NA	0.0763	B	NA
Lead	mg/kg	0.003	U	NA	0.003	U	NA	0 002	U	NA	0.002	U	NA
Magnesium	mg/kg	0.061	U	NA	0.061	U	NA	0 047	U	NA	0.047	U	NA
Manganese	mg/kg	0.001	U	NA	0.001	U	NA	0 0041	B	NA	0.0017	B	NA
Mercury	mg/kg	0.0001	U	NA	0.0001	U	NA	0.0001	U	NA	0.0001	U	NA
Nickel	mg/kg	0.009	U	NA	0.009	U	NA	0.009	U	NA	0.009	U	NA
Potassium	mg/kg	0 651	U	NA	0.651	U	NA	0.634	U	NA	0.634	U	NA
Selenium	mg/kg	0.002	U	NA	0.002	U	NA	0.002	U	NA	0.002	U	NA
Silver	mg/kg	0.004	U	NA	0.004	U	NA	0.005	U	NA	0.005	U	NA
Sodium	mg/kg	1.2	U	NA	1.2	U	NA	1.69	U	NA	1.69	U	NA
Thallium	mg/kg	0.002	U	NA	0.002	U	NA	0.002	U	NA	0.002	U	NA
Vanadium	mg/kg	0.004	U	NA	0.004	U	NA	0.004	U	NA	0.004	U	NA
Zinc	mg/kg	0.002	U	NA	0.002	U	NA	0.0058	B	NA	0.020	U	NA
Cyanide, Total	mg/kg	0.010	U	NA	0.010	U	NA	0.010	U	NA	0.010	U	NA

TABLE L1.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location= FF-SWB-113093
Sample Designation= 31875-10-SA
Sample Collection Date= 30 NOV 93

Analyte	Units	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	0.170	U	NA
Antimony	mg/kg	0.024	U	NA
Arsenic	mg/kg	0.001	U	NA
Barium	mg/kg	0.0051	B	NA
Beryllium	mg/kg	0.001	U	NA
Cadmium	mg/kg	0.003	U	NA
Calcium	mg/kg	19.5		NA
Chromium	mg/kg	0 004	U	NA
Cobalt	mg/kg	0.004	U	NA
Copper	mg/kg	0.0075	B	NA
Iron	mg/kg	0.273		NA
Lead	mg/kg	0.002	U	NA
Magnesium	mg/kg	3.52	B	NA
Manganese	mg/kg	0.009	B	NA
Mercury	mg/kg	0.0001	U	NA
Nickel	mg/kg	0.009	U	NA
Potassium	mg/kg	2.240	B	NA
Selenium	mg/kg	0.002	U	NA
Silver	mg/kg	0.005	U	NA
Sodium	mg/kg	13.1		NA
Thallium	mg/kg	0.002	U	NA
Vanadium	mg/kg	0.004	U	NA
Zinc	mg/kg	0.0904		NA
Cyanide, Total	mg/kg	0.010	U	NA

TABLE L2.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B82-112293			FF-B112-112493			FF-B122-112493			FF-B132-112393		
Sample Designation=		031806-0006-SA			031813-0002-SA			031813-0004-SA			031806-0010-SA		
Sample Collection Date=		22 NOV 93			24 NOV 93			24 NOV 93			23 NOV 93		
Sample Depth=		8-10'			4-6'			2-4'			4-6'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Bromomethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Vinyl Chloride	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Chloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Methylene chloride	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Acetone	ug/kg	ND	UJ*	11	ND	U	11	ND	U	11	ND	UJ	12
Carbon disulfide	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
1,1-Dichloroethene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
1,1-Dichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
1,2-Dichloroethene (cis/trans)	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Chloroform	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
1,2-Dichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
2-Butanone	ug/kg	ND	UJ	11	3	J	11	ND	U	11	ND	UJ	12
1,1,1-Trichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Carbon tetrachloride	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Bromodichloromethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
1,2-Dichloropropane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
cis-1,3-Dichloropropene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Trichloroethene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Dibromochloromethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
1,1,2-Trichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Benzene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
trans-1,3-Dichloropropene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Bromoform	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
4-Methyl-2-Pentanone	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
2-Hexanone	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
1,1,2,2-Tetrachloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Tetrachloroethene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Toluene	ug/kg	4	J	11	ND	U	11	ND	U	11	ND	UJ	12
Chlorobenzene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Ethylbenzene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Styrene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	UJ	12
Xylenes (total)	ug/kg	2	J	11	ND	U	11	ND	U	11	ND	UJ	12
Total VOCs		**6**			**3**			**0**			**0**		

NOTE: "*" indicates a value which was changed to 'Not Detected' following data validation

TABLE L2.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B142-121393			FF-B152-121393			FF-B153-121393			FF-B162-112393		
Sample Designation=		32184-02-SA			32184-04-SA			32184-05-SA			031806-0012-SA		
Sample Collection Date=		13 DEC 93			13 DEC 93			13 DEC 93			23 NOV 93		
Sample Depth=		15-17'			10-12'			17-19'			2-4'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Bromomethane	ug/kg	ND	U	13	ND	UJ	11	ND	U	11	ND	UJ	11
Vinyl Chloride	ug/kg	ND	UJ	13	ND	U	11	ND	U	11	ND	UJ	11
Chloroethane	ug/kg	1	J	13	ND	U	11	ND	U	11	ND	UJ	11
Methylene chloride	ug/kg	ND	U	13	2	J	11	1	J	11	ND	UJ	11
Acetone	ug/kg	ND	U*	34	ND	U*	15	ND	UJ*	11	ND	UJ*	11
Carbon disulfide	ug/kg	10	J	13	ND	U	11	ND	U	11	ND	UJ	11
1,1-Dichloroethene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
1,1-Dichloroethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Chloroform	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
1,2-Dichloroethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
2-Butanone	ug/kg	ND	U*	13	ND	U*	11	ND	UJ*	11	ND	UJ	11
1,1,1-Trichloroethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Carbon tetrachloride	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Bromodichloromethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
1,2-Dichloropropane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
cis-1,3-Dichloropropene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Trichloroethene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Dibromochloromethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
1,1,2-Trichloroethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Benzene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
trans-1,3-Dichloropropene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Bromoform	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
4-Methyl-2-Pentanone	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
2-Hexanone	ug/kg	ND	U	13	ND	U	11	ND	UJ	11	ND	UJ	11
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Tetrachloroethene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Toluene	ug/kg	2	J	13	2	J	11	ND	U	11	5	J	11
Chlorobenzene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Ethylbenzene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Styrene	ug/kg	ND	U	13	ND	U	11	ND	U	11	ND	UJ	11
Xylenes (total)	ug/kg	3	J	13	2	J	11	ND	U	11	ND	UJ	11
Total VOCs		16			6			1			5		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L2.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B163-112393			FF-B172-112493			FF-M62-113093			FF-M72-112993		
Sample Designation=		031806-0013-SA			031813-0006-SA			31875-08-SA			31875-04-SA		
Sample Collection Date=		23 NOV 93			24 NOV 93			30 NOV 93			29 NOV 93		
Sample Depth=		6-8'			2-4'			4-6'			2-4'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Bromomethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Vinyl Chloride	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Chloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Methylene chloride	ug/kg	ND	UJ	11	ND	U	11	ND	U*	11	ND	U	11
Acetone	ug/kg	ND	UJ	11	ND	U*	11	ND	U*	11	ND	U	11
Carbon disulfide	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
1,1-Dichloroethene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
1,1-Dichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
1,2-Dichloroethene (cis/trans)	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Chloroform.	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
1,2-Dichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
2-Butanone	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
1,1,1-Trichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Carbon tetrachloride	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Bromodichloromethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
1,2-Dichloropropane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
cis-1,3-Dichloropropene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Trichloroethene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Dibromochloromethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
1,1,2-Trichloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Benzene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
trans-1,3-Dichloropropene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Bromoform	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
4-Methyl-2-Pentanone	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
2-Hexanone	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
1,1,2,2-Tetrachloroethane	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Tetrachloroethene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Toluene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Chlorobenzene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Ethylbenzene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Styrene	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Xylenes (total)	ug/kg	ND	UJ	11	ND	U	11	ND	U	11	ND	U	11
Total VOCs		**0**			**0**			**0**			**0**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L2.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-M92-120193			FF-M102-112993			FF-M112-112993			FF-FB112393		
Sample Designation=		31915-02-SA			31875-06-SA			31875-02-SA			31806-07-FB		
Sample Collection Date=		01 DEC 93			29 NOV 93			29 NOV 93			23 NOV 93		
Sample Depth=		2-4'			4-6'			2-4'			—		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Bromomethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Vinyl Chloride	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Chloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Methylene chloride	ug/kg	1	J	11	ND	U	11	ND	UJ	14	ND	UJ	10
Acetone	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	1	J	10
Carbon disulfide	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
1,1-Dichloroethene	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
1,1-Dichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Chloroform	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
1,2-Dichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
2-Butanone	ug/kg	ND	U*	11	ND	U	11	ND	UJ*	14	ND	UJ	10
1,1,1-Trichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Carbon tetrachloride	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Bromodichloromethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
1,2-Dichloropropane	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
cis-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Trichloroethene	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Dibromochloromethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
1,1,2-Trichloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Benzene	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
trans-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Bromoform	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
4-Methyl-2-Pentanone	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
2-Hexanone	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Tetrachloroethene	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Toluene	ug/kg	ND	U	11	ND	U	11	2	J	14	ND	UJ	10
Chlorobenzene	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Ethylbenzene	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Styrene	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Xylenes (total)	ug/kg	ND	U	11	ND	U	11	ND	UJ	14	ND	UJ	10
Total VOCs		**1**			**0**			**2**			**1**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L2.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-TB112393			FF-TB112493			FF-FB113093			FF-TB113093		
Sample Designation=		31806-16-TB			31813-07-TB			31875-13-FB			31875-14-TB		
Sample Collection Date=		23 NOV 93			24 NOV 93			30 NOV 93			30 NOV 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Bromomethane	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Vinyl Chloride	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Chloroethane	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Methylene chloride	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	1	J	10
Acetone	ug/kg	ND	UJ	10	2	J	10	2	J	10	6	J	10
Carbon disulfide	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethene	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Chloroform	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
2-Butanone	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,1,1-Trichloroethane	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Carbon tetrachloride	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Bromodichloromethane	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Trichloroethene	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Dibromochloromethane	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Benzene	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Bromoform	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
2-Hexanone	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Tetrachloroethene	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Toluene	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Chlorobenzene	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Ethylbenzene	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Styrene	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Xylenes (total)	ug/kg	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Total VOCs		**0**			**2**			**2**			**7**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L2.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-SWB-113093			FF-TB120193			FF-TB121393.		
Sample Designation=		31875-10-SA			31915-04-SA			32184-06-TB		
Sample Collection Date=		30 NOV 93			01 DEC 93			13 DEC 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	10	ND	U	10	ND	U	10
Bromomethane	ug/kg	ND	U	10	ND	U	10	ND	U	10
Vinyl Chloride	ug/kg	ND	U	10	ND	U	10	ND	U	10
Chloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10
Methylene chloride	ug/kg	ND	U	10	ND	U	10	ND	U	10
Acetone	ug/kg	2	J	10	ND	U	10	2	J	10
Carbon disulfide	ug/kg	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethene	ug/kg	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	10	ND	U	10	ND	U	10
Chloroform	ug/kg	4		10	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10
2-Butanone	ug/kg	ND	U	10	ND	U*	10	ND	U	10
1,1,1-Trichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10
Carbon tetrachloride	ug/kg	ND	U	10	ND	U	10	ND	U	10
Bromodichloromethane	ug/kg	6	J	10	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/kg	ND	U	10	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Trichloroethene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Dibromochloromethane	ug/kg	ND	U	10	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10
Benzene	ug/kg	ND	U	10	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Bromoform	ug/kg	ND	U	10	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/kg	ND	U	10	ND	U	10	ND	U	10
2-Hexanone	ug/kg	ND	U	10	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	10	ND	U	10	ND	U	10
Tetrachloroethene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Toluene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Chlorobenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Ethylbenzene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Styrene	ug/kg	ND	U	10	ND	U	10	ND	U	10
Xylenes (total)	ug/kg	ND	U	10	ND	U	10	ND	U	10
Total VOCs		**12**			**0**			**2**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L2.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=	FF-B82-112293			FF-B112-112493			FF-B122-112493		
Sample Designation=	031806-0006-SA			031813-0002-SA			031813-0004-SA		
Sample Collection Date=	22 NOV 93			24 NOV 93			24 NOV 93		
Sample Depth=	8-10'			4-6'			2-4'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	110	J	360	ND	U	360	ND	U	370
Acenaphthylene	ug/kg	640		360	ND	U	360	63	J	370
Anthracene	ug/kg	680		360	ND	U	360	130	J	370
9H-Carbazole	ug/kg	200	J	360	ND	U	360	ND	U	370
Benzo(a)anthracene	ug/kg	2200		360	120	J	360	320	J	370
Benzo(a)pyrene	ug/kg	1700		360	110	J	360	280	J	370
Benzo(b)fluoranthene	ug/kg	2800		360	220	J	360	560		370
Benzo(g,h,i)perylene	ug/kg	610		360	ND	U	360	110	J	370
Benzo(k)fluoranthene	ug/kg	ND	U	360	ND	U	360	ND	U	370
4-Bromophenyl phenyl ether	ug/kg	ND	U	360	ND	U	360	ND	U	370
Butyl benzyl phthalate	ug/kg	ND	U	360	ND	U	360	ND	U	370
4-Chloroaniline	ug/kg	ND	U	360	ND	U	360	ND	U	370
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	360	ND	U	360	ND	U	370
bis(2-Chloroethyl) ether	ug/kg	ND	U	360	ND	U	360	ND	U	370
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	360	ND	U	360	ND	U	370
4-Chloro-3-methylphenol	ug/kg	ND	U	360	ND	U	360	ND	U	370
2-Chloronaphthalene	ug/kg	ND	U	360	ND	U	360	ND	U	370
2-Chlorophenol	ug/kg	ND	U	360	ND	U	360	ND	U	370
4-Chlorophenyl phenyl ether	ug/kg	ND	U	360	ND	U	360	ND	U	370
Chrysene	ug/kg	2100		360	130	J	360	290	J	370
Di-n-butyl phthalate	ug/kg	ND	U	360	ND	U	360	ND	U	370
Dibenz(a,h)anthracene	ug/kg	370		360	ND	U	360	64	J	370
Dibenzofuran	ug/kg	240	J	360	ND	U	360	ND	U	370
1,2-Dichlorobenzene	ug/kg	ND	U	360	ND	U	360	ND	U	370
1,3-Dichlorobenzene	ug/kg	ND	U	360	ND	U	360	ND	U	370
1,4-Dichlorobenzene	ug/kg	ND	U	360	ND	U	360	ND	U	370
3,3-Dichlorobenzidine	ug/kg	ND	U	360	ND	U	360	ND	U	370
2,4-Dichlorophenol	ug/kg	ND	U	360	ND	U	360	ND	U	370
Diethyl phthalate	ug/kg	ND	U	360	ND	U	360	ND	U	370
2,4-Dimethylphenol	ug/kg	ND	U	360	ND	U	360	ND	U	370
Dimethyl phthalate	ug/kg	ND	U	360	ND	U	360	ND	U	370
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	870	ND	U	880	ND	U	900
2,4-Dinitrophenol	ug/kg	ND	U	870	ND	U	880	ND	UJ	900
2,4-Dinitrotoluene	ug/kg	ND	U	360	ND	U	360	ND	U	370
2,6-Dinitrotoluene	ug/kg	ND	U	360	ND	U	360	ND	U	370
Di-n-octyl phthalate	ug/kg	ND	U	360	ND	U	360	ND	U	370
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	360	44	J	360	ND	U	370
Fluoranthene	ug/kg	4300	D	720	230	J	360	560		370
Fluorene	ug/kg	310	J	360	ND	U	360	ND	U	370
Hexachlorobenzene	ug/kg	ND	U	360	ND	U	360	ND	U	370
Hexachlorobutadiene	ug/kg	ND	U	360	ND	U	360	ND	U	370
Hexachlorocyclo-pentadiene	ug/kg	ND	U	360	ND	U	360	ND	U	370
Hexachloroethane	ug/kg	ND	U	360	ND	U	360	ND	U	370
Indeno(1,2,3-cd)pyrene	ug/kg	860		360	48	J	360	160	J	370
Isophorone	ug/kg	ND	U	360	ND	U	360	ND	U	370
2-Methylnaphthalene	ug/kg	77	J	360	ND	U	360	ND	U	370
2-Methylphenol	ug/kg	ND	U	360	ND	U	360	ND	U	370
4-Methylphenol	ug/kg	ND	U	360	ND	U	360	ND	U	370
Naphthalene	ug/kg	140	J	360	ND	U	360	ND	U	370
2-Nitroaniline	ug/kg	ND	U	870	ND	U	880	ND	U	900
3-Nitroaniline	ug/kg	ND	U	870	ND	U	880	ND	U	900
4-Nitroaniline	ug/kg	ND	U	870	ND	U	880	ND	U	900
Nitrobenzene	ug/kg	ND	U	360	ND	U	360	ND	U	370
2-Nitrophenol	ug/kg	ND	U	360	ND	U	360	ND	U	370
4-Nitrophenol	ug/kg	ND	U	870	ND	U	880	ND	U	900
N-Nitrosodiphenylamine	ug/kg	ND	U	360	ND	U	360	ND	U	370
N-Nitroso-di-n-propylamine	ug/kg	ND	U	360	ND	U	360	ND	U	370
Pentachlorophenol	ug/kg	ND	U	870	ND	U	880	ND	U	900
Phenanthrene	ug/kg	2600		360	150	J	360	310	J	370
Phenol	ug/kg	ND	U	360	ND	U	360	ND	U	370
Pyrene	ug/kg	4100	D	720	260	J	360	600		370
1,2,4-Trichlorobenzene	ug/kg	ND	U	360	ND	U	360	ND	U	370
2,4,5-Trichlorophenol	ug/kg	ND	U	870	ND	U	880	ND	U	900
2,4,6-Trichlorophenol	ug/kg	ND	U	360	ND	U	360	ND	U	370
Total PAHs		23597			1268			3447		
Total Carcinogenic PAHs		10640			628			1784		
Total SVOCs		24037			1312			3447		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L2.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B132-112393			FF-B142-121393			FF-B152-121393		
Sample Designation=		031806-0010-SA			32184-02-SA			32184-04-SA		
Sample Collection Date=		23 NOV 93			13 DEC 93			13 DEC 93		
Sample Depth=		4-6'			15-17'			10-12'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	160	J	420	ND	U	780	230	J	730
Acenaphthylene	ug/kg	ND	U	420	ND	U	780	240	J	730
Anthracene	ug/kg	110	J	420	150	J	780	510	J	730
9H-Carbazole	ug/kg	ND	U	420	ND	U	780	130	J	730
Benzo(a)anthracene	ug/kg	360	J	420	410	J	780	1200		730
Benzo(a)pyrene	ug/kg	280	J	420	250	J	780	730		730
Benzo(b)fluoranthene	ug/kg	510		420	420	J	780	1300		730
Benzo(g,h,i)perylene	ug/kg	88	J	420	130	J	780	300	J	730
Benzo(k)fluoranthene	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Bromophenyl phenyl ether	ug/kg	ND	U	420	ND	U	780	ND	U	730
Butyl benzyl phthalate	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Chloroaniline	ug/kg	ND	U	420	ND	U	780	ND	U	730
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	420	ND	U	780	ND	U	730
bis(2-Chloroethyl) ether	ug/kg	ND	U	420	ND	U	780	ND	U	730
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Chloro-3-methylphenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
2-Chloronaphthalene	ug/kg	ND	U	420	ND	U	780	ND	U	730
2-Chlorophenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Chlorophenyl phenyl ether	ug/kg	ND	U	420	ND	U	780	ND	U	730
Chrysene	ug/kg	320	J	420	460	J	780	1100		730
Di-n-butyl phthalate	ug/kg	56	J	420	120	J	780	ND	U	730
Dibenz(a,h)anthracene	ug/kg	66	J	420	100	J	780	220	J	730
Dibenzofuran	ug/kg	86	J	420	ND	U	780	200	J	730
1,2-Dichlorobenzene	ug/kg	ND	U	420	ND	U	780	ND	U	730
1,3-Dichlorobenzene	ug/kg	ND	U	420	ND	U	780	ND	U	730
1,4-Dichlorobenzene	ug/kg	ND	U	420	ND	U	780	ND	U	730
3,3'-Dichlorobenzidine	ug/kg	ND	U	420	ND	U	780	ND	U	730
2,4-Dichlorophenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
Diethyl phthalate	ug/kg	ND	U	420	ND	U	780	ND	U	730
2,4-Dimethylphenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
Dimethyl phthalate	ug/kg	ND	U	420	ND	U	780	ND	U	730
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	1000	ND	U	1900	320	J	1800
2,4-Dinitrophenol	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
2,4-Dinitrotoluene	ug/kg	ND	U	420	ND	U	780	ND	U	730
2,6-Dinitrotoluene	ug/kg	ND	U	420	ND	U	780	ND	U	730
Di-n-octyl phthalate	ug/kg	ND	U	420	ND	U	780	ND	U	730
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	420	ND	U*	780	ND	U	730
Fluoranthene	ug/kg	830		420	820		780	2200		730
Fluorene	ug/kg	140	J	420	ND	U	780	330	J	730
Hexachlorobenzene	ug/kg	ND	U	420	370	J	780	ND	U	730
Hexachlorobutadiene	ug/kg	ND	U	420	ND	U	780	ND	U	730
Hexachlorocyclo-pentadiene	ug/kg	ND	U	420	ND	U	780	ND	U	730
Hexachloroethane	ug/kg	ND	U	420	ND	U	780	ND	U	730
Indeno(1,2,3-cd)pyrene	ug/kg	120	J	420	140	J	780	360	J	730
Isophorone	ug/kg	ND	U	420	ND	U	780	ND	U	730
2-Methylnaphthalene	ug/kg	ND	U	420	ND	U	780	110	J	730
2-Methylphenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Methylphenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
Naphthalene	ug/kg	ND	U	420	ND	U	780	84	J	730
2-Nitroaniline	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
3-Nitroaniline	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
4-Nitroaniline	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
Nitrobenzene	ug/kg	ND	U	420	ND	U	780	ND	U	730
2-Nitrophenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
4-Nitrophenol	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
N-Nitrosodiphenylamine	ug/kg	ND	U	420	ND	U	780	ND	U	730
N-Nitroso-di-n-propylamine	ug/kg	ND	U	420	ND	U	780	ND	U	730
Pentachlorophenol	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
Phenanthrene	ug/kg	480		420	410	J	780	1600		730
Phenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
Pyrene	ug/kg	660		420	790		780	1700		730
1,2,4-Trichlorobenzene	ug/kg	ND	U	420	ND	U	780	ND	U	730
2,4,5-Trichlorophenol	ug/kg	ND	U	1000	ND	U	1900	ND	U	1800
2,4,6-Trichlorophenol	ug/kg	ND	U	420	ND	U	780	ND	U	730
Total PAHs		4124			4080			12214		
Total Carcinogenic PAHs		1744			1910			5210		
Total SVOCs		4266			4570			12864		

NOTE: * indicates a value which was changed to "ND" following data validation.

TABLE L2.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-B153-121393			FF-B162-112393			FF-B172-112493		
Sample Designation=		32184-05-SA			031806-0012-SA			031813-0006-SA		
Sample Collection Date=		13 DEC 93			23 NOV 93			24 NOV 93		
Sample Depth=		17-19'			2-4'			2-4'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	340	J	370	250	J	730	ND	U	360
Acenaphthylene	ug/kg	120	J	370	78	J	730	ND	U	360
Anthracene	ug/kg	570		370	480	J	730	ND	U	360
9H-Carbazole	ug/kg	220	J	370	120	J	730	ND	U	360
Benzo(a)anthracene	ug/kg	1300		370	1200		730	ND	U	360
Benzo(a)pyrene	ug/kg	760		370	1200		730	ND	U	360
Benzo(b)fluoranthene	ug/kg	1400		370	1900		730	47	J	360
Benzo(g,h,i)perylene	ug/kg	360	J	370	510	J	730	ND	U	360
Benzo(k)fluoranthene	ug/kg	ND	U	370	ND	U	730	ND	U	360
4-Bromophenyl phenyl ether	ug/kg	ND	U	370	ND	R	730	ND	U	360
Butyl benzyl phthalate	ug/kg	120	J	370	ND	U	730	ND	U	360
4-Chloroaniline	ug/kg	ND	U	370	ND	U	730	ND	U	360
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	370	ND	R	730	ND	U	360
bis(2-Chloroethyl) ether	ug/kg	ND	U	370	ND	R	730	ND	U	360
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	370	ND	U	730	ND	U	360
4-Chloro-3-methylphenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
2-Chloronaphthalene	ug/kg	ND	U	370	ND	U	730	ND	U	360
2-Chlorophenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
4-Chlorophenyl phenyl ether	ug/kg	ND	U	370	ND	R	730	ND	U	360
Chrysene	ug/kg	1100		370	1400		730	ND	U	360
Di-n-butyl phthalate	ug/kg	ND	U	370	ND	U	730	ND	U	360
Dibenz(a,h)anthracene	ug/kg	200	J	370	170	J	730	ND	U	360
Dibenzofuran	ug/kg	200	J	370	ND	U	730	ND	U	360
1,2-Dichlorobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
[illegible]-Dichlorobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
[illegible]Dichlorobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
[illegible]-Dichlorobenzidine	ug/kg	ND	U	370	ND	U	730	ND	U	360
2,4-Dichlorophenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
Diethyl phthalate	ug/kg	ND	U	370	ND	U	730	ND	U	360
2,4-Dimethylphenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
Dimethyl phthalate	ug/kg	ND	U	370	ND	U	730	ND	U	360
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	900	ND	R	1800	ND	U	880
2,4-Dinitrophenol	ug/kg	ND	U	900	ND	R	1800	ND	U	880
2,4-Dinitrotoluene	ug/kg	ND	U	370	ND	U	730	ND	U	360
2,6-Dinitrotoluene	ug/kg	ND	U	370	ND	U	730	ND	U	360
Di-n-octyl phthalate	ug/kg	ND	U	370	ND	U	730	ND	U	360
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	370	ND	U*	730	56	J	360
Fluoranthene	ug/kg	2200		370	2100		730	39	J	360
Fluorene	ug/kg	370		370	260	J	730	ND	U	360
Hexachlorobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
Hexachlorobutadiene	ug/kg	ND	U	370	ND	U	730	ND	U	360
Hexachlorocyclo-pentadiene	ug/kg	ND	U	370	ND	U	730	ND	U	360
Hexachloroethane	ug/kg	ND	U	370	ND	U	730	ND	U	360
Indeno(1,2,3-cd)pyrene	ug/kg	380		370	500	J	730	ND	U	360
Isophorone	ug/kg	ND	U	370	ND	U	730	ND	U	360
2-Methylnaphthalene	ug/kg	160	J	370	110	J	730	ND	U	360
2-Methylphenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
4-Methylphenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
Naphthalene	ug/kg	79	J	370	ND	U	730	ND	U	360
2-Nitroaniline	ug/kg	ND	U	900	ND	U	1800	ND	U	880
3-Nitroaniline	ug/kg	ND	U	900	ND	U	1800	ND	U	880
4-Nitroaniline	ug/kg	ND	U	900	ND	U	1800	ND	U	880
Nitrobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
2-Nitrophenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
4-Nitrophenol	ug/kg	ND	U	900	ND	R	1800	ND	U	880
N-Nitrosodiphenylamine	ug/kg	ND	U	370	ND	R	730	ND	U	360
N-Nitroso-di-n-propylamine	ug/kg	ND	U	370	ND	R	730	ND	U	360
Pentachlorophenol	ug/kg	ND	U	900	ND	R	1800	ND	U	880
Phenanthrene	ug/kg	1800		370	2200		730	38	J	360
Phenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
Pyrene	ug/kg	1800		370	3000		730	70	J	360
1,2,4-Trichlorobenzene	ug/kg	ND	U	370	ND	U	730	ND	U	360
[illegible] 5-Trichlorophenol	ug/kg	ND	U	900	ND	R	1800	ND	U	880
[illegible]-Trichlorophenol	ug/kg	ND	U	370	ND	R	730	ND	U	360
Total PAHs		12939			15358			194		
Total Carcinogenic PAHs		5500			6880			47		
Total SVOCs		13479			15478			250		

NOTE: * indicates a value which was changed to ND following data validation.

TABLE L2.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-M62-113093			FF-M72-112993			FF-M102-112993		
Sample Designation=		31875-08-SA			31875-04-SA			31875-06-SA		
Sample Collection Date=		30 NOV 93			29 NOV 93			29 NOV 93		
Sample Depth=		4-6'			2-4'			4-6'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	380	220	J	380	ND	U	370
Acenaphthylene	ug/kg	ND	U	380	180	J	380	47	J	370
Anthracene	ug/kg	ND	U	380	690		380	41	J	370
9H-Carbazole	ug/kg	ND	U	380	180	J	380	ND	U	370
Benzo(a)anthracene	ug/kg	ND	U	380	1300		380	240	J	370
Benzo(a)pyrene	ug/kg	ND	U	380	1000		380	220	J	370
Benzo(b)fluoranthene	ug/kg	ND	U	380	1800		380	400		370
Benzo(g,h,i)perylene	ug/kg	ND	U	380	420		380	89	J	370
Benzo(k)fluoranthene	ug/kg	ND	U	380	ND	U	380	ND	U	370
4-Bromophenyl phenyl ether	ug/kg	ND	U	380	ND	U	380	ND	U	370
Butyl benzyl phthalate	ug/kg	ND	U	380	ND	U	380	ND	U	370
4-Chloroaniline	ug/kg	ND	U	380	ND	U	380	ND	U	370
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	380	ND	U	380	ND	U	370
bis(2-Chloroethyl) ether	ug/kg	ND	U	380	ND	U	380	ND	U	370
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	380	ND	U	380	ND	U	370
4-Chloro-3-methylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	370
2-Chloronaphthalene	ug/kg	ND	U	380	ND	U	380	ND	U	370
2-Chloronhenol	ug/kg	ND	U	380	ND	U	380	ND	U	370
4-Chlorophenyl phenyl ether	ug/kg	ND	U	380	ND	U	380	ND	U	370
Chrysene	ug/kg	ND	U	380	1100		380	230	J	370
Di-n-butyl phthalate	ug/kg	65	J	380	ND	U	380	ND	U	370
Dibenz(a,h)anthracene	ug/kg	ND	U	380	220	J	380	ND	U	370
Dibenzofuran	ug/kg	ND	U	380	260	J	380	ND	U	370
1,2-Dichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	370
1,3-Dichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	370
1,4-Dichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	370
3,3'-Dichlorobenzidine	ug/kg	ND	U	380	ND	U	380	ND	U	370
2,4-Dichlorophenol	ug/kg	ND	U	380	ND	U	380	ND	U	370
Diethyl phthalate	ug/kg	ND	U	380	ND	U	380	ND	U	370
2,4-Dimethylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	370
Dimethyl phthalate	ug/kg	ND	U	380	ND	U	380	ND	U	370
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	920	ND	U	920	ND	U	890
2,4-Dinitrophenol	ug/kg	ND	U	920	ND	U	920	ND	U	890
2,4-Dinitrotoluene	ug/kg	ND	U	380	ND	U	380	ND	U	370
2,6-Dinitrotoluene	ug/kg	ND	U	380	ND	U	380	ND	U	370
Di-n-octyl phthalate	ug/kg	ND	U	380	ND	U	380	ND	U	370
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U	380	ND	U	380	ND	U	370
Fluoranthene	ug/kg	ND	U	380	3800	D	750	250	J	370
Fluorene	ug/kg	ND	U	380	460		380	ND	U	370
Hexachlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	370
Hexachlorobutadiene	ug/kg	ND	U	380	ND	U	380	ND	U	370
Hexachlorocyclo-pentadiene	ug/kg	ND	U	380	ND	U	380	ND	U	370
Hexachloroethane	ug/kg	ND	U	380	ND	U	380	ND	U	370
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	380	550		380	100	J	370
Isophorone	ug/kg	ND	U	380	ND	U	380	ND	U	370
2-Methylnaphthalene	ug/kg	ND	U	380	79	J	380	ND	U	370
2-Methylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	370
4-Methylphenol	ug/kg	ND	U	380	ND	U	380	ND	U	370
Naphthalene	ug/kg	ND	U	380	41	J	380	ND	U	370
2-Nitroaniline	ug/kg	ND	U	920	ND	U	920	ND	U	890
3-Nitroaniline	ug/kg	ND	U	920	ND	U	920	ND	U	890
4-Nitroaniline	ug/kg	ND	U	920	ND	U	920	ND	U	890
Nitrobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	370
2-Nitrophenol	ug/kg	ND	U	380	ND	U	380	ND	U	370
4-Nitrophenol	ug/kg	ND	U	920	ND	U	920	ND	U	890
N-Nitrosodiphenylamine	ug/kg	ND	U	380	ND	U	380	ND	U	370
N-Nitroso-di-n-propylamine	ug/kg	ND	U	380	ND	U	380	ND	U	370
Pentachlorophenol	ug/kg	ND	U	920	ND	U	920	ND	U	890
Phenanthrene	ug/kg	ND	U	380	3600	D	750	56	J	370
Phenol	ug/kg	40	J	380	ND	U	380	ND	U	370
Pyrene	ug/kg	ND	U	380	2600		380	290	J	370
1,2,4-Trichlorobenzene	ug/kg	ND	U	380	ND	U	380	ND	U	370
2,4,5-Trichlorophenol	ug/kg	ND	U	920	ND	U	920	ND	U	890
2,4,6-Trichlorophenol	ug/kg	ND	U	380	ND	U	380	ND	U	370
Total PAHs		40			18060			1963		
Total Carcinogenic PAHs		0			6390			1279		
Total SVOCs		105			18500			1963		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L2.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-M112-112993			FF-FB112393			FF-FB113093		
Sample Designation=		31875-02-SA			31806-07-FB			31875-13-FB		
Sample Collection Date=		29 NOV 93			23 NOV 93			30 NOV 93		
Sample Depth=		2-4'			—			—		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	100	J	440	ND	U	10	ND	U	10
Acenaphthylene	ug/kg	ND	U	440	ND	U	10	ND	U	10
Anthracene	ug/kg	100	J	440	ND	U	10	ND	U	10
9H-Carbazole	ug/kg	69	J	440	ND	U	10	ND	U	10
Benzo(a)anthracene	ug/kg	140	J	440	ND	U	10	ND	U	10
Benzo(a)pyrene	ug/kg	77	J	440	ND	U	10	ND	U	10
Benzo(b)fluoranthene	ug/kg	180	J	440	ND	U	10	ND	U	10
Benzo(g,h,i)perylene	ug/kg	57	J	440	ND	U	10	ND	U	10
Benzo(k)fluoranthene	ug/kg	ND	U	440	ND	U	10	ND	U	10
4-Bromophenyl phenyl ether	ug/kg	ND	U	440	ND	U	10	ND	U	10
Butyl benzyl phthalate	ug/kg	ND	U	440	ND	U	10	ND	U	10
4-Chloroaniline	ug/kg	ND	U	440	ND	U	10	ND	U	10
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	440	ND	U	10	ND	U	10
bis(2-Chloroethyl) ether	ug/kg	ND	U	440	ND	U	10	ND	U	10
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	440	ND	U	10	ND	U	10
4-Chloro-3-methylphenol	ug/kg	ND	U	440	ND	U	10	ND	U	10
2-Chloronaphthalene	ug/kg	ND	U	440	ND	U	10	ND	U	10
2-Chlorophenol	ug/kg	ND	U	440	ND	U	10	ND	U	10
4-Chlorophenyl phenyl ether	ug/kg	ND	U	440	ND	U	10	ND	U	10
Chrysene	ug/kg	130	J	440	ND	U	10	ND	U	10
Di-n-butyl phthalate	ug/kg	ND	U	440	ND	U	10	ND	U	10
Dibenz(a,h)anthracene	ug/kg	ND	U	440	ND	U	10	ND	U	10
Dibenzofuran	ug/kg	95	J	440	ND	U	10	ND	U	10
1,2-Dichlorobenzene	ug/kg	ND	U	440	ND	U	10	ND	U	10
Dichlorobenzene	ug/kg	ND	U	440	ND	U	10	ND	U	10
chlorobenzene	ug/kg	ND	U	440	ND	U	10	ND	U	10
Dichlorobenzidine	ug/kg	ND	U	440	ND	U	10	ND	U	10
2,4-Dichlorophenol	ug/kg	ND	U	440	ND	U	10	ND	U	10
Diethyl phthalate	ug/kg	ND	U	440	ND	U	10	ND	U	10
2,4-Dimethylphenol	ug/kg	ND	U	440	ND	U	10	ND	U	10
Dimethyl phthalate	ug/kg	ND	U	440	ND	U	10	ND	U	10
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	1100	ND	U	25	ND	U	25
2,4-Dinitrophenol	ug/kg	ND	U	1100	ND	UJ	25	ND	U	25
2,4-Dinitrotoluene	ug/kg	ND	U	440	ND	U	10	ND	U	10
2,6-Dinitrotoluene	ug/kg	ND	U	440	ND	U	10	ND	U	10
Di-n-octyl phthalate	ug/kg	ND	U	440	ND	U	10	ND	U	10
bis(2-Ethylhexyl) phthalate	ug/kg	110	J	440	ND	U	10	ND	U*	10
Fluoranthene	ug/kg	400	J	440	ND	U	10	ND	U	10
Fluorene	ug/kg	120	J	440	ND	U	10	ND	U	10
Hexachlorobenzene	ug/kg	ND	U	440	ND	U	10	ND	U	10
Hexachlorobutadiene	ug/kg	ND	U	440	ND	U	10	ND	U	10
Hexachlorocyclo-pentadiene	ug/kg	ND	U	440	ND	U	10	ND	U	10
Hexachloroethane	ug/kg	ND	U	440	ND	U	10	ND	U	10
Indeno(1,2,3-cd)pyrene	ug/kg	48	J	440	ND	U	10	ND	U	10
Isophorone	ug/kg	ND	U	440	ND	U	10	ND	U	10
2-Methylnaphthalene	ug/kg	810		440	ND	U	10	ND	U	10
2-Methylphenol	ug/kg	ND	U	440	ND	U	10	ND	U	10
4-Methylphenol	ug/kg	ND	U	440	ND	U	10	ND	U	10
Naphthalene	ug/kg	170	J	440	ND	U	10	ND	U	10
2-Nitroaniline	ug/kg	ND	U	1100	ND	U	25	ND	U	25
3-Nitroaniline	ug/kg	ND	U	1100	ND	U	25	ND	U	25
4-Nitroaniline	ug/kg	ND	U	1100	ND	U	25	ND	U	25
Nitrobenzene	ug/kg	ND	U	440	ND	U	10	ND	U	10
2-Nitrophenol	ug/kg	ND	U	440	ND	U	10	ND	U	10
4-Nitrophenol	ug/kg	ND	U	1100	ND	UJ	25	ND	U	25
N-Nitrosodiphenylamine	ug/kg	ND	U	440	ND	U	10	ND	U	10
N-Nitroso-di-n-propylamine	ug/kg	ND	U	440	ND	U	10	ND	U	10
Pentachlorophenol	ug/kg	ND	U	1100	ND	U	25	ND	U	25
Phenanthrene	ug/kg	660		440	ND	U	10	ND	U	10
Phenol	ug/kg	ND	U	440	ND	U	10	ND	U	10
Pyrene	ug/kg	390	J	440	ND	U	10	ND	U	10
1,2,4-Trichlorobenzene	ug/kg	ND	U	440	ND	U	10	ND	U	10
2,4,5-Trichlorophenol	ug/kg	ND	U	1100	ND	U	25	ND	U	25
2,4,6-Trichlorophenol	ug/kg	ND	U	440	ND	U	10	ND	U	10
Total PAHs		3382			0			0		
Total Carcinogenic PAHs		632			0			0		
Total SVOCs		3656			0			0		

NOTE: * indicates a value which was changed to "ND" following data validation.

TABLE L2.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=	FF-SWB-113093
Sample Designation=	31875-10-SA
Sample Collection Date=	30 NOV 93

Compound	Units	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/kg	ND	U	10
Acenaphthylene	ug/kg	ND	U	10
Anthracene	ug/kg	ND	U	10
9H-Carbazole	ug/kg	ND	U	10
Benzo(a)anthracene	ug/kg	ND	U	10
Benzo(a)pyrene	ug/kg	ND	U	10
Benzo(b)fluoranthene	ug/kg	ND	U	10
Benzo(g,h,i)perylene	ug/kg	ND	U	10
Benzo(k)fluoranthene	ug/kg	ND	U	10
4-Bromophenyl phenyl ether	ug/kg	ND	U	10
Butyl benzyl phthalate	ug/kg	ND	U	10
4-Chloroaniline	ug/kg	ND	U	10
bis(2-Chloroethoxy)-methane	ug/kg	ND	U	10
bis(2-Chloroethyl) ether	ug/kg	ND	U	10
bis(2-Chloroisopropyl) ether	ug/kg	ND	U	10
4-Chloro-3-methylphenol	ug/kg	ND	U	10
2-Chloronaphthalene	ug/kg	ND	U	10
2-Chlorophenol	ug/kg	ND	U	10
4-Chlorophenyl phenyl ether	ug/kg	ND	U	10
Chrysene	ug/kg	ND	U	10
Di-n-butyl phthalate	ug/kg	ND	U	10
Dibenz(a,h)anthracene	ug/kg	ND	U	10
Dibenzofuran	ug/kg	ND	U	10
1,2-Dichlorobenzene	ug/kg	ND	U	10
1,3-Dichlorobenzene	ug/kg	ND	U	10
1,4-Dichlorobenzene	ug/kg	ND	U	10
3,3'-Dichlorobenzidine	ug/kg	ND	U	10
2,4-Dichlorophenol	ug/kg	ND	U	10
Diethyl phthalate	ug/kg	ND	U	10
2,4-Dimethylphenol	ug/kg	ND	U	10
Dimethyl phthalate	ug/kg	ND	U	10
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	25
2,4-Dinitrophenol	ug/kg	ND	U	25
2,4-Dinitrotoluene	ug/kg	ND	U	10
2,6-Dinitrotoluene	ug/kg	ND	U	10
Di-n-octyl phthalate	ug/kg	ND	U	10
bis(2-Ethylhexyl) phthalate	ug/kg	ND	U*	10
Fluoranthene	ug/kg	ND	U	10
Fluorene	ug/kg	ND	U	10
Hexachlorobenzene	ug/kg	ND	U	10
Hexachlorobutadiene	ug/kg	ND	U	10
Hexachlorocyclo-pentadiene	ug/kg	ND	U	10
Hexachloroethane	ug/kg	ND	U	10
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	10
Isophorone	ug/kg	ND	U	10
2-Methylnaphthalene	ug/kg	ND	U	10
2-Methylphenol	ug/kg	ND	U	10
4-Methylphenol	ug/kg	ND	U	10
Naphthalene	ug/kg	ND	U	10
2-Nitroaniline	ug/kg	ND	U	25
3-Nitroaniline	ug/kg	ND	U	25
4-Nitroaniline	ug/kg	ND	U	25
Nitrobenzene	ug/kg	ND	U	10
2-Nitrophenol	ug/kg	ND	U	10
4-Nitrophenol	ug/kg	ND	U	25
N-Nitrosodiphenylamine	ug/kg	ND	U	10
N-Nitroso-di-n-propylamine	ug/kg	ND	U	10
Pentachlorophenol	ug/kg	ND	U	25
Phenanthrene	ug/kg	ND	U	10
Phenol	ug/kg	ND	U	10
Pyrene	ug/kg	ND	U	10
1,2,4-Trichlorobenzene	ug/kg	ND	U	10
2,4,5-Trichlorophenol	ug/kg	ND	U	25
2,4,6-Trichlorophenol	ug/kg	ND	U	10
Total PAHs		0		
Total Carcinogenic PAHs		0		
Total SVOCs		0		

NOTE: * indicates a value which was changed to "ND" following data validation.

TABLE L2.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-B82-112293			FF-B112-112493			FF-B122-112493			FF-B132-112393		
Sample Designation=		031806-0006-SA			031813-0002-SA			031813-0004-SA			031806-0010-SA		
Sample Collection Date=		22 NOV 93			24 NOV 93			24 NOV 93			23 NOV 93		
Sample Depth=		8-10'			4-6'			2-4'			4-6'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	UJ	9 2	ND	U	1.9	ND	U	1 9	ND	UJ*	6.1
beta-BHC	ug/kg	ND	UJ	9.2	ND	U	1.9	ND	U	1.9	ND	UJ	2.1
delta-BHC	ug/kg	ND	UJ	9 2	ND	U	1.9	ND	U	1 9	ND	UJ	2.1
gamma-BHC (Lindane)	ug/kg	ND	UJ	9 2	ND	U*	3.9	ND	UJ*	4.8	ND	UJ	2.1
Heptachlor	ug/kg	ND	UJ	9.2	ND	U	1 9	ND	U	1.9	ND	UJ	2.1
Aldrin	ug/kg	ND	UJ	9 2	ND	U	1.9	ND	U	1.9	ND	UJ	2.1
Heptachlor epoxide	ug/kg	6.8	J	9 2	ND	U*	1 9	ND	UJ*	2.6	ND	UJ*	8 5
Endosulfan I	ug/kg	ND	UJ	9 2	ND	U	1.9	ND	U	1.9	ND	UJ*	7.4
Dieldrin	ug/kg	ND	UJ*	63	ND	U	3 6	ND	U	3.7	ND	UJ*	21
4,4'-DDE	ug/kg	4 8	J	18	0.13	J	3.6	0.55	J	3 7	ND	UJ	4.1
Endrin	ug/kg	ND	UJ	18	ND	U	3 6	5.3	J	3.7	10	J	4.1
Endosulfan II	ug/kg	10	J	18	0.3	NJ	3 6	ND	U	3.7	3	J	4.1
4,4'-DDD	ug/kg	ND	UJ	18	ND	U	3 6	ND	U	3.7	ND	UJ	4.1
Endosulfan sulfate	ug/kg	ND	UJ	18	ND	U*	3 6	ND	U	3 7	ND	UJ	4.1
4,4'-DDT	ug/kg	24	J	18	0 61	J	3 6	2 3	J	3.7	ND	UJ	4 1
Methoxychlor	ug/kg	ND	UJ*	110	ND	U	19	ND	U	19	4	NJ	21
Endrin ketone	ug/kg	ND	U	18	ND	U	3 6	ND	U	3.7	ND	UJ	4.1
Endrin aldehyde	ug/kg	ND	UJ*	390	ND	UJ*	14	ND	UJ*	33	ND	UJ*	31
alpha-Chlordane	ug/kg	ND	U	9 2	ND	U	1.9	ND	U	1.9	ND	UJ	2.1
gamma-Chlordane	ug/kg	ND	U	9 2	0.062	NJ	1.9	ND	U	1.9	ND	UJ	2 1
Toxaphene	ug/kg	ND	U	920	ND	U	190	ND	U	190	ND	UJ	210
Aroclor 1016	ug/kg	ND	U	180	ND	U	36	ND	U	37	ND	UJ	41
Aroclor 1221	ug/kg	ND	U	360	ND	U	74	ND	U	75	ND	UJ	84
Aroclor 1232	ug/kg	ND	U	180	ND	U	36	ND	U	37	ND	UJ	41
Aroclor 1242	ug/kg	ND	U	180	ND	U	36	ND	U	37	ND	UJ	41
Aroclor 1248	ug/kg	ND	U	180	ND	U	36	ND	U	37	ND	UJ	41
Aroclor 1254	ug/kg	ND	U	180	ND	U	36	ND	U	37	ND	UJ	41
Aroclor 1260	ug/kg	ND	U	180	ND	U	36	ND	U	37	ND	UJ	41

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L2.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-B142-121393			FF-B152-121393			FF-B153-121393			FF-B162-112393		
Sample Designation=		32184-02-SA			32184-04-SA			32184-05-SA			31806-12-SA		
Sample Collection Date=		13 DEC 93			13 DEC 93			13 DEC 93			23 NOV 93		
Sample Depth=		15-17'			10-12'			17-19'			2-4'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
beta-BHC	ug/kg	ND	U	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
delta-BHC	ug/kg	ND	U	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
gamma-BHC (Lindane)	ug/kg	0.28	J	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
Heptachlor	ug/kg	ND	U	2	ND	U	1.9	1.4	J	1.9	ND	UJ	3.7
Aldrin	ug/kg	ND	U	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
Heptachlor epoxide	ug/kg	0.89	J	2	3.4	J	1.9	3.3	NJ	1.9	3.4	J	3.7
Endosulfan I	ug/kg	ND	U	2	ND	U	1.9	4.3	NJ	1.9	4	J	3.7
Dieldrin	ug/kg	1.5	NJ	3.9	ND	UJ*	30	ND	UJ*	21	ND	UJ*	47
4,4'-DDE	ug/kg	4.4	J	3.9	ND	U*	1.9	7.2	J	3.7	ND	UJ	7.2
Endrin	ug/kg	6.3	J	3.9	ND	UJ*	40	ND	U	3.7	43	J	7.2
Endosulfan II	ug/kg	2.5	J	3.9	ND	U	3.7	ND	U	3.7	13	J	7.2
4,4'-DDD	ug/kg	9.1	J	3.9	ND	U	3.7	10	J	3.7	9.3	J	7.2
Endosulfan sulfate	ug/kg	1.1	NJ	3.9	ND	U	3.7	3.8	J	3.7	17	J	7.2
4,4'-DDT	ug/kg	77	J	7.8	ND	U*	11	58	J	7.4	42	J	7.2
Methoxychlor	ug/kg	ND	U	20	ND	U	19	ND	U	19	ND	UJ	37
Endrin ketone	ug/kg	ND	U	3.9	ND	U	3.7	ND	U	3.7	ND	UJ	7.2
Endrin aldehyde	ug/kg	2.2	UJ	3.9	ND	UJ*	73	14	J	3.7	ND	UJ	7.2
alpha-Chlordane	ug/kg	1.3	U	2	ND	U	1.9	ND	U	1.9	ND	UJ	3.7
gamma-Chlordane	ug/kg	ND	U	2	1.9	J	1.9	2.5	J	1.9	ND	UJ	3.7
Toxaphene	ug/kg	ND	U	200	ND	U	190	ND	U	190	ND	UJ	370
Aroclor 1016	ug/kg	ND	U	39	ND	U	37	ND	U	37	ND	UJ	72
Aroclor 1221	ug/kg	ND	U	79	ND	U	74	ND	U	75	ND	UJ	150
Aroclor 1232	ug/kg	ND	U	39	ND	U	37	ND	U	37	ND	UJ	72
Aroclor 1242	ug/kg	ND	U	39	ND	U	37	ND	U	37	ND	UJ	72
Aroclor 1248	ug/kg	ND	U	39	ND	U	37	ND	U	37	ND	UJ	72
Aroclor 1254	ug/kg	ND	U	39	ND	U	37	190	J	33	ND	UJ	72
Aroclor 1260	ug/kg	ND	U	39	ND	U	37	ND	U	37	ND	UJ	72

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L2.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=	FF-B172-112493			FF-M62-113093			FF-M72-112993			FF-M102-112993		
Sample Designation=	31813-06-SA			31875-08-SA			31875-04-SA			31875-06-SA		
Sample Collection Date=	24 NOV 93			30 NOV 93			29 NOV 93			29 NOV 93		
Sample Depth=	2-4'			4-6'			2-4'			4-6'		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	U	1.9	ND	UJ	2	0 59	J	3 9	0.045	J	1.9
beta-BHC	ug/kg	ND	U	1.9	ND	UJ	2	ND	U	3.9	ND	U	1.9
delta-BHC	ug/kg	ND	U	1.9	ND	UJ	2	ND	U	3 9	ND	U	1.9
gamma-BHC (Lindane)	ug/kg	ND	UJ*	4 7	0.058	J	2	ND	U	3.9	ND	UJ*	5.1
Heptachlor	ug/kg	ND	U	1.9	ND	UJ	2	ND	U	3.9	ND	U	1.9
Aldrin	ug/kg	ND	U	1.9	ND	UJ	2	ND	U	3.9	ND	U	1.9
Heptachlor epoxide	ug/kg	ND	U	1 9	ND	UJ*	2	3 6	J	3.9	ND	U	1.9
Endosulfan I	ug/kg	ND	U	1.9	ND	UJ	2	ND	U	3 9	ND	U	1 9
Dieldrin	ug/kg	ND	UJ*	4.2	ND	UJ	3.8	ND	U	7 6	ND	U	3.7
4,4'-DDE	ug/kg	ND	U	3 6	ND	UJ*	3 8	2.1	J	7.6	ND	U	3.7
Endrin	ug/kg	ND	U	3 6	ND	UJ*	3 8	32		7.6	ND	U	3.7
Endosulfan II	ug/kg	ND	U	3 6	ND	UJ	3 8	6	NJ	7.6	2.5	J	3 7
4,4'-DDD	ug/kg	ND	U	3.6	ND	UJ	3 8	ND	U	7 6	ND	U	3 7
Endosulfan sulfate	ug/kg	ND	U	3 6	ND	UJ	3 8	ND	U	7.6	ND	U	3.7
4,4'-DDT	ug/kg	4 9	J	3 6	ND	UJ*	16	17		7.6	1.9	J	3 7
Methoxychlor	ug/kg	ND	U	19	ND	UJ	20	ND	U	39	ND	U	19
Endrin ketone	ug/kg	ND	U	3 6	ND	UJ*	3.8	ND	UJ	7 6	ND	UJ	3.7
Endrin aldehyde	ug/kg	5 2	J	3 6	1.2	J	3 8	ND	UJ*	160	16	J	3.7
alpha-Chlordane	ug/kg	ND	U	1.9	ND	UJ*	2	4 8	J	3 9	ND	U	1 9
gamma-Chlordane	ug/kg	ND	U	1.9	0 092	J	2	ND	U	3.9	ND	U	1.9
Toxaphene	ug/kg	ND	U	190	ND	UJ	200	ND	U	390	ND	U	190
Aroclor 1016	ug/kg	ND	U	36	ND	UJ	38	ND	U	76	ND	U	37
Aroclor 1221	ug/kg	ND	U	74	ND	UJ	78	ND	U	150	ND	U	74
Aroclor 1232	ug/kg	ND	U	36	ND	UJ	38	ND	U	76	ND	U	37
Aroclor 1242	ug/kg	ND	U	36	ND	UJ	38	ND	U	76	ND	U	37
Aroclor 1248	ug/kg	ND	U	36	ND	UJ	38	ND	U	76	ND	U	37
Aroclor 1254	ug/kg	ND	U	36	ND	UJ	38	ND	U	76	ND	U	37
Aroclor 1260	ug/kg	39	J	36	ND	UJ	38	ND	U	76	ND	U	37

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L2.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-M112-112993			FF-FB112393			FF-FB113093			FF-SWB-113093		
Sample Designation=		31875-02-SA			31806-07-FB			31875-13-FB			31875-10-SA		
Sample Collection Date=		29 NOV 93			23 NOV 93			30 NOV 93			30 NOV 93		
Sample Depth=		2-4'			—			—			—		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	2 5	J	17	0.0025	J	0 050	0 0018	J	0 050	ND	U	0 050
beta-BHC	ug/kg	ND	U	23	ND	U	0 050	ND	U	0.050	ND	U	0.050
delta-BHC	ug/kg	ND	U	23	ND	U	0.050	ND	U	0.050	ND	U	0 050
gamma-BHC (Lindane)	ug/kg	3 1	NJ	17	ND	U	0 050	ND	U	0.050	ND	U*	0.050
Heptachlor	ug/kg	ND	U	23	0 003	J	0.050	ND	U	0.050	ND	U	0.050
Aldrin	ug/kg	ND	U	23	ND	U	0.050	ND	U	0.050	ND	U	0 050
Heptachlor epoxide	ug/kg	43		17	ND	U	0.050	ND	U	0.050	ND	U	0.050
Endosulfan I	ug/kg	ND	U	23	ND	U	0.050	ND	U	0.050	ND	U	0.050
Dieldrin	ug/kg	44	J	33	ND	U	0.10	ND	U	0.10	ND	U	0.10
4,4'-DDE	ug/kg	67	J	33	ND	U	0 10	0 0015	J	0.10	0.0009	J	0 10
Endrin	ug/kg	120	J	33	ND	U	0.10	0 0012	J	0.10	0 0012	J	0.10
Endosulfan II	ug/kg	ND	U	44	0 0004	NJ	0.10	ND	U	0.10	ND	U	0.10
4,4'-DDD	ug/kg	43	J	33	ND	U	0.10	ND	U	0.10	ND	U	0.10
Endosulfan sulfate	ug/kg	ND	U	44	ND	U	0.10	ND	U	0.10	0.0058	J	0.10
4,4'-DDT	ug/kg	370		33	ND	U	0.10	0.038	J	0.10	0.022	J	0.10
Methoxychlor	ug/kg	ND	U	230	ND	UJ	0 50	0.035	J	0.50	0 021	J	0.50
Endrin ketone	ug/kg	ND	UJ	44	ND	UJ	0.10	ND	UJ	0.10	ND	UJ	0.10
Endrin aldehyde	ug/kg	ND	U	44	ND	UJ	0.12	ND	U	0.10	ND	U*	0.10
alpha-Chlordane	ug/kg	10	NJ	17	ND	U	0.050	ND	U	0.050	ND	U	0.050
gamma-Chlordane	ug/kg	ND	U	23	ND	UJ	0 050	ND	U*	0.050	0.0007	NJ	0.050
Toxaphene	ug/kg	ND	U	2300	ND	U	5.0	ND	U	5.0	ND	U	5.0
Aroclor 1016	ug/kg	ND	U	440	ND	U	1.0	ND	U	1.0	ND	U	1.0
Aroclor 1221	ug/kg	ND	U	890	ND	U	2.0	ND	U	2.0	ND	U	2 0
Aroclor 1232	ug/kg	ND	U	440	ND	U	1.0	ND	U	1.0	ND	U	1.0
Aroclor 1242	ug/kg	ND	U	440	ND	U	1 0	ND	U	1.0	ND	U	1.0
Aroclor 1248	ug/kg	ND	U	440	ND	U	1.0	ND	U	1.0	ND	U	1.0
Aroclor 1254	ug/kg	ND	U	440	ND	U	1.0	ND	U	1.0	ND	U	1.0
Aroclor 1260	ug/kg	ND	U	440	ND	U	1.0	ND	U	1.0	ND	U	1.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L2.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=	FF-B82-112293			FF-B112-112493			FF-B122-112493			FF-B132-112393		
Sample Designation=	031806-0006-SA			031813-0002-SA			031813-0004-SA			031806-0010-SA		
Sample Collection Date=	22 NOV 93			24 NOV 93			24 NOV 93			23 NOV 93		
Sample Depth=	8-10'			4-6'			2-4'			4-6'		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	11300		NA	11800		NA	13500		NA	8640		NA
Antimony	mg/kg	5.2	UJ	NA	5.4	UJ	NA	5.3	UJ	NA	5.9	UJ	NA
Arsenic	mg/kg	6 4	J	NA	10	J	NA	5 1	J	NA	6.3	J	NA
Barium	mg/kg	45.6		NA	24 4	B	NA	20	B	NA	24.1	B	NA
Beryllium	mg/kg	0 33	B	NA	0 36	B	NA	0 29	B	NA	0.25	B	NA
Cadmium	mg/kg	0 65	U	NA	0.67	U	NA	0 66	U	NA	0.74	U	NA
Calcium	mg/kg	3760		NA	4790		NA	1580		NA	2060		NA
Chromium	mg/kg	14.9		NA	10 8		NA	16 6		NA	10 5		NA
Cobalt	mg/kg	11.8		NA	13 5		NA	13		NA	8	B	NA
Copper	mg/kg	37 1		NA	76 8		NA	30.4		NA	16.9		NA
Iron	mg/kg	24700		NA	28100		NA	28000		NA	19000		NA
Lead	mg/kg	189		NA	314		NA	71.4		NA	68.6		NA
Magnesium	mg/kg	4430		NA	4230		NA	5020		NA	2390		NA
Manganese	mg/kg	540	J	NA	627	J	NA	551	J	NA	309		NA
Mercury	mg/kg	0.05	U	NA	0.07	B	NA	0.38		NA	0.14	J	NA
Nickel	mg/kg	18		NA	33		NA	21.1		NA	14		NA
Potassium	mg/kg	580	B	NA	494	B	NA	411	B	NA	372	B	NA
Selenium	mg/kg	0.43	U	NA	0.48	U	NA	0.44	U	NA	0.49	U	NA
Silver	mg/kg	1.1	U	NA	1.1	U	NA	1.1	U	NA	1.2	U	NA
Sodium	mg/kg	716	B	NA	473	B	NA	370	U	NA	712	B	NA
Thallium	mg/kg	0.43	UJ	NA	0.45	UJ	NA	0.44	UJ	NA	0.49	UJ	NA
Vanadium	mg/kg	24 8		NA	14.7		NA	20 4		NA	14.5		NA
Zinc	mg/kg	158	J	NA	69 5	J	NA	110	J	NA	58.2	J	NA
Cyanide, Total	mg/kg	0.54	UJ	NA	0.56	UJ	NA	0.55	UJ	NA	0.62	UJ	NA

TABLE L2.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-B142-121393			FF-B152-121393			FF-B153-121393			FF-B162-112393		
Sample Designation=		32184-02-SA			32184-04-SA			32184-05-SA			031806-0012-SA		
Sample Collection Date=		13 DEC 93			13 DEC 93			13 DEC 93			23 NOV 93		
Sample Depth=		15-17'			10-12'			17-19'			2-4'		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	7490		NA	9660		NA	8620		NA	9020		NA
Antimony	mg/kg	5.6	UJ	NA	5.3	UJ	NA	5.7	J	NA	6 8	J	NA
Arsenic	mg/kg	9.2		NA	5.3		NA	5 5		NA	5.8	J	NA
Barium	mg/kg	25.7	B	NA	25 3	B	NA	28 9	B	NA	23.1	B	NA
Beryllium	mg/kg	0.28	B	NA	0 33	B	NA	0 36	B	NA	0.22	U	NA
Cadmium	mg/kg	0.86	B	NA	0 86	B	NA	0.77	B	NA	0.66	U	NA
Calcium	mg/kg	6250		NA	4550		NA	11400		NA	2250		NA
Chromium	mg/kg	17.6		NA	11.9		NA	17.2		NA	24		NA
Cobalt	mg/kg	5 9	B	NA	8 5	B	NA	8 1	B	NA	9.7	B	NA
Copper	mg/kg	35 2		NA	23.8		NA	48.2		NA	83.4		NA
Iron	mg/kg	19900		NA	21000		NA	24700		NA	39700		NA
Lead	mg/kg	252		NA	86.4		NA	292		NA	92 9		NA
Magnesium	mg/kg	3990		NA	3000		NA	3940		NA	3380		NA
Manganese	mg/kg	259	J	NA	291	J	NA	419	J	NA	303	J	NA
Mercury	mg/kg	0.16		NA	0.07	B	NA	0.17		NA	0 1	B	NA
Nickel	mg/kg	15		NA	17.2		NA	19.2		NA	32.9		NA
Potassium	mg/kg	1010	B	NA	470	B	NA	1030	B	NA	588	B	NA
Selenium	mg/kg	0.51	J	NA	0.44	U	NA	0.45	U	NA	0.44	U	NA
Silver	mg/kg	1.2	U	NA	1.1	U	NA	1.1	U	NA	1.1	U	NA
Sodium	mg/kg	682	B	NA	373	U	NA	571	B	NA	373	U	NA
Thallium	mg/kg	0.47	UJ	NA	0.44	UJ	NA	0.45	UJ	NA	0.44	UJ	NA
Vanadium	mg/kg	19		NA	19 2		NA	19.3		NA	19.8		NA
Zinc	mg/kg	97.7	J	NA	121	J	NA	156	J	NA	123	J	NA
Cyanide, Total	mg/kg	0.58	U	NA	0.55	U	NA	0.56	U	NA	0.55	UJ	NA

TABLE L2.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-B172-112493			FF-M62-113093			FF-M72-112993			FF-M102-112993		
Sample Designation=		031813-0006-SA			31875-08-SA			31875-04-SA			31875-06-SA		
Sample Collection Date=		24 NOV 93			30 NOV 93			29 NOV 93			29 NOV 93		
Sample Depth=		2-4'			4-6'			2-4'			4-6'		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	8180		NA	13900		NA	20700		NA	9060		NA
Antimony	mg/kg	5.3	UJ	NA	5.2	UJ	NA	5 5	UJ	NA	5.3	UJ	NA
Arsenic	mg/kg	3 2	J	NA	4.1		NA	6.2	S	NA	7		NA
Barium	mg/kg	23.6	B	NA	13.3	B	NA	11.9	B	NA	15 4	B	NA
Beryllium	mg/kg	0.44	B	NA	0 26	B	NA	0 33	B	NA	0.32	B	NA
Cadmium	mg/kg	0.66	U	NA	0 65	U	NA	0 68	U	NA	0 66	U	NA
Calcium	mg/kg	1060	B	NA	1310		NA	1740		NA	980	B	NA
Chromium	mg/kg	11 4		NA	16		NA	23 1		NA	9 6		NA
Cobalt	mg/kg	6 9	B	NA	12 2		NA	19.9		NA	10 8	B	NA
Copper	mg/kg	14 1		NA	14 3		NA	16		NA	16.4		NA
Iron	mg/kg	14100		NA	31500		NA	48300		NA	20300		NA
Lead	mg/kg	14.6		NA	18 2		0 0	19 5		0.0	42 3		NA
Magnesium	mg/kg	3070		NA	4140		NA	6000		NA	3140		NA
Manganese	mg/kg	477	J	NA	385	J	NA	396	J	NA	588	J	NA
Mercury	mg/kg	0.06	U	NA	0 05	U	NA	0 06	U	NA	0.06	U	NA
Nickel	mg/kg	11 8		NA	18.9		NA	27		NA	17.8		NA
Potassium	mg/kg	973	B	NA	407	B	NA	258	B	NA	361	B	NA
Selenium	mg/kg	0.44	U	NA	0 44	U	NA	0.46	U	NA	0.44	UW	NA
Silver	mg/kg	1.1	U	NA	1.1	U	NA	1.1	U	NA	1.1	U	NA
Sodium	mg/kg	378	B	NA	369	U	NA	385	U	NA	372	U	NA
Thallium	mg/kg	0.44	UJ	NA	0.44	UJ	NA	0.46	UJ	NA	0.44	UJ	NA
Vanadium	mg/kg	13.4		NA	23		NA	57		NA	11.7		NA
Zinc	mg/kg	33.3	J	NA	56 4	J	NA	74 2	J	NA	56.9	J	NA
Cyanide, Total	mg/kg	0.55	UJ	NA	0.55	U	NA	0.57	U	NA	0.55	U	NA

TABLE L2.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
SUBSURFACE SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-M112-112993			FF-FB112393			FF-FB113093			FF-SWB-113093		
Sample Designation=		31875-02-SA			31806-07-FB			31875-13-FB			31875-10-SA		
Sample Collection Date=		29 NOV 93			23 NOV 93			30 NOV 93			30 NOV 93		
Sample Depth=		2-4'			—			—			—		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	mg/kg	9910		NA	0 042	U	NA	0 042	U	NA	0.17	U	NA
Antimony	mg/kg	5.4	UJ	NA	0 024	U	NA	0 024	U	NA	0.024	U	NA
Arsenic	mg/kg	3 9		NA	0.001	U	NA	0.001	U	NA	0.001	U	NA
Barium	mg/kg	92		NA	0 001	U	NA	0.001	U	NA	0.0051	B	NA
Beryllium	mg/kg	0 34	B	NA	0 001	U	NA	0 001	U	NA	0.001	U	NA
Cadmium	mg/kg	0 68	U	NA	0.003	U	NA	0.003	U	NA	0.003	U	NA
Calcium	mg/kg	6170		NA	0.071	U	NA	0 0126	U	NA	19 5		NA
Chromium	mg/kg	17		NA	0.004	U	NA	0.004	U	NA	0.004	U	NA
Cobalt	mg/kg	10 3	B	NA	0 004	U	NA	0 004	U	NA	0.004	U	NA
Copper	mg/kg	321		NA	0 004	U	NA	0 004	U	NA	0.0075	B	NA
Iron	mg/kg	26800		NA	0.141		NA	0 0763	B	NA	0.273		NA
Lead	mg/kg	554		NA	0 002	U	NA	0.002	U	NA	0.002	U	NA
Magnesium	mg/kg	4040		NA	0 047	U	NA	0 047	U	NA	3.52	B	NA
Manganese	mg/kg	401	J	NA	0 0041	B	NA	0 0017	B	NA	0 009	B	NA
Mercury	mg/kg	0.07	B	NA	0 0001	U	NA	0.0001	U	NA	0.0001	U	NA
Nickel	mg/kg	58.1		NA	0 009	U	NA	0 009	U	NA	0.009	U	NA
Potassium	mg/kg	468	B	NA	0.634	U	NA	0 634	U	NA	2.24	B	NA
Selenium	mg/kg	0.45	U	NA	0.002	U	NA	0 002	U	NA	0.002	U	NA
Silver	mg/kg	1.1	U	NA	0.005	U	NA	0 005	U	NA	0.005	U	NA
Sodium	mg/kg	843	B	NA	1.69	U	NA	1.69	U	NA	13.1		NA
Thallium	mg/kg	0.45	UJ	NA	0.002	U	NA	0.002	U	NA	0.002	U	NA
Vanadium	mg/kg	16.3		NA	0.004	U	NA	0.004	U	NA	0.004	U	NA
Zinc	mg/kg	453	J	NA	0.0058	B	NA	0.02	U	NA	0.0904		NA
Cyanide, Total	mg/kg	0 56	U	NA	0.01	U	NA	0 01	U	NA	0.01	U	NA

TABLE L3.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=	FF-TP11-011194			FF-TP12-011194			FF-TP13-011194			FF-TP21-011194		
Sample Designation=	9401L245-001			9401L245-002			9401L245-003			9401L245-004		
Sample Collection Date=	11 JAN 94			11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Diesel Scan	mg/kg	ND	U	749	Not Analyzed			Not Analyzed			Not Analyzed		
Chloromethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Bromomethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Vinyl Chloride	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Chloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Methylene chloride	ug/kg	ND	U*	2400	ND	U*	15	ND	U*	17	ND	U*	1700
Acetone	ug/kg	ND	U*	5100	ND	U*	29	ND	U*	29	ND	U	1400
Carbon disulfide	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,1-Dichloroethene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,1-Dichloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Chloroform	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,2-Dichloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
2-Butanone	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,1,1-Trichloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Carbon tetrachloride	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Bromodichloromethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,2-Dichloropropane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
cis-1,3-Dichloropropene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Trichloroethene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Dibromochloromethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,1,2-Trichloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Benzene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
trans-1,3-Dichloropropene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Bromoform	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
4-Methyl-2-Pentanone	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
2-Hexanone	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Tetrachloroethene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Toluene	ug/kg	ND	U	2400	ND	U	11	2	J	11	ND	U	1400
Chlorobenzene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Ethylbenzene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Styrene	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Xylenes (total)	ug/kg	ND	U	2400	ND	U	11	ND	U	11	ND	U	1400
Total VOCs		**0**			**0**			**2**			**0**		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L3.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-TP22-011194			FF-TP23-011194			FF-TP31-011194			FF-TP32-011194		
Sample Designation=		9401L245-005			9401L245-006			9401L245-007			9401L245-008		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Bromomethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Vinyl Chloride	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Chloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Methylene chloride	ug/kg	ND	U*	13	ND	U*	18	ND	U*	3800	ND	U*	17
Acetone	ug/kg	ND	U*	56	ND	U*	32	ND	U*	3500	ND	U*	29
Carbon disulfide	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,1-Dichloroethene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,1-Dichloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Chloroform	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,2-Dichloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
2-Butanone	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,1,1-Trichloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Carbon tetrachloride	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Bromodichloromethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,2-Dichloropropane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
cis-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Trichloroethene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Dibromochloromethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,1,2-Trichloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Benzene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
trans-1,3-Dichloropropene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Bromoform	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
4-Methyl-2-Pentanone	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
2-Hexanone	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Tetrachloroethene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Toluene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	1	J	11
Chlorobenzene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Ethylbenzene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Styrene	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
Xylenes (total)	ug/kg	ND	U	12	ND	U	11	ND	U	1500	ND	U	11
T tal VOCs		0			0			0			1		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L3.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=	FF-TP33-011194	FB-011194	TB-011294
Sample Designation=	9401L245-009	9401L245-010	9401L245-011
Sample Collection Date=	11 JAN 94	11 JAN 94	12 JAN 94

Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Bromomethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Vinyl Chloride	ug/kg	ND	U	11	ND	U	10	ND	U	10
Chloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Methylene chloride	ug/kg	ND	U*	18	ND	U*	12	ND	U*	23
Acetone	ug/kg	ND	U*	32	ND	U*	12	ND	U*	10
Carbon disulfide	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,1-Dichloroethene	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/kg	ND	U	11	ND	U	10	ND	U	10
Chloroform	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
2-Butanone	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,1,1-Trichloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Carbon tetrachloride	ug/kg	ND	U	11	ND	U	10	ND	U	10
Bromodichloromethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/kg	ND	U	11	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Trichloroethene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Dibromochloromethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Benzene	ug/kg	ND	U	11	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Bromoform	ug/kg	ND	U	11	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/kg	ND	U	11	ND	U	10	ND	U	10
2-Hexanone	ug/kg	ND	U	11	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/kg	ND	U	11	ND	U	10	ND	U	10
Tetrachloroethene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Toluene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Chlorobenzene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Ethylbenzene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Styrene	ug/kg	ND	U	11	ND	U	10	ND	U	10
Xylenes (total)	ug/kg	ND	U	11	ND	U	10	ND	U	10
Total VOCs		0			0			0		

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L3.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-TP11-011194			FF-TP12-011194			FF-TP13-011194		
Sample Designation=		9401L245-001			9401L245-002			9401L245-003		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Phenol	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
bis(. -Chloroethyl)ether	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
2-Chlorophenol	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
1,3-Dichlorobenzene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
1,4-Dichlorobenzene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
1,2-Dichlorobenzene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
2-Methylphenol	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
2,2'-oxybis(1-Chloropropane)	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
4-Methylphenol	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
N-Nitroso-di-n-propylamine	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Hexachloroethane	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Nitrobenzene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Isophorone	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
2-Nitrophenol	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
2,4-Dimethylphenol	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
bis(2-Chloroethoxy)methane	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
2,4-Dichlorophenol	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
1,2,4-Trichlorobenzene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Naphthalene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
4-Chloroaniline	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Hexachlorobutadiene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
4-Chloro-3-methylphenol	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
2-Methylnaphthalene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Hexachlorocyclopentadiene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
2,4,6-Trichlorophenol	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	3[illegible]
2,4,5-Trichlorophenol	ug/kg	ND	UJ	46000	ND	UJ	970	ND	UJ	9[illegible]
2-Chloronaphthalene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	37[illegible]
2-Nitroaniline	ug/kg	ND	UJ	46000	ND	UJ	970	ND	UJ	940
Dimethylphthalate	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Acenaphthylene	ug/kg	ND	UJ	18000	65	J	390	ND	UJ	370
2,6-Dinitrotoluene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
3-Nitroaniline	ug/kg	ND	UJ	46000	ND	UJ	970	ND	UJ	940
Acenaphthene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
2,4-Dinitrophenol	ug/kg	ND	UJ	46000	ND	UJ	970	ND	UJ	940
4-Nitrophenol	ug/kg	ND	UJ	46000	ND	UJ	970	ND	UJ	940
Dibenzofuran	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
2,4-Dinitrotoluene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Diethylphthalate	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
4-Chlorophenyl-phenylether	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Fluorene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
4-Nitroaniline	ug/kg	ND	UJ	46000	ND	UJ	970	ND	UJ	940
4,6-Dinitro-2-methylphenol	ug/kg	ND	UJ	46000	ND	UJ	970	ND	UJ	940
N-Nitrosodiphenylamine	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
4-Bromophenyl-phenylether	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Hexachlorobenzene	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Pentachlorophenol	ug/kg	ND	UJ	46000	ND	UJ	970	ND	UJ	940
Phenanthrene	ug/kg	ND	UJ	18000	680	J	390	330	J	370
Anthracene	ug/kg	6200	J	18000	200	J	390	94	J	370
Carbazole	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Di-n-butylphthalate	ug/kg	ND	UJ	18000	ND	UJ*	390	ND	UJ*	370
Fluoranthene	ug/kg	32000	J	18000	1300	J	390	500	J	370
Pyrene	ug/kg	39000	J	18000	1100	J	390	490	J	370
Butylbenzylphthalate	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
3,3'-Dichlorobenzidine	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Benzo(a)anthracene	ug/kg	11000	J	18000	660	J	390	370	J	370
Chrysene	ug/kg	12000	J	18000	730	J	390	410	J	370
bis(2-Ethylhexyl)phthalate	ug/kg	12000	J	18000	ND	UJ	390	ND	UJ	370
Di-n-octyl phthalate	ug/kg	ND	UJ	18000	ND	UJ	390	ND	UJ	370
Benzo(b)fluoranthene	ug/kg	8800	J	18000	500	J	390	320	J	370
Benzo(k)fluoranthene	ug/kg	13000	J	18000	600	J	390	380	J	370
Benzo(a)pyrene	ug/kg	12000	J	18000	660	J	390	440	J	370
Indeno(1,2,3-cd)pyrene	ug/kg	8900	J	18000	390	J	390	230	J	370
Dibenz(a,h)anthracene	ug/kg	4000	J	18000	170	J	390	110	J	3[illegible]
Benzo(g,h,i)perylene	ug/kg	10000	J	18000	440	J	390	230	J	3[illegible]
Total PAHs		156900			7495			3904		
Total Carcinogenic PAHs		79700			4150			2490		
Total SVOCs		168900			7495			3904		

NOTE: "*" indicates a value which was changed to "ND" following data validation.

TABLE L3.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-TP21-011194			FF-TP22-011194			FF-TP23-011194		
Sample Designation=		9401L245-004			9401L245-005			9401L245-006		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Phenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
bis(2-Chloroethyl)ether	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2-Chlorophenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
1,3-Dichlorobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
1,4-Dichlorobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
1,2-Dichlorobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2-Methylphenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,2'-oxybis(1-Chloropropane)	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
4-Methylphenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
N-Nitroso-di-n-propylamine	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Hexachloroethane	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Nitrobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Isophorone	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2-Nitrophenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4-Dimethylphenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
bis(2-Chloroethoxy)methane	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4-Dichlorophenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
1,2,4-Trichlorobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Naphthalene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
4-Chloroaniline	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Hexachlorobutadiene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
4-Chloro-3-methylphenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2-Methylnaphthalene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Hexachlorocyclopentadiene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4,6-Trichlorophenol	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4,5-Trichlorophenol	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
2-Chloronaphthalene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2-Nitroaniline	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
Dimethylphthalate	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Acenaphthylene	ug/kg	ND	U	7700	ND	UJ	380	100	J	360
2,6-Dinitrotoluene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
3-Nitroaniline	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
Acenaphthene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4-Dinitrophenol	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
4-Nitrophenol	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
Dibenzofuran	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
2,4-Dinitrotoluene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Diethylphthalate	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
4-Chlorophenyl-phenylether	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Fluorene	ug/kg	1500	J	7700	ND	UJ	380	ND	UJ	360
4-Nitroaniline	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
N-Nitrosodiphenylamine	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
4-Bromophenyl-phenylether	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Hexachlorobenzene	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Pentachlorophenol	ug/kg	ND	U	19000	ND	UJ	940	ND	UJ	900
Phenanthrene	ug/kg	850	J	7700	ND	UJ	380	860	J	360
Anthracene	ug/kg	440	J	7700	ND	UJ	380	170	J	360
Carbazole	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Di-n-butylphthalate	ug/kg	ND	U	7700	ND	UJ*	380	ND	UJ	360
Fluoranthene	ug/kg	460	J	7700	ND	UJ	380	930	J	360
Pyrene	ug/kg	1000	J	7700	ND	UJ	380	1100	J	360
Butylbenzylphthalate	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
3,3'-Dichlorobenzidine	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Benzo(a)anthracene	ug/kg	ND	U	7700	ND	UJ	380	500	J	360
Chrysene	ug/kg	ND	U	7700	ND	UJ	380	580	J	360
bis(2-Ethylhexyl)phthalate	ug/kg	ND	U*	7700	ND	UJ	380	ND	UJ	360
Di-n-octyl phthalate	ug/kg	ND	U	7700	ND	UJ	380	ND	UJ	360
Benzo(b)fluoranthene	ug/kg	ND	U	7700.	ND	UJ	380	320	J	360
Benzo(k)fluoranthene	ug/kg	ND	U	7700	ND	UJ	380	390	J	360
Benzo(a)pyrene	ug/kg	ND	U	7700	ND	UJ	380	460	J	360
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	7700	ND	UJ	380	260	J	360
Dibenz(a,h)anthracene	ug/kg	ND	U	7700	ND	UJ	380	160	J	360
Benzo(g,h,i)perylene	ug/kg	ND	U	7700	ND	UJ	380	330	J	360
Total PAHs		4250			0			6160		
Total Carcinogenic PAHs		0			0			3000		
Total SVOCs		4250			0			6160		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L3.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-TP31-011194			FF-TP32-011194			FF-TP33-011194		
Sample Designation=		9401L245-007			9401L245-008			9401L245-009		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Phenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
bis(2-Chloroethyl)ether	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2-Chlorophenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
1,3-Dichlorobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
1,4-Dichlorobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
1,2-Dichlorobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2-Methylphenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,2'-oxybis(1-Chloropropane)	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Methylphenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
N-Nitroso-di-n-propylamine	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Hexachloroethane	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Nitrobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Isophorone	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2-Nitrophenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,4-Dimethylphenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
bis(2-Chloroethoxy)methane	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,4-Dichlorophenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
1,2,4-Trichlorobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Naphthalene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Chloroaniline	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Hexachlorobutadiene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Chloro-3-methylphenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2-Methylnaphthalene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Hexachlorocyclopentadiene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,4,6-Trichlorophenol	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	37[illegible]
2,4,5-Trichlorophenol	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	9[illegible]
2-Chloronaphthalene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	3[illegible]
2-Nitroaniline	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
Dimethylphthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Acenaphthylene	ug/kg	ND	UJ	6700	380	J	700	ND	UJ	370
2,6-Dinitrotoluene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
3-Nitroaniline	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
Acenaphthene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,4-Dinitrophenol	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
4-Nitrophenol	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
Dibenzofuran	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
2,4-Dinitrotoluene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Diethylphthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Chlorophenyl-phenylether	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Fluorene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Nitroaniline	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
4,6-Dinitro-2-methylphenol	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
N-Nitrosodiphenylamine	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
4-Bromophenyl-phenylether	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Hexachlorobenzene	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Pentachlorophenol	ug/kg	ND	UJ	17000	ND	UJ	1800	ND	UJ	930
Phenanthrene	ug/kg	6300	J	6700	1300	J	700	730	J	370
Anthracene	ug/kg	480	J	6700	520	J	700	200	J	370
Carbazole	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Di-n-butylphthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ*	370
Fluoranthene	ug/kg	ND	UJ	6700	3000	J	700	1200	J	370
Pyrene	ug/kg	ND	UJ	6700	3100	J	700	980	J	370
Butylbenzylphthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
3,3'-Dichlorobenzidine	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Benzo(a)anthracene	ug/kg	500	J	6700	2400	J	700	580	J	370
Chrysene	ug/kg	690	J	6700	2500	J	700	640	J	370
bis(2-Ethylhexyl)phthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Di-n-octyl phthalate	ug/kg	ND	UJ	6700	ND	UJ	700	ND	UJ	370
Benzo(b)fluoranthene	ug/kg	430	J	6700	2300	J	700	480	J	370
Benzo(k)fluoranthene	ug/kg	850	J	6700	2500	J	700	570	J	370
Benzo(a)pyrene	ug/kg	ND	UJ	6700	2900	J	700	630	J	370
Indeno(1,2,3-cd)pyrene	ug/kg	ND	UJ	6700	1700	J	700	400	J	370
Dibenz(a,h)anthracene	ug/kg	ND	UJ	6700	780	J	700	130	J	37[illegible]
Benzo(g,h,i)perylene	ug/kg	ND	UJ	6700	1700	J	700	440	J	[illegible]
Total PAHs		9250			25080			6980		
Total Carcinogenic PAHs		2470			16780			3870		
Total SVOCs		9250			25080			6980		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L3.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=	FB-011194
Sample Designation=	9401L245-010
Sample Collection Date=	11 JAN 94

Compound	Units	Sample Value	Qual	Reporting Limit
Phenol	ug/kg	ND	U	10
bis(2-Chloroethyl)ether	ug/kg	ND	U	10
2-Chlorophenol	ug/kg	ND	U	10
1,3-Dichlorobenzene	ug/kg	ND	U	10
1,4-Dichlorobenzene	ug/kg	ND	U	10
1,2-Dichlorobenzene	ug/kg	ND	U	10
2-Methylphenol	ug/kg	ND	U	10
2,2'-oxybis(1-Chloropropane)	ug/kg	ND	U	10
4-Methylphenol	ug/kg	ND	U	10
N-Nitroso-di-n-propylamine	ug/kg	ND	U	10
Hexachloroethane	ug/kg	ND	U	10
Nitrobenzene	ug/kg	ND	U	10
Isophorone	ug/kg	ND	U	10
2-Nitrophenol	ug/kg	ND	U	10
2,4-Dimethylphenol	ug/kg	ND	U	10
bis(2-Chloroethoxy)methane	ug/kg	ND	U	10
2,4-Dichlorophenol	ug/kg	ND	U	10
1,2,4-Trichlorobenzene	ug/kg	ND	U	10
Naphthalene	ug/kg	ND	U	10
4-Chloroaniline	ug/kg	ND	U	10
Hexachlorobutadiene	ug/kg	ND	U	10
4-Chloro-3-methylphenol	ug/kg	ND	U	10
2-Methylnaphthalene	ug/kg	ND	U	10
Hexachlorocyclopentadiene	ug/kg	ND	U	10
2,4,6-Trichlorophenol	ug/kg	ND	U	10
2,4,5-Trichlorophenol	ug/kg	ND	U	26
2-Chloronaphthalene	ug/kg	ND	U	10
2-Nitroaniline	ug/kg	ND	U	26
Dimethylphthalate	ug/kg	ND	U	10
Acenaphthylene	ug/kg	ND	U	10
2,6-Dinitrotoluene	ug/kg	ND	U	10
3-Nitroaniline	ug/kg	ND	U	26
Acenaphthene	ug/kg	ND	U	10
2,4-Dinitrophenol	ug/kg	ND	U	26
4-Nitrophenol	ug/kg	ND	U	26
Dibenzofuran	ug/kg	ND	U	10
2,4-Dinitrotoluene	ug/kg	ND	U	10
Diethylphthalate	ug/kg	ND	U	10
4-Chlorophenyl-phenylether	ug/kg	ND	U	10
Fluorene	ug/kg	ND	U	10
4-Nitroaniline	ug/kg	ND	U	26
4,6-Dinitro-2-methylphenol	ug/kg	ND	U	26
N-Nitrosodiphenylamine	ug/kg	ND	U	10
4-Bromophenyl-phenylether	ug/kg	ND	U	10
Hexachlorobenzene	ug/kg	ND	U	10
Pentachlorophenol	ug/kg	ND	U	26
Phenanthrene	ug/kg	ND	U	10
Anthracene	ug/kg	ND	U	10
Carbazole	ug/kg	ND	U	10
Di-n-butylphthalate	ug/kg	1	J	10
Fluoranthene	ug/kg	ND	U	10
Pyrene	ug/kg	ND	U	10
Butylbenzylphthalate	ug/kg	ND	U	10
3,3'-Dichlorobenzidine	ug/kg	ND	U	10
Benzo(a)anthracene	ug/kg	ND	U	10
Chrysene	ug/kg	ND	U	10
bis(2-Ethylhexyl)phthalate	ug/kg	ND	U	10
Di-n-octyl phthalate	ug/kg	ND	U	10
Benzo(b)fluoranthene	ug/kg	ND	U	10
Benzo(k)fluoranthene	ug/kg	ND	U	10
Benzo(a)pyrene	ug/kg	ND	U	10
Indeno(1,2,3-cd)pyrene	ug/kg	ND	U	10
Dibenz(a,h)anthracene	ug/kg	ND	U	10
Benzo(g,h,i)perylene	ug/kg	ND	U	10
Total PAHs		0		
Total Carcinogenic PAHs		0		
Total SVOCs		1		

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L3.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-TP11-011194			FF-TP12-011194			FF-TP13-011194			FF-TP21-011194		
Sample Designation=		9401L245-001			9401L245-002			9401L245-003			9401L245-004		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Alpha-BHC	ug/kg	ND	UJ	6 0	ND	U	1 9	ND	U	1.8	ND	UJ	1.9
Beta-BHC	ug/kg	ND	UJ	6 0	ND	U	1.9	ND	U	1.8	ND	UJ	1.9
Delta-BHC	ug/kg	ND	UJ	6 0	ND	U	1 9	ND	U	1.8	ND	UJ	1 9
gamma-BHC (Lindane)	ug/kg	ND	UJ	6 0	ND	U	1.9	ND	U	1.8	ND	UJ	1.9
Heptachlor	ug/kg	ND	UJ	6.0	ND	U	1.9	ND	U	1.8	ND	UJ	1.9
Aldrin	ug/kg	ND	UJ	6 0	ND	U	1.9	ND	U	1.8	ND	UJ	1.9
Heptachlor epoxide	ug/kg	ND	UJ	6 0	ND	U	1.9	ND	U	1 8	ND	UJ	1.9
Endosulfan I	ug/kg	ND	UJ	6 0	ND	U	1.9	ND	U	1.8	ND	UJ	1.9
Dieldrin	ug/kg	ND	UJ	12	ND	U	3.8	ND	U	3.6	ND	UJ	3 8
4,4'-DDE	ug/kg	14	J	12	ND	U	3 8	ND	U	3 6	ND	UJ	3.8
Endrin	ug/kg	ND	UJ	12	ND	U	3 8	ND	U	3 6	ND	UJ	3.8
Endosulfan II	ug/kg	ND	UJ	12	3 8		3 8	ND	U	3 6	ND	UJ	3.8
4,4'-DDD	ug/kg	25	J	12	ND	U	3 8	ND	U	3 6	ND	UJ	3.8
Endosulfan sulfate	ug/kg	ND	UJ	12	ND	U	3 8	ND	U	3.6	ND	UJ	3.8
4,4'-DDT	ug/kg	86	J	12	ND	U	3 8	ND	U	3.6	ND	UJ	3.8
Methoxychlor	ug/kg	ND	UJ	60	ND	U	19	ND	U	18	ND	UJ	19
Endrin ketone	ug/kg	ND	UJ	12	ND	U	3 8	ND	U	3 6	ND	UJ	3 8
Endrin aldehyde	ug/kg	ND	UJ	12	ND	U	3.8	ND	U	3 6	ND	UJ	3.8
alpha-Chlordane	ug/kg	ND	UJ	6 0	ND	U	1.9	ND	U	1.8	ND	UJ	1.9
gamma-Chlordane	ug/kg	ND	UJ	6 0	ND	U	1.9	ND	U	1.8	ND	UJ	1.9
Toxaphene	ug/kg	ND	UJ	600	ND	U	190	ND	U	180	ND	UJ	190
Aroclor-1016	ug/kg	ND	UJ	120	ND	U	38	ND	U	36	ND	UJ	38
Aroclor-1221	ug/kg	ND	UJ	240	ND	U	77	ND	U	71	ND	UJ	76
Aroclor-1232	ug/kg	ND	UJ	120	ND	U	38	ND	U	36	ND	UJ	38
Aroclor-1242	ug/kg	ND	UJ	120	ND	U	38	ND	U	36	ND	UJ	38
Aroclor-1248	ug/kg	ND	UJ	120	ND	U	38	ND	U	36	ND	UJ	38
Aroclor-1254	ug/kg	ND	UJ	120	ND	U	38	ND	U	36	ND	UJ	38
Aroclor-1260	ug/kg	ND	UJ	120	ND	U	38	ND	U	36	ND	UJ	38

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L3.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=	FF-TP22-011194				FF-TP23-011194			FF-TP31-011194			FF-TP32-011194		
Sample Designation=	9401L245-005				9401L245-006			9401L245-007			9401L245-008		
Sample Coll ction Date=	11 JAN 94				11 JAN 94			11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	UJ	1.8	ND	U	1.6	ND	UJ	2 0	ND	UJ	3 6
beta-BHC	ug/kg	ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3.6
delta-BHC	ug/kg	ND	UJ	1.8	ND	U	1.6	2 4	J	2.0	ND	UJ	3 6
gamma-BHC (Lindane)	ug/kg	ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3.6
Heptachlor	ug/kg	ND	UJ	1.8	ND	U	1.6	ND	UJ	2 0	ND	UJ	3 6
Aldrin	ug/kg	ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3 6
Heptachlor epoxide	ug/kg	ND	UJ	1 8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3 6
Endosulfan I	ug/kg	ND	UJ	1.8	ND	U	1.6	ND	UJ	2.0	ND	UJ	3 6
Dieldrin	ug/kg	ND	UJ	3 6	ND	U	3.2	ND	UJ	3.9	ND	UJ	7 2
4,4'-DDE	ug/kg	ND	UJ	3 6	ND	U	3 2	ND	UJ	3.9	ND	UJ	7.2
Endrin	ug/kg	ND	UJ	3 6	ND	U	3.2	ND	UJ	3 9	ND	UJ	7.2
Endosulfan II	ug/kg	ND	UJ	3.6	5.1	J	3.2	4 7	J	3 9	9.7	J	7.2
4,4'-DDD	ug/kg	ND	UJ	3.6	ND	U	3.2	ND	UJ	3.9	ND	UJ	7.2
Endosulfan sulfate	ug/kg	ND	UJ	3.6	ND	U	3.2	ND	UJ	3 9	ND	UJ	7.2
4,4'-DDT	ug/kg	ND	UJ	3.6	ND	U	3.2	ND	UJ	3 9	ND	UJ	7.2
Methoxychlor	ug/kg	ND	UJ	18	ND	U	16	ND	UJ	20	ND	UJ	36
Endrin ketone	ug/kg	ND	UJ	3 6	ND	U	3 2	ND	UJ	3.9	ND	UJ	7.2
Endrin aldehyde	ug/kg	ND	UJ	3.6	ND	U	3.2	ND	UJ	3 9	ND	UJ	7 2
alpha-Chlordane	ug/kg	ND	UJ	1.8	ND	U	1.6	ND	UJ	2 0	ND	UJ	3.6
gamma-Chlordane	ug/kg	ND	UJ	1.8	ND	U	1.6	ND	UJ	2 0	ND	UJ	3.6
Toxaphene	ug/kg	ND	UJ	180	ND	U	160	ND	UJ	200	ND	UJ	360
Aroclor 1016	ug/kg	ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72
Aroclor 1221	ug/kg	ND	UJ	71	ND	U	64	ND	UJ	78	ND	UJ	140
Aroclor 1232	ug/kg	ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72
Aroclor 1242	ug/kg	ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72
Aroclor 1248	ug/kg	ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72
Aroclor 1254	ug/kg	ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72
Aroclor 1260	ug/kg	ND	UJ	36	ND	U	32	ND	UJ	39	ND	UJ	72

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L3.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-TB33-011194			FB-011194		
Sample Designation=		9401L245-009			9401L245-010		
Sample Collection Date=		11 JAN 94			11 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/kg	ND	UJ	1.9	ND	UJ	0 052
beta-BHC	ug/kg	ND	UJ	1.9	ND	UJ	0 052
delta-BHC	ug/kg	ND	UJ	1 9	ND	UJ	0 052
gamma-BHC (Lindane)	ug/kg	ND	UJ	1.9	ND	UJ	0 052
Heptachlor	ug/kg	ND	UJ	1.9	ND	UJ	0 052
Aldrin	ug/kg	ND	UJ	1.9	ND	UJ	0.052
Heptachlor epoxide	ug/kg	ND	UJ	1.9	ND	UJ	0.052
Endosulfan I	ug/kg	ND	UJ	1.9	ND	UJ	0.052
Dieldrin	ug/kg	ND	UJ	3 7	ND	UJ	0 10
4,4'-DDE	ug/kg	ND	UJ	3.7	ND	UJ	0.10
Endrin	ug/kg	ND	UJ	3 7	ND	UJ	0.10
Endosulfan II	ug/kg	5.4	J	3.7	ND	UJ	0.10
4,4'-DDD	ug/kg	ND	UJ	3.7	ND	UJ	0 10
Endosulfan sulfate	ug/kg	ND	UJ	3.7	ND	UJ	0.10
4,4'-DDT	ug/kg	ND	UJ	3.7	ND	UJ	0.10
Methoxychlor	ug/kg	ND	UJ	19	ND	UJ	0.52
Endrin ketone	ug/kg	ND	UJ	3.7	ND	UJ	0.10
Endrin aldehyde	ug/kg	ND	UJ	3.7	ND	UJ	0.10
alpha-Chlordane	ug/kg	ND	UJ	1.9	ND	UJ	0 052
gamma-Chlordane	ug/kg	ND	UJ	1.9	ND	UJ	0.052
Toxaphene	ug/kg	ND	UJ	190	ND	UJ	5 2
Aroclor 1016	ug/kg	ND	UJ	37	ND	UJ	1.0
Aroclor 1221	ug/kg	ND	UJ	74	ND	UJ	2.1
Aroclor 1232	ug/kg	ND	UJ	37	ND	UJ	1.0
Aroclor 1242	ug/kg	ND	UJ	37	ND	UJ	1.0
Aroclor 1248	ug/kg	ND	UJ	37	ND	UJ	1.0
Aroclor 1254	ug/kg	ND	UJ	37	ND	UJ	1.0
Aroclor 1260	ug/kg	ND	UJ	37	ND	UJ	1.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L3.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=	FF-TP11-011194			FF-TP12-011194			FF-TP13-011194			FF-TP21-011194		
Sample Designation=	9401L245-001			9401L245-002			9401L245-003			9401L245-004		
Sample Collection Date=	11 JAN 94			11 JAN 94			11 JAN 94			11 JAN 94		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Silver, Total	mg/kg	0.66	J	0.15	ND	UJ	0 091	ND	UJ	0.089	ND	UJ	0.092
Aluminum, Total	mg/kg	10900		5.8	8710		3.5	7970		3 2	5650		3.5
Arsenic, Total	mg/kg	9.5	J	0 77	4.1	J	0.45	2 6	J	0.45	3.7	J	0.46
Barium, Total	mg/kg	329		1 2	46.2	B	0 70	23 6	B	0.65	9.6	B	0.70
Beryllium, Total	mg/kg	1	B	0.39	0.28	B	0 23	0.37	B	0.22	ND	U	0.23
Calcium, Total	mg/kg	4930		7 0	4330		4.2	795	B	3.9	760	B	4.2
Cadmium, Total	mg/kg	11.5		0.31	0.25	J	0 091	ND	UJ	0.089	ND	UJ	0 092
Cobalt, Total	mg/kg	33.8		0.77	8 3	B	0 47	12.2		0.43	8	B	0.46
Chromium, Total	mg/kg	97.9	J	1.2	8.6	J	0.70	11 8	J	0.65	5 8	J	0.70
Copper, Total	mg/kg	544		0.77	23 3		0.47	16.1		0.43	16.9		0.46
Iron, Total	mg/kg	170000		2.3	17200		1.4	23000		1.3	16900		1.4
Mercury, Total	mg/kg	0.26		0.097	0.25		0.059	ND	U	0.056	ND	U	0.045
Potassium, Total	mg/kg	592	B	258	329	B	156	538	B	144	320	B	154
Magnesium, Total	mg/kg	3650		18.2	1840		11.0	2180		10 2	2040		10.9
Manganese, Total	mg/kg	692	J	1.2	255	J	0.70	186	J	0.65	243	J	0.70
Sodium, Total	mg/kg	196	B	10.4	89.2	B	6.3	97.9	B	5.8	87.3	B	6.3
Nickel, Total	mg/kg	145		3.5	13.7		2.1	28.1		1.9	16.3		2.1
Lead, Total	mg/kg	497	J	7.0	475	J	4.2	40.1	J	3.9	10.8	J	4.6
Antimony, Total	mg/kg	ND	U	10.4	ND	U	6.3	ND	U	5.8	ND	U	6.3
Selenium, Total	mg/kg	ND	UJ	0.77	0.59	J	0.45	ND	UJ	0.45	ND	UJ	0.46
Thallium, Total	mg/kg	ND	UJ	0.77	ND	UJ	4.5	ND	UJ	0.45	ND	UJ	0.46
Vanadium, Total	mg/kg	ND	U	1.5	16.5		0.94	7.1	B	0.87	11.1	B	0.93
Zinc, Total	mg/kg	4480		1.2	169		0.70	57.8		0.65	210		0.70
Cyanide, Total	mg/kg	ND	U	1.9	ND	U	1.2	ND	U	1.2	ND	U	1.2

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation.

TABLE L3.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-TP22-011194			FF-TP23-011194			FF-TP31-011194			FF-TP32-011194		
Sample Designation=		9401L245-005			9401L245-006			9401L245-007			9401L245-008		
Sample Collection Date=		11 JAN 94			11 JAN 94			11 JAN 94			11 JAN 94		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Silver, Total	mg/kg	ND	UJ	0.092	ND	UJ	0.084	ND	UJ	0.095	ND	UJ	0.089
Aluminum, Total	mg/kg	12000		3.2	6620		3.3	3030		3 6	10300		3.3
Arsenic, Total	mg/kg	4.3	J	0.46	2.1	J	0 42	16 3	J	1.9	2.9	J	0.45
Barium, Total	mg/kg	18.2	B	0.65	13.2	B	0.65	200		0.72	22.1	B	0 66
Beryllium, Total	mg/kg	0.37	B	0.22	0.24	B	0.22	ND	U	0.24	0.29	B	0.22
Calcium, Total	mg/kg	884	B	3.9	4330		3.9	32300		4.3	1090	B	4.0
Cadmium, Total	mg/kg	ND	UJ	0.092	ND	UJ	0.084	3.6		0.095	ND	UJ	0.089
Cobalt, Total	mg/kg	10.4	B	0.43	8.6	B	0.44	2 9	B	0.48	11.8		0.44
Chromium, Total	mg/kg	12.5	J	0 65	8.8	J	0.65	6 1	J	0.72	12.3	J	0 66
Copper, Total	mg/kg	10.6		0.43	26.6		0.44	52.4		0 48	27.4		0.44
Iron, Total	mg/kg	22100		1.3	15500		1.3	12300		1.4	24400		1.3
Mercury, Total	mg/kg	ND	U	0.049	ND	U	0.055	0.16		0.060	0.076	B	0.046
Potassium, Total	mg/kg	336	B	144	471	B	145	822	B	161	809	B	147
Magnesium, Total	mg/kg	2570		10.2	2490		10.3	4630		11.3	3150		10.4
Manganese, Total	mg/kg	139	J	0.65	273		0 65	299	J	0.72	413	J	0 66
Sodium, Total	mg/kg	ND	U*	60.1	ND	U*	49.8	324	B	6.5	76	B	6.0
Nickel, Total	mg/kg	17.7		1.9	11.8		2.0	4.3	B	2 2	18.7		2.0
Lead, Total	mg/kg	6.9	J	4.6	65.6	J	3.9	3090	J	4.3	67.6	J	4.0
Antimony, Total	mg/kg	ND	U	5.8	ND	U	5.9	6.7		6.5	ND	U	6.0
Selenium, Total	mg/kg	ND	UJ	0.46	0.5	J	0.42	ND	UJ	0.48	ND	UJ	0.45
Thallium, Total	mg/kg	ND	UJ	0.46	ND	UJ	0.42	ND	UJ	4.8	ND	UJ	0.45
Vanadium, Total	mg/kg	7.4	B	0.86	ND	U*	4.6	ND	U*	6.9	7.7	B	0.88
Zinc, Total	mg/kg	42.7		0.65	112		0.65	1580		0.72	76.3		0.66
Cyanide, Total	mg/kg	ND	U	1.2	ND	U	1.1	ND	U	1.2	ND	U	1.1

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation.

TABLE L3.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
TEST PIT SOIL SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-TP33-011194			FB-011194		
Sample Designation=		9401L245-009			9401L245-010		
Sample Collection Date=		11 JAN 94			11 JAN 94		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Silver, Total	mg/kg	ND	UJ	0.083	ND	U	0.0004
Aluminum, Total	mg/kg	8170		3.2	0.121	B	0.015
Arsenic, Total	mg/kg	2.9	J	0.42	ND	U	0.002
Barium, Total	mg/kg	21.7	B	0.65	0.0077	B	0 003
Beryllium, Total	mg/kg	0.37	B	0.22	ND	U	0.001
Calcium, Total	mg/kg	2600		3.9	ND	U*	0.179
Cadmium, Total	mg/kg	ND	UJ	0.083	ND	UJ	0.0004
Cobalt, Total	mg/kg	10.3	B	0.43	0.0022	B	0.002
Chromium, Total	mg/kg	9.7	J	0 65	ND	U	0.003
Copper, Total	mg/kg	25.6		0.43	ND	U	0 002
Iron, Total	mg/kg	19700		1.3	0.087	B	0.006
Mercury, Total	mg/kg	0.073	B	0.051	ND	U	0 0001
Potassium, Total	mg/kg	353	B	144	ND	U	0 666
Magnesium, Total	mg/kg	2350		10 2	0.275	B	0 047
Manganese, Total	mg/kg	310	J	0.65	ND	U	0.003
Sodium, Total	mg/kg	ND	U*	55.6	ND	U*	0.0532
Nickel, Total	mg/kg	15.3		1.9	ND	U	0.009
Lead, Total	mg/kg	76.6	J	3.9	ND	U	0 002
Antimony, Total	mg/kg	ND	U	5.8	ND	U	0.027
Selenium, Total	mg/kg	0.45	J	0.42	ND	U	0.002
Thallium, Total	mg/kg	ND	UJ	0.42	ND	U	0.002
Vanadium, Total	mg/kg	9.2	B	0.86	ND	U	0.004
Zinc, Total	mg/kg	102		0.65	ND	U*	0.0142
Cyanid , Total	mg/kg	ND	U	1.1	ND	U	0.01

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation.

TABLE L4.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-MW-1S			FF-MW-2S			FF-MW-2D			FF-MW-3S		
Sample Designation=		9401L191-001			9401L177-001			9401L177-002			9401L166-001		
Sample Collection Date=		06 JAN 94			05 JAN 94			05 JAN 94			04 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Bromomethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Vinyl Chloride	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Chloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Methylene chloride	ug/l	ND	U*	10	ND	U	10	ND	U	10	ND	UJ	10
Acetone	ug/l	ND	U	10	ND	U*	10	ND	U*	14	ND	UJ	10
Carbon disulfide	ug/l	ND	U	10	ND	U	10	1	J	10	ND	UJ	10
1,1-Dichloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
1,1-Dichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
1,2-Dichloroethene (cis/trans)	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Chloroform	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
1,2-Dichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
2-Butanone	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
1,1,1-Trichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Carbon tetrachloride	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Bromodichloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
1,2-Dichloropropane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
cis-1,3-Dichloropropene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Trichloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Dibromochloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
1,1,2-Trichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Benzene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
trans-1,3-Dichloropropene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Bromoform	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
4-Methyl-2-Pentanone	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
2-Hexanone	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
1,1,2,2-Tetrachloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Tetrachloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Toluene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Chlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Ethylbenzene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Styrene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10
Xylenes (total)	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	UJ	10

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L4.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-MW-4S			FF-MW-5S			FF-MW-6S			FF-MW-6R		
Sample Designation=		9401L166-002			9401L191-002			9401L191-003			9401L191-010		
Sample Collection Date=		04 JAN 94			06 JAN 94			06 JAN 94			06 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Bromomethane	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Vinyl Chloride	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Chloroethane	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Methylene chloride	ug/l	ND	U*	10	ND	U*	12	ND	U*	12	ND	U*	11
Acetone	ug/l	ND	UJ	10	ND	U*	10	ND	U*	10	ND	U*	10
Carbon disulfide	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethene	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Chloroform	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
2-Butanone	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,1,1-Trichloroethane	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Carbon tetrachloride	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Bromodichloromethane	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Trichloroethene	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Dibromochloromethane	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Benzene	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Bromoform	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
2-Hexanone	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Tetrachloroethene	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Toluene	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Chlorobenzene	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Ethylbenzene	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Styrene	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10
Xylenes (total)	ug/l	ND	UJ	10	ND	U	10	ND	U	10	ND	U	10

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L4.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=	FF-MW-7S				FF-MW-8R			FF-MW-9R			FF-MW-10S		
Sample Designation=	9401L166-004				9401L191-004			9401L191-005			9401L191-006		
Sample Collection Date=	04 JAN 94				05 JAN 94			06 JAN 94			06 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromomethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Vinyl Chloride	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Methylene chloride	ug/l	ND	U*	10	ND	U*	10	ND	U*	10	ND	U*	11
Acetone	ug/l	ND	U	10	ND	U*	10	ND	U*	10	ND	U*	10
Carbon disulfide	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chloroform	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
2-Butanone	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1,1-Trichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Carbon tetrachloride	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromodichloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Trichloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Dibromochloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Benzene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromoform	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
2-Hexanone	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Tetrachloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Toluene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Ethylbenzene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Styrene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Xylenes (total)	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L4.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-MW-11S			FF-MW-12S (Dup of MW-11S)			FF-MW-11R			FF-TB-010494		
Sample Designation=		9401L177-003			9401L177-005			9401L177-004			9401L166-006		
Sample Collection Date=		05 JAN 94			05 JAN 94			05 JAN 94			04 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromomethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Vinyl Chloride	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Methylene chloride	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U*	14
Acetone	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Carbon disulfide	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chloroform	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
2-Butanone	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1,1-Trichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Carbon tetrachloride	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromodichloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Trichloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Dibromochloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Benzene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Bromoform	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
2-Hexanone	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Tetrachloroethen	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Toluene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Chlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Ethylbenzene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Styrene	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10
Xylenes (total)	ug/l	ND	U	10	ND	U	10	ND	U	10	ND	U	10

NOTE: '*' indicates a value which was changed t 'Not Detected' following data validation

TABLE L4.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-FB-010594			FF-TB-010594			FF-TB-010694		
Sample Designation=		9401L177-006			9401L177-007			9401L191-008		
Sample Collection Date=		05 JAN 94			05 JAN 94			06 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Bromomethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Vinyl Chloride	ug/l	ND	U	10	ND	U	10	ND	U	10
Chloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Methylene chloride	ug/l	1	J	10	4	J	10	ND	U*	10
Acetone	ug/l	5	J	10	9	J	10	ND	U*	85
Carbon disulfide	ug/l	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/l	ND	U	10	ND	U	10	ND	U	10
Chloroform	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Butanone	ug/l	ND	U	10	ND	U	10	27		10
1,1,1-Trichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Carbon tetrachloride	ug/l	ND	U	10	ND	U	10	ND	U	10
Bromodichloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/l	ND	U	10	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/l	ND	U	10	ND	U	10	ND	U	10
Trichloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10
Dibromochloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzene	ug/l	ND	U	10	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/l	ND	U	10	ND	U	10	ND	U	10
Bromoform	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Hexanone	ug/l	ND	U	10	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Tetrachloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10
Toluene	ug/l	ND	U	10	ND	U	10	ND	U	10
Chlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Ethylbenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Styrene	ug/l	ND	U	10	ND	U	10	ND	U	10
Xylenes (total)	ug/l	ND	U	10	ND	U	10	ND	U	10

NOTE: '*' indicates a value which was changed to 'Not Detected' following data validation

TABLE L4.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-MW-1S			FF-MW-2S			FF-MW-2D		
Sample Designation=		9401L191-001			9401L175-001			9401L177-002		
Sample Collection Date=		06 JAN 94			05 JAN 94			05 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Phenol	ug/l	ND	U	10	ND	U	10	ND	U	11
bis(2-Chloroethyl)ether	ug/l	ND	U	10	ND	U	10	ND	U	11
2-Chlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	11
1,3-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	11
1,4-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	11
1,2-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	11
2-Methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	11
2,2'-oxybis(1-Chloropropane)	ug/l	ND	U	10	ND	U	10	ND	U	11
4-Methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	11
N-Nitroso-di-n-propylamine	ug/l	ND	U	10	ND	U	10	ND	U	11
Hexachloroethane	ug/l	ND	U	10	ND	U	10	ND	U	11
Nitrobenzene	ug/l	ND	U	10	ND	U	10	ND	U	11
Isophorone	ug/l	ND	U	10	ND	U	10	ND	U	11
2-Nitrophenol	ug/l	ND	U	10	ND	U	10	ND	U	11
2,4-Dimethylphenol	ug/l	ND	U	10	ND	U	10	ND	U	11
bis(2-Chloroethoxy)methane	ug/l	ND	U	10	ND	U	10	ND	U	11
2,4-Dichlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	11
1,2 4-Trichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	11
Naphthalene	ug/l	ND	U	10	ND	U	10	ND	U	11
4-Chloroaniline	ug/l	ND	U	10	ND	U	10	ND	U	11
Hexachlorobutadiene	ug/l	ND	U	10	ND	U	10	ND	U	11
4-Chloro-3-methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	11
2-Methylnaphthalene	ug/l	ND	U	10	ND	U	10	ND	U	11
Hexachlorocyclopentadiene	ug/l	ND	U	10	ND	U	10	ND	U	11
2,4,6-Trichlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	11
2,4,5-Trichlorophenol	ug/l	ND	U	26	ND	U	26	ND	U	[illegible]
2-Chloronaphthalene	ug/l	ND	U	10	ND	U	10	ND	U	[illegible]
2-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
Dimethylphthalate	ug/l	ND	U	10	ND	U	10	ND	U	11
Acenaphthylene	ug/l	ND	U	10	ND	U	10	ND	U	11
2,6-Dinitrotoluene	ug/l	ND	U	10	ND	U	10	ND	U	11
3-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
Acenaphthene	ug/l	ND	U	10	5	J	10	ND	U	11
2,4-Dinitrophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
4-Nitrophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
Dibenzofuran	ug/l	ND	U	10	ND	U	10	ND	U	11
2,4-Dinitrotoluene	ug/l	ND	U	10	ND	U	10	ND	U	11
Diethylphthalate	ug/l	ND	U	10	ND	U	10	ND	U	11
4-Chlorophenyl-phenylether	ug/l	ND	U	10	ND	U	10	ND	U	11
Fluorene	ug/l	ND	U	10	ND	U	10	ND	U	11
4-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
4,6-Dinitro-2-methylphenol	ug/l	ND	U	26	ND	U	26	ND	U	26
N-Nitrosodiphenylamine (1)	ug/l	ND	U	10	ND	U	10	ND	U	11
4-Bromophenyl-phenylether	ug/l	ND	U	10	ND	U	10	ND	U	11
Hexachlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	11
Pentachlorophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
Phenanthrene	ug/l	ND	U	10	ND	U	10	ND	U	11
Anthracene	ug/l	ND	U	10	3	J	10	ND	U	11
Carbazole	ug/l	ND	U	10	ND	U	10	ND	U	11
Di-n-butylphthalate	ug/l	2	J	10	ND	U*	10	ND	U	11
Fluoranthene	ug/l	ND	U	10	2	J	10	ND	U	11
Pyrene	ug/l	ND	U	10	6	J	10	ND	U	11
Butylbenzylphthalate	ug/l	ND	U	10	ND	U	10	ND	U	11
3,3'-Dichlorobenzidine	ug/l	ND	U	10	ND	U	10	ND	U	11
Benzo(a)anthracene	ug/l	ND	U	10	0.7	J	10	ND	U	11
Chrysene	ug/l	ND	U	10	1	J	10	ND	U	11
bis(2-Ethylhexyl)phthalate	ug/l	6	J	10	110		10	ND	U*	11
Di-n-octyl phthalate	ug/l	ND	U	10	ND	U	10	ND	U	11
Benzo(b)fluoranthene	ug/l	ND	U	10	0.7	J	10	ND	U	11
Benzo(k)fluoranthene	ug/l	ND	U	10	0.8	J	10	ND	U	11
Benzo(a)pyrene	ug/l	ND	U	10	1	J	10	ND	U	11
Indeno(1,2,3-cd)pyrene	ug/l	ND	U	10	0.7	J	10	ND	U	11
Dibenz(a,h)anthracene	ug/l	ND	U	10	ND	U	10	ND	U	[illegible]
Benzo(g,h,i)perylene	ug/l	ND	U	10	0 8	J	10	ND	U	[illegible]

NOTE: '*' indicates a value which was changed to 'ND' following data validation.

TABLE L4.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-MW-3S			FF-MW-4S			FF-MW-5S		
Sample Designation=		9401L166-001			9401L166-002			9401L191-002		
Sample Collection Date=		04 JAN 94			04 JAN 94			06 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Phenol	ug/l	ND	U	11	ND	U	10	ND	U	10
bis(2-Chloroethyl)ether	ug/l	ND	U	11	ND	U	10	ND	U	10
2-Chlorophenol	ug/l	ND	U	11	ND	U	10	ND	U	10
1,3-Dichlorobenzene	ug/l	ND	U	11	ND	U	10	ND	U	10
1,4-Dichlorobenzene	ug/l	ND	U	11	ND	U	10	ND	U	10
1,2-Dichlorobenzene	ug/l	ND	U	11	ND	U	10	ND	U	10
2-Methylphenol	ug/l	ND	U	11	ND	U	10	ND	U	10
2,2'-oxybis(1-Chloropropane)	ug/l	ND	U	11	ND	U	10	ND	U	10
4-Methylphenol	ug/l	ND	U	11	ND	U	10	ND	U	10
N-Nitroso-di-n-propylamine	ug/l	ND	U	11	ND	U	10	ND	U	10
Hexachloroethane	ug/l	ND	U	11	ND	U	10	ND	U	10
Nitrobenzene	ug/l	ND	U	11	ND	U	10	ND	U	10
Isophorone	ug/l	ND	U	11	ND	U	10	ND	U	10
2-Nitrophenol	ug/l	ND	U	11	ND	U	10	ND	U	10
2,4-Dimethylphenol	ug/l	ND	U	11	ND	U	10	ND	U	10
bis(2-Chloroethoxy)methane	ug/l	ND	U	11	ND	U	10	ND	U	10
2,4-Dichlorophenol	ug/l	ND	U	11	ND	U	10	ND	U	10
1,2,4-Trichlorobenzene	ug/l	ND	U	11	ND	U	10	ND	U	10
Naphthalene	ug/l	ND	U	11	ND	U	10	ND	U	10
4-Chloroaniline	ug/l	ND	U	11	ND	U	10	ND	U	10
Hexachlorobutadiene	ug/l	ND	U	11	ND	U	10	ND	U	10
4-Chloro-3-methylphenol	ug/l	ND	U	11	ND	U	10	ND	U	10
2-Methylnaphthalene	ug/l	ND	U	11	ND	U	10	ND	U	10
Hexachlorocyclopentadiene	ug/l	ND	U	11	ND	U	10	ND	U	10
2,4,6-Trichlorophenol	ug/l	ND	U	11	ND	U	10	ND	U	10
2,4,5-Trichlorophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
2-Chloronaphthalene	ug/l	ND	U	11	ND	U	10	ND	U	10
2-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
Dimethylphthalate	ug/l	ND	U	11	ND	U	10	ND	U	10
Acenaphthylene	ug/l	ND	U	11	ND	U	10	ND	U	10
2,6-Dinitrotoluene	ug/l	ND	U	11	ND	U	10	ND	U	10
3-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
Acenaphthene	ug/l	1	J	10	ND	U	10	ND	U	10
2,4-Dinitrophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
4-Nitrophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
Dibenzofuran	ug/l	ND	U	11	ND	U	10	ND	U	10
2,4-Dinitrotoluene	ug/l	ND	U	11	ND	U	10	ND	U	10
Diethylphthalate	ug/l	ND	U	11	ND	U	10	ND	U	10
4-Chlorophenyl-phenylether	ug/l	ND	U	11	ND	U	10	ND	U	10
Fluorene	ug/l	ND	U	11	ND	U	10	ND	U	10
4-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
4,6-Dinitro-2-methylphenol	ug/l	ND	U	26	ND	U	26	ND	U	26
N-Nitrosodiphenylamine (1)	ug/l	ND	U	11	ND	U	10	ND	U	10
4-Bromophenyl-phenylether	ug/l	ND	U	11	ND	U	10	ND	U	10
Hexachlorobenzene	ug/l	ND	U	11	ND	U	10	ND	U	10
Pentachlorophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
Phenanthrene	ug/l	ND	U	11	ND	U	10	ND	U	10
Anthracene	ug/l	ND	U	11	ND	U	10	ND	U	10
Carbazole	ug/l	ND	U	11	ND	U	10	ND	U	10
Di-n-butylphthalate	ug/l	ND	U*	11	ND	U*	10	ND	U	10
Fluoranthene	ug/l	ND	U	11	ND	U	10	ND	U	10
Pyrene	ug/l	ND	U	11	ND	U	10	ND	U	10
Butylbenzylphthalate	ug/l	ND	U	11	ND	U	10	ND	U	10
3,3'-Dichlorobenzidine	ug/l	ND	U	11	ND	U	10	ND	U	10
Benzo(a)anthracene	ug/l	ND	U	11	ND	U	10	ND	U	10
Chrysene	ug/l	ND	U	11	ND	U	10	ND	U	10
bis(2-Ethylhexyl)phthalate	ug/l	ND	U*	11	ND	U*	10	ND	U	10
Di-n-octyl phthalate	ug/l	ND	U	11	ND	U	10	ND	U	10
Benzo(b)fluoranthene	ug/l	ND	U	11	ND	U	10	ND	U	10
Benzo(k)fluoranthene	ug/l	ND	U	11	ND	U	10	ND	U	10
Benzo(a)pyrene	ug/l	ND	U	11	ND	U	10	ND	U	10
Indeno(1,2,3-cd)pyrene	ug/l	ND	U	11	ND	U	10	ND	U	10
Dibenz(a,h)anthracene	ug/l	ND	U	11	ND	U	10	ND	U	10
Benzo(g,h,i)perylene	ug/l	ND	U	11	ND	U	10	ND	U	10

NOTE. '*' indicates a value which was changed to 'ND' following data validation.

TABLE L4.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-MW-6S			FF-MW-6R			FF-MW-7S		
Sample Designation=		9401L191-			9401L191-010			9401L166-004		
Sample Collection Date=		06 JAN 94			06 JAN 94			04 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Phenol	ug/l	ND	U	10	ND	U	10	ND	U	10
bis(2-Chloroethyl)ether	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Chlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	10
1,3-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
1,4-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
2,2'-oxybis(1-Chloropropane)	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
N-Nitroso-di-n-propylamine	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Nitrobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Isophorone	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Nitrophenol	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4-Dimethylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
bis(2-Chloroethoxy)methane	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4-Dichlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2,4-Trichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Naphthalene	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Chloroaniline	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachlorobutadiene	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Chloro-3-methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Methylnaphthalene	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachlorocyclopentadiene	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4,6-Trichlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	1[illegible]
2,4,5-Trichlorophenol	ug/l	ND	U	26	ND	U	26	ND	U	[illegible]
2-Chloronaphthalene	ug/l	ND	U	10	ND	U	10	ND	U	1[illegible]
2-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
Dimethylphthalate	ug/l	ND	U	10	ND	U	10	ND	U	10
Acenaphthylene	ug/l	ND	U	10	ND	U	10	ND	U	10
2,6-Dinitrotoluene	ug/l	ND	U	10	ND	U	10	ND	U	10
3-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
Acenaphthene	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4-Dinitrophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
4-Nitrophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
Dibenzofuran	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4-Dinitrotoluene	ug/l	ND	U	10	ND	U	10	ND	U	10
Diethylphthalate	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Chlorophenyl-phenylether	ug/l	ND	U	10	ND	U	10	ND	U	10
Fluorene	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
4,6-Dinitro-2-methylphenol	ug/l	ND	U	26	ND	U	26	ND	U	26
N-Nitrosodiphenylamine (1)	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Bromophenyl-phenylether	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Pentachlorophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
Phenanthrene	ug/l	ND	U	10	ND	U	10	ND	U	10
Anthracene	ug/l	ND	U	10	ND	U	10	ND	U	10
Carbazole	ug/l	ND	U	10	ND	U	10	ND	U	10
Di-n-butylphthalate	ug/l	ND	U	10	ND	U	10	ND	U*	10
Fluoranthene	ug/l	ND	U	10	ND	U	10	ND	U	10
Pyrene	ug/l	ND	U	10	ND	U	10	ND	U	10
Butylbenzylphthalate	ug/l	ND	U	10	ND	U	10	ND	U	10
3,3'-Dichlorobenzidine	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzo(a)anthracene	ug/l	ND	U	10	ND	U	10	ND	U	10
Chrysene	ug/l	ND	U	10	ND	U	10	ND	U	10
bis(2-Ethylhexyl)phthalate	ug/l	ND	U	10	ND	U	10	ND	U*	10
Di-n-octyl phthalate	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzo(b)fluoranthene	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzo(k)fluoranthene	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzo(a)pyrene	ug/l	ND	U	10	ND	U	10	ND	U	10
Indeno(1,2,3-cd)pyrene	ug/l	ND	U	10	ND	U	10	ND	U	10
Dibenz(a,h)anthracene	ug/l	ND	U	10	ND	U	10	ND	U	1[illegible]
Benzo(g,h,i)perylene	ug/l	ND	U	10	ND	U	10	ND	U	[illegible]

NOTE: '*' indicates a value which was changed to 'ND' following data validation.

TABLE L4.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-MW-8R			FF-MW-9R			FF-MW-10S		
Sample Designation=		9401L191-004			9401L191-005			9401L191-006		
Sample Collection Date=		06 JAN 94			06 JAN 94			06 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Phenol	ug/l	ND	U	10	ND	U	10	ND	U	10
bis(2-Chloroethyl)ether	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Chlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	10
1,3-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
1,4-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
2,2'-oxybis(1-Chloropropane)	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
N-Nitroso-di-n-propylamine	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Nitrobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Isophorone	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Nitrophenol	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4-Dimethylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
bis(2-Chloroethoxy)methane	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4-Dichlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2,4-Trichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Naphthalene	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Chloroaniline	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachlorobutadiene	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Chloro-3-methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Methylnaphthalene	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachlorocyclopentadiene	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4,6-Trichlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4,5-Trichlorophenol	ug/l	ND	U	25	ND	U	26	ND	U	26
2-Chloronaphthalene	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Nitroaniline	ug/l	ND	U	25	ND	U	26	ND	U	26
Dimethylphthalate	ug/l	ND	U	10	ND	U	10	ND	U	10
Acenaphthylene	ug/l	ND	U	10	ND	U	10	ND	U	10
2,6-Dinitrotoluene	ug/l	ND	U	10	ND	U	10	ND	U	10
3-Nitroaniline	ug/l	ND	U	25	ND	U	26	ND	U	26
Acenaphthene	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4-Dinitrophenol	ug/l	ND	U	25	ND	U	26	ND	U	26
4-Nitrophenol	ug/l	ND	U	25	ND	U	26	ND	U	26
Dibenzofuran	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4-Dinitrotoluene	ug/l	ND	U	10	ND	U	10	ND	U	10
Diethylphthalate	ug/l	ND	U	10	ND	U	10	0.6	J	10
4-Chlorophenyl-phenylether	ug/l	ND	U	10	ND	U	10	ND	U	10
Fluorene	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Nitroaniline	ug/l	ND	U	25	ND	U	26	ND	U	26
4,6-Dinitro-2-methylphenol	ug/l	ND	U	25	ND	U	26	ND	U	26
N-Nitrosodiphenylamine (1)	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Bromophenyl-phenylether	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Pentachlorophenol	ug/l	ND	U	25	ND	U	26	ND	U	26
Phenanthrene	ug/l	ND	U	10	ND	U	10	ND	U	10
Anthracene	ug/l	ND	U	10	ND	U	10	ND	U	10
Carbazole	ug/l	ND	U	10	ND	U	10	ND	U	10
Di-n-butylphthalate	ug/l	1	J	10	1	J	10	0.9	J	10
Fluoranthene	ug/l	ND	U	10	ND	U	10	1	J	10
Pyrene	ug/l	ND	U	10	ND	U	10	1	J	10
Butylbenzylphthalate	ug/l	ND	U	10	ND	U	10	ND	U	10
3,3'-Dichlorobenzidine	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzo(a)anthracene	ug/l	ND	U	10	ND	U	10	ND	U	10
Chrysene	ug/l	ND	U	10	ND	U	10	ND	U	10
bis(2-Ethylhexyl)phthalate	ug/l	1	J	10	0.5	J	10	2	J	10
Di-n-octyl phthalate	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzo(b)fluoranthene	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzo(k)fluoranthene	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzo(a)pyrene	ug/l	ND	U	10	ND	U	10	ND	U	10
Indeno(1,2,3-cd)pyrene	ug/l	ND	U	10	ND	U	10	ND	U	10
Dibenz(a,h)anthracene	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzo(g,h,i)perylene	ug/l	ND	U	10	ND	U	10	ND	U	10

NOTE: '*' indicates a value which was changed to 'ND' following data validation.

TABLE L4.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-MW-11S			FF-MW-12S (Dup of MW-11S)			FF-MW-11R		
Sample Designation=		9401L176-001			9401L176-003			9401L176-002		
Sample Collection Date=		05 JAN 94			05 JAN 94			05 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Phenol	ug/l	ND	U	10	ND	U	10	ND	U	10
bis(2-Chloroethyl)ether	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Chlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	10
1,3-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
1,4-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2-Dichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
2,2'-oxybis(1-Chloropropane)	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
N-Nitroso-di-n-propylamine	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Nitrobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Isophorone	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Nitrophenol	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4-Dimethylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
bis(2-Chloroethoxy)methane	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4-Dichlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2,4-Trichlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Naphthalene	ug/l	ND	U	10	ND	U	10	0.6	J	10
4-Chloroaniline	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachlorobutadiene	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Chloro-3-methylphenol	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Methylnaphthalene	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachlorocyclopentadiene	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4,6-Trichlorophenol	ug/l	ND	U	10	ND	U	10	ND	U	1[illegible]
2,4,5-Trichlorophenol	ug/l	ND	U	26	ND	U	26	ND	U	2[illegible]
2-Chloronaphthalene	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
Dimethylphthalate	ug/l	ND	U	10	ND	U	10	ND	U	10
Acenaphthylene	ug/l	ND	U	10	ND	U	10	ND	U	10
2,6-Dinitrotoluene	ug/l	ND	U	10	ND	U	10	ND	U	10
3-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
Acenaphthene	ug/l	5	J	10	8	J	10	ND	U	10
2,4-Dinitrophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
4-Nitrophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
Dibenzofuran	ug/l	ND	U	10	ND	U	10	ND	U	10
2,4-Dinitrotoluene	ug/l	ND	U	10	ND	U	10	ND	U	10
Diethylphthalate	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Chlorophenyl-phenylether	ug/l	ND	U	10	ND	U	10	ND	U	10
Fluorene	ug/l	1	J	10	ND	U	10	ND	U	10
4-Nitroaniline	ug/l	ND	U	26	ND	U	26	ND	U	26
4,6-Dinitro-2-methylphenol	ug/l	ND	U	26	ND	U	26	ND	U	26
N-Nitrosodiphenylamine (1)	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Bromophenyl-phenylether	ug/l	ND	U	10	ND	U	10	ND	U	10
Hexachlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Pentachlorophenol	ug/l	ND	U	26	ND	U	26	ND	U	26
Phenanthrene	ug/l	6	J	10	8	J	10	0.8	J	10
Anthracene	ug/l	2	J	10	3	J	10	ND	U	10
Carbazole	ug/l	ND	U	10	ND	U	10	ND	U	10
Di-n-butylphthalate	ug/l	ND	U*	10	ND	U	10	ND	U	10
Fluoranthene	ug/l	2	J	10	2	J	10	ND	U	10
Pyrene	ug/l	2	J	10	3	J	10	ND	U	10
Butylbenzylphthalate	ug/l	ND	U	10	ND	U	10	ND	U	10
3,3'-Dichlorobenzidine	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzo(a)anthracene	ug/l	0.7	J	10	0.8	J	10	ND	U	10
Chrysene	ug/l	0.7	J	10	0.9	J	10	ND	U	10
bis(2-Ethylhexyl)phthalate	ug/l	ND	U*	10	ND	U*	10	ND	U*	10
Di-n-octyl phthalate	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzo(b)fluoranthene	ug/l	ND	U	10	0.5	J	10	ND	U	10
Benzo(k)fluoranthene	ug/l	ND	U	10	0.6	J	10	ND	U	10
Benzo(a)pyrene	ug/l	ND	U	10	0.7	J	10	ND	U	10
Indeno(1,2,3-cd)pyrene	ug/l	ND	U	10	ND	U	10	ND	U	10
Dibenz(a,h)anthracene	ug/l	ND	U	10	ND	U	10	ND	U	1[illegible]
Benzo(g,h,i)perylene	ug/l	ND	U	10	ND	U	10	ND	U	1[illegible]

NOTE: '*' indicates a value which was changed to 'ND' following data validation.

TABLE L4.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=	FF-FB-010594
Sample Designation=	9401L176-004
Sample Collection Date=	05 JAN 94

Compound	Units	Sample Value	Qual	Reporting Limit
Phenol	ug/l	ND	U	10
bis(2-Chloroethyl)ether	ug/l	ND	U	10
2-Chlorophenol	ug/l	ND	U	10
1,3-Dichlorobenzene	ug/l	ND	U	10
1,4-Dichlorobenzene	ug/l	ND	U	10
1,2-Dichlorobenzene	ug/l	ND	U	10
2-Methylphenol	ug/l	ND	U	10
2,2'-oxybis(1-Chloropropane)	ug/l	ND	U	10
4-Methylphenol	ug/l	ND	U	10
N-Nitroso-di-n-propylamine	ug/l	ND	U	10
Hexachloroethane	ug/l	ND	U	10
Nitrobenzene	ug/l	ND	U	10
Isophorone	ug/l	ND	U	10
2-Nitrophenol	ug/l	ND	U	10
2,4-Dimethylphenol	ug/l	ND	U	10
bis(2-Chloroethoxy)methane	ug/l	ND	U	10
2,4-Dichlorophenol	ug/l	ND	U	10
1,2,4-Trichlorobenzene	ug/l	ND	U	10
Naphthalene	ug/l	ND	U	10
4-Chloroaniline	ug/l	ND	U	10
Hexachlorobutadiene	ug/l	ND	U	10
4-Chloro-3-methylphenol	ug/l	ND	U	10
2-Methylnaphthalene	ug/l	ND	U	10
Hexachlorocyclopentadiene	ug/l	ND	U	10
2,4,6-Trichlorophenol	ug/l	ND	U	10
2,4,5-Trichlorophenol	ug/l	ND	U	10
2-Chloronaphthalene	ug/l	ND	U	26
Nitroaniline	ug/l	ND	U	10
methylphthalate	ug/l	ND	U	26
Acenaphthylene	ug/l	ND	U	10
2,6-Dinitrotoluene	ug/l	ND	U	10
3-Nitroaniline	ug/l	ND	U	10
Acenaphthene	ug/l	ND	U	26
2,4-Dinitrophenol	ug/l	ND	U	10
4-Nitrophenol	ug/l	ND	U	26
Dibenzofuran	ug/l	ND	U	26
2,4-Dinitrotoluene	ug/l	ND	U	10
Diethylphthalate	ug/l	ND	U	10
4-Chlorophenyl-phenylether	ug/l	ND	U	10
Fluorene	ug/l	ND	U	10
4-Nitroaniline	ug/l	ND	U	10
4,6-Dinitro-2-methylphenol	ug/l	ND	U	26
N-Nitrosodiphenylamine (1)	ug/l	ND	U	26
4-Bromophenyl-phenylether	ug/l	ND	U	10
Hexachlorobenzene	ug/l	ND	U	10
Pentachlorophenol	ug/l	ND	U	10
Phenanthrene	ug/l	ND	U	26
Anthracene	ug/l	ND	U	10
Carbazole	ug/l	ND	U	10
Di-n-butylphthalate	ug/l	ND	U	10
Fluoranthene	ug/l	ND	U	10
Pyrene	ug/l	ND	U	10
Butylbenzylphthalate	ug/l	ND	U	10
3,3'-Dichlorobenzidine	ug/l	ND	U	10
Benzo(a)anthracene	ug/l	ND	U	10
Chrysene	ug/l	ND	U	10
bis(2-Ethylhexyl)phthalate	ug/l	ND	U	10
Di-n-octyl phthalate	ug/l	ND	U*	10
Benzo(b)fluoranthene	ug/l	ND	U	10
Benzo(k)fluoranthene	ug/l	ND	U	10
Benzo(a)pyrene	ug/l	ND	U	10
Indeno(1,2,3-cd)pyrene	ug/l	ND	U	10
Dibenz(a,h)anthracene	ug/l	ND	U	10
Benzo(g,h,i)perylene	ug/l	ND	U	10

NOTE: * indicates a value which was changed to 'ND' following data validation.

TABLE L4.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-MW-1S			FF-MW-2S			FF-MW-2D			FF-MW-3S		
Sample Designation=		9401L191-001			9401L175-001			9401L177-002			9401L166-001		
Sample Collection Date=		06 JAN 94			05 JAN 94			05 JAN 94			04 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/l	ND	R	0.050	ND	UJ	0 058	ND	UJ	0.050	ND	UJ	0.050
beta-BHC	ug/l	ND	R	0 050	ND	UJ	0 058	ND	UJ	0.050	ND	UJ	0.050
delta-BHC	ug/l	ND	R	0.050	ND	UJ	0 058	ND	UJ	0.050	ND	UJ	0.050
gamma-BHC (Lindane)	ug/l	ND	R	0.050	ND	UJ	0 058	ND	UJ	0.050	ND	UJ	0.050
Heptachlor	ug/l	ND	R	0 050	ND	UJ	0.058	ND	UJ	0.050	ND	UJ	0.050
Aldrin	ug/l	ND	R	0 050	ND	UJ	0.058	ND	UJ	0 050	ND	UJ	0 050
Heptachlor epoxide	ug/l	ND	R	0 050	ND	UJ	0 058	ND	UJ	0.050	ND	UJ	0.050
Endosulfan I	ug/l	ND	R	0.050	ND	UJ	0.058	ND	UJ	0.050	ND	UJ	0.050
Dieldrin	ug/l	ND	R	0.10	ND	UJ	0.12	ND	UJ	0.10	ND	UJ	0.10
4,4'-DDE	ug/l	ND	R	0.10	ND	UJ	0.12	ND	UJ	0.10	ND	UJ	0.10
Endrin	ug/l	ND	R	0.10	ND	UJ	0.12	ND	UJ	0.10	ND	UJ	0.10
Endosulfan II	ug/l	ND	R	0.10	ND	UJ	0.12	ND	UJ	0.10	ND	UJ	0.10
4,4'-DDD	ug/l	ND	R	0.10	ND	UJ	0.12	ND	UJ	0.10	ND	UJ	0.10
Endosulfan sulfate	ug/l	ND	R	0 10	ND	UJ	0.12	ND	UJ	0.10	ND	UJ	0.10
4,4'-DDT	ug/l	ND	R	0.10	ND	UJ	0.12	ND	UJ	0.10	ND	UJ	0.10
Methoxychlor	ug/l	ND	R	0.50	ND	UJ	0.58	ND	UJ	0 50	ND	UJ	0.50
Endrin ketone	ug/l	ND	R	0.10	ND	UJ	0 12	ND	UJ	0.10	ND	UJ	0.10
Endrin aldehyde	ug/l	ND	R	0.10	ND	UJ	0.12	ND	UJ	0.10	ND	UJ	0.10
alpha-Chlordane	ug/l	ND	R	0 050	ND	UJ	0 058	ND	UJ	0.050	ND	UJ	0.050
gamma-Chlordane	ug/l	ND	R	0 050	ND	UJ	0.058	ND	UJ	0.050	ND	UJ	0.050
Toxaphene	ug/l	ND	R	5 0	ND	UJ	5.8	ND	UJ	5.0	ND	UJ	5.0
Aroclor 1016	ug/l	ND	R	1.0	ND	UJ	1.2	ND	UJ	1.0	ND	UJ	1.0
Aroclor 1221	ug/l	ND	R	2.0	ND	UJ	2.3	ND	UJ	2.0	ND	UJ	2.0
Aroclor 1232	ug/l	ND	R	1.0	ND	UJ	1.2	ND	UJ	1.0	ND	UJ	1.0
Aroclor 1242	ug/l	ND	R	1.0	ND	UJ	1.2	ND	UJ	1.0	ND	UJ	1.0
Aroclor 1248	ug/l	ND	R	1.0	ND	UJ	1.2	ND	UJ	1.0	ND	UJ	1.0
Aroclor 1254	ug/l	ND	R	1.0	ND	UJ	1.2	ND	UJ	1.0	ND	UJ	1.0
Aroclor 1260	ug/l	ND	R	1.0	ND	UJ	1.2	ND	UJ	1.0	ND	UJ	1.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L4.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-MW-4S			FF-MW-5S			FF-MW-6S			FF-MW-6R		
Sample Designation=		9401L166-002			9401L191-002			9401L191-003			9401L191-010		
Sample Collection Date=		04 JAN 94			06 JAN 94			06 JAN 94			06 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/l	ND	UJ	0.054	ND	UJ	0.050	ND	UJ	0.056	ND	R	0.050
beta-BHC	ug/l	ND	UJ	0.054	ND	UJ	0.050	ND	UJ	0.056	ND	R	0.050
delta-BHC	ug/l	ND	UJ	0 054	ND	UJ	0.050	ND	UJ	0.056	ND	R	0.050
gamma-BHC (Lindane)	ug/l	ND	UJ	0 054	ND	UJ	0 050	ND	UJ	0.056	ND	R	0.050
Heptachlor	ug/l	ND	UJ	0.054	ND	UJ	0.050	ND	UJ	0.056	ND	R	0 050
Aldrin	ug/l	ND	UJ	0.054	ND	UJ	0 050	ND	UJ	0.056	ND	R	0 050
Heptachlor epoxide	ug/l	ND	UJ	0.054	ND	UJ	0 050	ND	UJ	0.056	ND	R	0.050
Endosulfan I	ug/l	ND	UJ	0.054	ND	UJ	0.050	ND	UJ	0.056	ND	R	0 050
Dieldrin	ug/l	ND	UJ	0.11	ND	UJ	0.10	ND	UJ	0.11	ND	R	0.10
4,4'-DDE	ug/l	ND	UJ	0 11	ND	UJ	0.10	ND	UJ	0.11	ND	R	0.10
Endrin	ug/l	ND	UJ	0.11	ND	UJ	0 10	ND	UJ	0.11	ND	R	0.10
Endosulfan II	ug/l	ND	UJ	0.11	ND	UJ	0.10	ND	UJ	0.11	ND	R	0.10
4,4'-DDD	ug/l	ND	UJ	0.11	ND	UJ	0.10	ND	UJ	0.11	ND	R	0.10
Endosulfan sulfate	ug/l	ND	UJ	0.11	ND	UJ	0.10	ND	UJ	0.11	ND	R	0.10
4,4'-DDT	ug/l	ND	UJ	0 11	ND	UJ	0.10	ND	UJ	0.11	ND	R	0.10
Methoxychlor	ug/l	ND	UJ	0.54	ND	UJ	0.50	ND	UJ	0.56	ND	R	0.50
Endrin ketone	ug/l	ND	UJ	0.11	ND	UJ	0.10	ND	UJ	0.11	ND	R	0.10
Endrin aldehyde	ug/l	ND	UJ	0.11	ND	UJ	0.10	ND	UJ	0.11	ND	R	0.10
alpha-Chlordane	ug/l	ND	UJ	0.054	ND	UJ	0.050	ND	UJ	0.056	ND	R	0.050
gamma-Chlordane	ug/l	ND	UJ	0.054	ND	UJ	0.050	ND	UJ	0.056	ND	R	0.050
Toxaphene	ug/l	ND	UJ	5.4	ND	UJ	5 0	ND	UJ	5.6	ND	R	5.0
Aroclor 1016	ug/l	ND	UJ	1.1	ND	UJ	1.0	ND	UJ	1.1	ND	R	1.0
Aroclor 1221	ug/l	ND	UJ	2 2	ND	UJ	2.0	ND	UJ	2.2	ND	R	2.0
Aroclor 1232	ug/l	ND	UJ	1.1	ND	UJ	1.0	ND	UJ	1.1	ND	R	1.0
Aroclor 1242	ug/l	ND	UJ	1.1	ND	UJ	1.0	ND	UJ	1.1	ND	R	1.0
Aroclor 1248	ug/l	ND	UJ	1.1	ND	UJ	1.0	ND	UJ	1.1	ND	R	1.0
Aroclor 1254	ug/l	ND	UJ	1.1	ND	UJ	1.0	ND	UJ	1.1	ND	R	1.0
Aroclor 1260	ug/l	ND	UJ	1.1	ND	UJ	1.0	ND	UJ	1.1	ND	R	1.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L4.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-MW-7S			FF-MW-8R			FF-MW-9R			FF-MW-10S		
Sample Designation=		9401L166-004			9401L191-004			9401L191-005			9401L191-006		
Sample Collection Date=		04 JAN 94			06 JAN 94			06 JAN 94			06 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/l	ND	UJ	0 050	ND	UJ	0 050	ND	R	0.050	ND	UJ	0.050
beta-BHC	ug/l	ND	UJ	0.050	ND	UJ	0 050	ND	R	0.050	ND	UJ	0.050
delta-BHC	ug/l	ND	UJ	0.050	ND	UJ	0.050	ND	R	0 050	ND	UJ	0.050
gamma-BHC (Lindane)	ug/l	ND	UJ	0.050	ND	UJ	0 050	ND	R	0 050	ND	UJ	0.050
Heptachlor	ug/l	ND	UJ	0 050	ND	UJ	0.050	ND	R	0.050	ND	UJ	0 050
Aldrin	ug/l	ND	UJ	0 050	ND	UJ	0.050	ND	R	0.050	ND	UJ	0 050
Heptachlor epoxide	ug/l	ND	UJ	0.050	ND	UJ	0.050	ND	R	0.050	ND	UJ	0.050
Endosulfan I	ug/l	ND	UJ	0 050	ND	UJ	0 050	ND	R	0.050	ND	UJ	0.050
Dieldrin	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	R	0.10	ND	UJ	0.10
4,4'-DDE	ug/l	ND	UJ	0 10	ND	UJ	0 10	ND	R	0.10	ND	UJ	0.10
Endrin	ug/l	ND	UJ	0.10	0.05	J	0.10	ND	R	0.10	ND	UJ	0 10
Endosulfan II	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	R	0.10	ND	UJ	0 10
4,4'-DDD	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	R	0.10	ND	UJ	0.10
Endosulfan sulfate	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	R	0.10	ND	UJ	0.10
4,4'-DDT	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	R	0.10	ND	UJ	0.10
Methoxychlor	ug/l	ND	UJ	0.50	ND	UJ	0.50	ND	R	0.50	ND	UJ	0 50
Endrin ketone	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	R	0.10	ND	UJ	0.10
Endrin aldehyde	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	R	0.10	ND	UJ	0 10
alpha-Chlordane	ug/l	ND	UJ	0.050	ND	UJ	0.050	ND	R	0 050	ND	UJ	0.050
gamma-Chlordane	ug/l	ND	UJ	0.050	ND	UJ	0.050	ND	R	0.050	ND	UJ	0.050
Toxaphene	ug/l	ND	UJ	5 0	ND	UJ	5.0	ND	R	5 0	ND	UJ	5.0
Aroclor 1016	ug/l	ND	UJ	1.0	ND	UJ	1.0	ND	R	1 0	ND	UJ	1.0
Aroclor 1221	ug/l	ND	UJ	2.0	ND	UJ	2.0	ND	R	2.0	ND	UJ	2.0
Aroclor 1232	ug/l	ND	UJ	1 0	ND	UJ	1.0	ND	R	1.0	ND	UJ	1.0
Aroclor 1242	ug/l	ND	UJ	1.0	ND	UJ	1.0	ND	R	1.0	ND	UJ	1.0
Aroclor 1248	ug/l	ND	UJ	1.0	ND	UJ	1.0	ND	R	1.0	ND	UJ	1.0
Aroclor 1254	ug/l	ND	UJ	1.0	ND	UJ	1.0	ND	R	1.0	ND	UJ	1.0
Aroclor 1260	ug/l	ND	UJ	1.0	ND	UJ	1.0	ND	R	1.0	ND	UJ	1.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L4.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-MW-11S			FF-MW-12S (Dup of MW-11S)			FF-MW-11R			FF-FB-010594		
Sample Designation=		9401L176-001			9401L176-003			9401L176-002			9401L176-004		
Sample Collection Date=		05 JAN 94			05 JAN 94			05 JAN 94			05 JAN 94		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/l	ND	UJ	0.050	ND	UJ	0.050	ND	UJ	0 052	ND	U	0.052
beta-BHC	ug/l	ND	UJ	0.050	ND	UJ	0.050	ND	UJ	0.052	ND	U	0.052
delta-BHC	ug/l	ND	UJ	0.050	ND	UJ	0.050	ND	UJ	0.052	ND	U	0.052
gamma-BHC (Lindane)	ug/l	ND	UJ	0 050	ND	UJ	0.050	ND	UJ	0.052	ND	U	0 052
Heptachlor	ug/l	ND	UJ	0.050	ND	UJ	0 050	ND	UJ	0.052	ND	U	0.052
Aldrin	ug/l	ND	UJ	0.050	ND	UJ	0 050	ND	UJ	0.052	ND	U	0.052
Heptachlor epoxide	ug/l	ND	UJ	0.050	ND	UJ	0 050	ND	UJ	0 052	ND	U	0.052
Endosulfan I	ug/l	ND	UJ	0.050	ND	UJ	0 050	ND	UJ	0.052	ND	U	0.052
Dieldrin	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	UJ	0.10	ND	U	0.10
4,4'-DDE	ug/l	ND	UJ	0 10	ND	UJ	0.10	ND	UJ	0 10	ND	U	0 10
Endrin	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	UJ	0 10	ND	U	0.10
Endosulfan II	ug/l	ND	UJ	0 10	ND	UJ	0.10	ND	UJ	0.10	ND	U	0 10
4,4'-DDD	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	UJ	0.10	ND	U	0 10
Endosulfan sulfate	ug/l	ND	UJ	0.10	ND	UJ	0 10	ND	UJ	0.10	ND	U	0 10
4,4'-DDT	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	UJ	0 10	ND	U	0.10
Methoxychlor	ug/l	ND	UJ	0.50	ND	UJ	0 50	ND	UJ	0 52	ND	UJ	0.52
Endrin ketone	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	UJ	0 10	ND	U	0.10
Endrin aldehyde	ug/l	ND	UJ	0.10	ND	UJ	0.10	ND	UJ	0.10	ND	U	0.10
alpha-Chlordane	ug/l	ND	UJ	0.050	ND	UJ	0.050	ND	UJ	0.052	ND	U	0.052
gamma-Chlordane	ug/l	ND	UJ	0.050	ND	UJ	0.050	ND	UJ	0.052	ND	U	0.052
Toxaphene	ug/l	ND	UJ	5.0	ND	UJ	5.0	ND	UJ	5 2	ND	U	5.2
Aroclor 1016	ug/l	ND	UJ	1.0	ND	UJ	1.0	ND	UJ	1.0	ND	U	1.0
Aroclor 1221	ug/l	ND	UJ	2.0	ND	UJ	2 0	ND	UJ	2.1	ND	U	2.1
Aroclor 1232	ug/l	ND	UJ	1.0	ND	UJ	1.0	ND	UJ	1.0	ND	U	1.0
Aroclor 1242	ug/l	ND	UJ	1.0	ND	UJ	1.0	ND	UJ	1.0	ND	U	1.0
Aroclor 1248	ug/l	ND	UJ	1.0	ND	UJ	1.0	ND	UJ	1.0	ND	U	1.0
Aroclor 1254	ug/l	ND	UJ	1.0	ND	UJ	1.0	ND	UJ	1.0	ND	U	1.0
Aroclor 1260	ug/l	ND	UJ	1.0	ND	UJ	1.0	ND	UJ	1.0	ND	U	1.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation

TABLE L4.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-MW-1S			FF-MW-2S			FF-MW-2SF (filtered)			FF-MW-2D		
Sample Designation=		9401L191-001			9401L175-001			9401L175-002			9401L177-002		
Sample Collection Date=		06 JAN 94			05 JAN 94			05 JAN 94			05 JAN 94		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloride	ug/l	79.8		2.5	4740		125				1650		125
Cyanide, Total	ug/l	ND	U	10.0	ND	U	10.0				ND	U	10.0
Silver, Total	ug/l	ND	U	0.40	1.9	J	0.40	ND	UJ	0.4	ND	U	0.40
Aluminum, Total	ug/l	2820	J	15 0	248		15.0	ND	U	15	6210		15.0
Arsenic, Total	ug/l	3.5	B	2.0	ND	UJ	2.0	ND	UJ	2	5	B	2.0
Barium, Total	ug/l	62.8	B	3.0	194	B	3.0	188	B	3	60.8	B	3.0
Beryllium, Total	ug/l	1	B	1.0	ND	U	1.0	ND	U	1	1.2	B	1.0
Calcium, Total	ug/l	65400	J	18 0	131000	J	18.0	130000	J	18	124000		18.0
Cadmium, Total	ug/l	ND	UJ	0.40	13.2	J	0.80	0 6	J	0.4	0.8	J	0.40
Cobalt, Total	ug/l	52		2.0	ND	U	2.0	ND	U	2	14 6	B	2.0
Chromium, Total	ug/l	9.1	B	3.0	ND	U	3.0	ND	U	3	17.3		3.0
Copper, Total	ug/l	11.4	B	2 0	106		2.0	3.2	B	2	69.7		2.0
Iron, Total	ug/l	9670	J	6.0	4380	J	6 0	274	J	6	16400		6.0
Mercury, Total	ug/l	ND	U	0.10	0.2		0.10	ND	U	0.1	ND	U	0.10
Potassium, Total	ug/l	3980	B	666	130000		666	128000		666	57400		666
Magnesium, Total	ug/l	9590	J	47.0	298000	J	47.0	299000	J	47	88300		47.0
Manganese, Total	ug/l	2600	J	3.0	291	J	3.0	269	J	3	7230		3.0
Sodium, Total	ug/l	65500	J	27.0	2E+06		270	2E+06		270	740000		27.0
Nickel, Total	ug/l	ND	U*	69.80	23.9	B	9.0	ND	U	9	ND	U*	22.5
Lead, Total	ug/l	14.7	J	2.0	110		20.0	ND	U	2	135		20.0
Antimony, Total	ug/l	ND	U	27.0	37.5	B	27.0	55.1	B	27	ND	U	27.0
Selenium, Total	ug/l	ND	U	2.0	ND	UJ	20.0	ND	UJ	2	ND	UJ	2 0
Thallium, Total	ug/l	ND	R	20.0	ND	R	20.0	ND	R	20	ND	R	20.0
Vanadium, Total	ug/l	7.1	J	4.0	ND	U*	67.3	ND	U*	4	ND	U*	46.9
Zinc, Total	ug/l	106		3.0	1560	J	3.0	ND	U*	3	122	J	3.0

NOTE: '*' indicat s a valu which was changed to 'ND' following data validation.

TAB L4.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=	FF-MW-2DF (filtered)			FF-MW-3S			FF-MW-4S			FF-MW-4SF (filtered)		
Sample Designation=	9401L177-008			9401L166-001			9401L166-002			9401L166-002		
Sample Collection Date=	05 JAN 94			04 JAN 94			04 JAN 94			04 JAN 94		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloride	ug/l				1080		50.0	618		50 0			
Cyanide, Total	ug/l				ND	U	10.0	ND	U	10.0			
Silver, Total	ug/l	ND	U	0.4	0.7	J	0.40	0.9	J	0.40	ND	U	0.4
Aluminum, Total	ug/l	41	B	15	6010		15.0	28800		15.0	58	B	15
Arsenic, Total	ug/l	ND	U	2	9.6	J	2.0	27.8	J	2.0	3 8	J	2
Barium, Total	ug/l	44.9	B	3	67	B	3.0	53 2	B	3.0	15.1	B	3
Beryllium, Total	ug/l	ND	U	1	1.4	B	1.0	1.4	B	1.0	ND	U	1
Calcium, Total	ug/l	143000		18	85100	J	18.0	48900	J	18 0	45600	J	18
Cadmium, Total	ug/l	ND	UJ	0.4	2	J	0.40	0.9	J	0.40	ND	UJ	0.4
Cobalt, Total	ug/l	ND	U*	2	9.1	B	2 0	76.2		2.0	33 6	B	2
Chromium, Total	ug/l	ND	U	3	14.6		3.0	57.9		3 0	3.2	B	3
Copper, Total	ug/l	ND	U	2	50.5		2.0	48.4		2.0	3 8	B	2
Iron, Total	ug/l	ND	U*	6	28800	J	6.0	74600	J	6.0	2530	J	6
Mercury, Total	ug/l	ND	U	0.1	0.12	B	0.10	ND	U	0.10	ND	U	0.1
Potassium, Total	ug/l	69700		666	27800		666	14400		666	13700		666
Magnesium, Total	ug/l	111000		47	67800	J	47.0	54200	J	47.0	42700	J	47
Manganese, Total	ug/l	8170		3	1380	J	3.0	28000	J	3.0	25700	J	3
Sodium, Total	ug/l	910000		27	517000		27.0	236000		27.0	230000		27
Nickel, Total	ug/l	ND	U	9	21.5	B	9.0	54.9		9.0	17.9	B	9
L ad, Total	ug/l	ND	U	2	97		20 0	32		20.0	ND	UJ	2
Antimony, Total	ug/l	ND	U	27	ND	U	27.0	ND	U	27.0	ND	U	27
Selenium, Total	ug/l	ND	UJ	2	ND	UJ	2.0	ND	UJ	2.0	ND	UJ	2
Thallium, Total	ug/l	ND	R	20	ND	R	20.0	ND	R	20.0	ND	R	20
Vanadium, Total	ug/l	ND	U*	4	ND	U*	29.5	ND	U*	39.6	ND	U*	4
Zinc, Total	ug/l	ND	UJ*	3	346	J	3.0	156	J	3.0	ND	U*	3

NOTE: "*" indicates a value which was changed to 'ND' following data validation.

TABLE L4.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=	FF-MW-5S			FF-MW-6S			FF-MW-6R			FF-MW-7S		
Sample Designation=	9401L191-002			9401L191-003			9401L191-010			9401L166-004		
Sample Collection Date=	06 JAN 94			06 JAN 94			06 JAN 94			04 JAN 94		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloride	ug/l	63		2.5	481		25.0	82.8		2.5	122		12.5
Cyanide, Total	ug/l	ND	U	10.0	ND	U	10.0	ND	U	10.0	ND	U	10.0
Silver, Total	ug/l	ND	U	0.40	0.4	B	0.40	0.6	B	0.40	ND	U	0.40
Aluminum, Total	ug/l	28300	J	15.0	21100	J	15.0	82500	J	15.0	37800		15.0
Arsenic, Total	ug/l	7.3	J	2.0	3.3	B	2.0	16.5		2.0	ND	UJ	2.0
Barium, Total	ug/l	86.2	B	3.0	91.8	B	3.0	144	B	3.0	32.6	B	3.0
Beryllium, Total	ug/l	1.4	B	1.0	ND	U	1.0	2.6	B	1.0	4.3	B	1.0
Calcium, Total	ug/l	84300	J	18.0	49300	J	18.0	13400	J	18.0	183000	J	18.0
Cadmium, Total	ug/l	0.5	J	0.40	0.4	J	0.40	0.7	J	0.40	6.4	J	0.40
Cobalt, Total	ug/l	46.2	B	2.0	24.3	B	2.0	111		2.0	237		2.0
Chromium, Total	ug/l	51.3		3.0	27.6		3.0	113		3.0	4.5	B	3.0
Copper, Total	ug/l	57.2		2.0	24.9	B	2.0	120		2.0	74.7		2.0
Iron, Total	ug/l	81400	J	6.0	52200	J	6.0	206000	J	6.0	70800	J	6.0
Mercury, Total	ug/l	ND	U	0.10	ND	U	0.10	ND	U	0.10	ND	U	0.10
Potassium, Total	ug/l	7710		666	14800		666	8290		666	15200		666
Magnesium, Total	ug/l	32300	J	47.0	22000	J	47.0	28400	J	47.0	47100	J	47.0
Manganese, Total	ug/l	4420	J	3.0	1460	J	3.0	2950	J	3.0	11700	J	3.0
Sodium, Total	ug/l	49400	J	27.0	175000	J	27.0	49000	J	27.0	129000		27.0
Nickel, Total	ug/l	95		9.0	ND	U*	49.90	170		9.0	181		9.0
Lead, Total	ug/l	30.6	J	2.0	13.9	J	2.0	59	J	20.0	57.7		2.0
Antimony, Total	ug/l	27	ND	27.0	27	ND	27.0	ND	U	27.0	ND	U	27.0
Selenium, Total	ug/l	2	UJ	2.0	2	UJ	2.0	ND	UJ	2.0	ND	UJ	20.0
Thallium, Total	ug/l	20	R	20.0	ND	R	20.0	ND	R	20.0	ND	R	20.0
Vanadium, Total	ug/l	32.5	J	4.0	32.9	B	4.0	46.6	J	4.0	ND	U*	19.3
Zinc, Total	ug/l	329		3.0	254		3.0	380		3.0	5610	J	3.0

NOTE: "*" indicates a value which was changed to 'ND' following data validation.

TA[illegible]E L4.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=	FF-MW-7SF (filtered)			FF-MW-8R			FF-MW-8RF (filtered)			FF-MW-9R		
Sample Designation=	9401L166-005			9401L191-004			9401L191-009			9401L191-005		
Sample Collection Date=	04 JAN 94			06 JAN 94			06 JAN 94			06 JAN 94		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloride	ug/l				143		6 2				134		6 2
Cyanide, Total	ug/l				ND	U	10 0				ND	U	10.0
Silver, Total	ug/l	ND	UJ	0.4	0.4	B	0.40	ND	U	0.4	1.2		0.40
Aluminum, Total	ug/l	4470		15	3110	J	15.0	25.7	J	15	193000	J	15.0
Arsenic, Total	ug/l	ND	UJ	2	3.1	B	2.0	ND	U	2	130		10.0
Barium, Total	ug/l	890		3	35.5	B	3.0	19 9	B	3	400		3.0
Beryllium, Total	ug/l	21.3		1	ND	U	1.0	ND	U	1	9.3		1.0
Calcium, Total	ug/l	55200	J	18	57600	J	18.0	53100	J	18	205000	J	18.0
Cadmium, Total	ug/l	6.3	J	0.4	ND	UJ	0.40	0.8	J	0.4	5.4	J	0.40
Cobalt, Total	ug/l	212		2	3.5	B	2 0	ND	U	2	297		2.0
Chromium, Total	ug/l	88.7		3	6.3	B	3.0	3.9	B	3	247		3.0
Copper, Total	ug/l	129		2	25.4		2.0	8.6	B	2	511		2.0
Iron, Total	ug/l	16000	J	6	7010	J	6 0	139	J	6	398000	J	6.0
Mercury, Total	ug/l	ND	U	0.1	ND	U	0.10	ND	U	0.1	0.36		0.10
Potassium, Total	ug/l	24800		666	5740		666	5400		666	17800		666
Magnesium, Total	ug/l	45500	J	47	10000	J	47.0	8410	J	47	95500	J	47.0
Manganese, Total	ug/l	924	J	3	1030	J	3.0	721	J	3	18200	J	3.0
Sodium, Total	ug/l	268000		27	92800	J	27.0	89600	J	27	69500	J	27.0
Nickel, Total	ug/l	215		9	ND	U	9.0	120		9	447		9.0
Lead, Total	ug/l	18.3		2	3.1	J	2.0	ND	R	2	612	J	40.0
Antimony, Total	ug/l	212		27	ND	U	27.0	ND	U	27	ND	U	27.0
Selenium, Total	ug/l	ND	UJ	20	ND	U	2.0	ND	U	2	ND	UJ	20.0
Thallium, Total	ug/l	ND	R	20	ND	R	20.0	ND	R	20	ND	R	20.0
Vanadium, Total	ug/l	240		4	14.6	J	4.0	9.9	J	4	123		4.0
Zinc, Total	ug/l	395	J	3	75.4		3.0	ND	U*	3	1180		3.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation.

TABLE L4.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=	FF-MW-10S			FF-MW-11S			FF-MW-12S (Dup of MW-11S)			FF-MW-11R		
Sample Designation=	9401L191-006			9401L176-001			9401L176-003			9401L176-002		
Sample Collection Date=	06 JAN 94			05 JAN 94			05 JAN 94			05 JAN 94		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloride	ug/l	3850		100	1080		50.0	1040		50 0	1830		50.0
Cyanide, Total	ug/l	ND	U	20.0	ND	U	10.0	ND	U	10.0	ND	U	10.0
Silver, Total	ug/l	3.6		0.40	0.9	B	0.40	1.4		0.40	ND	U	0.40
Aluminum, Total	ug/l	23900	J	15.0	41000		15.0	48700		15.0	5140		15.0
Arsenic, Total	ug/l	29.7		2.0	15.3		2 0	17.1		2.0	2.1	B	2.0
Barium, Total	ug/l	104	B	3 0	100	B	3.0	106	B	3 0	19 3	B	3.0
Beryllium, Total	ug/l	ND	U	1.0	3.4	B	1.0	3	B	1.0	1.2	B	1.0
Calcium, Total	ug/l	85900	J	18.0	62400		18.0	59600		18.0	51800		18.0
Cadmium, Total	ug/l	4.4	J	0.40	0.6	J	0.40	0.7	J	0.40	ND	U	0.40
Cobalt, Total	ug/l	51.7		2.0	45.8	B	2.0	53.6		2.0	12.7	B	2.0
Chromium, Total	ug/l	42.4		3.0	43.6		3.0	56.4		3.0	7.5	B	3 0
Copper, Total	ug/l	346		2.0	345		2.0	406		2.0	18.8	B	2.0
Iron, Total	ug/l	61100		6.0	75600		6.0	91200		6 0	10500		6.0
Mercury, Total	ug/l	0.41		0.10	0.42		0.10	0.4		0.10	ND	U	0.10
Potassium, Total	ug/l	66300		666	28100		666	27900		666	57300		666
Magnesium, T tal	ug/l	168000	J	47.0	84900		47.0	78400		47.0	94200		47.0
Manganese, T tal	ug/l	4110	J	3.0	2690		3.0	3030		3.0	5690		3.0
Sodium, Total	ug/l	2E+06	J	270	614000		27.0	555000		27.0	1E+06		270
Nickel, Total	ug/l	126		9 0	121		9 0	137		9.0	ND	U*	17.5
Lead, Total	ug/l	564	J	40.0	1120		100	1640	J	100	ND	U	20.0
Antimony, Total	ug/l	35.7		27.0	ND	U	27.0	ND	U	27.0	ND	U	27.0
Selenium, Total	ug/l	ND	UJ	2.0	ND	UJ	2.0	ND	UJ	20.0	ND	UJ	2.0
Thallium, Total	ug/l	ND	R	20.0	ND	R	20.0	ND	R	20.0	ND	R	20.0
Vanadium, Total	ug/l	38	J	4.0	ND	U*	68.4	ND	U*	71.2	ND	U*	38.7
Zinc, Total	ug/l	1340		3.0	382	J	3.0	402	J	3.0	54.5	J	3.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation.

TABLE L4.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location= FF-FB-010594
Sample Designation= 9401L176-004
Sample Collection Date= 05 JAN 94

Analyte	Units	Sample Value	Qual	Reporting Limit
Chloride	ug/l	ND	U	0.25
Cyanide, Total	ug/l	ND	U	10.0
Silver, Total	ug/l	ND	U	0.40
Aluminum, Total	ug/l	32 1	B	15.0
Arsenic, Total	ug/l	ND	U	2.0
Barium, Total	ug/l	ND	U	3.0
Beryllium, Total	ug/l	ND	U	1.0
Calcium, Total	ug/l	ND	U*	372
Cadmium, Total	ug/l	ND	UJ	0.40
Cobalt, Total	ug/l	ND	U*	3.1
Chromium, Total	ug/l	5.3	B	3 0
Copper, Total	ug/l	3.7	B	2.0
Iron, Total	ug/l	ND	U*	129
Mercury, Total	ug/l	ND	U	0.10
Potassium, Total	ug/l	ND	U	666
Magnesium, Total	ug/l	ND	U*	318
Manganese, Total	ug/l	6.2	B	3.0
Sodium, Total	ug/l	1180	B	27.0
Nickel, Total	ug/l	ND	U	9.0
Lead, Total	ug/l	ND	U	2.0
Antimony, Total	ug/l	ND	U	27.0
Selenium, Total	ug/l	ND	UJ	2.0
Thallium, Total	ug/l	ND	R	2.0
Vanadium, Total	ug/l	ND	U*	25.1
Zinc, Total	ug/l	ND	UJ*	6.6

NOTE: '*' indicates a value which was changed t 'ND' following data validation.

TABLE L4.E
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF BOD, COD, TSS SAMPLES

Sample Location=		FF-MW-2S			FF-MW-2D			FF-MW-4S		
Sample Designation=		9401L175			9401L177			9401L166		
Sample Collection Date=		05 JAN 94			05 JAN 94			04 JAN 94		
	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
BIOLOGICAL OXYGEN DEMAND	mg/L	6 0		1.0	3.0		1 0	2.0		1.0
CHEMICAL OXYGEN DEMAND	mg/L	444		50.0	48.7		5.0	57.2		5.0
TOTAL SUSPENDED SOLIDS	mg/L	10 0		5 0	264		5 0	670		5.0

TABLE L4.E
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
GROUND WATER SAMPLES
SUMMARY OF BOD, COD, TSS SAMPLES

Sample Location=		FF-MW-7S			FF-MW-8R		
Sample Designation=		9401L1666			9401L191		
Sample Collection Date=		04 JAN 94			05 JAN 94		
	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
BIOLOGICAL OXYGEN DEMAND	mg/L	6.0		1.0	2 0		1.0
CHEMICAL OXYGEN DEMAND	mg/L	44.4		5.0	25.6		5.0
TOTAL SUSPENDED SOLIDS	mg/L	19.0		5.0	276		5.0

TABLE L5.A
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
STORM SEWER WATER SAMPLES
SUMMARY OF VOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-ST1			FF-ST2			FF-TB-120793		
Sample Designation=		032060-0001-SA			032060-0002-SA			032060-0004-TB		
Sample Collection Date=		06 DEC 93			06 DEC 93			07 DEC 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Chloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Bromomethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Vinyl Chloride	ug/l	ND	U	10	ND	U	10	ND	U	10
Chloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Methylene chloride	ug/l	ND	U	10	ND	U	10	ND	U	10
Acetone	ug/l	ND	U*	10	ND	U*	10	2	J	10
Carbon disulfide	ug/l	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10
1,1-Dichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethene (cis/trans)	ug/l	ND	U	10	ND	U	10	ND	U	10
Chloroform	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Butanone	ug/l	ND	U	10	ND	U	10	ND	U	10
1,1,1-Trichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Carbon tetrachloride	ug/l	ND	U	10	ND	U	10	ND	U	10
Bromodichloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10
1,2-Dichloropropane	ug/l	ND	U	10	ND	U	10	ND	U	10
trans-1,3-Dichloropropene	ug/l	ND	U	10	ND	U	10	ND	U	10
Trichloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10
Dibromochloromethane	ug/l	ND	U	10	ND	U	10	ND	U	10
1,1,2-Trichloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Benzene	ug/l	ND	U	10	ND	U	10	ND	U	10
cis-1,3-Dichloropropene	ug/l	ND	U	10	ND	U	10	ND	U	10
Bromoform	ug/l	ND	U	10	ND	U	10	ND	U	10
4-Methyl-2-Pentanone	ug/l	ND	U	10	ND	U	10	ND	U	10
2-Hexanone	ug/l	ND	U	10	ND	U	10	ND	U	10
1,1,2,2-Tetrachloroethane	ug/l	ND	U	10	ND	U	10	ND	U	10
Tetrachloroethene	ug/l	ND	U	10	ND	U	10	ND	U	10
Toluene	ug/l	ND	U	10	ND	U	10	ND	U	10
Chlorobenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Ethylbenzene	ug/l	ND	U	10	ND	U	10	ND	U	10
Styrene	ug/l	ND	U	10	ND	U	10	ND	U	10
Xylenes (total)	ug/l	ND	U	10	ND	U	10	ND	U	10

NOTE: '*' indicates a value which was changed to 'ND' following data validation.

TABLE L5.B
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
STORM SEWER WATER SAMPLES
SUMMARY OF SEMIVOLATILE ORGANIC COMPOUNDS

Sample Location=		FF-ST1			FF-ST2		
Sample Designation=		032060-0001-SA			032060-0002-SA		
Sample Collection Date=		06 DEC 93			06 DEC 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Acenaphthene	ug/l	ND	U	10	1	J	10
Acenaphthylene	ug/l	ND	U	10	ND	U	10
Anthracene	ug/l	ND	U	10	1	J	10
9H-Carbazole	ug/l	ND	U	10	ND	U	10
Benzo(a)anthracene	ug/l	ND	U	10	ND	U	10
Benzo(b)fluoranthene	ug/l	ND	U	10	ND	U	10
Benzo(k)fluoranthene	ug/l	ND	U	10	ND	U	10
Benzo(g,h,i)perylene	ug/l	ND	U	10	ND	U	10
Benzo(a)pyrene	ug/l	ND	U	10	ND	U	10
4-Bromophenyl phenyl ether	ug/l	ND	U	10	ND	U	10
Butyl benzyl phthalate	ug/l	ND	U	10	ND	U	10
4-Chloroaniline	ug/l	ND	U	10	ND	U	10
bis(2-Chloroethoxy)-methane	ug/l	ND	U	10	ND	U	10
bis(2-Chloroethyl) ether	ug/l	ND	U	10	ND	U	10
bis(2-Chloroisopropyl) ether	ug/l	ND	U	10	ND	U	10
4-Chloro-3-methylphenol	ug/l	ND	U	10	ND	U	10
2-Chloronaphthalene	ug/l	ND	U	10	ND	U	10
2-Chlorophenol	ug/l	ND	U	10	ND	U	10
4-Chlorophenyl phenyl ether	ug/l	ND	U	10	ND	U	10
Chrysene	ug/l	ND	U	10	ND	U	10
Dibenz(a,h)anthracene	ug/l	ND	U	10	ND	U	10
Dibenzofuran	ug/l	ND	U	10	ND	U	10
Di-n-butyl phthalate	ug/l	ND	U	10	ND	U	10
1,2-Dichlorobenzene	ug/l	ND	U	10	ND	U	10
1,3-Dichlorobenzene	ug/l	ND	U	10	ND	U	10
1,4-Dichlorobenzene	ug/l	ND	U	10	ND	U	10
3,3'-Dichlorobenzidine	ug/l	ND	U	10	ND	U	10
2,4-Dichlorophenol	ug/l	ND	U	10	ND	U	10
Diethyl phthalate	ug/l	ND	U	10	ND	U	10
2,4-Dimethylphenol	ug/l	ND	U	10	ND	U	10
Dimethyl phthalate	ug/l	ND	U	10	ND	U	10
4,6-Dinitro-2-methylphenol	ug/l	ND	U	25	ND	U	25
2,4-Dinitrophenol	ug/l	ND	U	25	ND	U	25
2,4-Dinitrotoluene	ug/l	ND	U	10	ND	U	10
2,6-Dinitrotoluene	ug/l	ND	U	10	ND	U	10
Di-n-octyl phthalate	ug/l	ND	U	10	ND	U	10
bis(2-Ethylhexyl) phthalate	ug/l	3	J	10	3	J	10
Fluoranthene	ug/l	ND	U	10	ND	U	10
Fluorene	ug/l	ND	U	10	2	J	10
Hexachlorobenzene	ug/l	ND	U	10	ND	U	10
Hexachlorobutadiene	ug/l	ND	U	10	ND	U	10
Hexachlorocyclo-pentadiene	ug/l	ND	U	10	ND	U	10
Hexachloroethane	ug/l	ND	U	10	ND	U	10
Indeno(1,2,3-cd)pyrene	ug/l	ND	U	10	ND	U	10
Isophorone	ug/l	ND	U	10	ND	U	10
2-Methylnaphthalene	ug/l	ND	U	10	2	J	10
2-Methylphenol	ug/l	ND	U	10	ND	U	10
4-Methylphenol	ug/l	ND	U	10	ND	U	10
Naphthalene	ug/l	ND	U	10	ND	U	10
2-Nitroaniline	ug/l	ND	U	25	ND	U	25
3-Nitroaniline	ug/l	ND	U	25	ND	U	25
4-Nitroaniline	ug/l	ND	U	25	ND	U	25
Nitrobenzene	ug/l	ND	U	10	ND	U	10
2-Nitrophenol	ug/l	ND	U	10	ND	U	10
4-Nitrophenol	ug/l	ND	U	25	ND	U	25
N-Nitrosodiphenylamine	ug/l	ND	U	10	ND	U	10
N-Nitroso-di-n-propylamine	ug/l	ND	U	10	ND	U	10
Pentachlorophenol	ug/l	ND	U	25	ND	U	25
Phenanthrene	ug/l	ND	U	10	3	J	10
Phenol	ug/l	ND	U	10	ND	U	10
Pyrene	ug/l	ND	U	10	1	J	10
1,2,4-Trichlorobenzene	ug/l	ND	U	10	ND	U	10
2,4,5-Trichlorophenol	ug/l	ND	U	25	ND	U	25
2,4,6-Trichlorophenol	ug/l	ND	U	10	ND	U	10

TABLE L5.C
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
STORM SEWER WATER SAMPLES
SUMMARY OF PESTICIDE/PCB COMPOUNDS

Sample Location=		FF-ST1			FF-ST2		
Sample Designation=		032060-0001-SA			032060-0002-SA		
Sample Collection Date=		06 DEC 93			06 DEC 93		
Compound	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
alpha-BHC	ug/L	ND	U	0 050	ND	UJ	0 050
beta-BHC	ug/L	ND	U	0 050	ND	UJ	0 050
delta-BHC	ug/L	ND	U	0.050	ND	UJ	0.050
gamma-BHC (Lindane)	ug/L	ND	U	0 050	ND	UJ	0.050
Heptachlor	ug/L	ND	U	0 050	ND	UJ	0.050
Aldrin	ug/L	ND	U	0.050	ND	UJ	0.050
Heptachlor epoxide	ug/L	ND	U	0.050	ND	UJ	0.050
Endosulfan I	ug/L	ND	UJ*	0.050	ND	UJ	0.050
Dieldrin	ug/L	0.0058	J	0.10	0.016	J	0.10
4,4'-DDE	ug/L	ND	U*	0.10	ND	UJ	0.10
Endrin	ug/L	0 016	J	0.10	0.051	J	0.10
Endosulfan II	ug/L	ND	U	0.10	0.013	J	0 10
4,4'-DDD	ug/L	ND	U	0.10	ND	U	0 10
Endosulfan sulfate	ug/L	ND	U	0 10	0.011	J	0.10
4,4'-DDT	ug/L	ND	U*	0.10	0.023	J	0.10
Methoxychlor	ug/L	ND	U	0.50	ND	U	0.50
Endrin ketone	ug/L	ND	U	0.10	ND	U	0.10
Endrin aldehyde	ug/L	ND	U	0.10	ND	U	0.10
alpha-Chlordane	ug/L	ND	U	0.050	ND	U	0 050
gamma-Chlordane	ug/L	ND	U	0.050	ND	U	0.050
Toxaphene	ug/L	ND	U	5.0	ND	U	5.0
Aroclor 1016	ug/L	ND	U	1.0	ND	U	1.0
Aroclor 1221	ug/L	ND	U	2.0	ND	U	2 0
Aroclor 1232	ug/L	ND	U	1.0	ND	U	1.0
Aroclor 1242	ug/L	ND	U	1.0	ND	U	1.0
Aroclor 1248	ug/L	ND	U	1.0	ND	U	1.0
Aroclor 1254	ug/L	ND	U	1.0	ND	U	1.0
Aroclor 1260	ug/L	ND	U	1.0	ND	U	1.0

NOTE: '*' indicates a value which was changed to 'ND' following data validation.

TABLE L5.D
NETC NEWPORT - PHASE II RI
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
STORM SEWER WATER SAMPLES
SUMMARY OF INORGANIC ANALYTES

Sample Location=		FF-ST1			FF-ST2		
Sample Designation=		032060-0001-SA			032060-0002-SA		
Sample Collection Date=		06 DEC 93			06 DEC 93		
Analyte	Units	Sample Value	Qual	Reporting Limit	Sample Value	Qual	Reporting Limit
Aluminum	ug/L	54.3	B	NA	97.2	B	NA
Antimony	ug/L	24	U	NA	25.8	B	NA
Arsenic	ug/L	1	U	NA	1.1	B	NA
Barium	ug/L	35.4	B	NA	22.4	B	NA
Beryllium	ug/L	1	U	NA	1	U	NA
Cadmium	ug/L	3	U	NA	3	U	NA
Calcium	ug/L	70500		NA	82600		NA
Chromium	ug/L	4	U	NA	4	U	NA
Cobalt	ug/L	4	U	NA	4	U	NA
Copper	ug/L	7.1	B	NA	7.1	B	NA
Iron	ug/L	558		NA	779		NA
Lead	ug/L	4.2		NA	2.2	B	NA
Magnesium	ug/L	8840		NA	121000		NA
Manganese	ug/L	131		NA	225		NA
Mercury	ug/L	0 1	U	NA	0.1	U	NA
Nickel	ug/L	14.9	B	NA	9	U	NA
Potassium	ug/L	5570		NA	41900		NA
Selenium	ug/L	3	B	NA	2	U	NA
Silver	ug/L	5	U	NA	5	U	NA
Sodium	ug/L	29000		NA	983000		NA
Thallium	ug/L	2	UJ	NA	20	UJ	NA
Vanadium	ug/L	4	U	NA	4	U	NA
Zinc	ug/L	48.4		NA	46.9		NA
Cyanide, Total	ug/L	10	U	NA	10	U	NA

APPENDIX M

PHASE I AND II RI VALIDATION SUMMARY

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

APPENDIX M

- PHASE II RI DATA VALIDATION SUMMARY -

OLD FIRE FIGHTING TRAINING AREA
DATA VALIDATION SUMMARY
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1.0 INTRODUCTION

Validation of the analytical sample results for this project was completed by Heartland Environmental Services, Inc. (Heartland) of St. Peters, Missouri, according to U.S. EPA Region I and NEESA protocols. Data validation is the process of reviewing the quality control (QC) and quality assurance (QA) areas of the analytical data to determine the data limitations and evaluate the usability of the data. The following guidelines and protocols were followed by Heartland in the validation of the project data:

U.S. EPA CLP OLM01.8 Statement of Work, August 1991;

U.S. EPA, Region I, Laboratory Data Validation Functional Guidelines for Evaluating Organic Analyses, February 1988;

National Functional Guidelines for Organic Data Review, Multi-Media, Multi-Concentration (where applicable);

NEESA Level D requirements;

U.S. EPA, Region I, Laboratory Data Validation Functional Guidelines for Evaluating Inorganic Analyses, June 1988.

U.S. EPA, Contract Laboratory Program, Statement of Work, for Inorganics Analysis, Multi-Media, Multi-Concentration, 7/87; and

U.S. EPA, Contract Laboratory Program, Statement of Work, for Organics Analysis, Multi-Media, Multi-Concentration, 2/88.

1.1 Data Validation Summary

Data validation is related to specific performance requirements established in the U.S. EPA Contract Laboratory Program (CLP) Statements of Work for organic and inorganic sample analysis. Areas under the laboratory's control that are reviewed in the validation of organic data include the following: sample holding times, gas chromatography/mass spectroscopy (GC/MS) tuning, instrument calibration, blank analysis, surrogate recovery, matrix spike/matrix spike duplicates, internal standards (IS) performance, Target Compound List (TCL) compound identification, compound quantitation and reported detection limits, tentatively identified compounds, system performance, and an overall assessment of the data for usability.

The areas reviewed in the validation of inorganic data include the following: sample holding times, instrument calibration and initial calibration verification, continuing calibration verification, Contract Required Detection Limit (CRDL) standards for Atomic Absorption (AA) and Inductively Coupled Plasma (ICP) spectrometers, initial and continuing calibration blank analysis, ICP interference check sample analysis, spiked sample analysis, post digested spike sample recovery analysis, duplicate sample analysis, laboratory control sample analysis, ICP serial dilution analysis, graphite furnace AA QC analysis, quarterly verification of instrument parameter report, and sample result verification.

Data validation was conducted in accordance with the requirements specified in U.S. EPA CLP protocols and Region I Data Validation Guidelines, and NEESA Guidelines. Qualifiers attached to the data during validation supersede the laboratory qualifiers. The qualifiers offered by validation represent the QC areas under the laboratory's control which could have been improved. Presented below are overviews of organic and inorganic data validation criteria and areas of common concern.

1.2 Organic Analyses

Areas of common concern in the validation of organic analyses results of the type completed for this project included: trace-level blank contamination, instrument calibrations, GC/MS tuning, holding time exceedances, surrogate recoveries, spike recoveries, and internal standard areas. Evaluation of these criteria and criteria specified in the guidelines listed previously typically result in the assignment of data validation qualifiers to raw laboratory data. Such qualifiers may indicate that reported values are estimated ("J") or that a compound was analyzed for but not detected in the sample ("U"). Estimated values indicate the actual presence of the compound is real in the sample but that the associated numerical value is an estimated quantity.

Blank compound contamination indicates the possibility of contamination of the associated environmental sample. Common laboratory contaminants are often detected in the analysis of environmental samples, field blanks, trip blanks, and laboratory method blanks. Common laboratory contaminants, as defined in the U.S. EPA Region I Data Validation Guidelines, include the following compounds: methylene chloride, acetone, 2-butanone, toluene, and

common phthalate esters. For these compounds, sample results are qualified by elevating the limit of detection when the sample concentration is less than ten times the blank concentration of the compound. A sample concentration greater than ten times the concentration found in the associated blanks is considered "real" and not qualified. For sample concentrations reported at levels less than the CRQL, the CRQL is reported and the results are qualified as undetected ("U"). The presence of other compounds in laboratory blanks also results in the qualification of the sample data. Sample compound concentrations are qualified undetected ("U") when the sample concentration is less than five times the compound concentration detected in the associated blanks. When sample concentration is greater than five times the concentration detected in the associated blank, no qualifier is placed on the sample data.

Instrument calibration criteria have been established to ensure that the laboratory instrument is capable of producing acceptable quantitative data. Instrument calibration is completed prior to analyzing any of the samples and again at a specified time during the analysis. Initial calibration ensures that the instrument is initially capable of producing acceptable data. Continuing calibration ensures that daily maintenance and adjustments are being completed as needed on the instrument. Calibration is evaluated using the Relative Response Factors (RRF) for the TCL compounds associated with the specific fraction being analyzed, Percent Relative Standard Deviation (%RSD) of the same TCL compounds, and the Percent Difference (%D) between the initial calibration RRF and the continuing calibration RRF. Calculated values of these criteria must be within specific established guidelines. Qualification of data using flags or qualifiers occurs when these criteria are not met, indicating that the quantitation value is an estimate or the data is unusable.

GC/MS tuning is a performance criterion established to ensure mass resolution, identification, and to some degree, sensitivity. Established ion abundance criteria for specific compounds must be met each time the tune is performed. The volatile organic tune is performed using bromofluorobenzene (BFB). The semi-volatile organic tune is performed using decafluorotriphenylphosphine (DFTPP). According to the EPA CLP Statement of Work for Organic Analysis, the instrument tune is completed every twelve hours, ensuring that the identification of target compounds in the samples being analyzed is accurate. A completed tune that does not meet the specific ion abundance criteria for the compound must be discarded and

sample analysis stopped. The ion abundance criteria must be met in all circumstances, prior to the analysis of samples. Laboratory performance on specific samples is measured through the recovery of surrogate compounds. Each sample is fortified with surrogate spiking compounds before purging or extraction in order to monitor preparation and analysis of samples. Surrogate recoveries must be within established guidelines or repurging, reinjection, or re-extraction must be performed. Data qualifiers are used when the surrogate recoveries are out of specification. Detected compounds in sample results are flagged as estimated ("J"), and undetected compounds in sample results are flagged as either rejected ("R") or estimated ("J"), depending upon the surrogate response.

Matrix spike and matrix spike duplicate (MS/MSD) analyses are performed to determine long-term precision and accuracy of the analytical method on the various matrices. A matrix spike is a specific set of compounds added to a sample to ensure the sample matrix does not interfere with compound analysis. A duplicate of this procedure is also completed to obtain relative percent differences (RPD) and percent relative standard deviation (%RSD) values. Spike recoveries, RPD, and RSD values outside the advisory limits are reviewed and qualifiers are placed on the data depending upon the recovery results.

Another area reviewed during data validation is Internal Standards (IS) Performance. The IS performance criteria ensure that GC/MS sensitivity and response are stable during every analysis. A specific compound standard is added to each sample, producing a chromatogram of known size with a specific retention time. The size of the internal standard area computed for each individual sample must not vary by more than a factor of two from that of the associated calibration standard. The retention time of the internal standard must also not vary more than ± 30 seconds from the associated calibration standard. Analyses which do not fall within these criteria are flagged as either quantitation estimates, non-detect estimates, or non-detect rejections, depending upon the size of the sample's standard peak area.

Organic data validation qualifiers used in this report are defined by U.S. EPA Region I, Laboratory Data Validation Functional Guidelines for Evaluating Organic Analysis. The data qualifiers used are defined as follows:

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

J - The associated numerical value is an estimated quantity.

R - The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.

UJ- The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

NJ- Presumptive evidence for the presence of the material at an estimated value.

1.3 Inorganic Analysis

Validation of inorganic data for the site in this report typically required qualification of sample data relative to the following quality control areas: blank contamination, matrix spike recoveries, relative percent difference values in the laboratory duplicate, initial and continuing calibration, and ICP interference. Each of these areas are discussed below.

Laboratory blank contamination typically results in the qualification of the associated sample data. The absolute value of the concentration of an analyte detected in the laboratory blank must be less than the Contract Required Detection Limit (CRDL) for that analyte. Blank analyses reporting detection of analytes in the laboratory blanks above the CRDL indicate blank contamination. Sample results associated with these blanks are qualified as undetected ("U") for these analytes.

Matrix spike sample analysis is designed to provide information on the effect of the sample matrix on the sample digestion and analytical measurement methodology. The spiking compounds are added to a specific sample prior to digestion or distillation. If the recovery of the spike is not within the EPA CLP advisory values, the sample data associated with the matrix spike is qualified as estimated ("J").

Relative percent difference (RPD) data generated from the laboratory duplicate sample analyses are used to evaluate the long-term precision of the analysis. If the duplicate sample results (RPD) are outside the established control limits, qualifiers are placed on the associated sample data. Sample concentrations are qualified as estimated ("J") due to RPD being outside of the control limits.

The initial calibration and continuing calibration verification are performed to insure accuracy of the analytical data. Upon completion of instrument calibration, the initial calibration

verification (ICV) solution is analyzed. The analysis of the continuing calibration verification (CCV) solution is completed at specified times throughout the analysis. When the analytical results of these calibration checks exceed EPA CLP guidance control limits, the analysis must be terminated, the problem corrected, the instrument recalibrated, and the calibration reverified. Samples analyzed with the calibration checks exceeding the limits are qualified as estimates ("J").

The ICP interference check sample analysis is used to verify the inter-element and background correction factors affecting the instrument. The analysis of a solution containing both interfering and analyte elements of known concentrations must fall within guidance control limits of the true values of these analytes. If not, the analysis must be terminated, the problem corrected, the instrument recalibrated, and the analytical samples reanalyzed. Sample results outside of guidance limits associated with ICP interference check sample analysis are qualified as estimated ("J").

Inorganic data validation qualifiers used in this project are defined by USEPA Region I, Laboratory Data Validation Functional Guidelines for Evaluating Inorganics Analysis. The qualifiers used are defined as follows:

U - The material was analyzed for, but was not detected. The associated numerical value is the sample quantitation limit.

J - The associated numerical value is an estimated quantity.

R - The data are unusable (compound may or may not be present). Resampling and reanalysis is necessary for verification.

UJ- The material was analyzed for, but was not detected. The sample quantitation limit is an estimated quantity.

1.4 Conclusions

Data validation is a review of the quality control factors associated with environmental sample analysis. Validated data has been objectively reviewed by a qualified professional to evaluate the overall quality of the data. Qualifiers placed on data as a result of validation result

in changes to some aspects of the reported data. Data qualifier changes resulting from the data validation have been made in the data tables provided in the appendices of this report.

The process of data validation aids the data user in identifying deviations from the CLP SOW, poor quality control results, matrix interferences, and other analytical problems that may compromise the potential use of the data. In turn, the findings of data validation indicate the potential areas of concern with respect to data quality and assist the user in knowing the limits of the data usability.

2.0 SITE 09 - OLD FIRE FIGHTING TRAINING AREA

Prior to assessing the analytical data for the Old Fire Fighting Training Area, data validation was performed and data validation qualifiers added to the data, where applicable.

The following sections summarize by media and by analytical fraction the data qualifiers assigned as a result of the data validation process and the criteria upon which the qualifiers were assigned. A more detailed description of the affected data is included. Common data qualifiers referenced in the following sections include the following: estimated ("J"), undetected ("U"), and estimated/non-detect ("UJ").

2.1 Site 09 - Soil Data

2.1.1 Organic Analyses

Data validation of the Old Fire Fighting Training Area soil sample results identified organic analytical data which required qualification or rejection. Overall the data quality was satisfactory. There were several calibration outliers, contaminated blanks, and surrogate outliers; however, no major problems were encountered during the sample analyses. The data were considered representative and were qualified as mentioned below. Organic analyses for the soil samples at the site consisted of analysis of volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and pesticides/PCBs. Qualifiers were assigned to the data on the basis of blank results, holding times, initial and continuing instrument calibration, surrogate recoveries, and compound quantitation.

Volatile Organic Compounds (VOCs) - Volatile organic fractions of the site soil data were qualified due to blank contamination, holding times, initial and continuing instrument calibration, surrogate recoveries, and compound quantitations.

Blank contamination was noted in laboratory method blanks and in investigation field and trip blanks. Volatile organic compounds detected in the blank samples include methylene chloride, acetone, and 2-butanone. Sample concentrations less than ten times the concentrations found in the associated blanks were qualified as undetected ("U") due to blank contamination. For sample concentrations reported at levels less than the CRQL, the CRQL is reported in the data summary table and the results are qualified as undetected ("U"). Table M-1 within this appendix provides a listing of the samples qualified as non-detect for methylene chloride, acetone, and/or 2-butanone.

Holding times did not meet the USEPA Region I guidelines for one batch of samples (Enseco SDG #31806). However, the holding times for all of the samples were met per the Organic Functional Guidelines. Therefore, for all of the samples within this SDG group, all positive results were qualified as estimated ("J") and non detect results as estimated ("UJ").

The initial calibration for four of the soil samples (B14-1, B14-2, B15-1, and B15-2) exhibited bromomethane outside of QC criteria and was qualified as an estimated detection limit ("UJ").

For Enseco SDG #31875, two samples exhibited high surrogate recoveries. For samples M11-1 RE (re-extraction) and M11-2, all positive results were qualified as estimated ("J"). In addition, all internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria for this SDG. All internal standards for samples M11-1, M11-1 RE, M11-2, and M11-2 RE were qualified as estimated ("J"/"UJ") for all positive and non detected results.

Under the Compound Identification/Quantitation for this SDG, samples M11-1, M11-1 RE, M11-2, and M11-2RE were rejected due to internal standards and surrogate recoveries.

Semivolatile Organic Compounds (SVOCs) - In general, several semivolatile organic compounds (SVOCs) were identified in the site soil samples and the data were considered acceptable. Data qualifications were made on the basis of holding times, calibration analysis, blank results, surrogate recoveries, and compound identification/quantitation.

Holding times were exceeded for several soil samples analyzed for SVOCs during the Phase II RI. Samples SS-18, SS-19, SS-23, and SS-24, within SDG #31384, exceeded the extraction holding time by fourteen days. Sample B16-2 RE, within SDG #31806, exceeded the extraction holding time by thirty days. And samples TP1-1, TP1-2, TP1-3, TP2-2, TP2-3, TP3-2, and TP3-3, within SDG #9401L245, exceeded the extraction holding time by more than nine days. As a result, all positive results for the above samples were qualified as estimated ("J") while all non detect results were qualified as estimated detection limits ("UJ").

For each of the SDG analyzed for SVOCs, for the continuing calibrations that were analyzed, all of the criteria and non criteria compounds met requirements for RRFs. However, qualifications were required for compounds with non compliant %Ds. For the samples and compounds with %Ds greater the 25% D but less than 50% D, the non compliant compounds with positive results were qualified as estimated ("J"). For the samples and compounds with %Ds greater than 50% D but less than 90% D, the non compliant compounds with positive results were qualified as estimated ("J") while the non detect results were qualified as estimated detection limits ("UJ"). Compounds which were qualified based on this criteria include 2,2'oxybis(1-chloropropane) and 2,4-dinitrophenol.

Blank contamination was noted in laboratory method blanks and in investigation field and trip blanks. Semivolatile organic compounds detected in the blank samples include bis(2-ethylhexyl)phthalate and di-n-butyl phthalate. Sample concentrations less than ten times the concentrations found in the associated blanks were qualified as undetected ("U") due to blank contamination. For sample concentrations reported at levels less than the CRQL, the CRQL is reported in the data summary table and the results are qualified as undetected ("U"). Bis(2-

ethylhexyl)phthalate was qualified as undetect in the following samples based on blank results:

SS-12	SS-13	SS-14	SS-15	SS-18	SS-19
SS-20	SS-21	SS-22	SS-23	SS-24	SS-25
SS-26	SS-27	SS-28	SS-29	SS-30	SS-31
SS-35	B14-1	B14-2	B15-1	B15-3	B08-1
B08-2	B08-2DL	B09-1	B13-1	B13-1DL	B13-2
B16-1	B16-2	B16-4	B18-1	FB-112393	FB-113093
SWB-113093	TP1-1	TP1-2	TP1-3	TP2-1	TP2-2
TP2-3	TP3-3				

Di-n-butyl phthalate was qualified as undetected for samples TP1-2, TP1-3, TP2-2, TP2-3, and TP3-3 based on the detection of this compound in a method blank.

Surrogate recoveries for of the samples and blanks did not meet QA/QC criteria in all cases. For sample B16-2, analyzed within Enseco SDG #31806, recoveries of less than 10% were exhibited of surrogates from the acid fraction. All positive results for the acid fraction were qualified as estimated ("J") and all non detects were rejected ("R").

Compound Identification/Quantitation identified several samples requiring qualification for SVOC results. For samples B8-2 and B13-1, with Enseco SDG #31806, and sample M7-2, within SDG #31875, all E-flagged results were rejected in favor of the D-flagged results in the diluted sample. For the diluted sample corresponding with these three samples (B8-2 DL, B13-1 DL, and M7-2 DL) all results were rejected except for the D-flagged results with corresponding E-flagged results. Also within Enseco SDG #31806, sample B16-2 RE was rejected in favor of the original sample analysis due to re-extraction exceeding the holding time by more than 30 days. Within Weston Analytical's SDG #9401L245, samples TP1-1, TP1-2, TP1-3, TP2-2, TP2-3, and TP3-3 were rejected in favor of the re-extracted sample analysis.

Pesticides and PCB Compounds - Data validation of the soil data at the site for pesticides/PCBs resulted in several data qualifications. Data were qualified on the basis of holding times, GC instrument performance, initial instrument calibrations, blank results, florisil/GPC checks, surrogate recoveries, and analyte identification/quantitation criteria.

The USEPA Region I holding time requirement of extraction within seven days from collection was exceeded for a few of the site soil pesticide/PCB analyses. All soil samples within Enseco SDG #31806 were extracted one or two days outside of the holding time. Samples M7-1 and M6-2, from Enseco SDG #31875, were extracted seven days outside of the seven day extraction holding time. Re-extracted samples M9-1 RE and M9-3 RE from Enseco SDG #31915, and re-extracted samples TP2-2 RE, TP3-1 RE, and TP3-3 RE were also extracted outside of the EPA extraction holding time. Based on the exceeded extraction holding times, all reported positive results and non-detected results have been qualified as estimated ("J") and estimated detection limit ("UJ").

After review of the GC instrument performance for Enseco SDG #31384, the data validator calculated the DDT breakdown for one PEM and determined that one PEM slightly exceeded the QC limit of 20%. Therefore, all reported positive results for 4,4'-DDE, 4,4'-DDD, and 4,4'-DDT are qualified as estimated ("J") in samples SS-18, SS-19, and SS-20.

The initial calibrations were acceptably linear for all but two of the compounds within Enseco SDG #31384. Due to initial calibration non linearity, %RSDs > 20.0%, all positive and non-detect results for methoxychlor and endrin ketone are qualified as estimated, "J" or "UJ", in all samples within the SDG.

Blank contamination was identified in all but one of the site soil SDGs. Table M-2 provides a listing of the compounds identified in the blank samples for each of the SDGs. Reported positive results for the compounds in the soil samples less than five times (5X) the blank concentration have been qualified as not detected ("U"), at the appropriate CRQL. No action was taken for sample results greater than five times the concentration in the associated blank. However, the "B" flags have been crossed out. Several compounds have also been qualified as not detected based on field blank results, and have been listed in Table M-2.

The GPC calibration check for several samples exhibited high recoveries above the QC limits. All positive results for the samples within SDG #'s 31875, 31915, and 32184 were qualified as estimated due to the high GPC calibration check recoveries.

Samples within all but one of the SDGs exhibited surrogate recoveries outside of the QC limits. For surrogate recoveries below the QC limits, positive and non-detect results were

qualified as "J" and "UJ", respectively. For surrogate recoveries above the QC limit, only positive results were qualified as estimated ("J"). For surrogate recoveries less than 10%, both positive and non-detect results were rejected ("R"). The following samples were qualified based on surrogate recoveries:

SS-18	SS-20	SS-22	SS-27	SS-31	B8-2
B16-1	B16-2	B16-4	B10-1	B12-1	M10-2
M6-1	M11-1	M9-1	M9-1 DL	TP1-1	TP2-1
TP2-2	TP3-1	TP3-2	TP3-3		

Analyte identification/quantitation resulted in the qualification of several soil sample results. For each of the SDGs, the following qualification was conducted for reported results with "P" flags:

- All reported results with "P" flags due to %Ds between 25 and 250% are considered qualitatively valid but are qualified as quantitatively estimated ("J") due to differences in column quantitations.
- All reported results with "P" flags due to %Ds between 250 and 500% are considered qualitatively and quantitatively questionable, and are qualified as presumptively present at an estimated concentration ("NJ") due to differences between column quantitations.
- All reported results with "P" flags due to %Ds greater than 500% are considered not detected and are qualified "U" or "UJ" at either the CRQL or the highest quantitated concentration, whichever is greater.

Analyte identification/quantitation also resulted in the qualification of the following samples:

SDG #31384 - The reported result for 4,4'-DDT in sample SS-17 was rejected in favor of the diluted result which was reported within the demonstrated linear range of the instrument. The remainder of the reported results in the dilution were rejected.

All reported results for the dilution of sample SS-20 were rejected in favor of the undiluted results.

SDG #31390 - The reported results for 4,4'-DDE and 4,4'-DDT in sample SS-30 were rejected in favor of the diluted results which were reported within the demonstrated linear range of the instrument. The remainder of the reported results in the dilution were rejected.

- SDG #31498 - The reported positive result for 4,4'-DDT in samples B14-2 and B15-3 were rejected in favor of the results reported from the diluted analysis. All other results from the diluted analysis are rejected ("R") an unnecessary.

  Diluted results for sample B15-2 were rejected as unnecessary to the reported sample results.

- SDG #31806 - All diluted sample results reported were rejected ("R") as unnecessary to the reported sample results.

- SDG #31875 - The reported dilutions for samples M10-1, M11-2, and M7-2 were rejected as unnecessary.

  SDG #31915 - The reported positive result for 4,4'-DDT in sample M9-1 is rejected in favor of the result reported from the diluted analysis. All other results from the diluted analysis were rejected us unnecessary.

  Diluted results for samples M9-3, M9-1 RE and M9-3 RE were rejected as unnecessary to the reported sample results.

2.1.2 Inorganic Analyses

Validation of the site soil inorganic analyses identified some data which required qualification. The site soil data were qualified due to laboratory and field blank results, matrix spike recovery, laboratory duplicate results, serial dilution, and MSA criteria. The data were qualified as discussed below.

The laboratory preparation blanks and field blanks exhibited contamination for each of the soil SDGs. Analytes detected in the preparation blanks for soils include the following: calcium, iron, and zinc for SDG #31384; calcium and iron for SDG #'s 31390, 32184, 31913, and 31915; barium, calcium, and iron for SDG #'s 31806 and 31813; and barium, cobalt, iron, sodium, vanadium, and zinc for SDG #9401L245. The USEPA requires that all sample values below five times the preparation blank contamination be qualified as non-detect, "U". The preparation blank exhibited negative bias for the following elements: lead, thallium, and zinc

for SDG #'s 31806 and 31813; and cadmium and thallium for SDG #9401L245. It is the USEPA's policy to review the impact and require the reviewer to make judgement on the impact negative bias will have on the data. All data points below ten times the absolute value of the negative prep results were qualified as estimated, "J" or "UJ", based on the validators professional judgement.

The matrix spike recoveries for several analytes were outside of QC criteria for all of the soil SDGs. For matrix spike recoveries below the lower control limit, all positive results are qualified estimated ("J"), while non-detect results are qualified as estimated detection limit ("UJ"). For matrix spike recoveries above the upper control limit, all positive results are qualified as estimated ("J"). The matrix spike recoveries for the following analytes per SDG were below the lower control limit and have been qualified as mentioned above: SDG #'s 31384 and 31390, - arsenic and antimony; SDG #32184, 31875, and 31915 - antimony and thallium; SDG #31806 and 31813 - antimony, arsenic, and cyanide; SDG #32060 - thallium; and SDG #9401L245 - chromium, lead, selenium, and thallium. The matrix spike recoveries for the following analytes per SDG were above the upper control limit and have been qualified as mentioned above: SDG #31384 - copper; SDG #'s 32184, 31806, 31813, 31875, 31915 - manganese; and SDG #9401L245 - arsenic. In addition the matrix spike recoveries for lead in SDG #31390 and manganese in SDG #9401L245 were below 30%. Therefore, all non-detect results were rejected and all positive results were qualified as estimated "J".

Duplicate analysis for several analytes were outside the established control limits for many of the SDGs. For those analytes outside of the control limits, positive and non-detect results were qualified as estimated, "J" or "UJ". Duplicate analysis for calcium in SDG #31390, zinc in SDG #'s 31498 and 31915, and arsenic and silver for SDG #9401L245 were outside the control limits and have been qualified as such.

Serial dilutions for zinc in SDG #'s 31806 and 31813 were outside the control limits. All positive results have been qualified as estimated, "J", for zinc.

MSA criteria resulted in the qualification of several of the analytes analyzed by graphite furnace AA due to the analytical spike recoveries outside of the acceptable QC range. Due to

the matrix interferences, the positive and non-detect results were qualified as estimated ("J" or "UJ").

2.2 Site 09 - Ground Water

2.2.1 Organic Analyses

Validation of the site ground water organic sample data identified data which required qualification. The data were qualified due to holding times, internal standards, initial calibrations, blank sample results, surrogate recoveries, and compound identification/quantitation.

Volatile Organic Compounds (VOCs) - Volatile organic results for the site ground water were qualified based on internal standards, method, trip, and field blanks, and compound identification/quatitation. Within Weston Analytical SDG #9401L166, all internal standard EICP areas did not meet the internal standard EICP area QA/QC criteria. For all of the internal standards of the following samples, all positive and non detect results were qualified as estimated ("J" or "UJ"): MW-3S, MW-4S, MW-3SRE, MW-4SRE, MW-4SMS, TB-010494.

Volatile organic compounds detected in laboratory method blanks, field blanks, and/or trip blanks include methylene chloride and acetone. Sample concentrations of methylene chloride and acetone less than ten times the concentration detected in the method blank were qualified as undetected ("U") due to blank contamination. Sample concentrations reported at levels less than the CRQL were reported in the data tables as the CRQL and were qualified as undetected ("U"). Table M-3 provides a list of samples affected by blank contamination.

Based on the compound identification/quantitation criteria, samples MW3SRE, MW-4SRE, and TB-010494 were rejected in favor of the original/reanalysis due to surrogate recoveries and/or internal standards.

Semivolatile Organic Compounds (SVOCs) - SVOC results for the site ground water were qualified based on method and field blank results and compound identification/quantitation criteria. Bis(2-ethylhexyl)phthalate and di-n-butyl phthalate were identified in several of the

method blanks associated with the site SVOC ground water samples. Sample concentrations of these compounds less than ten times the concentration detected in the method blanks were qualified as undetected ("U") due to blank contamination. Sample concentrations reported at levels less than the CRQL were reported in the data tables as the CRQL and were qualified as undetected ("U"). Table M-4 provides a summary of the ground water samples affected by the blank contamination.

Under the compound identification/quantitation criteria, sample MW-2SDL was rejected because the dilution was not required. The original analysis did not exhibit any results that exceeded the upper calibration range.

Pesticides/PCBs - Pesticide/PCB ground water sample results were qualified on the basis of holding times, initial calibrations, and surrogate recoveries. Holding times were exceeded for six samples which were re-extracted. Samples MW-11SRE, MW12SRE, MW-2DRE (12 days exceeded), MW-9RRE, MW-10SRE, and MW-6RRE (27 days exceeded) were qualified as estimated ("J") and estimated detected limit ("UJ") for positive and non-detect results.

Initial calibration criteria resulted in the qualification of alpha-BHC in SDG #9401L166 and methoxychlor in SDG #'s 9401L175, 9401L176, and 9401L177. The reported positive and non-detect results for these compounds within the respective SDGs were qualified as estimated, "J" or "UJ", due to the slight non-linearity of the initial calibration.

Most of the ground water samples exhibited surrogate recoveries below the QC limits. All of the reported non-detect results for samples MW-3S, MW-4S, MW-7S, MW-2S, MW-11R, MW-12S, MW-11SRE, and MW-12SRE were qualified as estimated ("UJ") due to low surrogate recoveries. All of the reported positive and non-detect results for samples MW-8R, MW-10S, MW-10SRE, MW-5S, MW-6S, and MW-6RRE were qualified as estimated ("J" or "UJ") due to low surrogate recoveries. For samples MW-2D, MW-11S, MW-1S, MW-9R, MW-9RE, and MW-6R, all of the reported positive results are qualified as estimated, "J", and non-detect results are rejected, "R", due to surrogate recoveries less than 10%.

2.2.2 Inorganic Analyses

Validation of the data associated with the inorganic analyses of the site ground water samples identified data which required qualification. Qualifiers were assigned on the basis of blank contamination, spike recoveries, laboratory duplicate results, serial dilutions, and graphite furnace atomic absorption results data validation criteria. The data were qualified as discussed below.

The laboratory preparation blanks and field blanks exhibited contamination for each of the ground water SDGs. Analytes detected in the preparation blanks for ground water include the following: calcium, iron, magnesium, sodium, vanadium, and zinc for SDG #'s 9301L166 and 9301L175; calcium cobalt, iron, magnesium, nickel, sodium, vanadium, and zinc for SDG #'s 9301L176 and 9301L177; and calcium, iron, nickel, and zinc for SDG #9301L191. The USEPA requires that all sample values below five times the preparation blank contamination be qualified as non-detect, "U". The preparation blank exhibited negative bias for the following elements: thallium for SDG #'s 9301L166, 9301L175, 9301L176, and 9301L177; and cadmium, thallium, and vanadium for SDG #9301L191. It is the USEPA's policy to review the impact and require the reviewer to make judgement on the impact negative bias will have on the data. All data points below ten times the absolute value of the negative prep results were qualified as estimated, "J" or "UJ", based on the validator's professional judgement.

The matrix spike recoveries for several analytes were outside of QC criteria for all of the ground water SDGs. For matrix spike recoveries below the lower control limit, all positive results are qualified estimated ("J"), while non-detect results are qualified as estimated detection limit ("UJ"). For matrix spike recoveries above the upper control limit, all positive results are qualified as estimated ("J"). The matrix spike recoveries for the following analytes per SDG were below the lower control limit and have been qualified as mentioned above: SDG #'s 9301L166 and 9301L175, - arsenic, cadmium, and selenium; SDG #'s 9301L176 and 9301L177 - cadmium, selenium, and zinc; and SDG #9301L191 - cadmium and selenium. SDG #9301L191 also exhibited matrix spike recoveries for aluminum which were above the upper control limit. Therefore, all positive results for aluminum within that SDG were qualified as estimated ("J"). In addition the matrix spike recoveries for thallium each of the ground water

SDG's and lead in SDG #9301L191 were below 30%. Therefore, all non-detect results were rejected and all positive results were qualified as estimated "J".

Duplicate analysis for two analytes were outside the established control limits for three of the SDGs. For those analytes outside of the control limits, positive and non-detect results were qualified as estimated, "J" or "UJ". Duplicate analysis for zinc in SDG #'s 9301L176 and 9301L177, and aluminum in SDG #9301L191 were outside the control limits and have been qualified as such.

Serial dilutions for calcium, iron, magnesium, manganese, and zinc in SDG #'s 9301L166 and 9301L175 were outside the control limits. Serial dilution for aluminum in SDG #9301L191 was also outside the control limit. All positive results for these compounds within the respective SDG have been qualified as estimated, "J".

MSA criteria resulted in the qualification of several of the analytes analyzed by graphite furnace AA due to the analytical spike recoveries outside of the acceptable QC range. Due to the matrix interferences, the positive and non-detect results were qualified as estimated ("J" or "UJ").

2.3 Conclusions

The overall quality of the data package for organic and inorganic analyses were reported as fair. The data validator had determined that less than 5% of the data required qualification. The reported results have been accepted by the data validator as reported by the laboratory with the noted qualifications as discussed above.

TABLES

TABLE M-1
NETC NEWPORT
U.S. NAVY – NORTHERN DIVISION
SITE 09 – OLD FIRE FIGHTING TRAINING AREA
Soils
Summary of Volatile Organic Compounds (VOCs) Qualified as Undetected ("U")
Based on Sample Validation

Sample ID	Methylene Chloride	Acetone	2-Butanone
FF-SS13		X	X
FF-SS14			X
FF-SS19			X
FF-SS20	X		
FF-SS21	X		
FF-SS23		X	
FF-SS27		X	
FF-SS29		X	X
FF-SS30		X	
FF-SS31		X	X
FF-B1401			X
FF-B1402		X	X
FF-B1501		X	
FF-B1502		X	X
FF-B1503		X	X
FF-B82		X	
FF-B181			X
FF-B162		X	
FF-B172		X	
FF-MW111 RE		X	X
FF-M62	X	X	
FF-M112 RE			X
FF-M61			X
FF-M81	X		X
FF-M111		X	
FF-M91		X	X
FF-M92			X
FF-M93			X
FF-TB-120193			X
FF-TP11	X	X	
FF-TP12	X	X	
FF-TP13	X	X	
FF-TP21	X		
FF-TP22	X	X	
FF-TP23	X	X	
FF-TP32	X	X	
FF-TP33	X	X	
FB-011194	X	X	
TB-011194	X		

TABLE M-2
NETC NEWPORT
U.S. NAVY – NORTHERN DIVISION
SITE 09 – OLD FIRE FIGHTING TRAINING AREA
Soils
Summary of Pesticide Compounds Qualified as Undetected ("UJ")
Based on Sample Validation

Sample ID	List of Pesticides Qualified as "U" or "UJ"	
FF-SS16		
FF-SS17	alpha-BHC	
FF-SS24	Endosulfan I	
FF-SS25	gamma-Chlordane	
FF-SS26	Methoxychlor	
FF-SS27		
FF-SS18	Dieldrin	alpha-Chlordane
FF-SS19	Endosulfan I	Methoxychlor
FF-SS21		
FF-SS22	Heptachlor	
FF-SS24	4,4'-DDE	
FF-SS28	4,4'-DDT	
FF-SS31		
FF-B1401	alpha-Chlordane	
FF-B1402	gamma-Chlordane	
FF-B1501	4,4'-DDT	
FF-B1502	4,4'-DDE	
FF-B1503		
FF-B81		
FF-B82		
FF-B91	alpha-BHC	alpha-Chlordane
FF-B131	beta-BHC	gamma-Chlordane
FF-B132	4,4'-DDE	Endrin
FF-B161	4,4'-DDD	Methoxychlor
FF-B162	4,4'-DDT	
FF-B164		
FF-B181		
FF-B111		
FF-B112		
FF-B121	alpha-BHC	
FF-B122	4,4'-DDT	
FF-B171		
FF-B172		
FF-B101		
FF-M101		
FF-M102	gamma-BHC	
FF-M111	Heptachlor epoxide	
FF-M112	4,4-DDE	
FF-M61	4,4-DDT	
FF-M62	Endrin	
FF-M71	alpha-chlordane	
FF-M72		
FF-M81		
FF-M91	gamma-BHC	
FF-M93	Methoxyclor	

TABLE M-3
NETC NEWPORT
U.S. NAVY – NORTHERN DIVISION
SITE 09 – OLD FIRE FIGHTING TRAINING AREA
Ground Water
Summary of Volatile Organic Compounds (VOCs) Qualified as Undetected ("U")
Based on Sample Validation

Sample ID	Methylene Chloride	Acetone
FF-MW-3S	X	
FF-MW-4S	X	
FF-MW-7S	X	
FF-MW-4S RE	X	
FF-MW-3S RE	X	
TB-010494	X	X
TB-010494 RE	X	
FF-MW-2S		X
FF-MW-2D		X
FF-MW-8R	X	X
FF-MW-1S	X	
FF-MW-5S	X	X
FF-MW-6S	X	X
FF-MW-9R	X	X
FF-MW-10S	X	X
FF-MW-6R	X	X
TB-010694	X	X

TABLE M-4
NETC NEWPORT
U.S. NAVY - NORTHERN DIVISION
SITE 09 - OLD FIRE FIGHTING TRAINING AREA
Ground Water
Summary of Semivolatile Organic Compounds (VOCs) Qualified as
Undetected ("U") Based on Sample Validation

Sample ID	Bis(2-ethylhexyl)phthalate	di-n-butylphthalate
FF-MW-11S	X	X
FF-MW-11R		X
FF-MW-12S		X
FB-010594		X
FF-MW-2D	X	
FF-MW-3S	X	X
FF-MW-4S	X	X
FF-MW-7S	X	X
FF-MW-2S	X	X
FF-MW-2S DL	X	

APPENDIX N

PHASE I AND II RI ANALYTICAL DATA CHARTS

Source: TRC Environmental Corp.,
Draft Final OFFTA RI Report 1994

APPENDIX N

- ANALYTICAL DATA CHARTS -

APPENDIX N-1 - SURFACE SOIL SEMIVOLATILE ORGANICS

APPENDIX N-2 - SURFACE SOIL METALS

APPENDIX N-3 - SUBSURFACE SOIL SEMIVOLATILE ORGANICS

APPENDIX N-4 - SUBSURFACE SOIL METALS

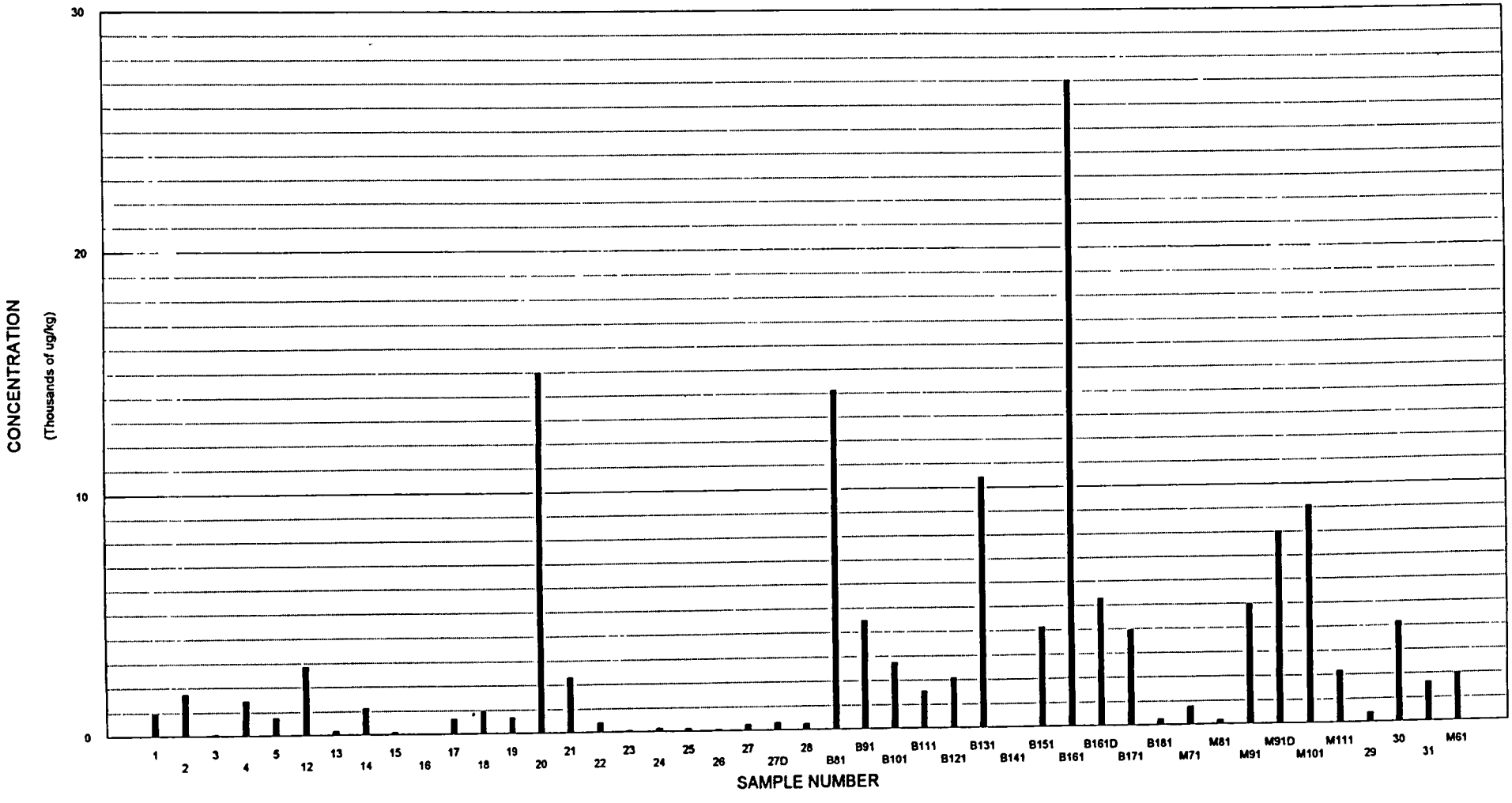
APPENDIX N-1

- SURFACE SOIL SEMIVOLATILE ORGANICS -

- TOTAL SVOCs
- TOTAL PAHs
- TOTAL CaPAHs

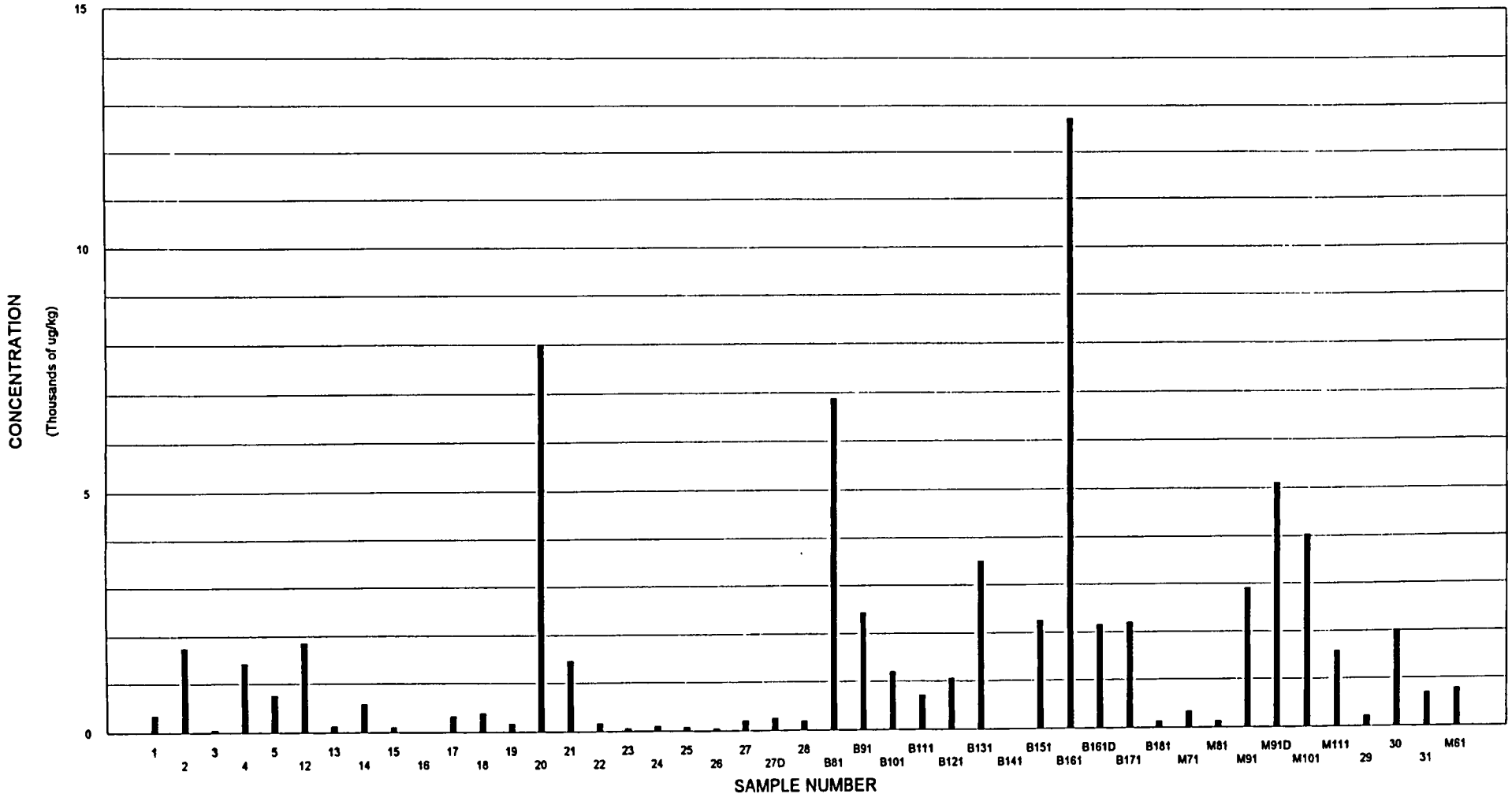
SURFACE SOIL

TOTAL SVOCs DATA



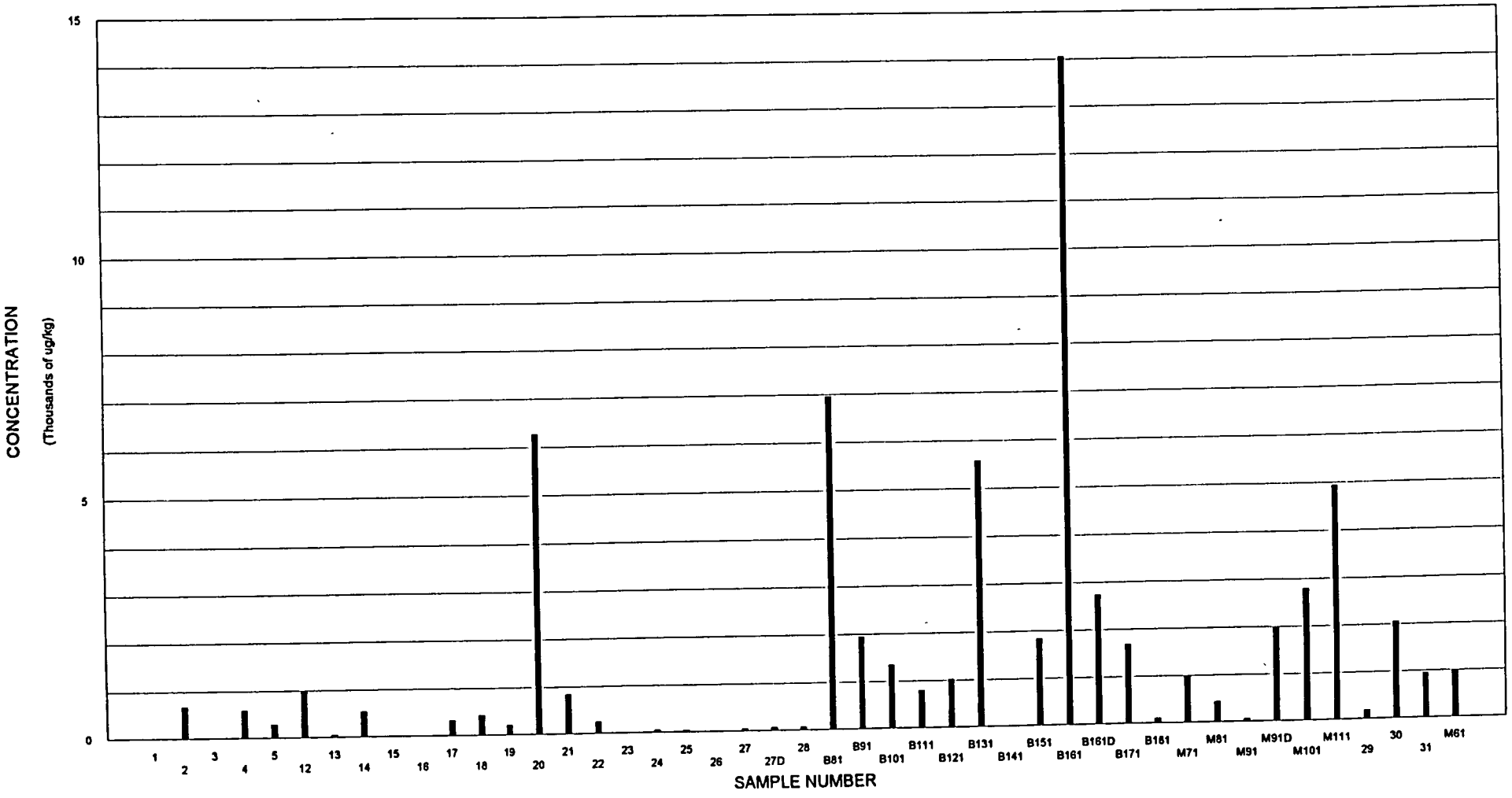
SURFACE SOIL

TOTAL PAHs DATA



SURFACE SOIL

TOTAL CaPAHs DATA



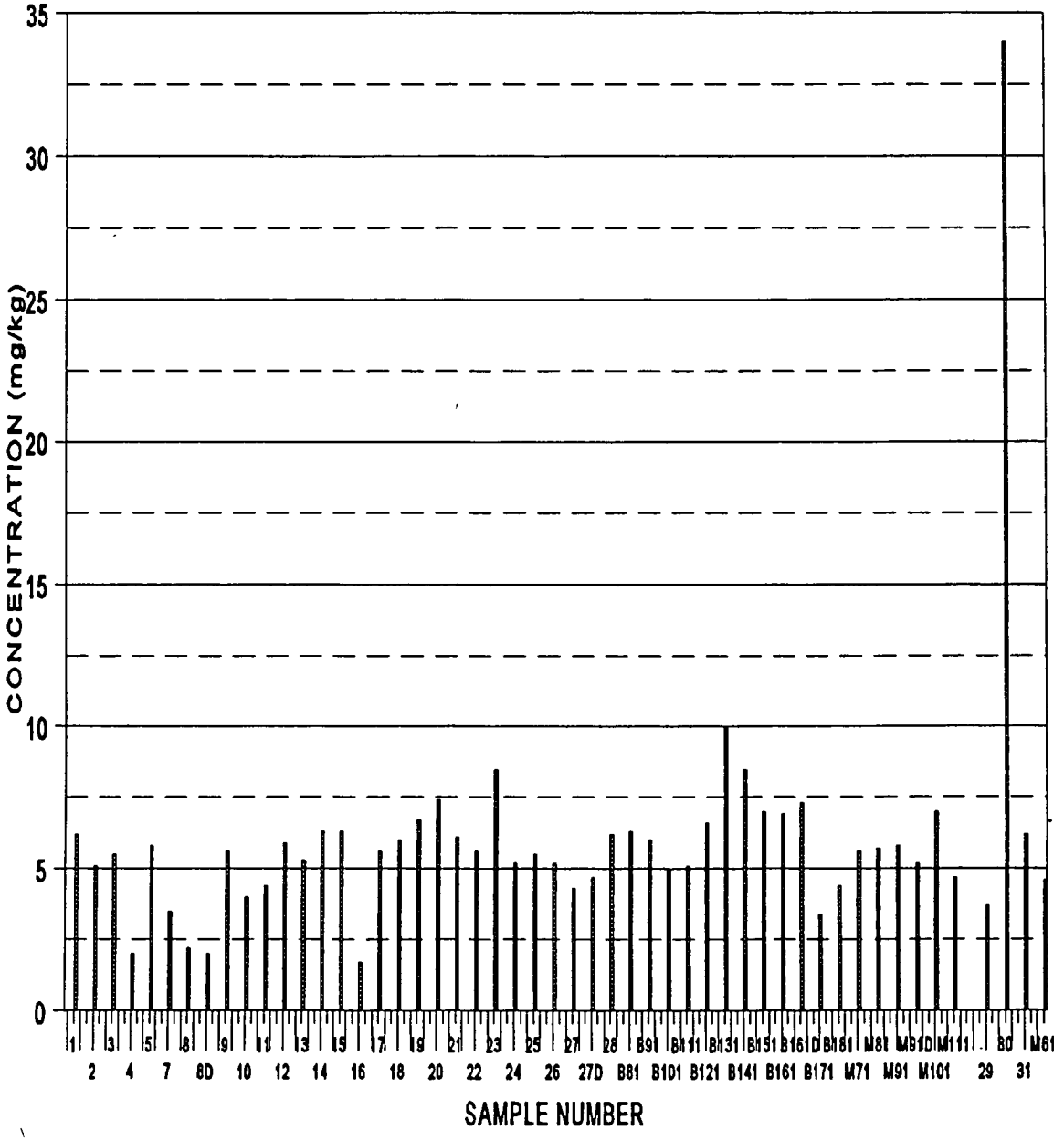
APPENDIX N-2

- SURFACE SOIL METALS -

- ARSENIC
- BARIUM
- BERYLLIUM
- CHROMIUM
- COBALT
- COPPER
- LEAD
- MANGANESE
- MERCURY
- NICKEL
- VANADIUM
- ZINC

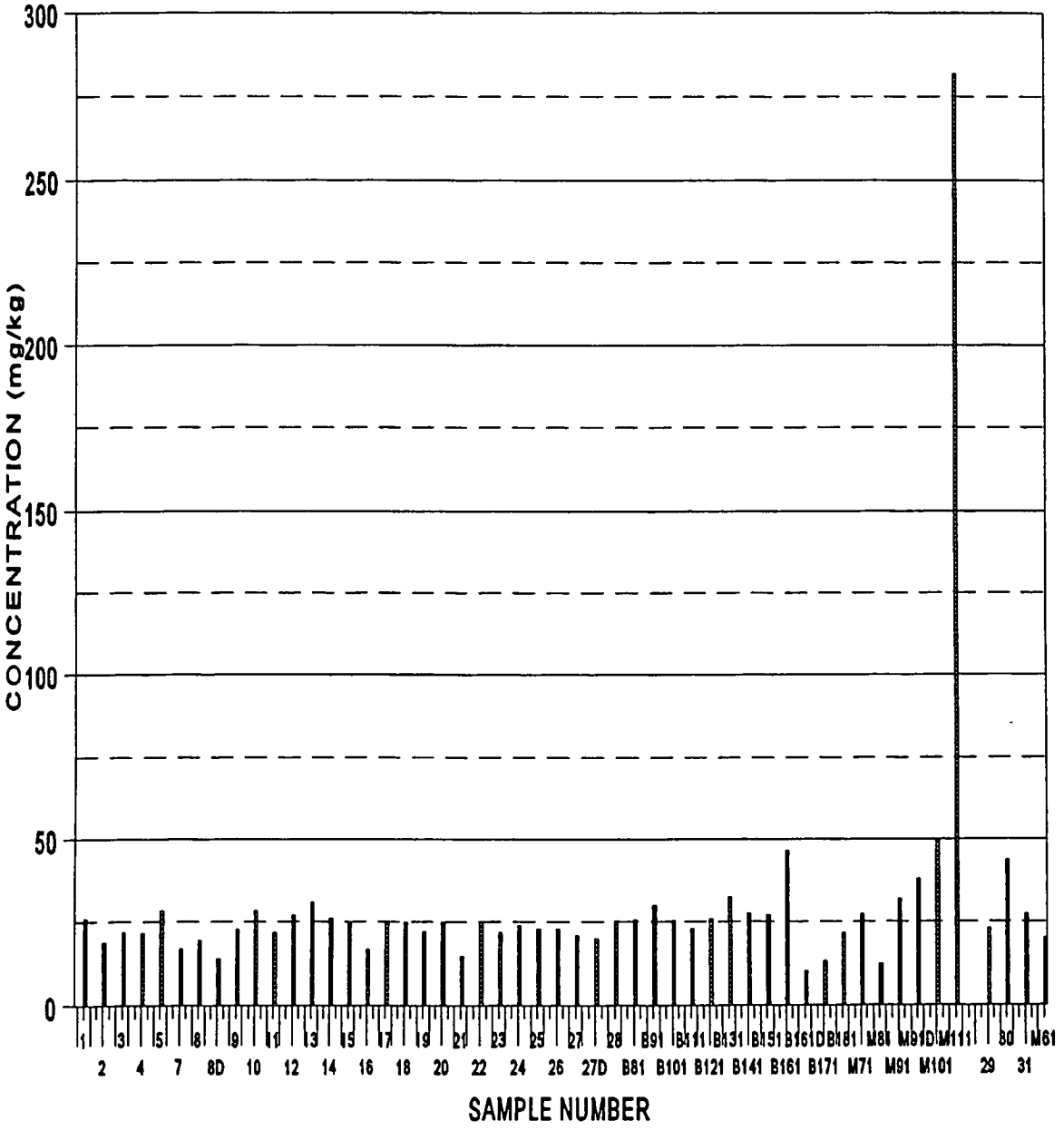
SURFACE SOIL DATA

ARSENIC CONCENTRATION



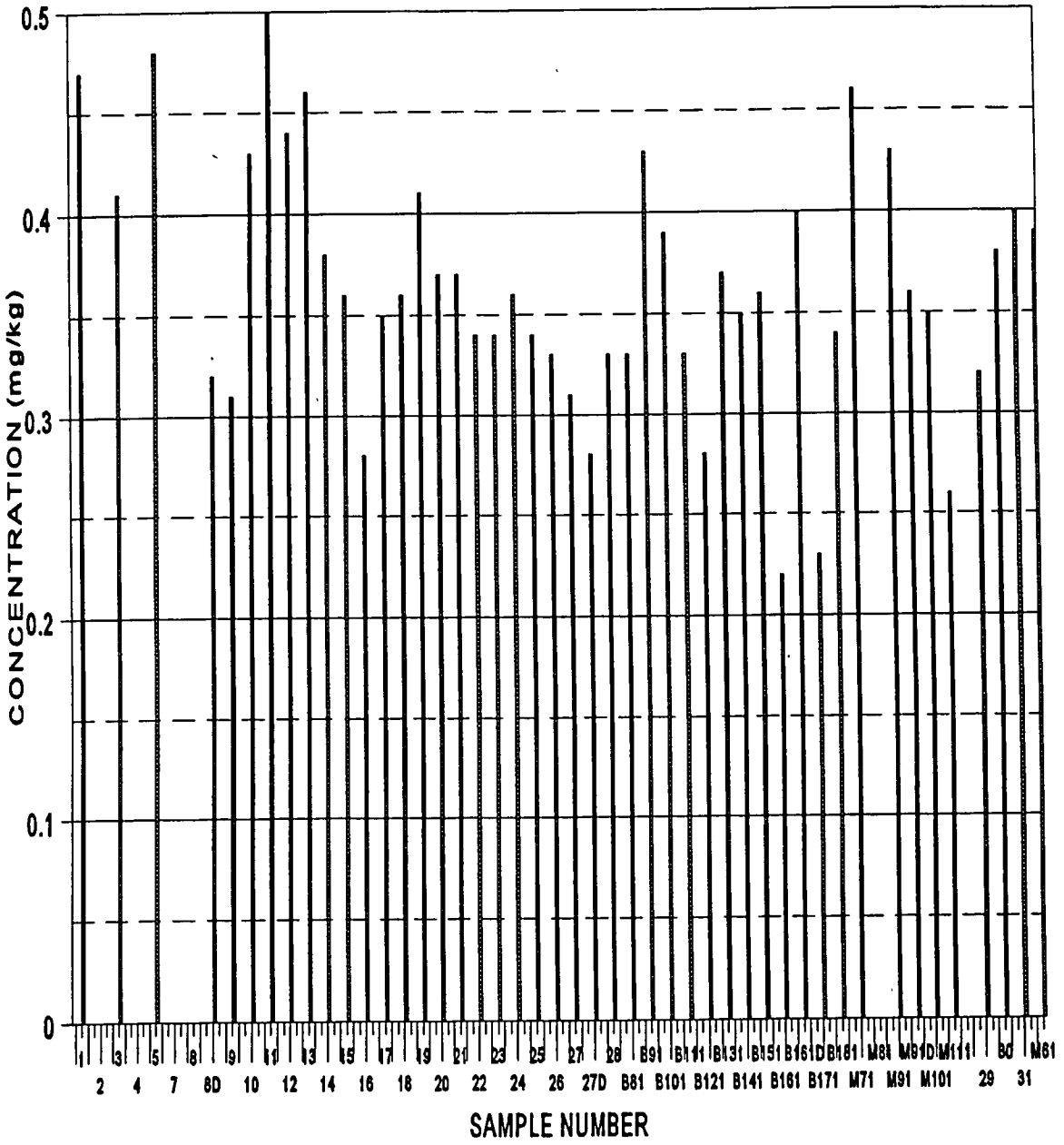
SURFACE SOIL DATA

BARIUM CONCENTRATION



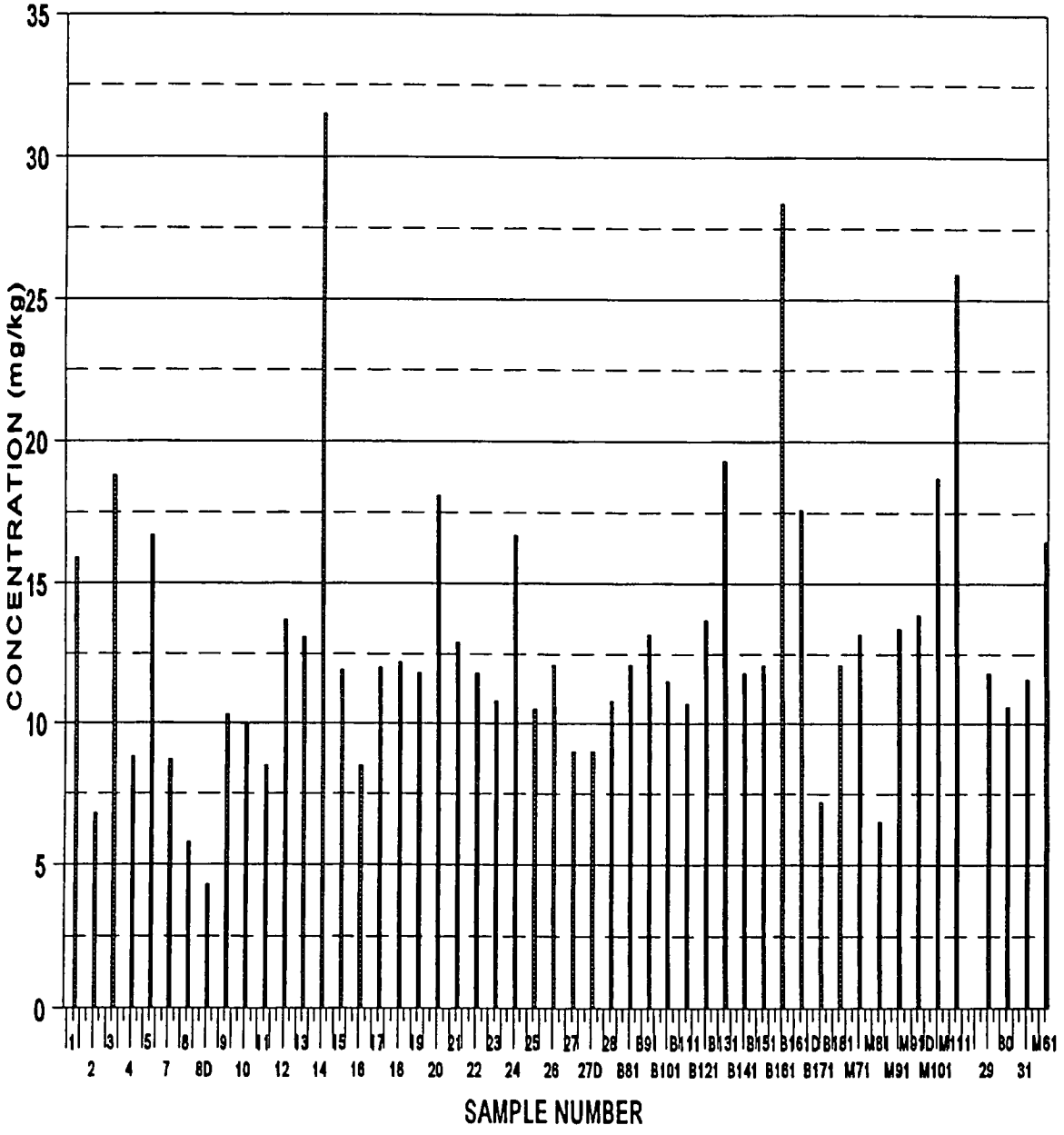
SURFACE SOIL DATA

BERYLLIUM CONCENTRATION



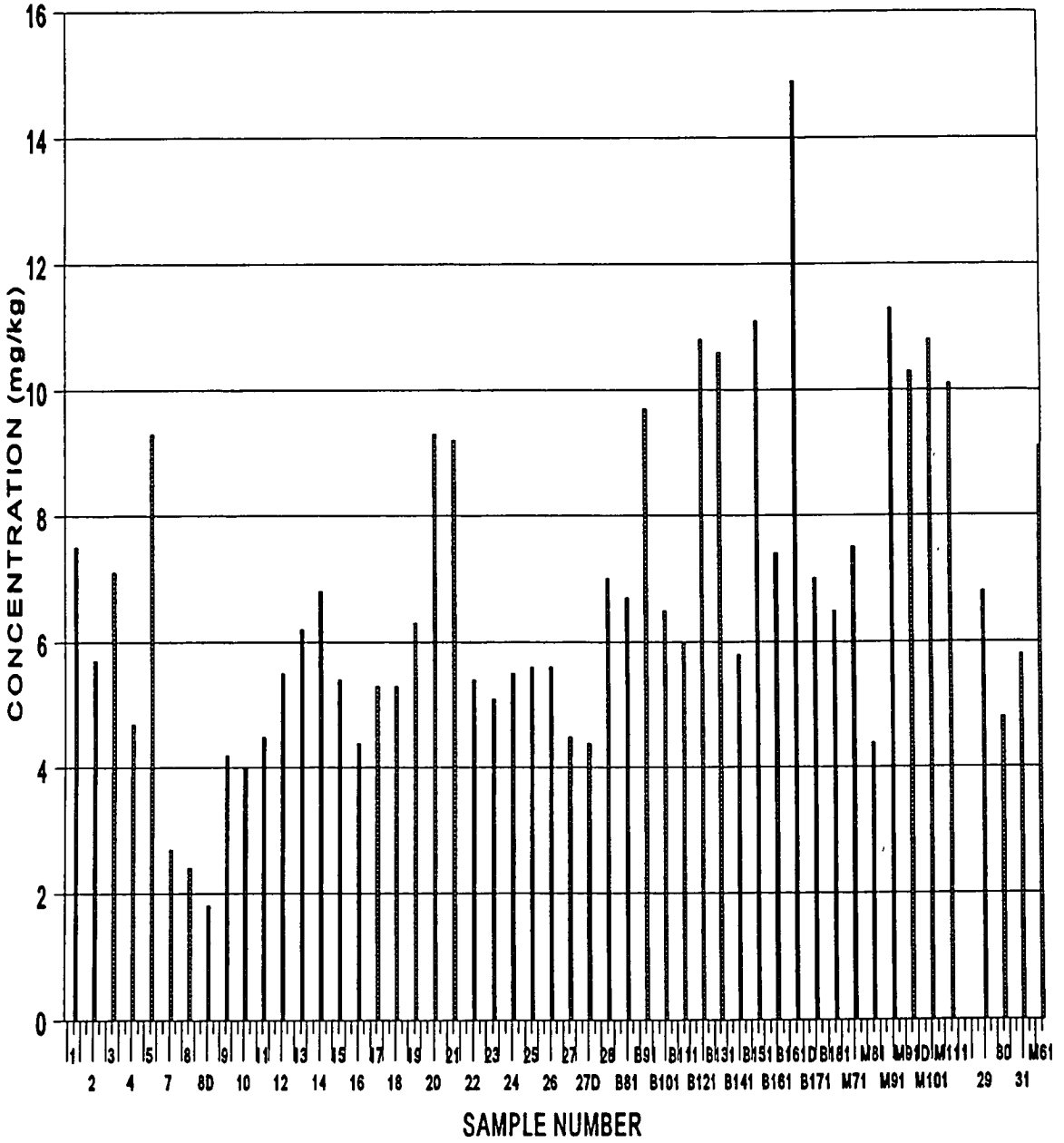
SURFACE SOIL DATA

CHROMIUM CONCENTRATION



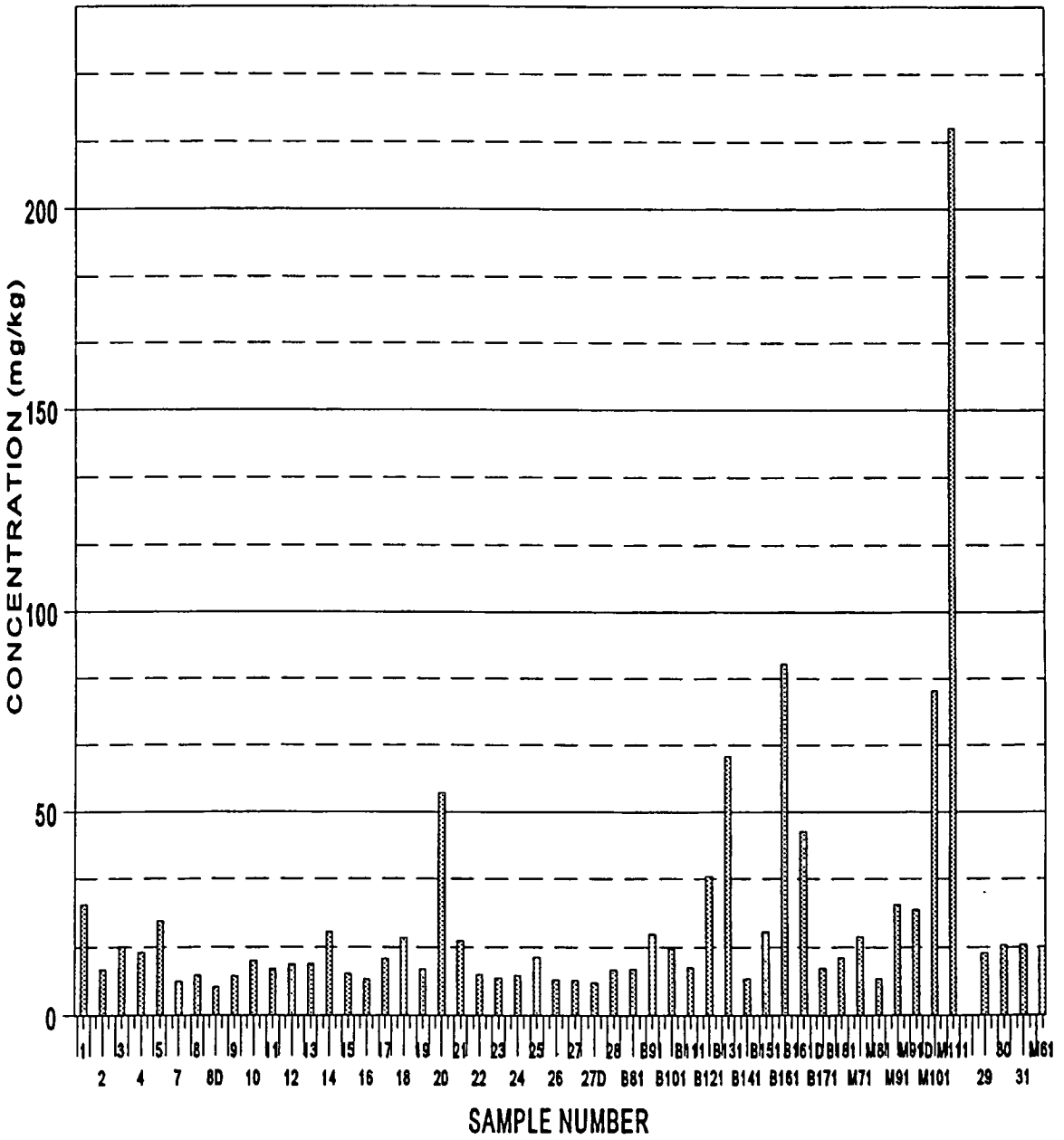
SURFACE SOIL DATA

COBALT CONCENTRATION



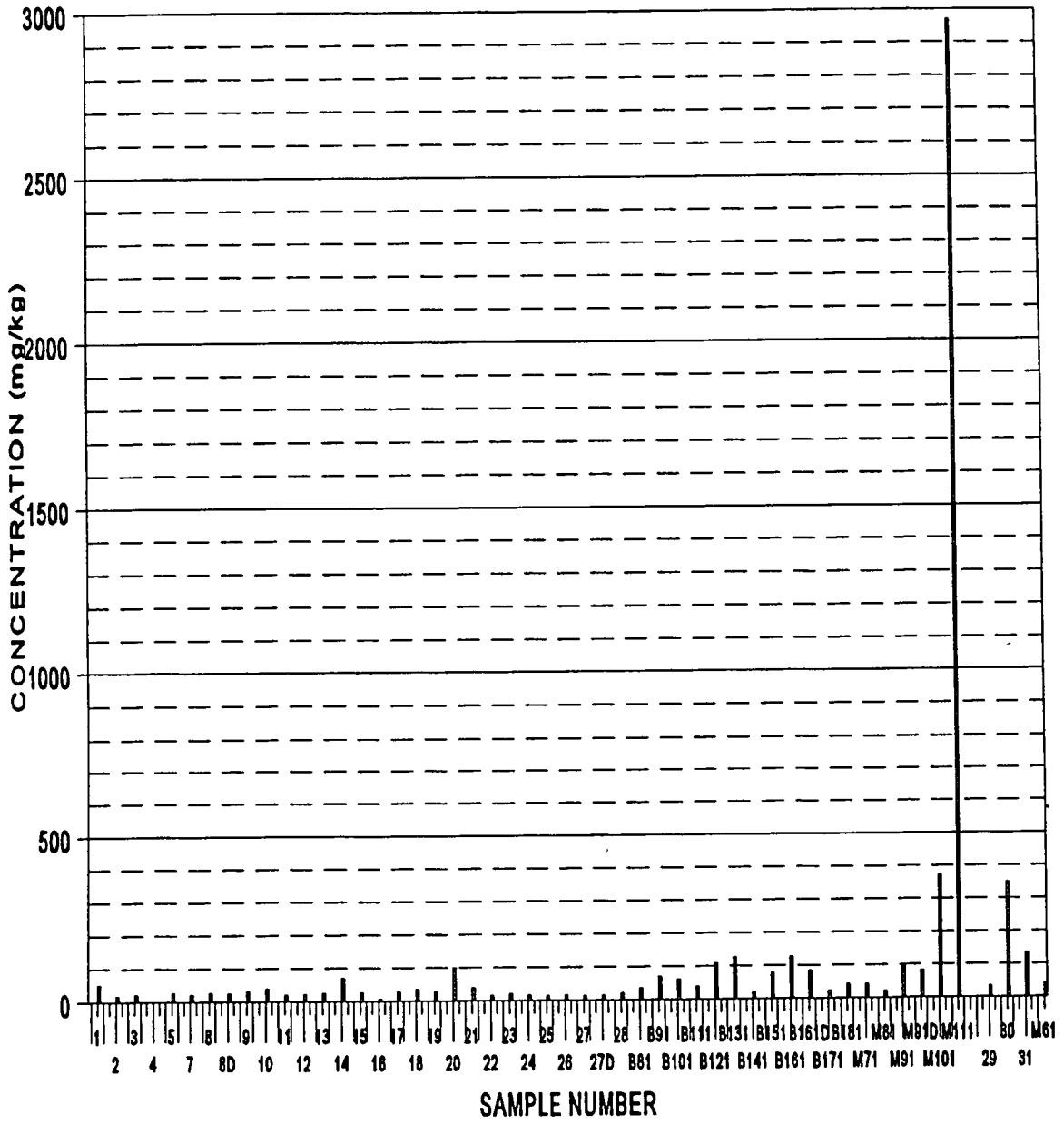
SURFACE SOIL DATA

COPPER CONCENTRATION



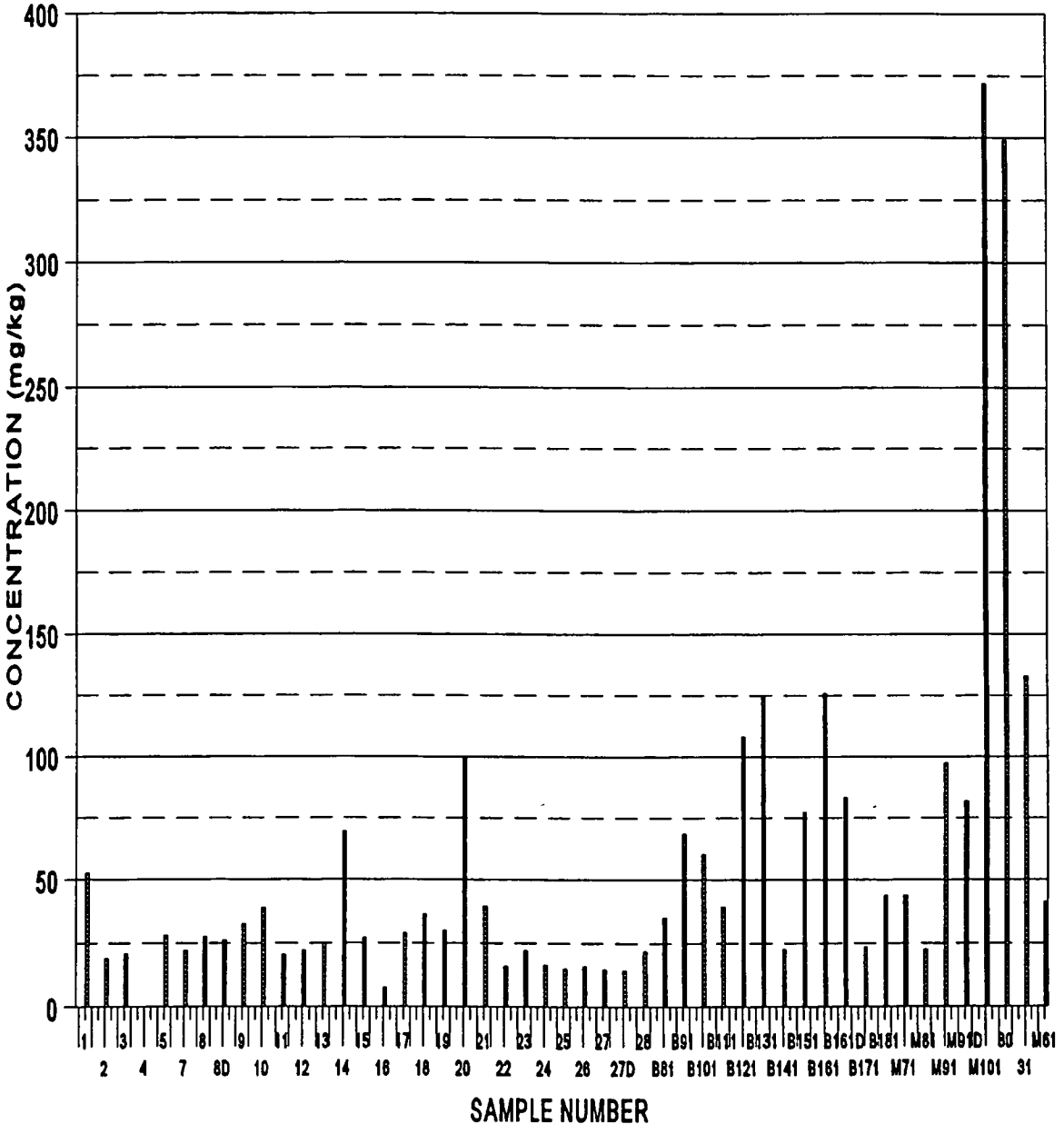
SURFACE SOIL DATA

LEAD CONCENTRATION



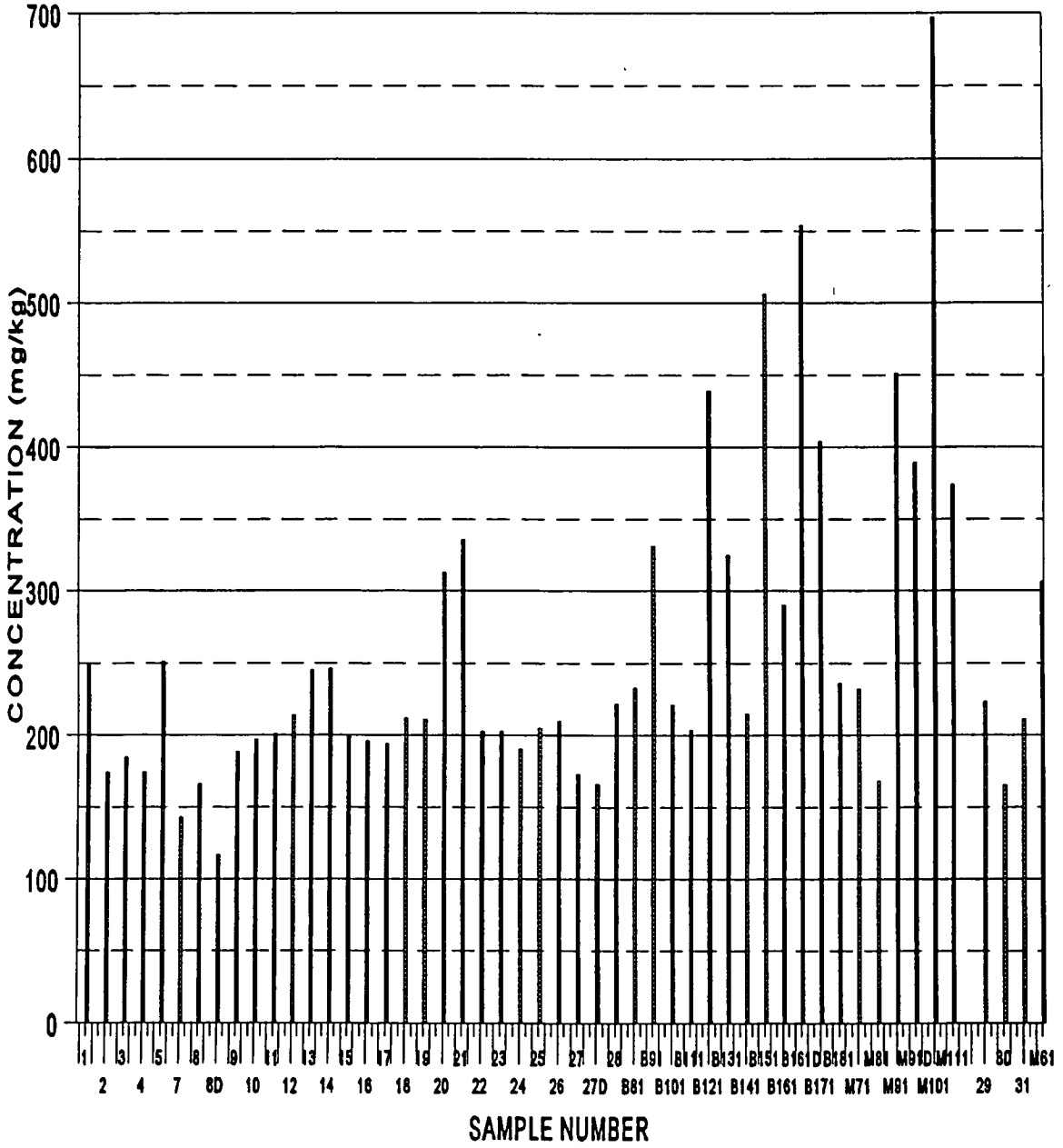
SURFACE SOIL DATA

LEAD CONCENTRATION (NOT INCLUDING M111)



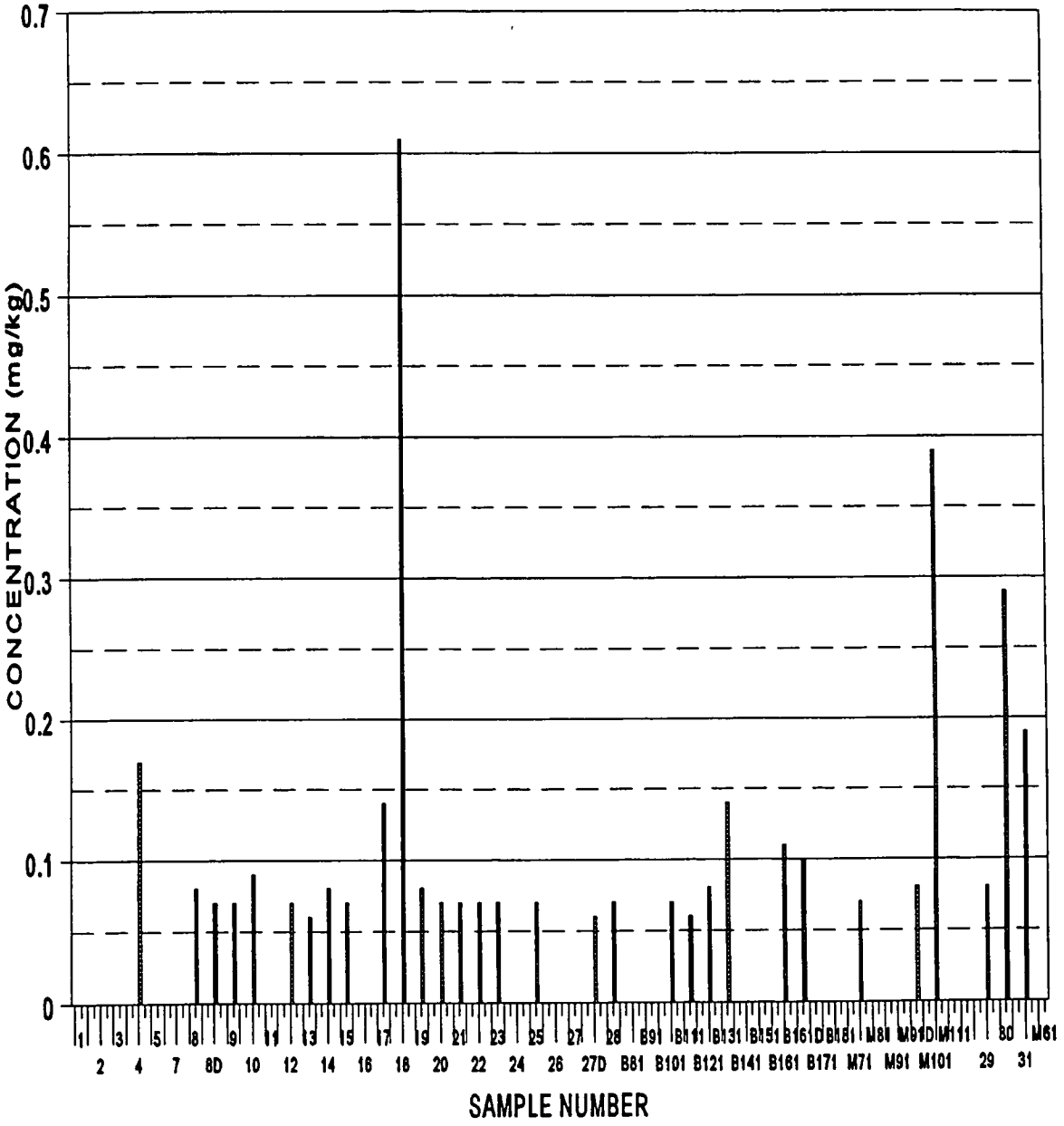
SURFACE SOIL DATA

MANGANESE CONCENTRATION



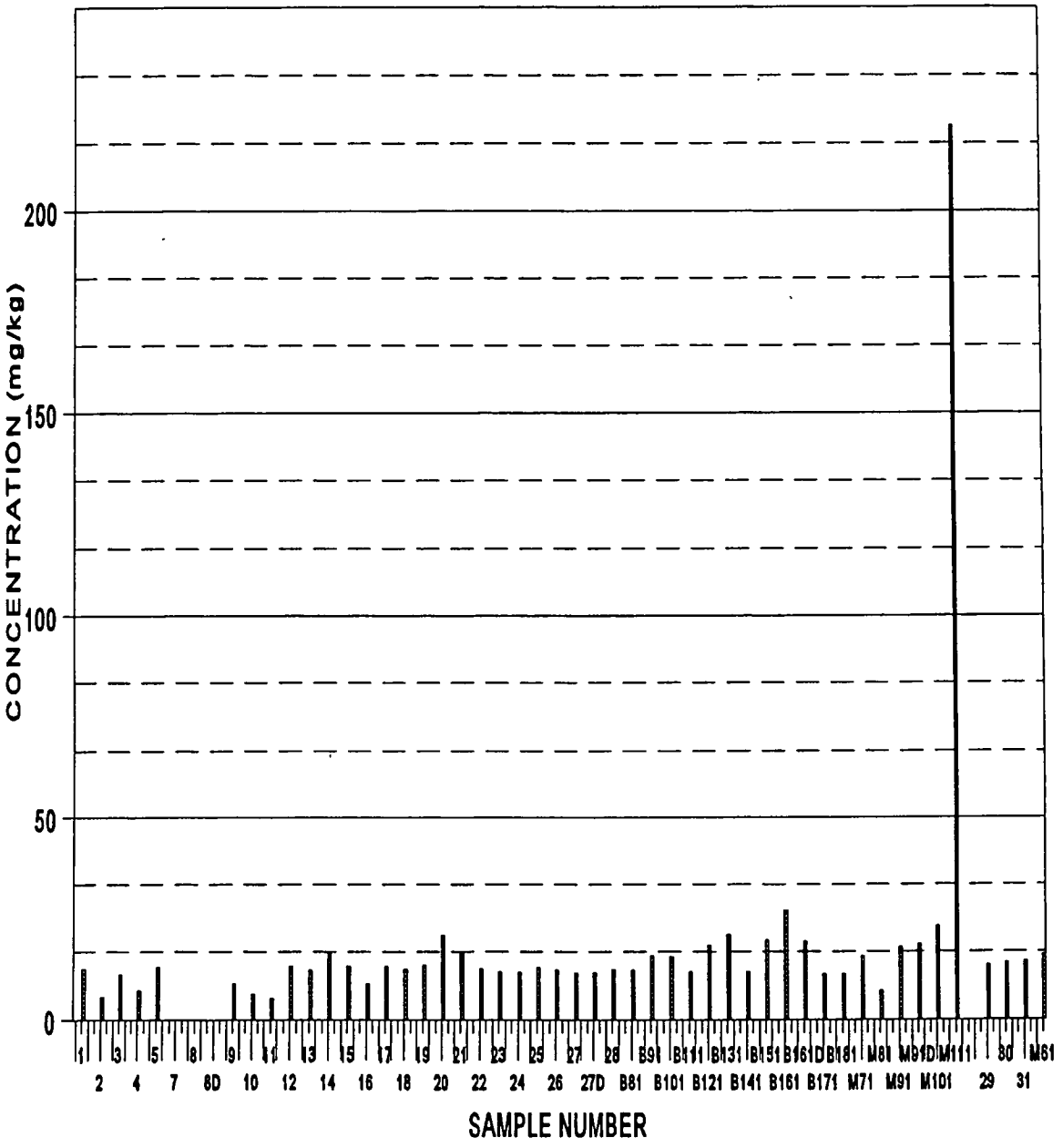
SURFACE SOIL DATA

MERCURY CONCENTRATION



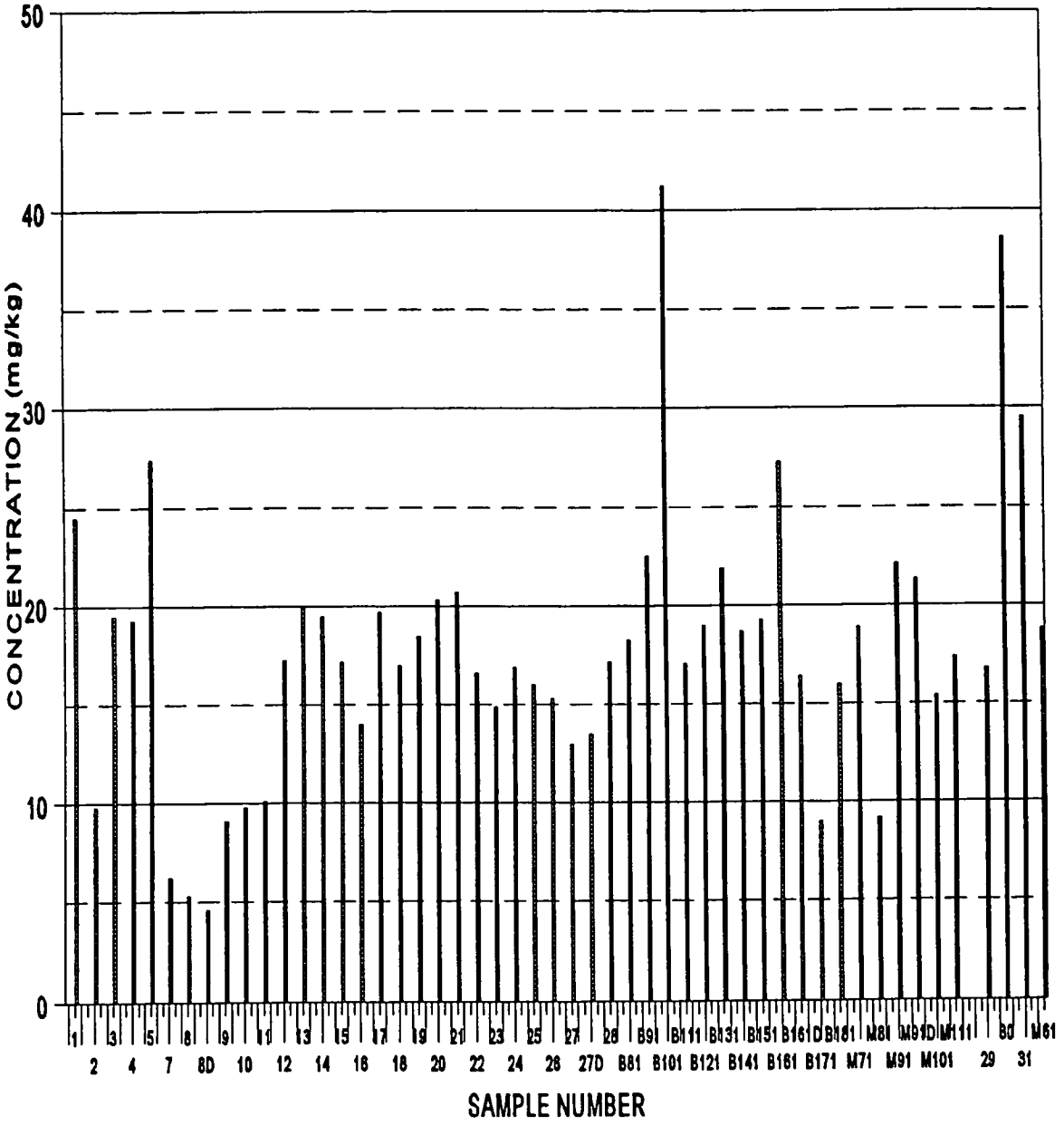
SURFACE SOIL DATA

NICKEL CONCENTRATION



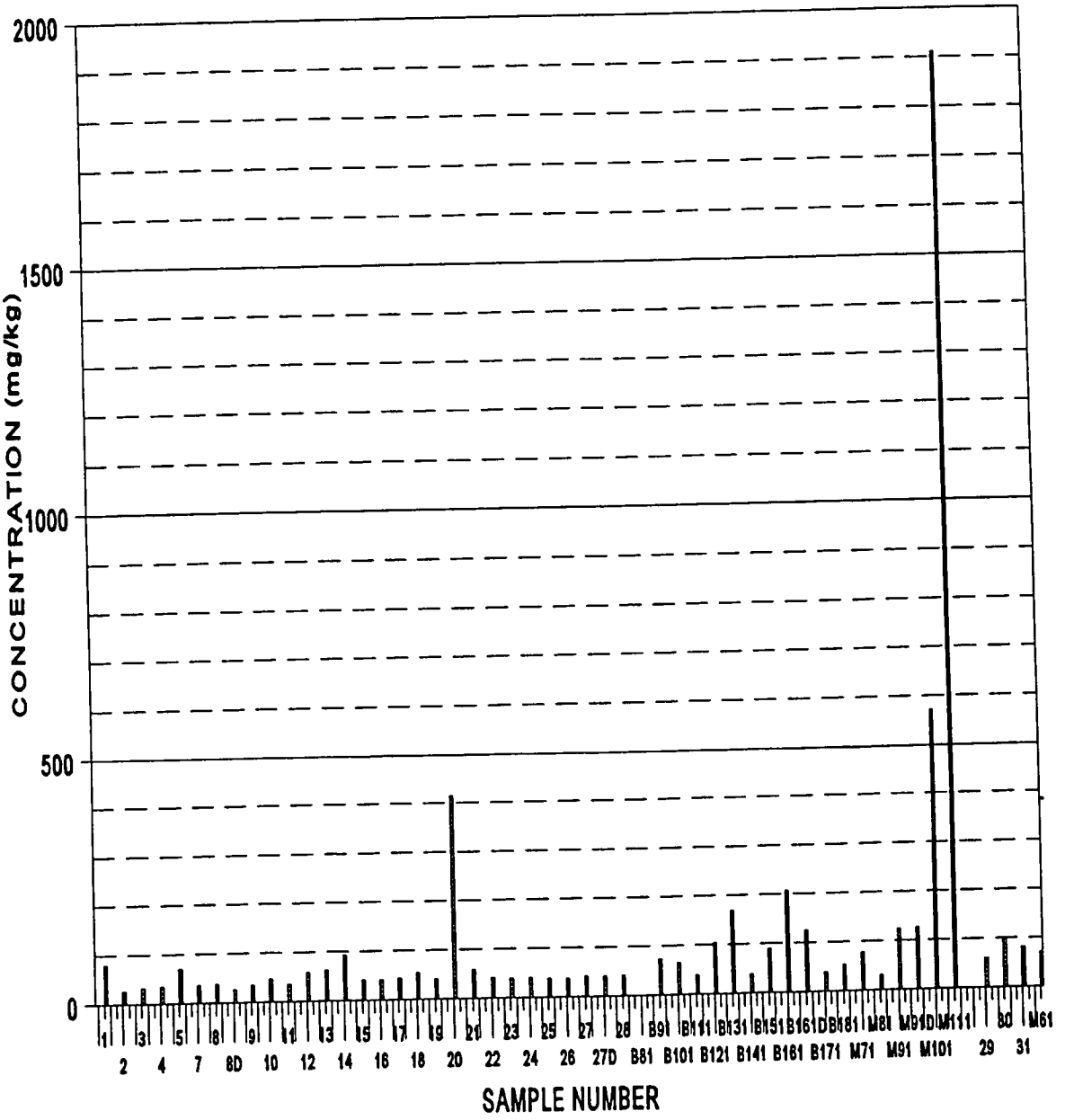
SURFACE SOIL DATA

VANADIUM CONCENTRATION



SURFACE SOIL DATA

ZINC CONCENTRATION



APPENDIX N-3

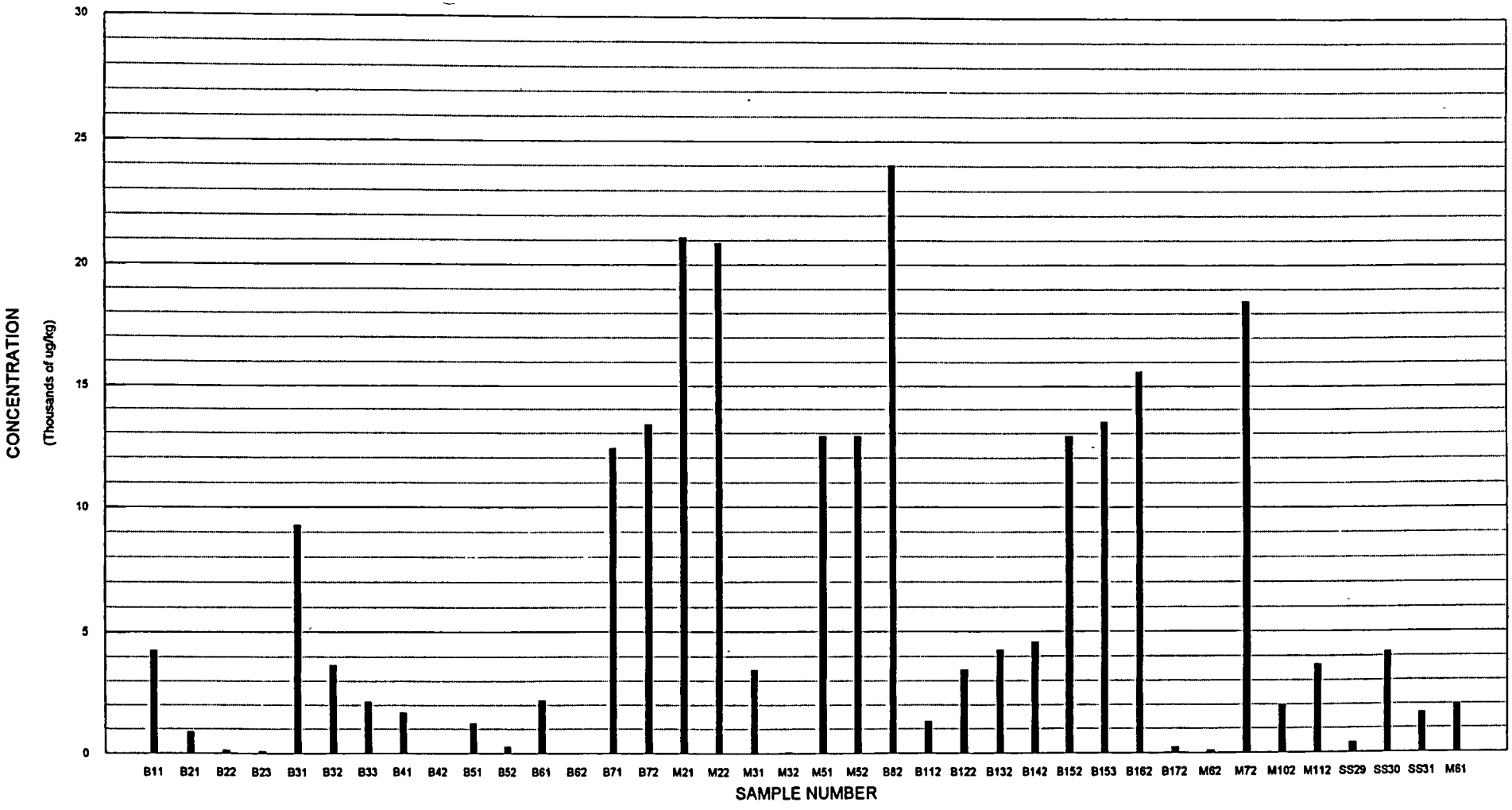
- SUBSURFACE SOIL SEMIVOLATILE ORGANICS -

- TOTAL SVOCs
- TOTAL PAHs
- TOTAL CaPAHs

SUBSURFACE SOIL

TOTAL SVOCs DATA

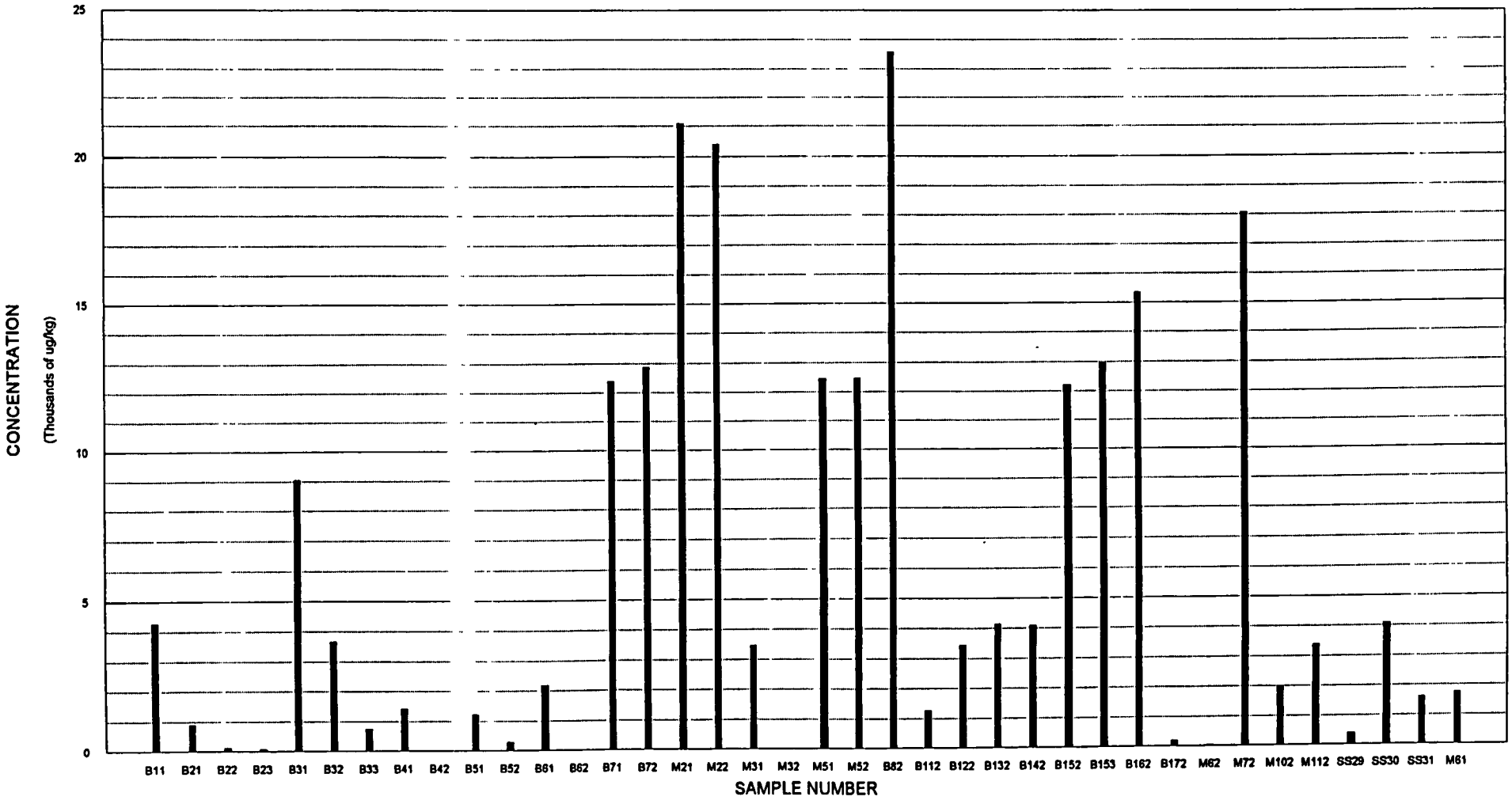
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

TOTAL PAHs DATA

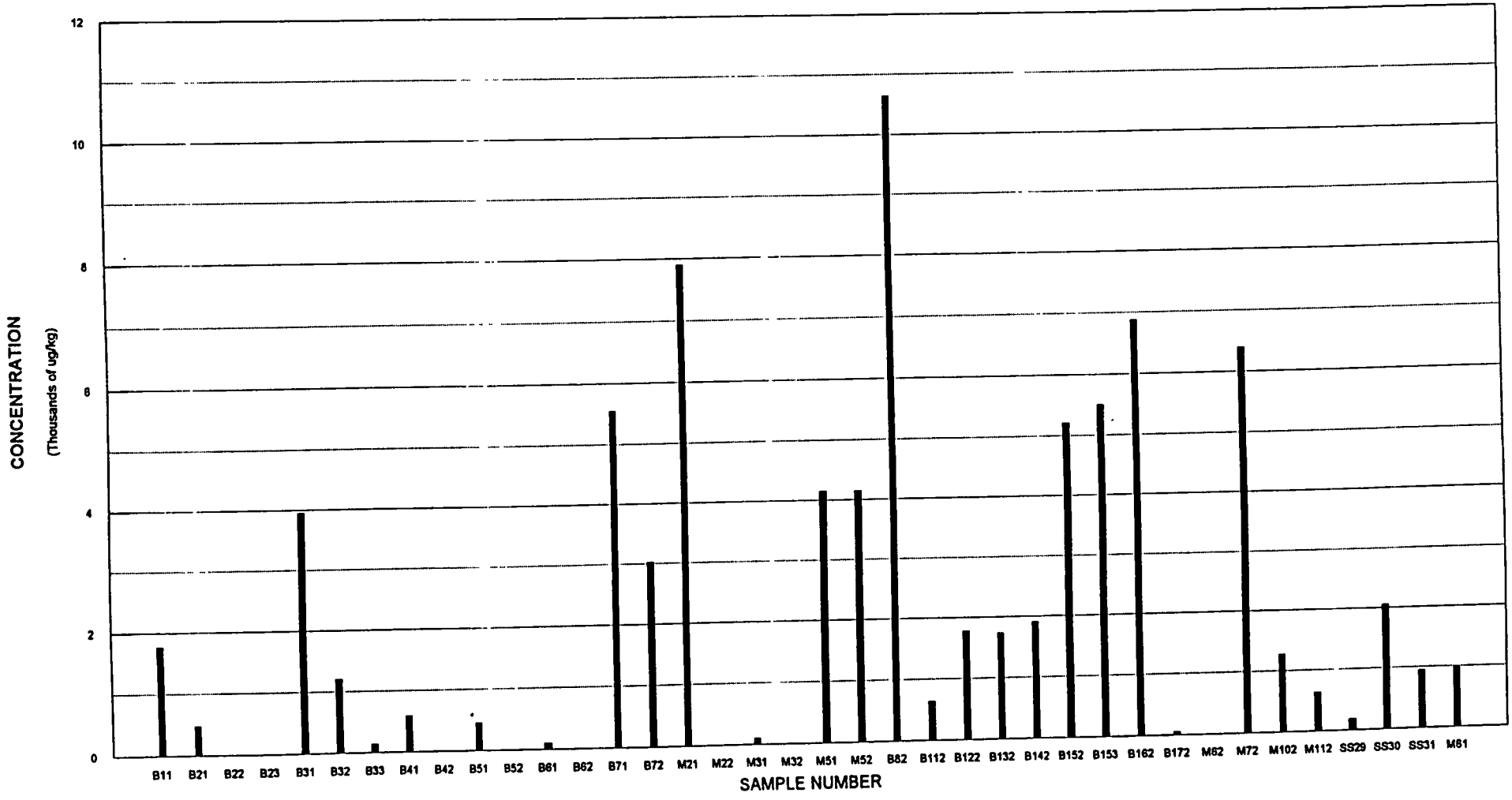
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

TOTAL CaPAHs DATA

(Note: Includes surface soil sample background data for comparison.)



APPENDIX N-4

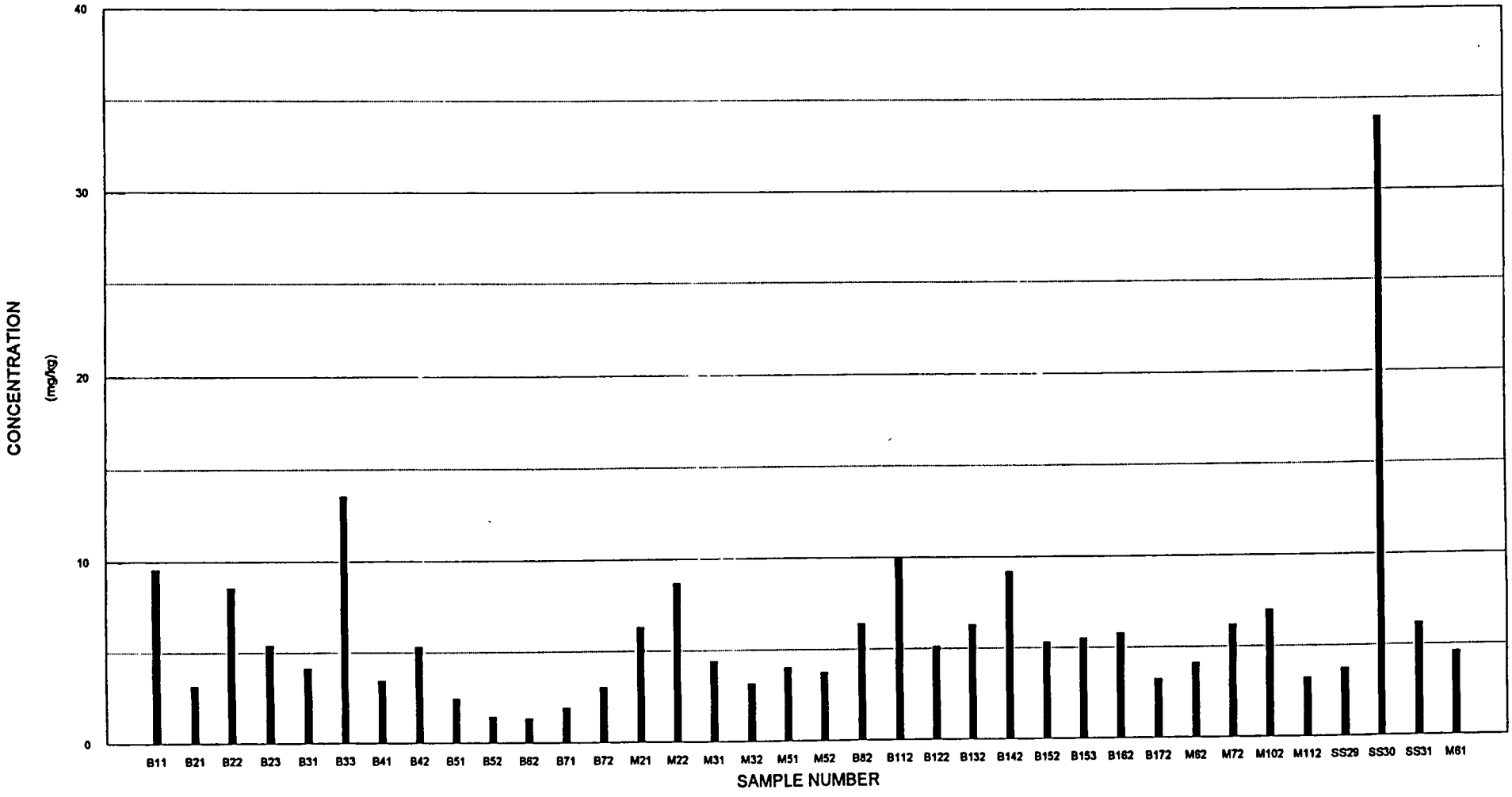
- SUBSURFACE SOIL METALS -

- ARSENIC
- BARIUM
- BERYLLIUM
- CHROMIUM
- COBALT
- COPPER
- LEAD
- MANGANESE
- MERCURY
- NICKEL
- VANADIUM
- ZINC

SUBSURFACE SOIL

ARSENIC DATA

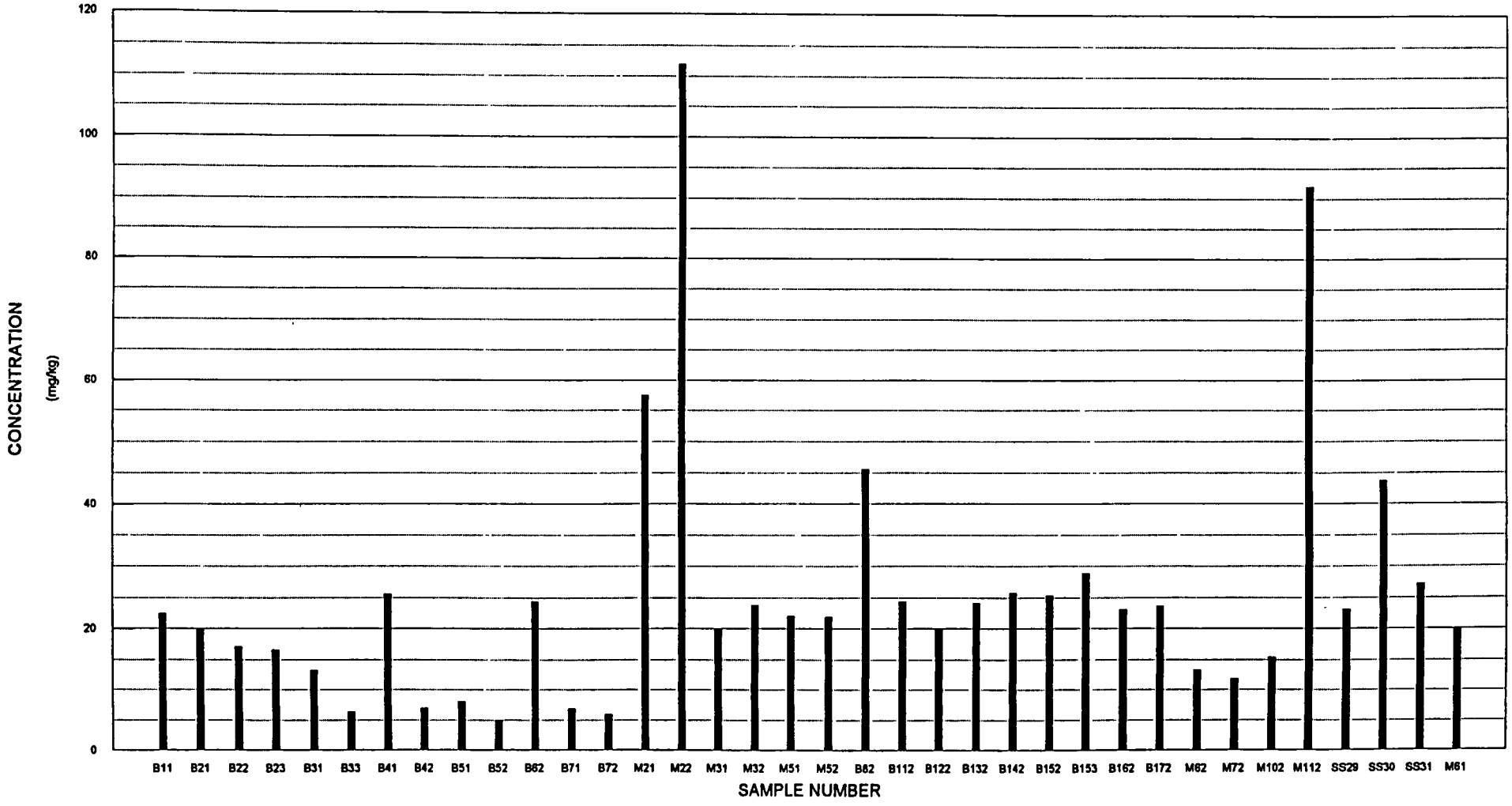
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

BARIUM DATA

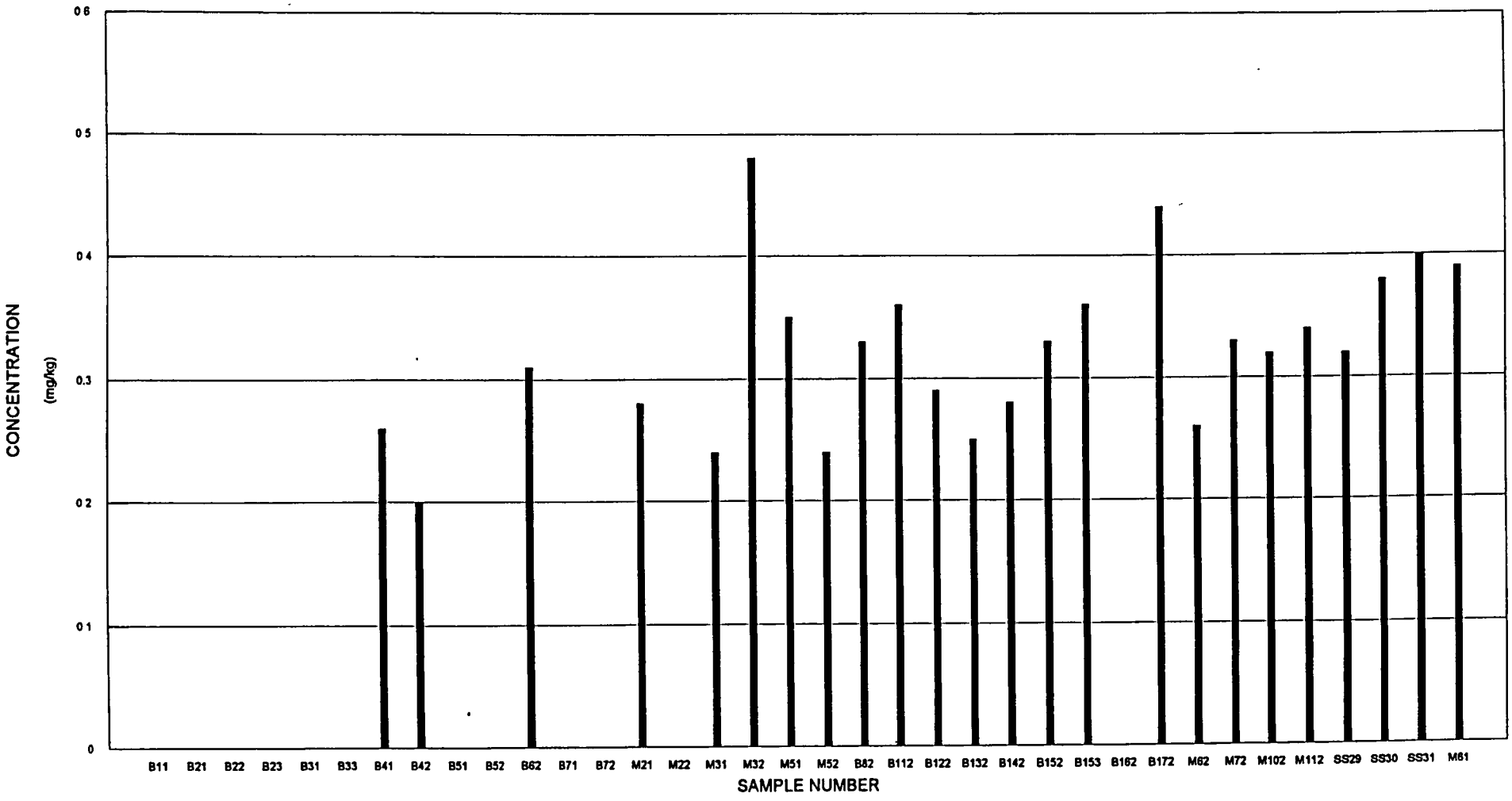
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

BERYLLIUM DATA

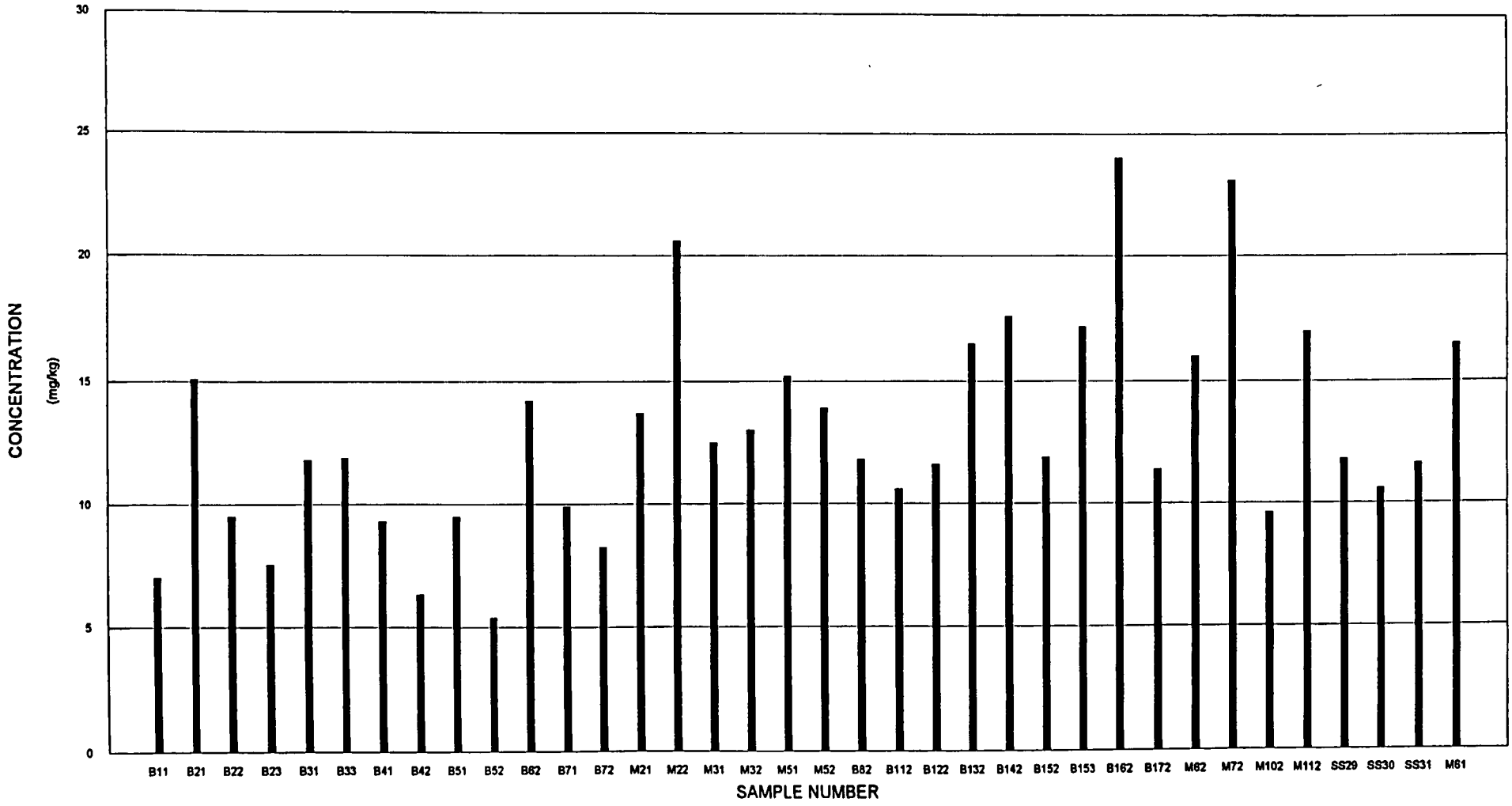
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

CHROMIUM DATA

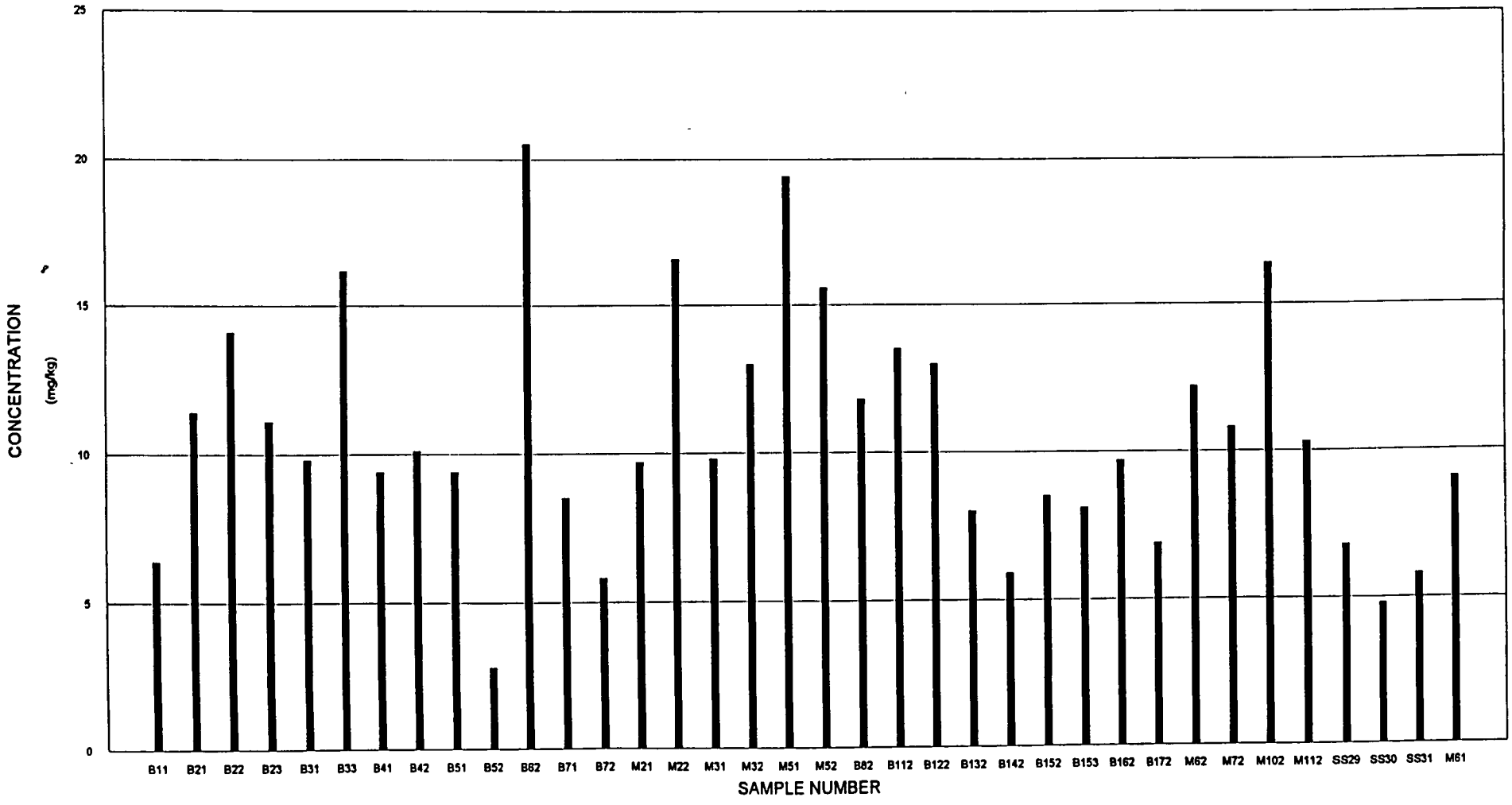
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

COBALT DATA

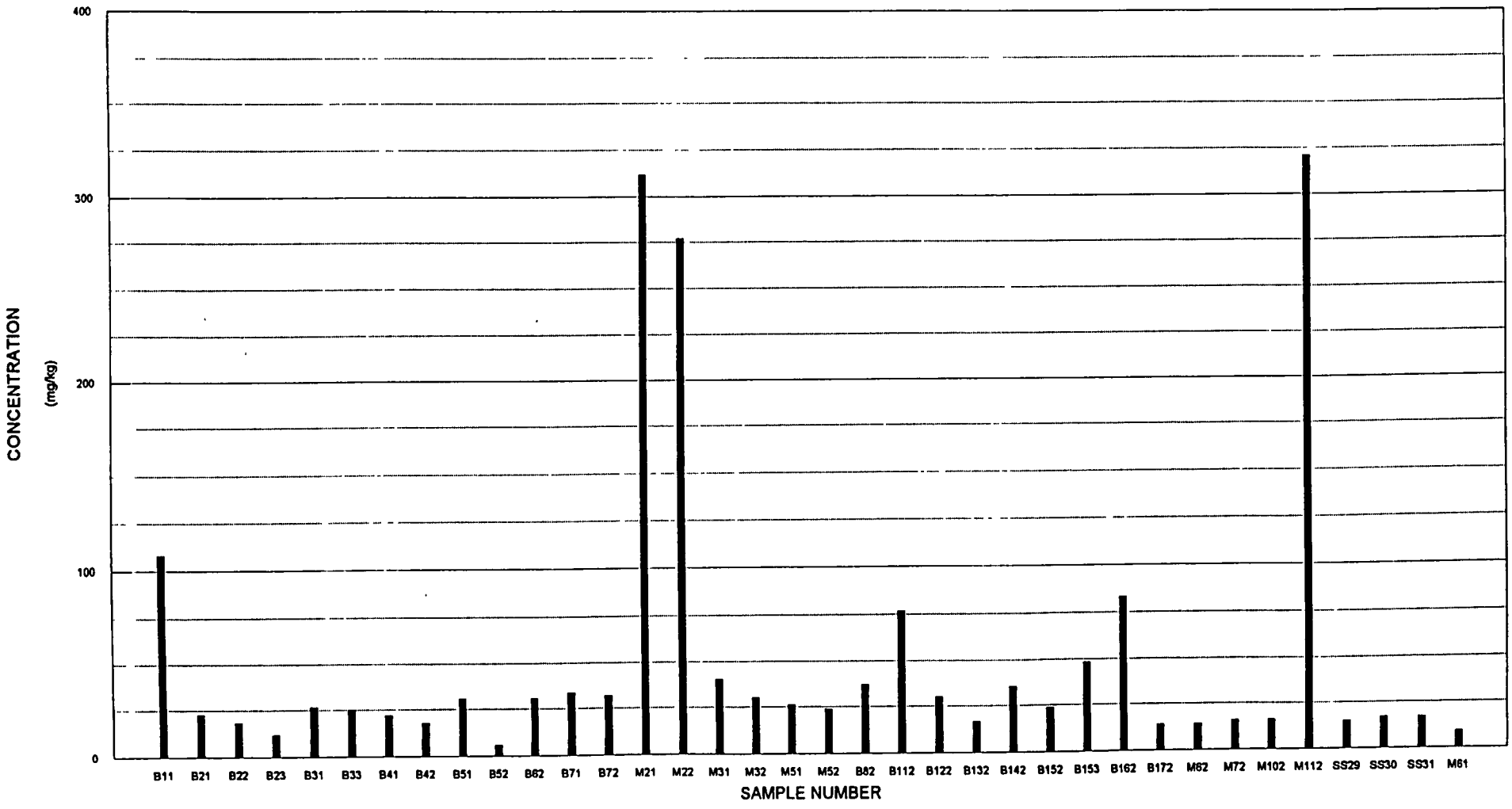
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

COPPER DATA

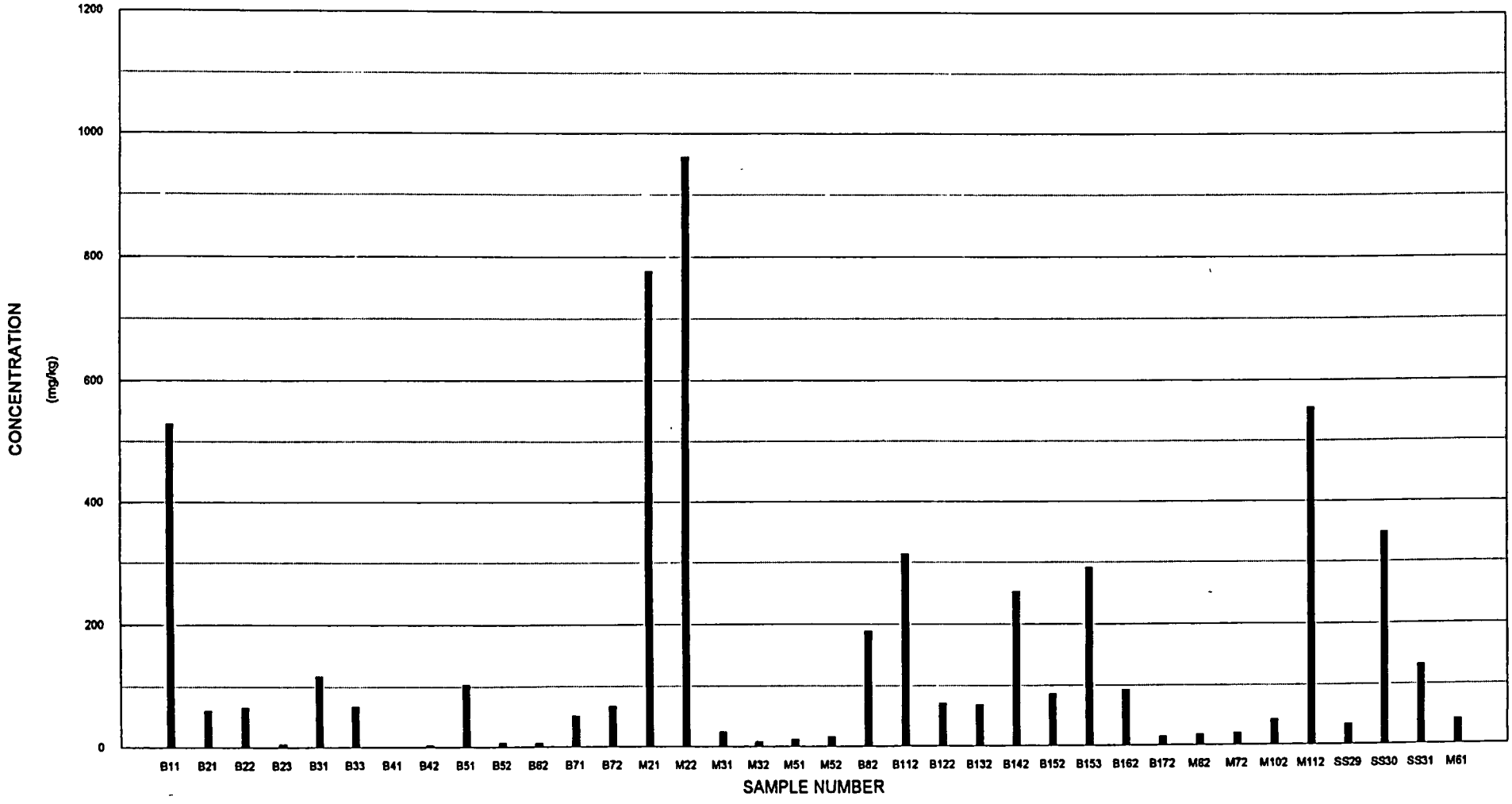
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

LEAD DATA

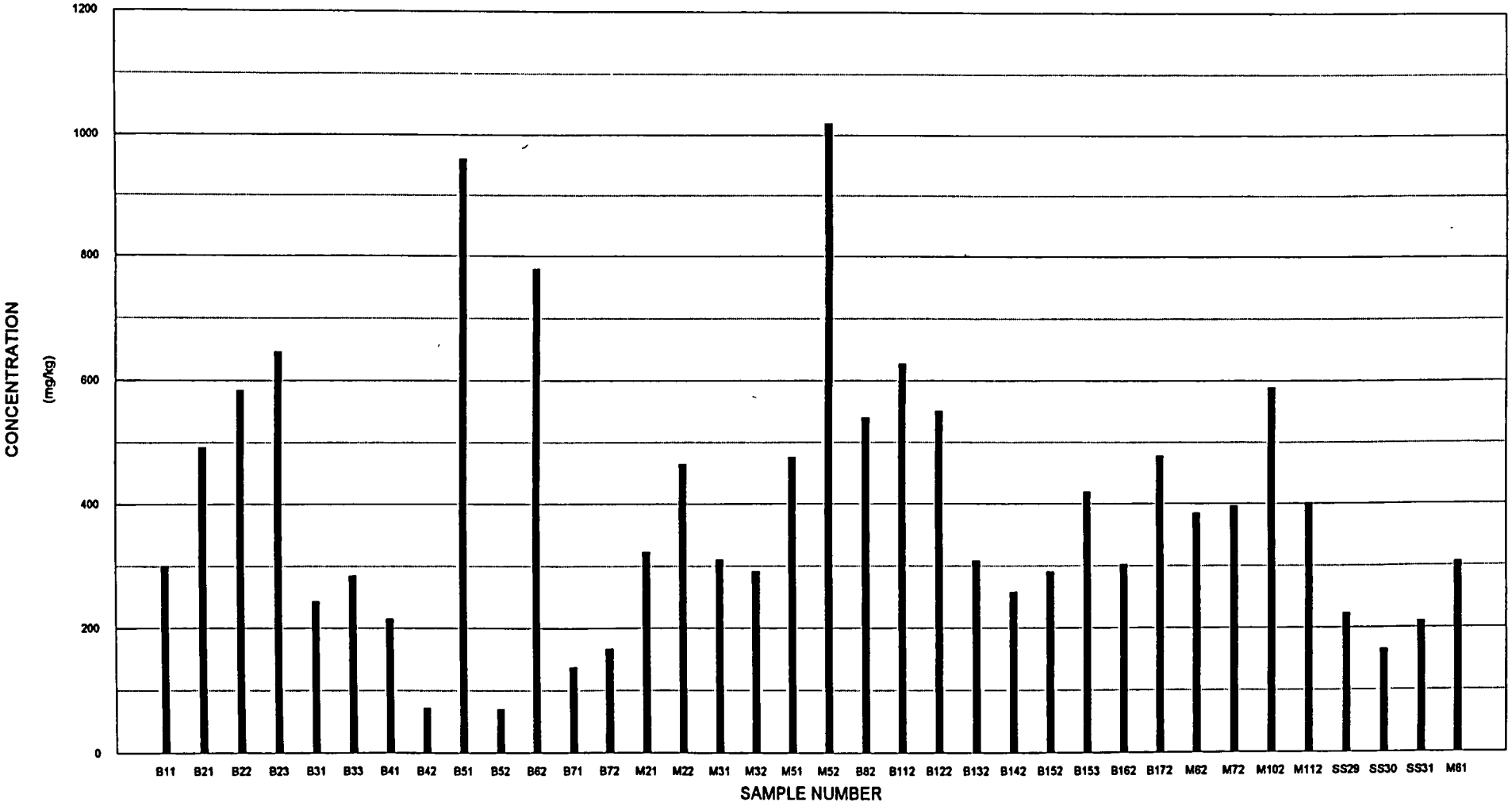
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

MANGANESE DATA

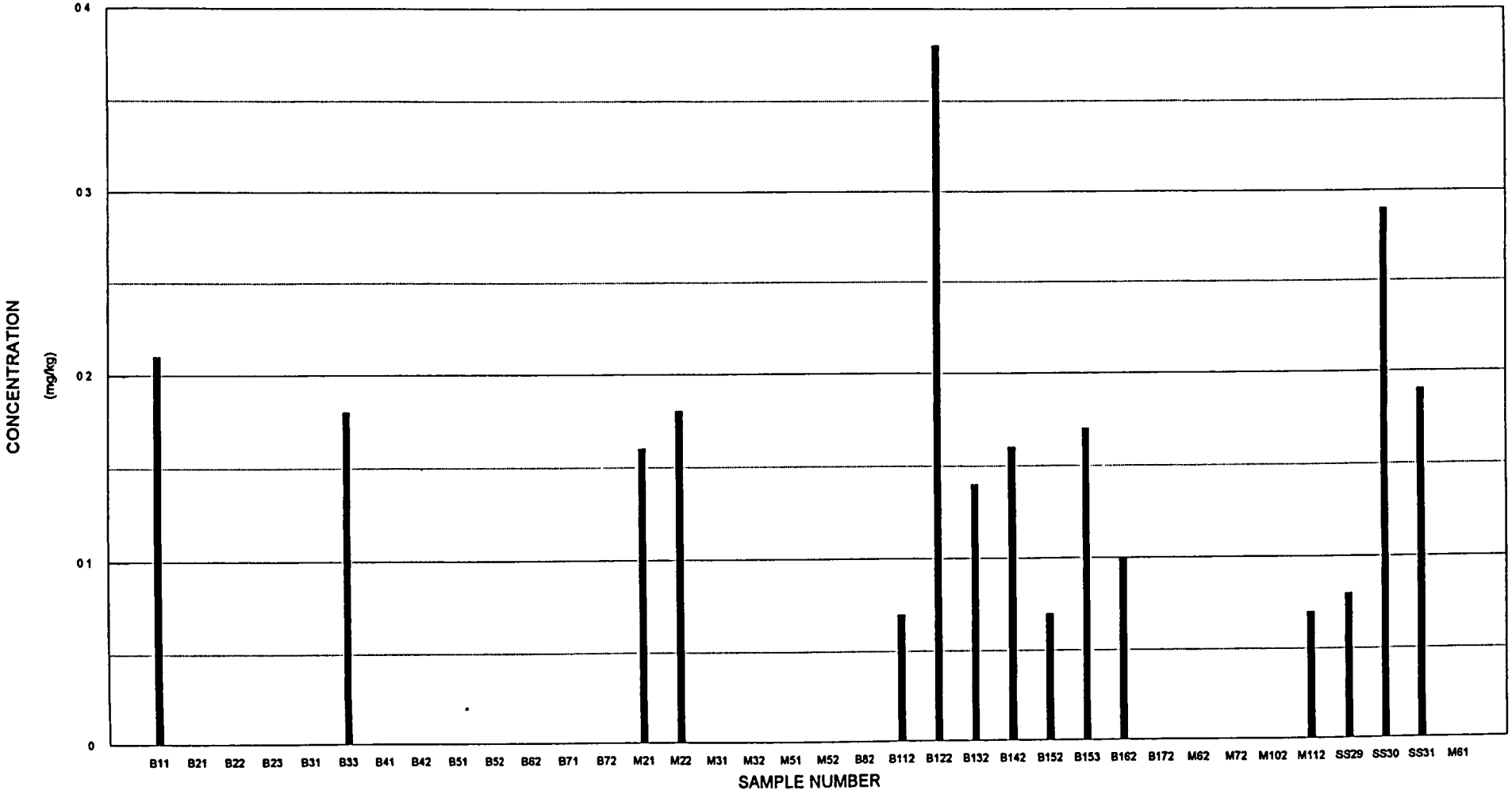
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

MERCURY DATA

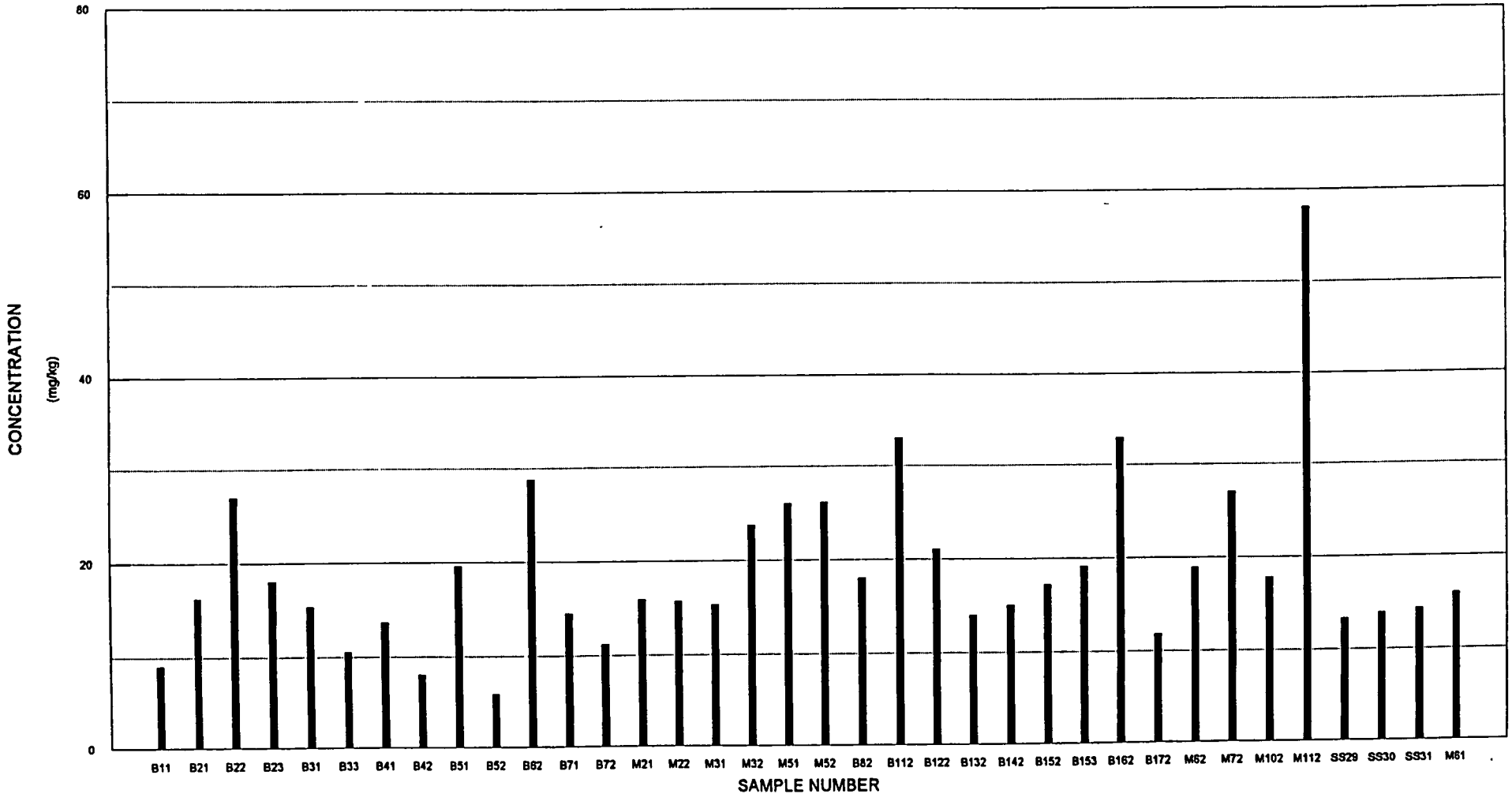
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

NICKEL DATA

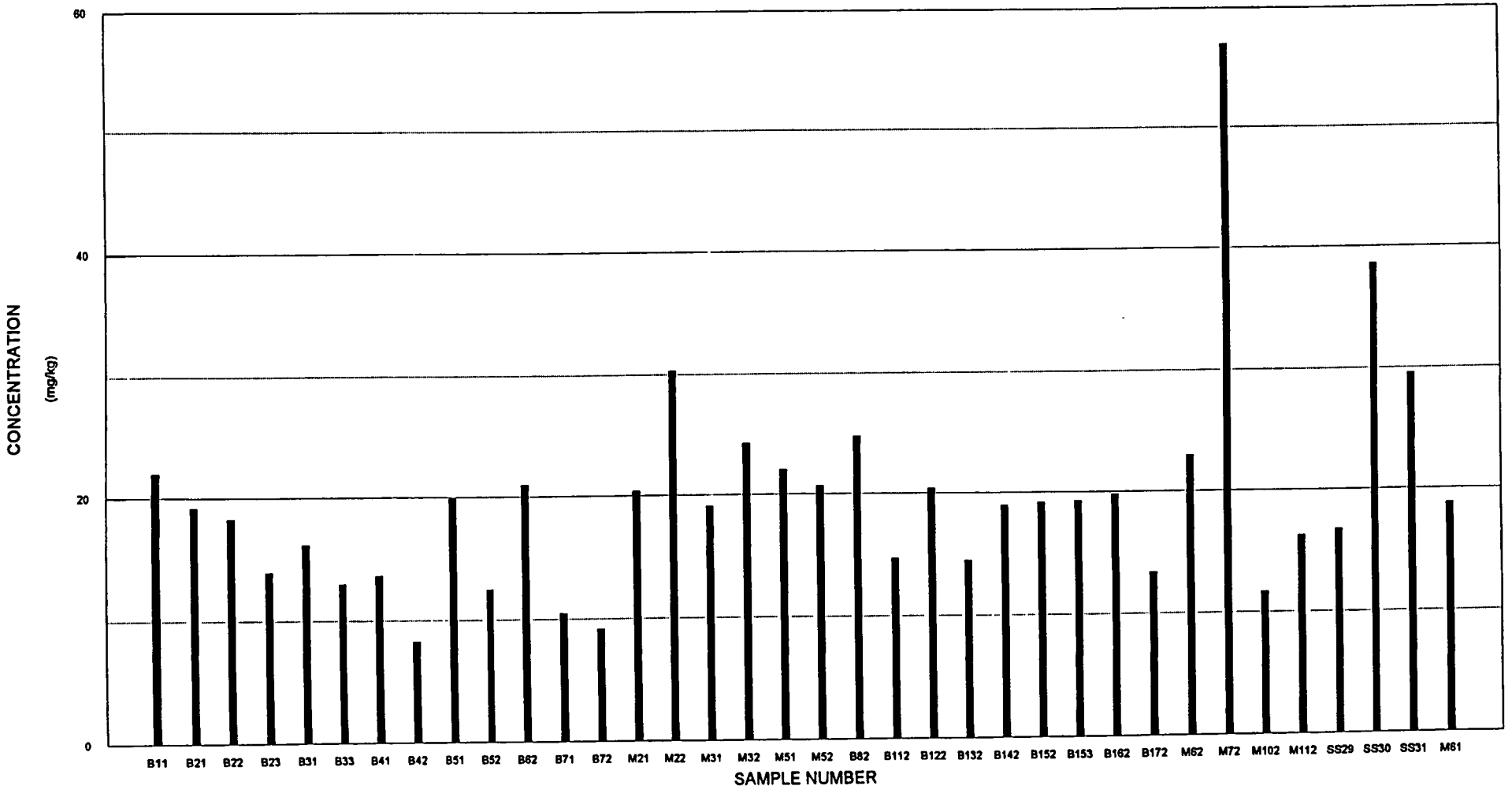
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

VANADIUM DATA

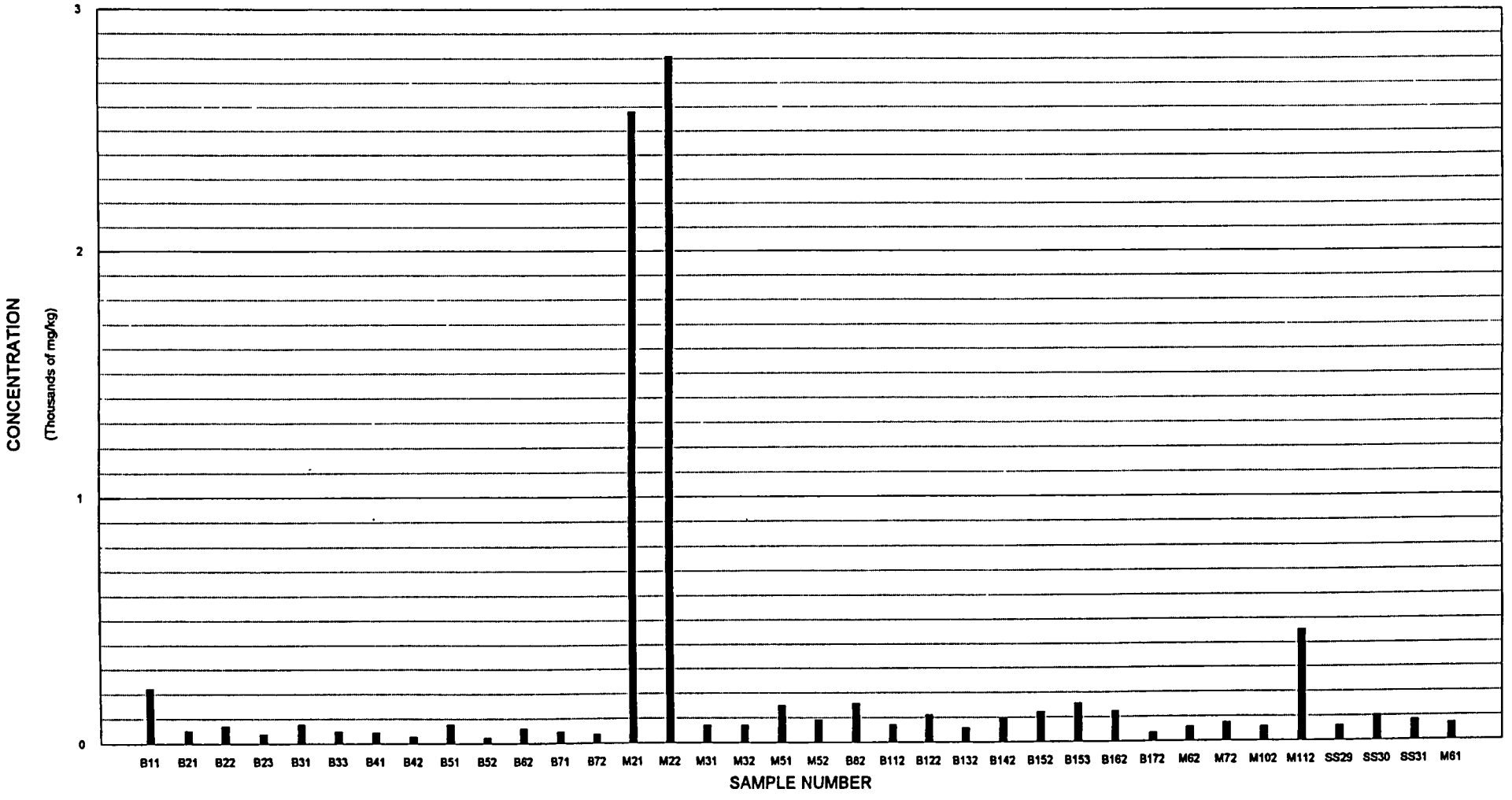
(Note: Includes surface soil sample background data for comparison.)



SUBSURFACE SOIL

ZINC DATA

(Note: Includes surface soil sample background data for comparison.)



APPENDIX O

SRE TEST PIT LOGS, SOIL BORING LOGS AND MONITORING WELL CONSTRUCTION LOGS

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-01

Rationale: Confirm/identify presence or absence of buried subsurface features (i.e. suspected UST for oil, buried piping, etc.)identified on 1953 Y&D drawing No. 637871.

Date: June 30, 1997

Dimensions: 7' x 4' x 1.5' (L x W x D)

B&RE Geologist: T. Dorgan

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: NA

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0'-0.5'	ASPHALT Steel Pipe-1.5" diameter X 12" long. Pipe was removed.		Asphalt varies from 4-6" thick.	
8" - 1'	GRAVELLY SAND. Brown, loose, well graded sand	SW	Fill.	0-1
1'	Conglomerate. Gray with slightly stretched pebbles and cobbles.		Bedrock	

General remarks: No samples collected. No visable contamination or odors, no FID readings above background. CAT 311 Excavator used.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-02

Rationale: Confirm/identify presence or absence of buried subsurface features based on a strong subsurface signal recorded during the metal and buried piping survey.

Date: June 30, 1997

Dimensions: 7' x 4' x 3.75' (L x W x D)

B&RE Geologist: T. Dorgan

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TPO2-0203

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-4"	LOAM. Brown, dry, and loose. Grass at surface.		Hollow pipe with 90° elbow and fitting.	1.7
4"-3.5'	SANDY GRAVEL. TRACE SILT. Dry, loose, lt. brown.	GM	FID from inside pipe on S-SE side.	30
3.5'	CONGLOMERATE. Slightly stretched cobbles or imbricated cobbles.		Bedrock.	

General remarks: No staining or odors noted outside of pipe. FID background = approximately 1-1.5 ppm around pipe. Inside pipe on south side is petroleum contamination (wet sediment with a petroleum odor). FID = 30 ppm in this area. Sampled 2-3" BGS area from exterior of pipe on S-SE side of excavation.

Photo Log: Video and 2-3 stills.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-03

Rationale: Confirm presence or absence of buried piping that may have led to various surface training structures (i.e. christmas trees, open fire tanks) identified on Y&D drawing No. 637871.

Date: June 30, 1997

Dimensions: 10' x 6.5' x 2.75' (L x W x D)

B&RE Geologist: T. Dorgan

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: NA

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-6"	TOPSOIL OR LOAM. Brown, dry, and loose. Grass at surface.		No petroleum contamination noted.	0.0
6"-2.5'	SANDY GRAVEL. TRACE SILT. Trace brick and concrete.	GM	Fill. No piping or metallic objects found.	0.0
2.5'	CONGLOMERATE. Slightly stretched cobbles or imbricated cobbles.		Bedrock. Poss. metals in bedrock? Iron staining noted.	0.0

General remarks: No sample collected. No evidence of any subsurface features or contamination.

Photo Log: Video and still photo.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-04

Rationale: Confirm/identify presence or absence of buried subsurface features (i.e. suspected UST for oil, buried piping, etc.)identified on 1953 Y&D drawing No. 637871. Define presence/absence of buried piping detected in TP-03.

Date: July 1, 1997

Dimensions: 15' x 10' x 3' (L x W x D)

B&RE Geologist: T. Dorgan

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-04-0102

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-6"	SILTY SAND. Topsoil or loam. Dry, loose, and brown. Grass at surface.			
6"-3'	SAND and GRAVEL. Misc. brick, glass, wood, shingles, metal debris. 2 pipes found as described in remarks.		Fill. Ist Pipe (3" steel). Open ended @ 1.75'. 2nd Pipe (4" steel). Open ended @ 1.75'.	
3'	Stopped excavation due to Potentially Asbestos-Containing Material (PACM).			

General remarks: Both pipes are dipping at low angle to the east. PACM on both sides on bottoms and lower exposed portions. The 4" pipe has a hanger still on it indicating it was not intended for underground use.
Samples taken as a composite from in and around bottom of pipes.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-05

Rationale: Confirm/identify presence or absence of buried subsurface features based on a strong signal recorded during the metal and buried piping survey.

Date: July 1, 1997

Dimensions: 15' x 4' x 8' (L x W x D)

B&RE Geologist: T. Dorgan

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-05-0708

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-6"	SILTY SAND with grass at surface. Topsoil or loam. Dry, loose and brown.			0.0
6"-5'	SANDY GRAVEL. Mostly fine to coarse gravel and cobbles up to 1.5' diam. Rounded. Trace amounts of brown wood debris at 2' depth. China fragments noted. Dry.		Fill.	
5'-8'	SANDY GRAVEL. Similar to above. Orange/brown color. Damp. Steel cable or wire at approximately 7' BGS on E-SE side of excavation.		Fill.	

General remarks: Water table at approximately 8' BGS.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-06

Rationale: Confirm/identify presence or absence of buried subsurface features (i.e. suspected UST for oil, buried piping, etc.) identified on 1953 Y&D drawing No. 637871.

Date: July 1, 1997

Dimensions: 8' x 4' x 7' (L x W x D)

B&RE Geologist: T. Dorgan

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-06-0607

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-6"	SILTY SAND beneath grassy surface. Topsoil. Root mat. Dry, loose, brown.			0.0
6"-2'	SANDY GRAVEL. Mostly fine and coarse gravel up to 2 inches, rounded. Some cobbles > 4 inches in length, rounded. Fine and medium sand, brown. Metal debris (strapping, rack scaffolding?)			
2'-7'	SANDY GRAVEL. Similar to above with concrete rubble, rebar, metal (sheet) debris, concrete footings, duct work, wood, metal strapping visible.			
7'	CONCRETE slab at base. Sounds solid. Possible foundation for former UST?			

General remarks: No groundwater visible in test pit.

Photo Log: Video and still photos.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-07

Rationale: Confirm/identify presence or absence of buried subsurface features (i.e. suspected UST for oil, buried piping, etc) based on finding of a potential concrete foundation or pad in TP-06. TP-07 excavation added at the request of RIDEM.

Date: July 2, 1997

Dimensions: 20' x 4' x 8' (L x W x D)

B&RE Geologist: R. Bastow

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-07-0708

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-6"	SILTY SAND with grass at surface. Topsoil or loam. Dry, loose, brown.	SM		0.0
6"-8'	SANDY GRAVEL. With cobbles, metal strapping, and concrete rubble with rebar.	GM	Fill.	
4'	CONGLOMERATE.		Bedrock.	

General remarks: Potential water table at 8 ft. BGS.

Photo Log: Video and 2 still photos.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-08

Rationale: Confirm/identify presence or absence of buried subsurface features (i.e. suspected UST for oil, buried piping, etc.) identified on 1953 Y&D drawing No. 637871.

Date: July 2, 1997

Dimensions: 16' x 4' x 4' (L x W x D)

B&RE Geologist: R. Bastow

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-08-0304

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-6"	TOPSOIL or LOAM with grass at surface.	SM		0.0
6"-2.5'	SAND AND GRAVEL with cobbles. Brown. Pipe running NW-SE. Pipe is black iron pipe (6" sewer pipe?).	GM		
2.5'	SHALE.		Bedrock.	

General remarks: No groundwater encountered.

Photo Log: Video.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-09

Rationale: Confirm/identify presence or absence of buried subsurface features based on a strong signal recorded during the metal and buried piping survey, the presence of surface scars on the ground in this location, and on the absence of a UST in TP-08.

Date: July 2, 1997

Dimensions: 13' x 4' x 3' (L x W x D)

B&RE Geologist: R. Bastow

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: NA

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-1'	TOPSOIL with grass at surface.	SM		0.0
1'-3'	SANDY GRAVEL with cobbles.	GW		
3'	CONGLOMERATE.		Bedrock.	

General remarks: No subsurface features, stained soil, or groundwater encountered.

Photo Log: Video and still photos.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-10

Rationale: Confirm/identify presence or absence of buried subsurface features (i.e. suspected UST for gasoline, buried piping, etc.) identified on 1953 Y&D drawing No. 637871.

Date: July 2, 1997

Dimensions: 11' x 4' x 9" (L x W x D)

B&RE Geologist: R. Bastow

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: NA

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-9"	TOPSOIL with grass at surface.	SM		0.0
9"	CONCRETE slab with exposed rebar.			

General remarks: NA

Photo Log: Video and still photos.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-11

Rationale: Reconfirm presence or absence of buried subsurface features adjacent to former Building 134, based on refusal in TP-10 (i.e. foundation).

Dat : July 2, 1997

Dimensions: 15' x 4' x 6' (L x W x D)

B&RE Geologist: R. Bastow

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-11-0506

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-6"	TOPSOIL with grass at surface.	SM		0.0
6"-5'	GRAVELLY SAND. Pieces of brick and concrete.	GM	Fill.	
5'-6'	GRAVELLY SAND. Similar to above but stained black, saturated with petroleum. Metal frame and cable.			35

Gen ral remarks: Water table at 6 ft. BGS. Strong petroleum odor.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-12

Rationale: Confirm/identify presence or absence of buried subsurface features (i.e. suspected UST for gasoline, buried piping, etc.) identified on 1953 Y&D drawing No. 637871

Dat : July 2, 1997

Dimensions: 10' x 4' x 5' (L x W x D)

B&RE Geologist: R. Bastow

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-12-0405

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-8"	TOPSOIL with grass at surface.	SM		0.0
8"-5'	SANDY GRAVEL. Pieces of clay tile pipe and brick. A pipe containing petroleum was encountered at 5'.	GM	Fill.	

General remarks: NA

Photo log: Video and still photos.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-13

Rationale: Confirm/identify presence or absence of buried subsurface features (i.e. suspected oil/water separator) and further evaluate the nature of the buried/interior materials of the central mound.

Date: July 3, 1997

Dimensions: 24' x 4' x 7' (L x W x D)

B&RE Geologist: R. Bastow

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-13-0607

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-9"	TOPSOIL with grass at surface.	SM		0.0
9"-7'	SAND AND GRAVEL. SOME SILT. Concrete pieces 4-6" in length. Top of concrete foundation at 4' BGS.	GM	Fill.	0.0
7'	SAND AND GRAVEL. Similar to above but oil-stained. Water seeps in from sidewalls at 7'.			3.2

General remarks: Test pit did not locate the bottom of the foundation. Sample taken from area in which the MicroFID reading of 3.2 ppm was obtained.

Photo log: Video and still photos.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-14

Rationale: Confirm/identify presence or absence of buried piping associated with the former location of Building 132.

Date: July 3, 1997

Dimensions: 31' x 4' x 4.5' (L x W x D)

B&RE Geologist: R. Bastow

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-14-0304

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-9"	TOPSOIL with grass at surface.	SM		0.0
9"-4'	SAND AND GRAVEL. SOME SILT. Cobbles.	GM		
4'-4.5'	SAND AND GRAVEL. Similar to above but potentially petroleum impacted. Brown stained soils. Water table at 4.5' BGS.			2-10

General remarks: Test pit did not locate subsurface features or fill debris. Sample taken from approximately 4 feet in depth in area of soils with petroleum odor.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-15

Rationale: Confirm/identify presence or absence of buried piping associated with the former location of Building 132.

Date: July 3, 1997

Dimensions: 26' x 4' x 5' (L x W x D)

B&RE Geologist: R. Bastow

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-15-0506

Depth	Description	USCS	Remarks	MicroFID Reading (ppm)
0-1'	TOPSOIL with grass at surface.	SM		0.0
1'-4.5'	SAND AND GRAVEL. SOME SILT. Construction debris including bricks, small pieces of concrete, and steel debris.	GM	Fill.	
4.5'-5'	SAND AND GRAVEL. Similar to above but potentially petroleum impacted. Black soil. Water table at 5' BGS.			2-10

General remarks: Fill material consists largely of brick and metal debris.

Photo log: Video and still photos.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-16

Rationale: Further evaluate the nature of a suspected foundation for the oil/water separator. Widened excavation at the request of RIDEM.

Date: July 7, 1997

Dimensions: 12.6' x 4' x 10' (L x W x D)

B&RE Geologist: K. Jalkut

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-16-1011

Depth	Description	USCS	Remarks	PID Reading (ppm)
0-7"	SILTY SAND. Topsoil, root mat, grass. Light brown. Fine to medium sand.	SM	Fill.	0.0
7"-3'3"	SAND AND GRAVEL. Bricks, metal, rounded cobbles up to 5" in length. Fine to coarse sand.	GM		
3'3"-5'	SAND AND GRAVEL. Similar to above but color has darkened to black. Asphalt-like.			
5'-10'	SAND AND GRAVEL. Similar to above with increased corroded metal debris, bricks, and wood. Potentially oil laden soil at bottom of excavation.		Fill. PID reading taken at approximately 10 feet.	4

General remarks: NA

Photo log: Video and 3 still photos.

TEST PIT LOG
OLD FIRE FIGHTING TRAINING AREA
NETC
NEWPORT, RI

Location: TP-17

Rationale: Confirm presence/absence of buried subsurface features (i.e. piping) in proximity to approximate former location of Building 135. Confirm presence or absence of soil contaminants based on the previous discovery of petroleum-like substances in a utility trench excavated parallel to the fence line.

Date: July 7, 1997

Dimensions: 16' x 3.5' x 9' (L x W x D)

B&RE Geologist: K. Jalkut

Excavation Subcontractor: Franklin Environmental Services, Inc.

Sample ID: OFF-S-TP-17-0809

Depth	Description	USCS	Remarks	PID Reading (ppm)
0-1'	SILTY SAND. Topsoil, root mat, grass. Light brown. Dry.	SM	Fill.	0.0
1'-3'	SAND AND GRAVEL. SOME SILT. Fine to coarse sand. Coarse rounded gravel. Light brown. Cobbles > 5 inches.	GM		
3'-9'	SAND AND GRAVEL. SOME SILT. Fine to coarse sand. Dark brown, dry. Fewer cobbles than above.		Water with light brown oil on top enters side of excavation at approximately 8'.	9

General remarks: Petroleum odors encountered at water table, approximately 8 ft.

Photo log: Video and still photos.

BORING LOG FOR: NETC Newport, OFFTA
PROJECT NO: 7578
LOGGED BY: M. Healey
DRILLED BY (Company/Driller): EDI / Scott
GRD. SURFACE ELEVATION:
ELEVATION FROM:

BORING NO.: MW-101
START DATE: 070997
COMPLETION DATE: 070997
MON. WELL NO.: MW-101
CHECKED BY:

TRANSCRIBED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID Head Space]
	15 43	18/24	S-1 0730	1.0		Brown	Silty SAND; fine sand with silt + roots, Brick (Loam) Fill	SM	dry	
2	50 27									
	32 28	18/24	S-2 0800			Gray	Silty sand; medium to fine sand with some silt and trace gravel (Fill)	SM		0.0 ppm
4	17 26									
	11 14	14/24	S-3 0830	5.0						
6	9 9									
	4 3	20/24	S-4 (Lab Sample) 0845			Gray	Silty gravelly sand; fine to coarse sand with some sil plastic fines (till) angular gravel to 1.5 in.	SM/GM	S-3 odor + sheen	
8	3 3									
	38 42	16/24	S-5 0912		Dense	Gray/Black			S-4 oil odor + sheen (Sample for lab)	
10	60 58									
	43 26	24/24	S-6 0940				S-5 Silty gravelly sand, fine-coarse sand with sil plastic fines gravel to 1 1/4 in. (angular) till		S-5 oil sheen + odor	
12	38 66									
	38 65	13/24	S-7 1010						S-6 no sheen no odor.	
	120/1									

TYPE OF DRILLING RIG:
METHOD OF ADVANCING BORING:
METHOD OF SOIL SAMPLING:
METHOD OF ROCK CORING:

FID Broke @ 0800 hrs.

GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

Brown & Root Environmental

BORING NO.: 101

PAGE: 1 of 1

BORING LOG FOR: NER Newport RI / OFFTA
PROJECT NO: 7578
LOGGED BY: M. Healy
DRILLED BY (Company/Driller): EDI / Scott
GRD. SURFACE ELEVATION:
TRANSCRIBED BY:
ELEVATION FROM:

BORING NO.: MW-102
START DATE: 07-07-97
COMPLETION DATE: 07-08-97
MON. WELL NO.: MW-102
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG./ WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID/Hnu]
	12 9	14/24	1405 hrs. S-1	0.5		Brown	Silty Sand; fine sand & silt	SM		-0-
2	15 16						some roots Loam			
	18 22	14/24	1413 hrs S-2			Brown/Black	Silty Sand; fine to medium sand	SM	moist	S-2 8ppm
4	29 36						some silt trace gravel to 1.5 m			
	31 24	9/24	1448 hrs S-3				(fill)			S-3 120ppm
6	41 58			Fill			S-3 oil in nose			
	6 3	14/24	1502 S-4				S-4 oily sand			
8	3 7						S-5 oily sand.			S-4 2,700ppm
	32 28	9/24	1530 S-5							
10	16 17								last sample 7-7-97	S-5 29ppm.
	6 8	0/24	S-6							
12	9 9								Water @ 4.5' BGS	
	9 9	6/24	S-7						0740 7-8-97	S-7 10ppm
14	12 9									
	30 28	28/24	S-8							
16	31 29						S-8			S-8 400ppm

TYPE OF DRILLING RIG:
METHOD OF ADVANCING BORING: Driven Wash (4 in)
METHOD OF SOIL SAMPLING: 3 in split (140 lbs)
METHOD OF ROCK CORING:

Background FID in Breathing Zone. 1400 hrs. 1500 hrs 1530 hrs, 2ppm @ Casing Zero ppm Breathing Zone.

GROUNDWATER LEVELS: Water @ 4.5' BGS @ 0740 7-8-97
OTHER OBSERVATIONS:

Brown & Root Environmental

BORING NO.: 102
PAGE: 1 of 2

BORING LOG FOR: NETC Newport RI / OFFTA
PROJECT NO: 7578
LOGGED BY: M. Healey
TRANSCRIBED BY:
DRILLED BY (Company/Driller): EDI / Scott
GRD. SURFACE ELEVATION:
ELEVATION FROM:

BORING NO.: MW-102
START DATE: 07-07-97
COMPLETION DATE: 07-08-97
MON. WELL NO.: MW-102
CHECKED BY:

DEPTH (FEET)	BLOWS PER 6"	SAMP REC. / SAMP LENG.	SAMPLING TIME & SAMPLE NO. (QA/QC STATUS)	DEPTH MAT'L CHG / WELL PROF'L	SOIL DENSITY/ CONSIS. or ROCK HARD.	CLR	MATERIAL CLASSIFICATION	USCS or ROCK BRKN	REMARKS (moisture condition; odors; geological classification; rock weathering; etc.)	FIELD SCREENING DATA METHOD = [FID/Head Space]
	13 14	22/24	S-9 9:50	-17-			Silty sand, mostly fine sand	SM		S-9 50ppm
18	19 23				Dense	gray	with some fine gravel to occasional			
	20 28	14/24	S-10 10:30				gravel to 1in. (till)			S-10 20ppm
20	38 50						S-10 similar to S-9			
	21 27	16/24	S-11 10:52			gray	S-11 silty sand fine-med sand	SM		S-11 8ppm
22	36 34						with some silt and sl plastic fines			
	10 18	20/24	S-12 11:07				fine gravel sub rounded to 1in.			S-12 5ppm
24	41 50						oxidized layer (till)			
	42 57	13/24	S-13 11:48				S-12 similar to S-11			S-13 5ppm.
26	70 49						S-13 similar to S-11			
	26 32	16/24	S-14 11:58							S-14 5ppm
28	43 49						S-14 similar to S-11			
	63 124	10/12	S-15 12:15				S-15 similar to S-11			S-15 5.0ppm
	60/2"			-29'2"-						

TYPE OF DRILLING RIG:
METHOD OF ADVANCING BORING:
METHOD OF SOIL SAMPLING:
METHOD OF ROCK CORING:
GROUNDWATER LEVELS:
OTHER OBSERVATIONS:

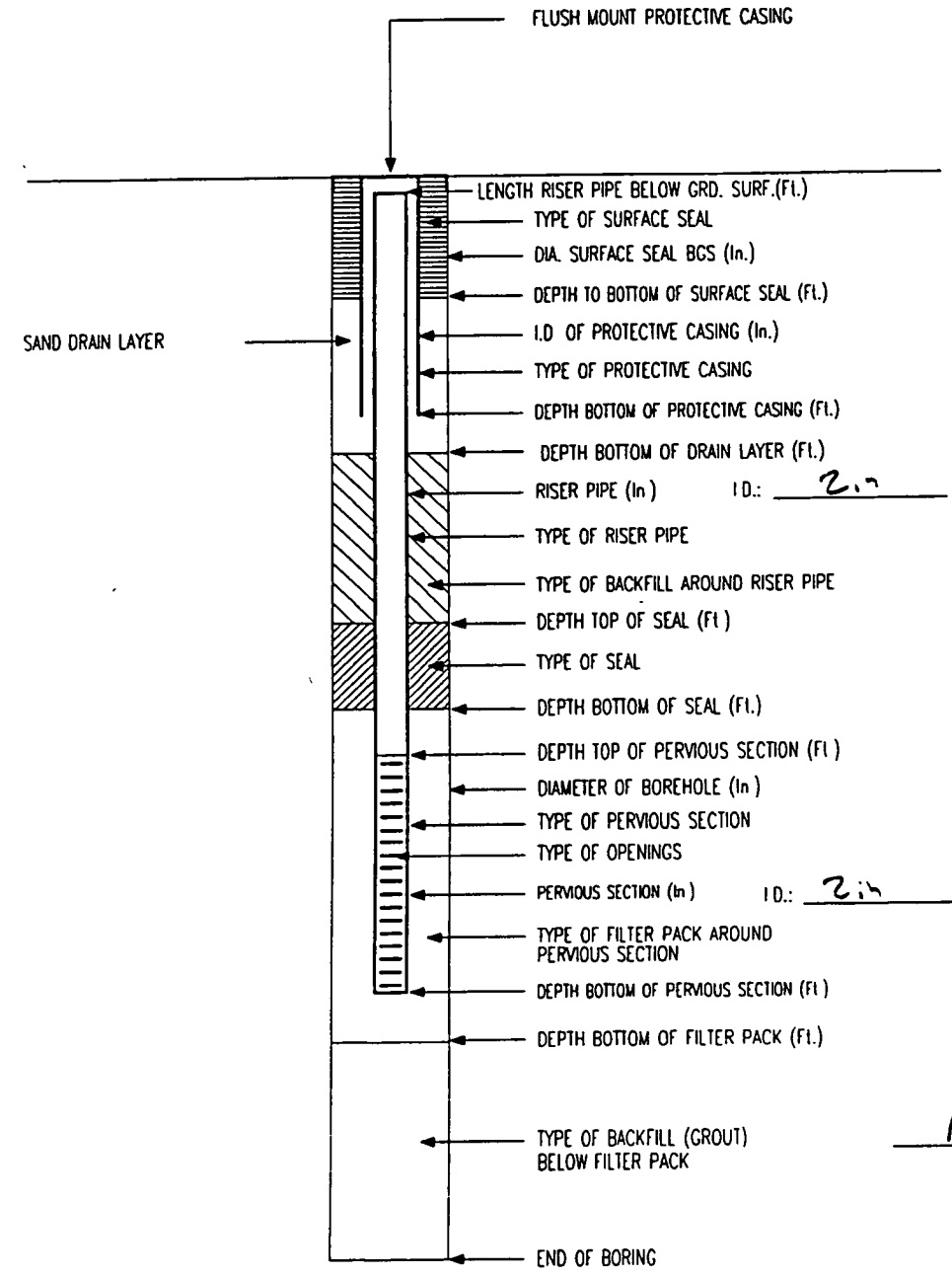
Brown & Root Environmental

BORING NO.: MW-102
PAGE: 2 of 2

FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

BROWN & ROOT ENVIRONMENTAL

PROJECT NAME:	NETC Newport OFFTA	PROJECT NO:	7578
PROJECT LOCATION:	Newport RI.	WELL NO:	101
CLIENT:	US Navy	BORING NO:	101
CONTRACTOR:	EDI	BORING LOCATION:	
DRILLER	Scott		
LOGGED BY:	M. Healy	DATE:	07-09-97
CHECKED BY:		DATE:	
		PAGE:	1 OF 1



LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.2'
TYPE OF SURFACE SEAL	Cement
DIA. SURFACE SEAL BGS (In.)	6 in.
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	1.0
I.D OF PROTECTIVE CASING (In.)	5 in.
TYPE OF PROTECTIVE CASING	Steel
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.0'
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	1.5'
RISER PIPE (In) I.D.: 2 in	O.D.: 2 3/8 in.
TYPE OF RISER PIPE	PVC
TYPE OF BACKFILL AROUND RISER PIPE	
DEPTH TOP OF SEAL (Ft)	1.5
TYPE OF SEAL	Bentonite
DEPTH BOTTOM OF SEAL (Ft.)	2.5
DEPTH TOP OF PERVIOUS SECTION (Ft)	3.0
DIAMETER OF BOREHOLE (In)	4 in.
TYPE OF PERVIOUS SECTION	PVC
TYPE OF OPENINGS	0.010
PERVIOUS SECTION (In) I.D.: 2 in	O.D.: 2 3/8
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	Fine Sand
DEPTH BOTTOM OF PERVIOUS SECTION (Ft)	8.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	9.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	Bentonite / Sand
END OF BORING	13

GENERAL NOTE

1 Entry of 0.00 for Ground Elevation indicates that Surveyed Ground Elevation is NOT Available

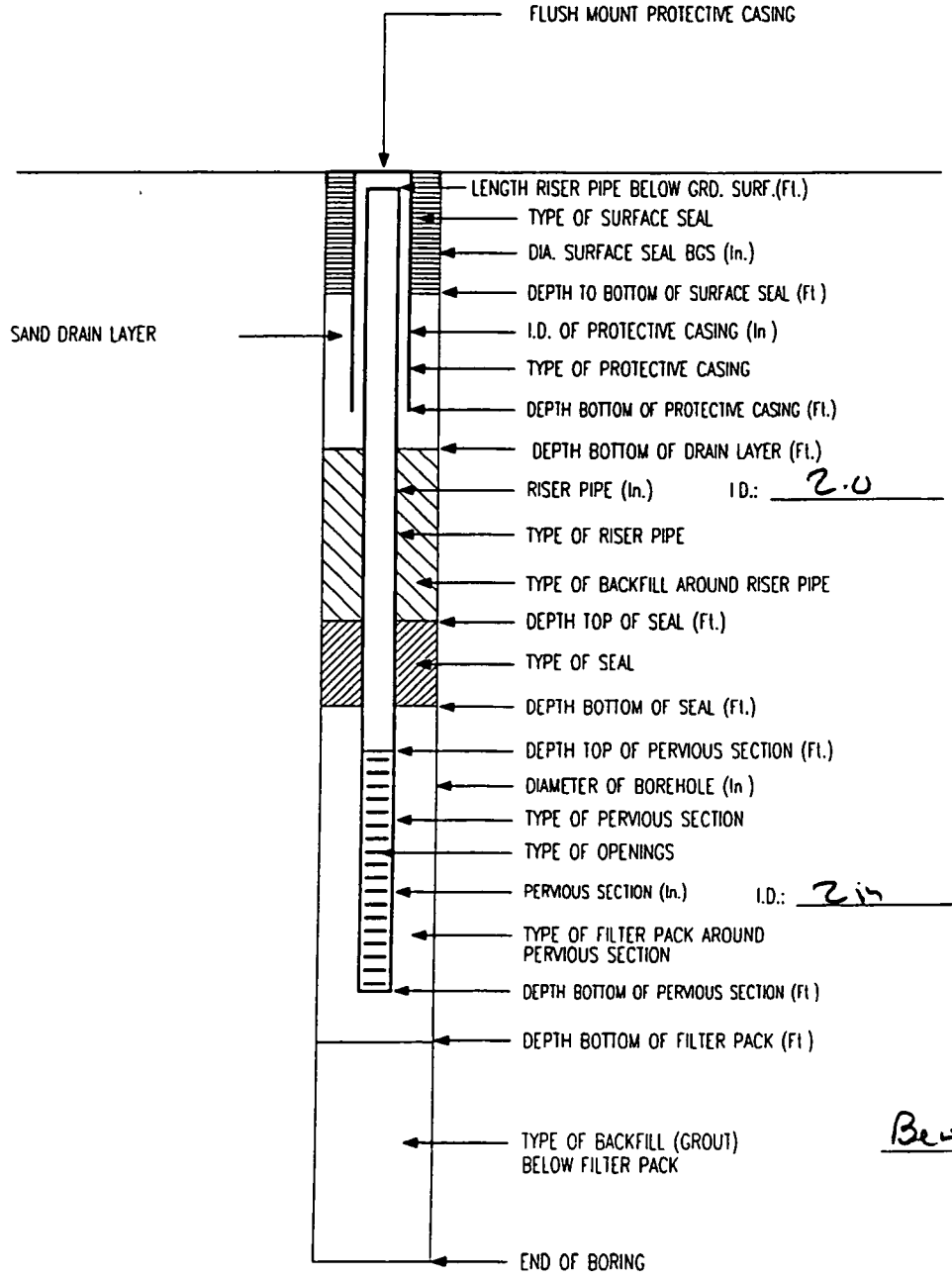
FLUSH MOUNT MONITORING WELL CONSTRUCTION LOG

BROWN & ROOT ENVIRONMENTAL

PROJECT NAME:	NETC NEWPORT / OFFA	PROJECT NO:	7578
PROJECT LOCATION	Newport RI	WELL NO:	MW-102
CLIENT:	U.S. Navy	BORING NO:	MW-102
CONTRACTOR	EDI	DRILLER:	Scott
LOGGED BY:	M. Healey	DATE:	07-08-97
CHECKED BY:		DATE:	

BORING LOCATION

PAGE: 1 OF 1



LENGTH RISER PIPE BELOW GRD. SURF.(Ft.)	0.2'
TYPE OF SURFACE SEAL	Concrete
DIA. SURFACE SEAL BGS (In.)	6.0
DEPTH TO BOTTOM OF SURFACE SEAL (Ft.)	1.0'
I.D. OF PROTECTIVE CASING (In.)	5 in.
TYPE OF PROTECTIVE CASING	Steel
DEPTH BOTTOM OF PROTECTIVE CASING (Ft.)	1.0
DEPTH BOTTOM OF DRAIN LAYER (Ft.)	1.0
RISER PIPE (In.) I.D.: 2.0 O.D.:	2 3/8 in
TYPE OF RISER PIPE	—
TYPE OF BACKFILL AROUND RISER PIPE	—
DEPTH TOP OF SEAL (Ft.)	1.0
TYPE OF SEAL	Bentonite
DEPTH BOTTOM OF SEAL (Ft.)	1.5'
DEPTH TOP OF PERVIOUS SECTION (Ft.)	2.0'
DIAMETER OF BOREHOLE (In.)	4 in.
TYPE OF PERVIOUS SECTION	PVC
TYPE OF OPENINGS	0.010 in.
PERVIOUS SECTION (In.) I.D.: 2 in O.D.	2 3/8 in.
TYPE OF FILTER PACK AROUND PERVIOUS SECTION	med-fine sand
DEPTH BOTTOM OF PERVIOUS SECTION (Ft.)	12.0
DEPTH BOTTOM OF FILTER PACK (Ft.)	13.0
TYPE OF BACKFILL (GROUT) BELOW FILTER PACK	Bentonite/Sand
END OF BORING	29.1'

GENERAL NOTE

1 Entry of 0.00 for Ground Elevation indicates that Surveyed Ground Elevation is NOT Available

TETRA TECH NUS, INC. CALCULATION WORKSHEET

CLIENT U.S. NAVY - NORTHDIVC	JOB NUMBER 5278-0531
SUBJECT OFFTA - VERTICAL HYDRAULIC GRADIENT CALC'S	
BASED ON	DRAWING NUMBER
BY T. DURGAN / CHECKED BY M. Akeley	APPROVED BY / DATE 9/21/00

METHOD = $\frac{\text{HEAD DIFFERENCE}}{\text{VERT. DIST. FROM } \nabla \text{ TO MID-PT. OF DEEPEST WELL SCREEN}}$ = VERTICAL HYD. GRADIENT

MW-6S & R : WATER TABLE ELEV. = 4.9'
MID-PT. ELEV. MW-6R = -7.19'

Δ ∇ & MID. PT. MW-6R = 12.09'
HEAD DIFFERENCE = 0.5'

$\frac{0.5'}{12.09'}$ = 0.041356 FT/FT OR 0.041 FT./FT. *

MW-11S & R : WATER TABLE ELEV. = 3.2 FT.
MID-PT. ELEV. MW-11R = -10.86 FT.

Δ ∇ & MID PT. MW-~~11~~11R = 14.06'
HEAD DIFF. MW-11S & 11R = 0.5'

$\frac{0.5'}{14.06'}$ = 0.03556 FT./FT. OR 0.036 FT./FT.

9/26/00
* DISREGARD CALCULATION FOR MW-6S/R DUE TO LACK OF SATURATED WELL SCREEN AT MW-6S. T.D.

TETRA TECH NUS, INC. **CALCULATION WORKSHEET**

CLIENT		JOB NUMBER	
SUBJECT			
BASED ON		DRAWING NUMBER	
BY	CHECKED BY M. Healey	APPROVED BY	DATE

WATER LEVELS (ELEVATION):

MW-6S = 4.9 FT. *
MW-6R = 4.4 FT.

MW-11S = 3.2 FT.
MW-11R = 2.7 FT.

SCREEN INTERVALS (ELEVATION):

MW-6S TOP = 9.59'
BOTTOM = 4.59' - MID PT. = 7.09'

MW-6R TOP = -2.19'
BOTTOM = -12.19' - MID POINT = -7.19'

MW-11S TOP = 3.85'
BOTTOM = -1.15' - MID PT. = 1.35'

MW-11R TOP = -8.36'
BOTTOM = -13.36' - MID PT. = -10.86'

9/26/00

* DISREGARD MW-6S DUE TO LACK OF SATURATED WELL SCREEN. 4.9 FT. VALUE REPRESENTS WATER TRAPPED IN SEDIMENT TRAP OF WELL. (1.1)

APPENDIX P

SRE AND PHASE III RI ANALYTICAL RESULTS

AND

RECOMMENDED BACKGROUND SOIL INORGANIC LEVELS

APPENDIX P

APPENDIX P-1	CLAM ANALYTICAL RESULTS
APPENDIX P-2	CUNNER FISH ANALYTICAL RESULTS
APPENDIX P-3	LOBSTER ANALYTICAL RESULTS
APPENDIX P-4	MUSSEL ANALYTICAL RESULTS
APPENDIX P-5	SHORELINE SEDIMENT ANALYTICAL RESULTS
APPENDIX P-6	MARINE SEDIMENT ANALYTICAL RESULTS
APPENDIX P-7	SURFACE SOIL ANALYTICAL RESULTS
APPENDIX P-8	SUBSURFACE SOIL ANALYTICAL RESULTS
APPENDIX P-9	STORMWATER ANALYTICAL RESULTS
APPENDIX P-10	UNFILTERED GROUNDWATER ANALYTICAL RESULTS
APPENDIX P-11	FILTERED GROUNDWATER ANALYTICAL RESULTS
APPENDIX P-12	UPGRADIENT UNFILTERED GROUNDWATER ANALYTICAL RESULTS
APPENDIX P-13	UPGRADIENT FILTERED GROUNDWATER ANALYTICAL RESULTS
APPENDIX P-14	RECOMMENDED BACKGROUND SOIL INORGANIC LEVELS

APPENDIX P-1

CLAM ANALYTICAL RESULTS

CLAM TAL METAL ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-10-HC-051498-AVG		OFF-11-HC-051498		OFF-12-HC-051498		OFF-14-PM-052198		OFF-15-HC-051498-AVG		OFF-15-PM-051498		OFF-16-HC-052198	
Date Sampled	5/14/98		5/14/98		5/14/98		5/21/98		5/14/98		5/14/98		5/21/98	
QC Identifier	Field Dup OFF-10-HC-051498		None		None		None		Field Dup OFF-15-HC-051498		None		None	
Interval (ft)														
ALUMINUM	574		508 7	J	518 7	J	637 8	J	1200		750 5	J	984 8	J
ARSENIC	5 5		4 4		5.4		4 6		7 2		5 5		5 5	
BARIUM	32	U	32	U	32	U	32	U	32	U	32	U	32	U
CADMIUM	8 3		6 7		8 2		6		11 2		7		9 8	
CHROMIUM	11.6		6 6	J	0 5	UJ	4 1	J	64 4		30 2	J	0 5	UJ
COPPER	5	U	5	U	5	U	5	U	5	U	5	U	5	U
IRON	422		183.3		154 1		243 4		322		438 6		314 3	
LEAD	6 2		3 9		6.9		5 2		9 9		7		6 6	
MERCURY	3 7		2 1		2 6		2 5		2 1		2 4		4	
NICKEL	29 3		18.1		24 8		23		24 1		21 8		20.4	
SILVER	0 5	U	0 5	U	0.5	U	0 5	U	0 5	U	0 5	U	0 5	U
ZINC	100		68 7		87.3		63 3		112		82 8		73 3	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc

CLAM TAL METAL ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-17-HC-051498		OFF-19-PM-052198		OFF-20-HC-051498		OFF-21-HC-051498		OFF-23-HC-051498		OFF-8-HC-051498	
Date Sampled	5/14/98		5/21/98		5/14/98		5/14/98		5/14/98		5/14/98	
QC Identifier	None		None		None		None		None		None	
Interval (ft)												
ALUMINUM	622 7	J	771.1	J	730 7	J	1163.5	J	821 8	J	536 1	J
ARSENIC	4 7		6.1		4 4		4.3		4.9		4.5	
BARIUM	32	U	32	U	32	U	32	U	32	U	32	U
CADMIUM	6 2		5 3		8 7		7 9		6 4		5 3	
CHROMIUM	3 2	J	0 5	UJ	3 1	J	0.5	UJ	0 5	UJ	0 5	UJ
COPPER	5	U	5	U	5	U	8 7		5	U	4 2	J
IRON	320.5		245 6		153 3		307.5		106 7		186 5	
LEAD	5 6		7 1		7 9		4 9		8 6		4 4	
MERCURY	3 2		3 7		2 5		2.9		2.8		1 9	
NICKEL	15.7		14		16.6		25 7		15 3		19 5	
SILVER	0 5	U	0 5	U	0 5	U	0 5	U	0 5	U	0 5	U
ZINC	64 1		58 9		61 3		92 3		80		83 9	

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max Poss Conc.

CLAM SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-10-HC-051498-AVG		OFF-11-HC-051498		OFF-12-HC-051498		OFF-14-PM-052198		OFF-15-HC-051498-AVG		OFF-15-PM-051498	
Date Sampled	5/14/98		5/14/98		5/14/98		5/21/98		5/14/98		5/14/98	
QC Identifier	Field Dup OFF-10-HC-051498		None		None		None		Field Dup OFF-15-HC-051498		None	
Interval (ft)												
1,1'-BIPHENYL	1.4		0 785783362	J	0 677347723	J	1.00387349	J	1 3		1 076300251	J
1-METHYLNAPHTHALENE	19		2 27228692	U	1 849223087	U	3.042204112	U	3 1	U	2 503088545	U
1-METHYLPHENANTHRENE	1.3		3 045291412		2 090840886		2 552301831		1 5		2 849091218	
2,3,5-TRIMETHYLNAPHTHALENE	6 5	U	1 041960148		1 219523385		1.186383088	U	1 1		1 443234686	
2,6-DIMETHYLNAPHTHALENE	1 9		1 571455998		1 321680511		2 259784487		1 8		2 128553549	
2-METHYLNAPHTHALENE	24		3 330315207	U	2 423318208	U	4 557930111	U	5 2	U	2 950133564	UJ
ACENAPHTHENE	1.7		1 522368383		1 485290903		3 376348014		1		2 070968772	
ACENAPHTHYLENE	1 3		1 555097235		2 514512222		1 817379508		2 2		1 493123112	
ANTHRACENE	7 8		4 692818331	J	4 891338484	J	4 891859647	J	3.8		3 57236804	J
BENZO(A)ANTHRACENE	6 9		5.632185766		7 327199977		16 38775276		3 1		6 595035077	
BENZO(A)PYRENE	5 1		6 084331836		4 233195263		10 25699264		2 1		4 049122912	
BENZO(B)FLUORANTHENE	6 5		8.120165823		6 183779863		11 27229596		2 9		6 572278818	
BENZO(E)PYRENE	11		14 14950656		12 48595608		11 90826562		5 7		8 139964127	
BENZO(G,H,I)PERYLENE	5 8		8 448993988	J	4 300781881	J	8 128402074	J	2 2		1 409614711	U
BENZO(K)FLUORANTHENE	7 6		9 840487608		6 355563038		14 42208032		2.8		7 991110124	
CHRYSENE	14		18.74267985		15 82714431		20 20216838		7 7		18 63248539	
DIBENZO(A,H)ANTHRACENE	7 9	U	0.965806117	J	0 633584947	U	1 439546984	U	1.1	U	1 274003992	U
FLUORANTHENE	29		38.20161621		45 41497487		35 82633108		23		36 41913195	
FLUORENE	1 2		1 604274098		2.085580907		3 025118139		1 3		2 123884419	
INDENO(1,2,3-CD)PYRENE	3 5		5 426267915	J	1.974898145	J	7 064036592	J	0 94		1 83259326	UJ
NAPHTHALENE	47		6 594828941	U	3 687230572	U	7 72212009	U	7 4	U	6 503655637	U
PERYLENE	5.1	U	3 174157124	U	2 639511527	U	4 988743337	U	4 3	U	1 596549394	U
PHENANTHRENE	16		10 85370736		11.48186671		16 80776298		6 4		10 14006475	
PYRENE	25		30 19938887		36 7022279		30 18784872		20		25.23323963	
TOTAL PAH	220		187 8557751		179 1729865		221 7015999		110		154 083384	

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed; * - From dilution analysis, R - Rejected; EMPC - Est Max Poss Conc.

CLAM SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-16-HC-052198		OFF-17-HC-051498		OFF-19-PM-052198		OFF-20-HC-051498		OFF-21-HC-051498		OFF-23-HC-051498		OFF-8-HC-051498	
Date Sampled	5/21/98		5/14/98		5/21/98		5/14/98		5/14/98		5/14/98		5/14/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)														
1,1'-BIPHENYL	0.919431195	J	1.180748452		2 043536911		1 306339132	J	1 042877096	J	1 450366771		1 865073217	
1-METHYLNAPHTHALENE	2 947074695	U	1.335845936	U	4 095960799	U	2 319225042	U	2.17359656	U	2.992909189	U	2.337716792	U
1-METHYLPHENANTHRENE	2.645318023		2 974595552		4 656824761		1 964475948		3 876910941		4 522083865		1.272930581	J
2,3,5-TRIMETHYLNAPHTHALENE	1.219498031		1.113176845		1 254552071	U	1 663607059		1 089903545		0 894472079	U	1.014906548	U
2,6-DIMETHYLNAPHTHALENE	2.356996651		1 785660655		2 866484828		2 294312471		1 877965525		2 18895924		1 861141939	
2-METHYLNAPHTHALENE	4 215847674	U	2 179916828	U	4.889098688	U	3 367583419	U	3.241110521	U	4 720864586	U	3 830123712	U
ACENAPHTHENE	2 48635574		1 664426648		4 500314387		1 609440295	U	2 230744571		4 894634968		1 226571859	J
ACENAPHTHYLENE	2 240211642		2 873217837		2 083083082		1 996459766		3.578131067		2 491898762		1 600337757	
ANTHRACENE	4 918567154	J	7 43280244	J	11 14956916	J	3 18149972	J	7.775453987	J	9 299990052	J	3 39426183	J
BENZO(A)ANTHRACENE	11 44664107		9.867671705		21 56732765		5 207552538		13 87901698		18 26060465		2 228426036	
BENZO(A)PYRENE	8 178932501		6 620497566		12 20568356		2.880726094		8 349382963		8 171594357		1.505184627	J
BENZO(B)FLUORANTHENE	12.71464449		9.55938069		14 18841024		4 850287828		11.68661971		14 66688273		3 056804922	
BENZO(E)PYRENE	18 01937599		16 24568421		13 90844787		8 30056888		17.36375661		21 41679359		5 216937205	
BENZO(G,H,I)PERYLENE	11 80313223	J	5 885722325	J	8 801942676	J	2 412600035	J	5 072391524	J	6 507080398	J	1 774951633	J
BENZO(K)FLUORANTHENE	13 86885046		10 27361154		14 80912657		4 502392414		12.15035562		13 70092808		2 056580022	
CHRYSENE	20 33602256		21 47016001		27.30154812		12 58709726		26 09935872		27 65743072		6 592832899	
DIBENZO(A,H)ANTHRACENE	1 373671199	J	0.796472643	J	2.276983253	J	1.212822893	U	1 104232371	J	0 71237675	J	1.231478832	U
FLUORANTHENE	48 59377064		55.8734904		51.80807497		30 87999502		58 73339617		77 76515177		21.21847645	
FLUORENE	2 477187934		1 984705338		5.778426146		1 383149905		2 937901414		3 384937618		1 66210512	
INDENO(1,2,3-CD)PYRENE	8.404730237	J	3 513436873	J	8.927584209	J	1.744587202	UJ	4 381433157	J	4.557747172	J	1 77142287	UJ
NAPHTHALENE	6.439924957	U	4 104770167	U	10 07671639	U	6 450457776	U	4 880359898	U	6.237078566	U	5.791901386	U
PERYLENE	3 333076001	U	2 751299828	U	5 581776773	U	2 648573139	U	4.620214998	U	3.849587836	U	1 309565922	U
PHENANTHRENE	14.61898372		13 8759304		27 57318769		7.754216506		17 82557845		18 20901371		5 978856409	
PYRENE	43 33927534		41 31929871		43 45313666		22 549702		45 2728688		64 15653696		18 8322403	
TOTAL PAH	248 8975201		226 6825236		304.5432454		130 500822		261.2435612		321 8154523		94 61302062	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed; * - From dilution analysis, R - Rejected; EMPC - Est Max Poss Conc.

CLAM PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-10-HC-051498-AVG		OFF-11-HC-051498		OFF-12-HC-051498		OFF-14-PM-052198		OFF-15-HC-051498-AVG		OFF-15-PM-051498	
Date Sampled	5/14/98		5/14/98		5/14/98		5/21/98		5/14/98		5/14/98	
QC Identifier	Field Dup. OFF-10-HC-051498		None		None		None		Field Dup OFF-15-HC-051498		None	
Interval (ft)												
101 (2 2'4 5 5')	3.2		4.002842922		3.41417176		4.160478335		6 3		5.045902966	
138 (2,2',3,4,4',5)	7 2		6 54069334		4 863027271	U	9.189545949		8 6		11 49035992	
153 (2,2',4,4',5,5')	9.1		12 23022576		9 38916747		13 86214932		13		17 31803742	
18 (2,2',5)	2.6	U	0 354886871	U	0 292487715		0 469680888	U	0 27		0 415669188	U
187 (2,2',3,4',5,5',6)	3		4.165046799		3.485065567		4.421044414		6 8		5 832833592	
195 (2,2',3,3',4,4',5,6)	0.96		1.182304215		0 995844424		1.242506666		2.1		1 423082494	
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	0 75		0 944371624		0 747858107		0 832507263		2 9		1 130474046	
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	8 2		2 598861651		1 360805418		2 444708307		4 5		2 859055228	
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	7 2	U	0 996694461	U	0.58056922	U	1 31909174	U	0 98	U	1 16740069	U
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	5 2		6 264740592		5 077480847		6 332058582		9 1		8 619703476	
2,2',5,5'-TETRACHLOROBIPHENYL	1 8		1.224541932		1.260186432		1 734203252		2 4		1 989158143	
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	2.2		3 640123351		3 453092488		2 943656733		4 4		3 90445369	
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	3 9		0 792550394	U	0 772812705		0 925625772	J	2 7		1 169144766	
2,4'-DDD	14		5 449146917		2 941523231		1.136879701		4		0 615957833	U
2,4'-DDE	9 2	U	1 266380137	U	0 737659692	U	1 676011701	U	1 2	U	1 483276073	U
2,4'-DDT	1 6		1 532017945	U	0.158305731	J	2.136166383		0 77		0 645801023	J
2,4,4'-TRICHLOROBIPHENYLS (28)	0 77		1 342379796		0.953696646		0 322767589	U	0 88		0 666643252	
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	4 2	U	0 579756562	U	0 337705113	U	0 767288394	U	0 57	U	0 679052846	U
4,4'-DDD	6 8		2.930004948	U	2.831567034	U	1 681692468	U	2.4	U	2 030212797	U
4,4'-DDE	3 2		5 869821549		3 791539223		1 951319194	J	4 3		2 883546684	
4,4'-DDT	7 2	U	0 543320298	UJ	0 478816348	UJ	1 32113595	U	0 93	U	1 169209823	U
44 (2,2'3,5')	0 47		0 495647925		0 549192359		0 630375505		0 54		0 493100575	
66 (2,3'4,4')	6.5		1 524603298		1 496665861		1 268798358	J	1.6		1 267459972	
8 (2,4)	3 3		2 953235551		1 285856896		1 880416578	U	2 5		1.664175087	U
ALDRIN	1 2	U	0.171441617	U	0.09986383	EU	0.226897238	U	0 17	U	0 20080483	U
ALPHA-CHLORDANE	1 2		1 174734175		0 963809253		0 932151013		1 7		1 27703474	
DECACHLOROBIPHENYL (209)	3 6		1 837232069		1 278923144		1 42318437		3.3		1 961894525	
DIELDRIN	4 1		2.331245999		2.005407791		3 033849773		4.6		3 400239641	
ENDOSULFAN I	4.1	U	0.568714424	U	0 331273126	U	0 752674494	U	0.56	U	0 666119495	U
ENDOSULFAN II	4 4		2.987648411		1 428650731		0 88817285	U	2 3		0 786036002	U
ENDRIN	5 6	U	0 771437332	U	0 449358141	U	1.020971474	U	0 76	U	0 903563238	U
GAMMA-BHC	2 3		0 172886992	U	1 648354969		0 228810144	U	1.3		0 202497758	U
HEPTACHLOR	5 1	U	0.700109908	U	0.407810296	U	0 926572017	U	0 69	U	0 820019396	U
HEPTACHLOR EPOXIDE	2 1	U	0 284023834	U	0 165442372	U	0 375896032	U	0.1		0 332669271	U
HEXACHLOROBENZENE	1.1		0 970643853		0 566306002		0 359449701	U	0 92		0 336313741	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max. Poss. Conc

CLAM PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-10-HC-051498-AVG		OFF-11-HC-051498		OFF-12-HC-051498		OFF-14-PM-052198		OFF-15-HC-051498-AVG		OFF-15-PM-051498	
Date Sampled	5/14/98		5/14/98		5/14/98		5/21/98		5/14/98		5/14/98	
QC Identifier	Field Dup OFF-10-HC-051498		None		None		None		Field Dup OFF-15-HC-051498		None	
Interval (ft)												
MIREX	0 35		0.239159048	J	0.202756108		0 443349586	U	3 6		0.392365896	U
PCB 103	180		26 43455599		15 50262679		33.65938954		27		29 23416173	
PCB 112	180		24 71679578		14 49914501		31 87017608		25		27 13728744	
PCB 166	470		61 32283274		38 99155926		69.49142429		54		64 45119991	
PCB 188	6.3	U	0.874863293	U	0 509603213	U	1.157852269	U	0 86	U	1 024703208	U
PCB 200	3 8	U	0 521935487	U	0 304024644	U	0 690764138	U	0 51	U	0 611328618	U
PCB 29	1 8	U	0 243880435	U	0 142059056	U	0 322767589	U	0 24	U	0 285650417	U
PCB 34	180		24 85407081		14 47736401		32 89353036		24		29 11088659	
PCB 50	1 5	U	0 212502305	U	0 123781462	U	0 281239685	U	0 21	U	0 24889808	U
PCB 87	4		1 310794389	U	0 975477646	U	1.496806519	U	1 2	U	1 503238645	U
SUM OF PCB CONGENERS	94		56 83471502		43 64955546		60.11951821		72		72 77142084	
SUM OF PCB CONGENERS X 2	190		113 66943		87.29911092		120.2390364		140		145 5428417	
TRANS-NONACHLOR	0 5		0 834583638		0 770891824		1 39219101		1 1		1 625316942	

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max Poss Conc

CLAM PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-16-HC-052198		OFF-17-HC-051498		OFF-19-PM-052198		OFF-20-HC-051498		OFF-21-HC-051498		OFF-23-HC-051498		OFF-8-HC-051498	
Date Sampled	5/21/98		5/14/98		5/21/98		5/14/98		5/14/98		5/14/98		5/14/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)														
101 (2 2'4 5 5')	2 26360326	U	3 949516214		4 177840117		4 196475909		5.115564762		2 976098285		3 897744	
138 (2,2',3,4,4',5)	7.88750837		6 374124657		9.172829631		8 320702386		7.107970933		4 724047476	U	6 63608807	
153 (2,2',4,4',5,5')	11 13425689		9 987528656		13 8409623		13.17577633		11 37008411		8 484260909		10 71002102	
18 (2,2',5)	0 182671897	J	0 275372843		0 122292121	J	0 395707636	U	0 297667644	U	0 354115331	U	0 401794507	U
187 (2,2',3,4',5,5',6)	4 364335431		4 589423087		4 764443007		4 226411559		4 509031008		2 940782587		4 826632464	
195 (2,2',3,3',4,4',5,6)	1.493088194		1 465361991		1 361477895		1 203605353		1 331724994		0 893924559		1 523472317	
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	1.423734396		1 291358588		1 111946576		0 888548222		1 297616225		0 641791991		1 629785808	
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	2.57698898		1 352026441		1 637275667		2 055856671		1 853737464		1 198775755		1 360812677	
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	0 972357216	U	0 640683675	U	1 394886096	U	1.111338968	U	0 83599512	U	0 994527604	U	1 128433857	U
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	6 992844376		6 443459346		7.278726407		7 532333621		6 935202601		3 924099602		6 737085886	
2,2',5,5'-TETRACHLOROBIPHENYL	1.288740198		1 535391511		2.175662144		3 424428244		1 993399685		1 155481597		1 382591987	
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	4 535738389		3 999411548		3 019183027		3 443850298		4 218364974		2.662290705		3 087343761	
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	2 853413404		1 145355733		0 742756965	J	0.883713286	U	0 960236006		0 790827355	U	0 897306781	U
2,4'-DDD	3 594508274		2.300711661		1 235982612		17 28313404		3 302618666		6 40187511		2 783287178	
2,4'-DDE	1 235457719	U	0 814039921	U	1.772314501	U	1 412045165	U	1.062198754	U	1 263626972	U	1 43376559	U
2,4'-DDT	0.569691912	J	0 169336645	J	2 24286337		0 322316512	J	0 133469097	J	0 19941394	J	0 16053337	J
2,4,4'-TRICHLOROBIPHENYLS (28)	1.065920631		0 813818998		0 666918657		0 583004218		0 920320051		0 621731214		0 513836869	
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	0 56560009	U	0 372672448	U	0 811376404	U	0 646442901	U	0 486281078	U	0 578496146	U	0 656386645	U
4,4'-DDD	2 904933368	U	2 801388119	U	1.799252137	U	3 394486508	U	3 171374054	U	2 625616877	U	1 392706724	U
4,4'-DDE	2.194683312	U	5 206768494		2.324581228	J	3 442398422		4 844928237		2 868580988		2 557902579	
4,4'-DDT	0 452781224	UJ	0 592678257	UJ	0 338545414	UJ	0.612691748	UJ	0 83729067	U	0 770150389	UJ	1 130182603	U
44 (2,2'3,5')	0.352295802		0 489248029		0 654120645		0 559914943		0 743480139		0 451634939		0 385642516	
66 (2,3'4,4')	1.219485468		1 71305141		1 335259316	J	1.77787425		1 595321756		1 398308693		1 238505772	
8 (2,4)	1 811663596		1 472527239		1 702135677	J	1 483485982	J	2 303433913		0 49269266	J	1 237446315	J
ALDRIN	0 167255362	U	0 110204129	U	0.239934641	U	0 191161642	U	0 14379969	U	0 171068895	U	0 194102137	U
ALPHA-CHLORDANE	1 625980624		1.211503849		1 17741716		0 938001837		1 886543227		0 886846789		0 973641407	
DECACHLOROBIPHENYL (209)	2 269850732		2.092040913		1 675216102		2.381076935		1 766982551		1 410796323		2 891726939	
DIELDRIN	3.61630135		1.765666072		3.482481432		3.023252074		2 596912915		3.42421399		3 674198476	
ENDOSULFAN I	0 554827578	U	0.365574468	U	0 795922796	U	0 634130645	U	0 477019289	U	0 567478014	U	0 643884998	U
ENDOSULFAN II	2.859358015		0 431386103	U	0 939206821	U	6 809299283		0.562893502	U	3 212398126		1.250246647	
ENDRIN	0.752600407	U	0 495886477	U	1 079635988	U	0.8601717	U	0.647056716	U	0 769760194	U	0 873403072	U
GAMMA-BHC	1 66412091		0.111133229	U	0 241957462	U	0 192773271	U	0 145012025	U	0 172511129	U	0 195738557	U
HEPTACHLOR	0 270996771	J	0 450036602	U	0 979812384	U	0.780639858	U	0 587229577	U	0 698587839	U	0 792647852	U
HEPTACHLOR EPOXIDE	0 277088552	U	0.193375967		0 397494832	U	0 316693598	U	0 130936786	J	0 17830782	J	0 321565056	U
HEXACHLOROBENZENE	1 01372866		0 632742563		0 641322632		0.773490745		0 766055447		0 707365891		0 736322936	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est Max. Poss Conc.

CLAM PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-16-HC-052198		OFF-17-HC-051498		OFF-19-PM-052198		OFF-20-HC-051498		OFF-21-HC-051498		OFF-23-HC-051498		OFF-8-HC-051498	
Date Sampled	5/21/98		5/14/98		5/21/98		5/14/98		5/14/98		5/14/98		5/14/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)														
MIREX	0 358658213		0 349340165		0 242235081	J	0.413784711		0 304012944		0 280783996	J	0 282793884	J
PCB 103	25 37934941		16 40347513		35 8216373		29 6076672		21 59779704		26 20186491		29 0948208	
PCB 112	24 66170982		16 44037372		34 03133754		27 6551803		21 24110717		25 48628748		28 15402258	
PCB 166	49 53842714		33 33398523		72.96237377		72 59380899		37 07474928		57 30285634		53 15674519	
PCB 188	0 853500916	U	0 562369564	U	1.224381885	U	0 975494203	U	0 733807071	U	0 872961302	U	0 990499494	U
PCB 200	0 509190888	U	0.335504569	U	0.730455102	U	0 581970973	U	0 437782628	U	0 520800777	U	0.590922994	U
PCB 29	0.237925373	U	0.156768418	U	0 341313654	U	0 271932716	U	0 204559032	U	0 243350229	U	0 276115651	U
PCB 34	24 24718513		15 97640806		34 78357628		27.71290349		20 84679179		24 80003699		28 13919017	
PCB 50	0 207313433	U	0 136598289	U	0.297399577	U	0 236945325	U	0.17824007	U	0 212040316	U	0 240590076	U
PCB 87	1 046850488	U	1.146589655	U	1.180261163	U	1.369482682	U	1 277009915	U	1 028789198	U	1 008603503	U
SUM OF PCB CONGENERS	58.10887841		52 34020382		61 41912014		61.72637361		58 47381373		39 57262555		54 24938991	
SUM OF PCB CONGENERS X 2	116 2177568		104 6804076		122.8382403		123.4527472		116 9476275		79 14525111		108 4987798	
TRANS-NONACHLOR	0 945477622		1.102174681		1 689337665		0 735970672		1 170905968		0 65575047		0 706658127	

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max Poss Conc

APPENDIX P-2

CUNNER FISH ANALYTICAL RESULTS

CUNNER FISH TAL METAL ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-CN-072298		OFF-2-CN-072098		OFF-3-CN-072098		OFF-4-CN-071798	
Date Sampled	7/22/98		7/20/98		7/20/98		7/17/98	
QC Identifier	None		None		None		None	
Interval (ft)								
ALUMINUM	124.6		141.6		134.7		115 9	
ARSENIC	4.6		5 2		3 9		4 2	
BARIUM	32	U	32	U	32	U	32	U
CADMIUM	2.3		2.9		2.5		2.9	
CHROMIUM	36 9		28.5		25 4		21 7	
COPPER	32 4		25.6		30.4		29.4	
IRON	78 1		66.4		68 1		70.3	
LEAD	4.4		5 1		5		4 7	
NICKEL	0 5	U	0 5	U	0 5	U	0 5	U
SILVER	0.9		1		0.9		0 8	
ZINC	18.1		22.7		23.9		20.9	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss. Conc

CUNNER FISH SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-CN-072298		OFF-2-CN-072098		OFF-3-CN-072098		OFF-4-CN-071798	
Date Sampled	7/22/98		7/20/98		7/20/98		7/17/98	
QC Identifier	None		None		None		None	
Interval (ft)								
1,1'-BIPHENYL	1.754252542		0 762729459		1 782789193		5 445725077	U
1-METHYLNAPHTHALENE	7 278364524		3 121297731	U	3 805031003	U	7 680395561	
1-METHYLPHENANTHRENE	2.078159405	U	0 884933172	U	1 726557516	U	6 593238357	U
2,3,5-TRIMETHYLNAPHTHALENE	1.218029379	U	0 518667913	U	1 011952103	U	3 864360936	U
2,6-DIMETHYLNAPHTHALENE	2 497187052		1 443131133		1.91586428		5 865101769	J
2-METHYLNAPHTHALENE	10 98969285		6 320665087	U	4 673547024	U	13 12234027	
ACENAPHTHENE	4 564333613		3.199331817		2 347406466		6 222373328	U
ACENAPHTHYLENE	1 436350463	J	0 754596639		1 429343729	U	5 458262359	U
ANTHRACENE	1 061452968	U	0 604247233	J	0 944331228	J	3 367601353	U
BENZO(A)ANTHRACENE	2 583101174	U	0.379219769	J	0.558006791	J	8.195233579	U
BENZO(A)PYRENE	2.96325096	U	1 261827685	U	2 46190124	U	9 401309564	U
BENZO(B)FLUORANTHENE	2 1738543	U	0 925682494	U	1 806061879	U	6 896843196	U
BENZO(E)PYRENE	2 575404242	U	0 728814095	J	1 129312695	J	8 170814036	U
BENZO(G,H,I)PERYLENE	1 635265578	U	0 696337707	U	* 1 358596491	U	5 18809852	U
BENZO(K)FLUORANTHENE	1.781697608	U	0 758692193	U	1 48025382	U	5 652873699	U
CHRYSENE	1 592433069	U	0 707515608		1 127370629	J	2 329890663	J
DIBENZO(A,H)ANTHRACENE	1 47794632	U	0.629347162	U	1 227893934	U	4.688982155	U
FLUORANTHENE	2.836935729		2 924954503		2 916309176		5 417103518	J
FLUORENE	2 200484887		1.640812535		1 542502395		4 513398216	U
INDENO(1,2,3-CD)PYRENE	2 125954457	U	0 905285521	U	1 766266167	U	6.744874544	U
NAPHTHALENE	12.14708462	U	7 037746347	U	9 373304461	U	30 96446118	
PERYLENE	5 291111546		2 336358635	U	15 99752176		19 84794813	
PHENANTHRENE	3 390452239	U	2 696107099	U	2.480480513	U	5 936209305	
PYRENE	2 201008668	U	2 026808219	U	2 261413429	U	5 264966913	J
TOTAL PAH	56 58725873		36 68433591		52.85519104		96 42841531	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est Max Poss. Conc

CUNNER FISH PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-CN-072298		OFF-2-CN-072098		OFF-3-CN-072098		OFF-4-CN-071798	
Date Sampled	7/22/98		7/20/98		7/20/98		7/17/98	
QC Identifier	None		None		None		None	
Interval (ft)								
101 (2 2'4 5 5')	31 98553263		15 05137973		27.4115566		20 47875261	
138 (2,2',3,4,4',5)	92 08467839		137 0971017		79.22006326		112 8413514	
153 (2,2',4,4',5,5')	137 6021036		216 6320661		120 0540156		176 3543681	
18 (2,2',5)	0 482209436	U	0.205337052	U	0.400624863	UJ	1.529873861	UJ
187 (2,2',3,4',5,5',6)	42.39390306		63 16413247		36 06970771		54 04108499	
195 (2,2',3,3',4,4',5,6)	4.75911194		5 498254584		3 725110429		6 569991861	
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	2 531269903		4.348752454		2.104555954		2 85550883	
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	20 29559228		27 48918418		18.45854844		28 02113136	
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	9 153136875		11 93156753		5 098252007		9 365140341	
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	42.6210683		77.13570075		38 97526292		64 15376505	
2,2',5,5'-TETRACHLOROBIPHENYL	11 44778035		9 168266402		7.243076633		7.096189744	
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	43 2392823		54 71797236		36 04496642		58 77705086	
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	7 871275834		9.920112867		5.167836884		10.98558356	
2,4'-DDD	3.123522157		1 676560344		1.099441061		2.267037862	U
2,4'-DDE	1.720718637	U	0 732725795	U	1.429591825	U	5 459209767	U
2,4'-DDT	3.168955206		3.06974857		2.062805028		2 4515588	J
2,4,4'-TRICHLOROBIPHENYLS (28)	2 357808419		1 568285421		1 228440916		1.051338706	U
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	0.787755502	U	0 335446344	U	0 654475869	U	2 499259576	U
4,4'-DDD	11 56595633		8 211525208		5 597716793		6.514274615	
4,4'-DDE	45 15396082		39 9533799		31 02557727		33 17033346	
4,4'-DDT	12 94030608		11 87447536		10 21815264		7 442895373	
44 (2,2'3,5')	1.928128858		1.80230243		0.324346007	U	1.238586327	U
66 (2,3'4,4')	2.753361805		1 621775023		0 694541595	J	4 629402223	U
8 (2,4)	16 45191848		15.75120203		13 33173379		18 07675415	
ALDRIN	0 23294963	U	0.099195882	EU	0 193537096	U	0 739063825	U
ALPHA-CHLORDANE	7.97156412		6.904616153		3 6302004		7 041286922	
DECACHLOROBIPHENYL (209)	2 982355181		2.833024934		2.356607843		5 014552092	
DIELDRIN	9.798865645		6.933589687		5.800446019		4 218366824	J
ENDOSULFAN I	0 772751783	U	0 329057379	U	0 642010615	U	2 451658271	U
ENDOSULFAN II	6 384966071		6 145763355		3 530272773		5 423145225	
ENDRIN	1.048205477	U	0.446352573	U	0.870860551	U	3 325571916	U
GAMMA-BHC	0 550672361		0.425688084		0 204740153		0 745294663	U
HEPTACHLOR	0 951287952	U	0 405082624	U	0 790340413	U	3.01808812	U
HEPTACHLOR EPOXIDE	0.997415009	J	0 838003768	J	0 544923791	J	1.224391984	UJ
HEXACHLOROBENZENE	2 739401097		1.560856309		1 014251218		1.386296256	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss. Conc

CUNNER FISH PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-CN-072298		OFF-2-CN-072098		OFF-3-CN-072098		OFF-4-CN-071798	
Date Sampled	7/22/98		7/20/98		7/20/98		7/17/98	
QC Identifier	None		None		None		None	
Interval (ft)								
MIREX	0.455175757	U	0 193825423	U	0 378164987	U	1 444105902	U
PCB 103	35.09566807		15 52981451		29 26681737		105.038249	
PCB 112	32.413661		15 40574835		28 69039509		105.9990484	
PCB 166	81.13044562		34 81229951		77 31653028		232.1551894	
PCB 188	1.188737511	U	0.50619469	U	0 987616099	U	3 771428571	U
PCB 200	0 709189993	U	0.30199115	U	0 589202786	U	2 25	U
PCB 29	0 331377284	U	0 141108882	U	0.275311864	U	1.051338706	U
PCB 34	33.77095203		14.38053097		28 05727554		107.1428571	
PCB 50	0.28874164	U	0 12295354	U	0 239889706	U	0 916071429	U
PCB 87	7.889351064		6.420980999		3.901087371		2.479777461	J
SUM OF PCB CONGENERS	484.1356706		663 7650936		404 5568315		596 0483018	
SUM OF PCB CONGENERS X 2	968 2713413		1327 530187		809.1136631		1192 096604	
TRANS-NONACHLOR	10 32937254		10.70980702		6.685553448		8 107316716	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc

APPENDIX P-3

LOBSTER ANALYTICAL RESULTS

LOBSTER TAL METAL ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-13-LOB-061098		OFF-14-LOB-061298		OFF-15-LOB-060898		OFF-16-LOB-060898		OFF-16-LOB-061098		OFF-17-LOB-061098		OFF-17-LOB-061298		OFF-18-LOB-060898	
Date Sampled	6/10/98		6/12/98		6/8/98		6/8/98		6/10/98		6/10/98		6/12/98		6/8/98	
QC Identifier	None		None		None		None		None		None		None		None	
Interval (ft)																
ALUMINUM	382 4		361 4		397 3		321.5		356 9		364 9		386 6		367 2	
ARSENIC	7 7		8.5		7 2		6 9		6 6		9 3		10 2		5.7	
BARIUM	32	U	32	U	32	U	32	U	32	U	32	U	32	U	32	U
CADMIUM	13 3		0 5	U	1.5		2 1		2 4		7 4		7 4		4 7	
CHROMIUM	14 3		11 4		18 9		14.2		15.4		11 1		10 5		17	
COPPER	163 7		141 2		157		138 6		120 4		172 6		194 2		154 9	
IRON	97 7		113 7		84.2		76 4		89 6		127 4		116		157 6	
LEAD	14 7		11 3		19		17 2		16 3		18 5		12 3		15 4	
MERCURY	5 4		7 2		2 5		2		1 7		1 4		1 9		1.6	
NICKEL	32 6		37 4		31.7		28 5		41 6		38 7		32 6		35 9	
SILVER	2.6		3 8		2 6		2.3		2 5		2 4		2.7		2 4	
ZINC	231		271 4		256 3		241 8		297.5		281 4		276 3		266 8	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max Poss Conc

LOBSTER TAL METAL ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-19-LOB-060898		OFF-20-LOB-060898		OFF-21-LOB-060898		OFF-21-LOB-061598		OFF-23-LOB-060898		OFF-23-LOB-061098	
Date Sampled	6/8/98		6/8/98		6/8/98		6/15/98		6/8/98		6/10/98	
QC Identifier	None		None		None		None		None		None	
Interval (ft)												
ALUMINUM	327.9		364 3		381 2		373.4		330.2		314.2	
ARSENIC	8 5		7.2		8.3		8 7		9		9 3	
BARIUM	32	U	32	U	32	U	32	U	32	U	32	U
CADMIUM	3 9		5 1		1 9		1 6		3 7		3 4	
CHROMIUM	17 5		21 1		17 5		16 2		13 8		15.1	
COPPER	143 6		101.3		147.3		162.1		112 4		106 5	
IRON	149.3		160 3		137 9		122.4		168 8		160 1	
LEAD	16 7		13 8		18 9		16.5		12.9		14 8	
MERCURY	1 8		1 8		2 1		1 8		2 4		1 9	
NICKEL	40 2		44 9		39 6		34 8		28 7		30 5	
SILVER	3 8		5		3 2		3 3		2 7		2 5	
ZINC	278		241.8		263 1		255.1		236 6			NA

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est Max Poss. Conc

LOBSTER SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-13-LOB-061098		OFF-14-LOB-061298		OFF-15-LOB-060898		OFF-16-LOB-060898		OFF-16-LOB-061098		OFF-17-LOB-061098		OFF-18-LOB-060898	
Date Sampled	6/10/98		6/12/98		6/8/98		6/8/98		6/10/98		6/10/98		6/8/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)														
1,1'-BIPHENYL	1 163426291	U	1 116159502	U	0 90784111	U	1 447699387	U	0 875484988	U	0 909811209	U	1 244859106	U
1-METHYLNAPHTHALENE	5 511056493	U	3 842893525	U	3 751973885	U	10.60160942	J	4.052234177	U	5 179593658	U	11 72533379	
1-METHYLPHENANTHRENE	1 45789328		1 351354601	U	0 86187296	J	1 683161006	J	4 068748484		2 415291201		3 002987389	
2,3,5-TRIMETHYLNAPHTHALENE	0 853248418		0 792042036	U	0 644216458	U	1 379426204		0 621256112	U	0 645614467	U	2 073974239	
2,6-DIMETHYLNAPHTHALENE	2.010272629		1 228937273	U	0 999570202	U	1 785260702	J	1 970406437	J	1 609921405	J	2 365672579	J
2-METHYLNAPHTHALENE	8.171733787		4 735321713	U	4 559907831	U	10 1409476	J	5 75213163	U	7 063830642	U	16 78485566	
ACENAPHTHENE	1 502761816		1 275341853	U	1 037313899	U	7 508179504		1 99546452		1 230016626		2 284573654	
ACENAPHTHYLENE	1.166104759	U	1 118729151	U	0 909931164	U	1 451032316	U	0 877500551	U	0 911905799	U	1 247725051	U
ANTHRACENE	1 481168933	J	0 690225855	U	0 574153899	J	2 463753004	J	4 443180278	J	0 900476686	J	1 299504301	J
BENZO(A)ANTHRACENE	7 752728754		1 130349058	J	1.252578442	J	5.771249419		34 78043894		8 780471277		9 736774872	
BENZO(A)PYRENE	9 268625353		1 559298083	J	3 256327365		6 826965887		41 00504138		19 24390634		11 9077693	
BENZO(B)FLUORANTHENE	17 58671315		2 298958927		6 468379043		8 570586569		39 46844357		22 32446117		19 32134164	
BENZO(E)PYRENE	14 9929277		3 824610301		3 085144137		8 127828092		24 75198944		13 44863816		14 81365634	
BENZO(G,H,I)PERYLENE	7 811302921		2 659445792		1.581272844		3 955378985		16 19138845		6 370670217		6 694013072	
BENZO(K)FLUORANTHENE	9 658225583		2 159724652		2 615268662		6 515560506		30 56719547		12 75432798		12 18797074	
CHRYSENE	31 4475535		6 049556833		6 958276891		15 62290926		58 76171943		24 75331771		32 49210813	
DIBENZO(A,H)ANTHRACENE	0 857178617	J	0 96105696	U	0 781686682	U	1.24652576	U	2 124778111		0 993234627		0 872735597	J
FLUORANTHENE	47.25952929		12 9848526		14.25542779		30 82263389		78 37957592		34 60478674		73 50574775	
FLUORENE	2 051530307		0 925069156	U	0 741837155	J	2 634581522		1 392224856		1 132813979		1 988855902	
INDENO(1,2,3-CD)PYRENE	7.205681338		1 382434057	U	1 94236178	J	3.994127201	J	21 84094545	J	9 126217263	J	8 379664849	J
NAPHTHALENE	11 1545187	U	9 207984975	U	7.75317349	U	19 80592418		9.017719389	U	10 33603822	U	19 43787852	
PERYLENE	10.35654717		4 808820253		4 8051875	UJ	11 82779482	UJ	9 384229284	UJ	3 685455609	UJ	7 787920053	UJ
PHENANTHRENE	6.607456771		3 024777791	U	3 002881619	U	11.20551872		14.59239583		4 835773929		10 48383085	
PYRENE	36 40428255		6 940447684		9 118960839		31 87932993		71 30131175		30 68780969		54 52215609	
TOTAL PAH	241 4029371		65 22704219		76 58498613		203 1227264		475 8415628		221 4770531		323 6693253	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed; * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc

LOBSTER SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-19-LOB-060898		OFF-20-LOB-060898		OFF-21-LOB-060898		OFF-21-LOB-061598		OFF-23-LOB-060898	
Date Sampled	6/8/98		6/8/98		6/8/98		6/15/98		6/8/98	
QC Identifier	None		None		None		None		None	
Interval (ft)										
1,1'-BIPHENYL	0.987034068	J	0 995894118	U	1 686266568	U	1 572159534	U	0 997838352	
1-METHYLNAPHTHALENE	7.271296461	U	5 671543873	U	6 809130787	U	4 917876082	U	7 595887314	UJ
1-METHYLPHENANTHRENE	1.114210062	J	1 666974809		1 745463986	J	3 658589899		3 164484731	
2,3,5-TRIMETHYLNAPHTHALENE	0 72463023	U	1 281349516		1 196597801	U	1.146062981		1.119565596	
2,6-DIMETHYLNAPHTHALENE	1.555807429	J	1 503517031	J	2 210013221	J	2 177523702	J	1 7270708	J
2-METHYLNAPHTHALENE	10 23861453		8 974627798		8 587062858	U	6 019081826	U	13 3638519	J
ACENAPHTHENE	1.166795724	U	1 16778213		1 926755385	U	1 796374848	U	1 815785414	
ACENAPHTHYLENE	1 023512548	U	0 99818689	U	1 690148733	U	1 575778999	U	0 893784873	U
ANTHRACENE	0 631479767	U	0 884337233	J	1 791648367	J	1 739934648	J	2 807967092	J
BENZO(A)ANTHRACENE	1 211203522	J	2 516239916		7 633438993		101 6105333		12 8027454	
BENZO(A)PYRENE	1 960257739		3 650661454		4 807348047		258 5362008		12 78626521	
BENZO(B)FLUORANTHENE	1 958068657		7 072266606		8 177521307		315 4466174		19 90857839	
BENZO(E)PYRENE	2.803220052		5 982785382		8 45452591		108 1004369		14 69271543	
BENZO(G,H,I)PERYLENE	1 954428902		3 503263382		4 473814475		41.8351481		7 165877399	
BENZO(K)FLUORANTHENE	1.57157902		4 095812607		6 457340567		160 5362349		11 06407876	
CHRYSENE	4 646832023		11 39401727		15 55039716		225 0360876		28 92516114	
DIBENZO(A,H)ANTHRACENE	0 879260057	U	0 857503763	U	1 451941429	U	12 08139321		0 767816028	U
FLUORANTHENE	9 672863895		25.67904576		56.17608234		212 2434421		81 30282828	
FLUORENE	1.128425266		1 40975674		1 308124531	J	1 303000415	U	2 044930683	
INDENO(1,2,3-CD)PYRENE	1.26477316	U	3 013453667	J	4 042686223	J	114 478557	J	5 65161796	J
NAPHTHALENE	14.50493502	U	11 82056474	U	13 67689168		9 91207004	U	13 24564436	J
PERYLENE	3 705343254	UJ	2 263550483	UJ	9 574168468	UJ	37 50681506	UJ	3 539696561	UJ
PHENANTHRENE	2 940741108	U	4 971344897		4 904199692		5 946629377		14 62490856	
PYRENE	7.49536633		17.88385821		53 74903374		159 9843904		63.12651045	
TOTAL PAH	76 72022734		126 4067535		220 1288924		1782 913625		323.4740098	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max Poss Conc

LOBSTER PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-13-LOB-061098		OFF-14-LOB-061298		OFF-15-LOB-060898		OFF-16-LOB-060898		OFF-16-LOB-061098		OFF-17-LOB-061098	
Date Sampled	6/10/98		6/12/98		6/8/98		6/8/98		6/10/98		6/10/98	
QC Identifier	None		None		None		None		None		None	
Interval (ft)												
101 (2 2'4 5 5')	2 80074536		1.379747666	J	0 765917723	J	0 704785326	J	0 619744688	J	9 146393299	
138 (2,2',3,4,4',5)	29 51924068		17.79063991		31.19426923		15 5085921		13 2647315		17 44373969	
153 (2,2',4,4',5,5')	50.74234612		29 49005131		50 70533224		19 41496486		20 37234094		25 58170457	
18 (2,2',5)	0 326842697	U	0 313563983	U	0 255040856	U	0 406703868	U	0 245951013	U	3 579465952	
187 (2,2',3,4',5,5',6)	15 44762211		9 495660159		15 82175197		6 574482722		6 095452961		5 686238159	
195 (2,2',3,3',4,4',5,6)	1 33402377		1 130188102		1 586675303		0 803138983		0 822254776		0 602257342	
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	0 455107513	U	0 436617754	U	0 675015899		0 245704244	J	0 583409341		0 245697025	J
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	5 314638755		5 007264874		7 586558003		2 693005106		3 087370907		3 208795621	
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	4 658821475		0 88063975	U	4 703386645		2 45271285		1.976348086		3 23526052	
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	14 32443007		10 38085861		17 15316264		5 551617037		6 39107313		5 739422576	
2,2',5,5'-TETRACHLOROBIPHENYL	2 164335246		0 187673564	U	0 769739668		1 268613587		1 127971895		20 33040704	
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	21 44419889		13 90200702		21 81542763		12 09687503		8 844133211		18 44450562	
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	3 558018644		2 155215553		3 381286539		2 127993584		1 68366454		2 537121413	
2,4'-DDD	0 692199747		0 464653616	U	0 377931339	U	0 148288464	J	0 364461589	U	0 420980878	
2,4'-DDE	1 166307164	U	1.118923333	U	0 910089104	U	1.451284176	U	0.877652862	U	0 912064081	U
2,4'-DDT	0.78735389	J	0 481890019	J	0 752603934	J	0 311730495	J	0.157598832	J	0 405999352	J
2,4,4'-TRICHLOROBIPHENYLS (28)	0 784244758	J	0 300658168	J	0 343975025		1 110440391		0.351005841		30 42037199	
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	0 533942543	U	0 512249936	U	0 416644351	U	0 66440676	U	0 401794841	U	0 417548507	U
4,4'-DDD	1 102668599		0 587050671	J	0 408113061	J	0 789067814	J	1 023902971	J	0 683906658	J
4,4'-DDE	22 04870756		5 88784088		9 165474503		5 317819166		5 972114745		4 154377134	
4,4'-DDT	0 383415224	J	0 882004487	U	0 717388448	U	0 228385883	J	0.627458704	J	0 103372529	J
44 (2,2'3,5')	0 264611944	U	0 253861493	U	0 206481152	U	0 329267571	U	0 199122012	U	0 313312312	
66 (2,3'4,4')	4 334079076		1 824721755		3 010163666		3 050483052		1 957040379		9 612363582	
8 (2,4)	0 545365608	J	1 255386215	U	0 395189085	J	1.067400066	J	0.40310827	J	4 381283772	
ALDRIN	0 157893811	U	0.151479022	U	0 123207197	U	0 19647379	U	0.118816002	U	0 123474568	U
ALPHA-CHLORDANE	1.344033258		0 46793344		0 163579234	J	0 473443578		0 471664099		0.226079186	
DECACHLOROBIPHENYL (209)	0.760300261		0 811239313		0 810019079		0 566093919	J	1 114938321		0 475663448	J
DIELDRIN	6 273958064		3.083112851		2.701350533		3 532534695		3 19835791		2 495594357	
ENDOSULFAN I	0 523772987	U	0 50249354	U	0 408708874	U	0 651752361	U	0 394142191	U	0 40959581	U
ENDOSULFAN II	0 64089114		0 498068581	J	0 301041573	J	0 558517136	J	0 788973035		0 775293966	
ENDRIN	0 710476152	U	0 681611473	U	0 554396496	U	0 884074821	U	0 534637399	U	0 555599587	U
GAMMA-BHC	1.461219256		0 596943126		1 016637297		1 0189797		1 734919495		0 904316743	
HEPTACHLOR	0.644785225	U	0 618589386	U	0 50313676	U	0 802332887	U	0 485204597	U	0 504228613	U
HEPTACHLOR EPOXIDE	0 26157946	U	0 250952211	U	0 204114854	U	0 325494126	U	0 196840051	U	0 204557802	U
HEXACHLOROBENZENE	0 347050841		0 437320972		0 261421019		0 37445083		0 295247101		0 257337723	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max Poss Conc

LOBSTER PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-13-LOB-061098		OFF-14-LOB-061298		OFF-15-LOB-060898		OFF-16-LOB-060898		OFF-16-LOB-061098		OFF-17-LOB-061098	
Date Sampled	6/10/98		6/12/98		6/8/98		6/8/98		6/10/98		6/10/98	
QC Identifier	None		None		None		None		None		None	
Interval (ft)												
MIREX	0 453381505		0.295984924	U	0 240742727	U	0 38390319	U	0 23216248	U	0 241265161	U
PCB 103	22.36089134		20 46990138		18 0678615		29 20608871		16 60696385		17 82754326	
PCB 112	22 20674668		20 85911705		17.66732169		28 42813483		16 14901092		17 44080973	
PCB 166	46 64418778		57.78057782		38.7940172		54.11987753		48 94373664		37.45381477	
PCB 188	0 805729098	U	0 772994555	U	0 628723972	U	1 002601996	U	0.606315789	U	0 630088361	U
PCB 200	0 480690655	U	0 461161525	U	0.375091006	U	0.185089981	J	0 361722488	U	0 143822649	J
PCB 29	0 224608307	U	0.215483093	U	0 175265641	U	0 279489394	U	0 169019046	U	0 175645984	U
PCB 34	22 89003119		21 9600726		17 86147648		28 48301124		17 22488038		17 90023753	
PCB 50	0 195709767	U	0 187758621	U	0 152715624	U	0 243529746	U	0 147272727	U	0 153047031	U
PCB 87	0 475955439	J	0 525398811	U	0 248426407	J	0 320650423	J	0.434186913		0 879600691	
SUM OF PCB CONGENERS	161 4956088		99 67104175		163.1762594		78.6686426		71 25997362		163 3817572	
SUM OF PCB CONGENERS X 2	322 9912175		199 3420835		326 3525187		157 3372852		142 5199472		326 7635143	
TRANS-NONACHLOR	0 690495959		0.339868676	U	0 277473187		0 388438935	J	0 353748074		0 327124224	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max Poss Conc

LOBSTER PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-18-LOB-060898		OFF-19-LOB-060898		OFF-20-LOB-060898		OFF-21-LOB-060898		OFF-21-LOB-061598		OFF-23-LOB-060898	
Date Sampled	6/8/98		6/8/98		6/8/98		6/8/98		6/15/98		6/8/98	
QC Identifier	None		None		None		None		None		None	
Interval (ft)												
101 (2 2'4 5 5')	1 030781962	J	0.583876265	J	0 467754157	J	1.190035325	J	1 224607195	J	1 080309128	J
138 (2,2',3,4,4',5)	16 29947037		15 3935979		16.65705304		23.13835135		35 49208831		28 92321674	
153 (2,2',4,4',5,5')	22 92500169		29 17620898		25 99357997		33 01854294		55 49838507		45 90917873	
18 (2,2',5)	0.349719712	U	0 286876114	U	0 279777689	U	0 473724822	U	0 441668601	U	0 250515279	U
187 (2,2',3,4',5,5',6)	7 656624751		9 719106841		8 354890959		11 84347785		14 24181774		14 01961257	
195 (2,2',3,3',4,4',5,6)	1 021338529		0 926031609		0 945604573		1 381473414		1 463573013		1 32112206	
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	0 150225533	J	0 33253631	J	0 238158772	J	0 276294683	J	0.748863633		0 550155646	
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	3 667844192		5 19830304		3 669930014		5 446193268		6 723201562		4 760530484	
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	3 11181462		2 311351036		2 658414342		3 663561228		5 724379392		5 169217535	
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	7 441041356		10 90957689		8 284585786		11 43700586		17 30393632		12 14758636	
2,2',5,5'-TETRACHLOROBIPHENYL	2 175580275		0.892033183		0 84042943		1 499135409		1.160223341		1 276599661	
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	12 57212126		12.71292776		10 46404614		16 46344375		24 15793602		20 7487272	
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	2 179245725		1 755632658		1 695233476		2 510562263		4 562628782		3 180423589	
2,4'-DDD	0 518230848	U	0 425106297	U	0 414587523	U	0 701987357	U	0 442993318	J	0 267218456	J
2,4'-DDE	1 247941623	U	1.023690202	U	0 998360149	U	1 690442097	U	1.576052512	U	0 89394001	U
2,4'-DDT	0 459456014	J	1 238421003	U	0 427103924	J	0 613692998	J	0 702059656	J	0 693121262	J
2,4,4'-TRICHLOROBIPHENYLS (28)	0.691513799		0 421688414		0 352301226		0 712218111		0 937567487		0 379779509	
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	0 571315297	U	0 468651627	U	0 457055374	U	0 773894717	U	0 721526466	U	0 409251197	U
4,4'-DDD	1 567613196	J	0 30420362	J	0 806751857	J	0 729258562	J	1 189327007	J	0 825607724	J
4,4'-DDE	11.62784648		5 320083901		5 543562866		10 01966727		14 50948589		12 16704764	
4,4'-DDT	0 556029572	J	0 064121351	EJ	0 253098622	J	0.244414527	J	0 298406978	J	0 268715479	J
44 (2,2'3,5')	0 283133182	U	0 232254986	U	0 2265081	U	0 383527755	U	0 357575029	U	0 202817243	U
66 (2,3'4,4')	3 006138403		1 92030416		1 777635581		3 625486407		4 757954916		3 282176845	
8 (2,4)	1 400139459	U	1.148538537	U	0.520387111	J	0 84229773	J	0 492016878	J	0 364133162	J
ALDRIN	0.168945424	U	0.138586431	U	0 135157267	U	0 228850815	U	0.213364836	U	0 121020945	U
ALPHA-CHLORDANE	0.447722741		0 432230624		0 24533748		0 346449678		0 399203789		0 239673585	
DECACHLOROBIPHENYL (209)	0 837946319		0 521917976	J	0 704809356		0 762467058	J	0 75405002	J	0 827853257	
DIELDRIN	5.154836774		2 561757113		3 932191028		4 131637795		3 983318		3 451441869	
ENDOSULFAN I	0 560433933	U	0 459725612	U	0 448350223	U	0 759154992	U	0 707784156	U	0 401456532	U
ENDOSULFAN II	0 79795121		0 200814155	J	0 55277442		0 823570689	J	0 84373656		0 412429606	J
ENDRIN	0.760205193	U	0 623598567	U	0 608168327	U	1 029761999	U	0 960079608	U	0.544558997	U
GAMMA-BHC	1 895637692		0 139754814	U	0 909191837		1 339433699		0 745132626		1 356964988	
HEPTACHLOR	0 689916297	U	0 565940378	U	0 551936825	U	0 934549766	U	0 871310238	U	0 49420884	U
HEPTACHLOR EPOXIDE	0 279888442	U	0 084337683	EJ	0 22391229	U	0 379132483	U	0 353477178	U	0 200492934	U
HEXACHLOROBENZENE	0.547834658		0 395738357		0 426157145		0 437891786		0 393709063		0 296569392	

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max Poss Conc

LOBSTER PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-18-LOB-060898		OFF-19-LOB-060898		OFF-20-LOB-060898		OFF-21-LOB-060898		OFF-21-LOB-061598		OFF-23-LOB-060898	
Date Sampled	6/8/98		6/8/98		6/8/98		6/8/98		6/15/98		6/8/98	
QC Identifier	None		None		None		None		None		None	
Interval (ft)												
MIREX	0.223387319	J	0 497561804		0 264092762	U	0 447166809	U	0 416907727	U	0 16616946	J
PCB 103	23 75433325		19 55255642		19 61596245		33 23083491		30 58890076		17 18608959	
PCB 112	23 36686305		32 90872599		19 00304321		32 29580715		29 32547213		16 73661272	
PCB 166	48 77452383		24 85323695		43 94073293		66 41699108		63 24861768		37 42555412	
PCB 188	0 862125269	U	0.707203907	U	0 689704948	U	1 167821332	U	1 08879668	U	0 617567568	U
PCB 200	0 514336098	U	0.421911422	U	0.228491811	J	0 483515695	J	0 649566201	U	0 600305888	
PCB 29	0 240329532	U	0 197143026	U	0 192264945	U	0 325546605	U	0 303517373	U	0 172155637	U
PCB 34	24 49219515		20 09102009		19 59389057		33 1767424		30.93172388		17 54453317	
PCB 50	0 209408269	U	0 171778222	U	0.167527764	U	0 283661147	U	0.264466239	U	0 150005759	U
PCB 87	0 545053771	J	0 484668194	J	0 242790724	J	0.551228484	J	0 622815247	J	0 430985735	
SUM OF PCB CONGENERS	89 74224938		96 87411906		86.10893529		122 2534872		179 6931615		146 7742268	
SUM OF PCB CONGENERS X 2	179 4844988		193 7482381		172 2178706		244 5069344		359 386323		293 5484536	
TRANS-NONACHLOR	0 546907696		0 191381665	J	0 228359108	J	0 589865994		0 546964138		0 264565501	J

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NA - Not Analyzed; * - From dilution analysis, R - Rejected; EMPC - Est Max. Poss. Conc

APPENDIX P-4

MUSSEL ANALYTICAL RESULTS

MUSSEL TAL METAL ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-BM-052698		OFF-2-BM-052698		OFF-22-BM-052698		OFF-3-BM-052698		OFF-4-BM-052698		OFF-5-BM-052698-AVG		OFF-6-BM-052698	
Date Sampled	5/26/98		5/26/98		5/26/98		5/26/98		5/26/98		5/26/98		5/26/98	
QC Identifier	None		None		None		None		None		Field Dup OFF-5-BM-052698		None	
Interval (ft)														
ALUMINUM	189.2	J	58 3	J	69 8	J	20	UJ	128 2	J	101		20	UJ
ARSENIC	1.4		2		2		1.8		0 9		2 7		1 4	
BARIUM	32	U	32	U	32	U	32	U	32	U	32	U	32	U
CADMIUM	9 1		13 2		13 8		9 3		5		6.6		11 4	
CHROMIUM	0.5	U	0.5	U	0 5	U	0 5	U	10 3		0 5	U	35 3	
COPPER	6 7		6 1		1 7	J	5	U	1.4	J	10		4	
IRON	320.6		466 1		453.8		378.7		484.3		538		333 4	
LEAD	4.2		3		5 6		6 3		4.1		5 2		5 8	
MERCURY	3		1 3		1 7		2.9		1.9		2 7		1 9	
NICKEL	7 1		7 3		11 9		12 4		5 7		8 1		9	
SILVER	0.5	U	0.5	U	0 5	U	0 5	U	0.5	U	0 5	U	0 5	U
ZINC		NA	157 3		153 6		148		94		149		103 4	

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max Poss Conc

MUSSEL TAL METAL ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-7-BM-052698	
Date Sampled	5/26/98	
QC Identifier	None	
Interval (ft)		
ALUMINUM	212 6	J
ARSENIC	2 5	
BARIUM	32	U
CADMIUM	17	
CHROMIUM	40.5	
COPPER	5	U
IRON	498 2	
LEAD	3 7	
MERCURY	2 1	
NICKEL	10 3	
SILVER	0 5	U
ZINC	119 6	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected; EMPC - Est. Max Poss Conc.

MUSSEL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-BM-052698		OFF-2-BM-052698		OFF-22-BM-052698		OFF-3-BM-052698		OFF-4-BM-052698		OFF-5-BM-052698-AVG		OFF-6-BM-052698	
Date Sampled	5/26/98		5/26/98		5/26/98		5/26/98		5/26/98		5/26/98		5/26/98	
QC Identifier	None		None		None		None		None		Field Dup OFF-5-BM-052698		None	
Interval (ft)														
1,1'-BIPHENYL	3 436154307		1 329764509		1.746320739		2 157372636		1.622837358		1 2		1 368663458	
1-METHYLNAPHTHALENE	6.946095569		4 30191366	U	8.162807286		7 118020485		4 35322611	U	9 5		5 217445132	U
1-METHYLPHENANTHRENE	2 817827195		2 94721734		4 901601811		3 355245483		4 070118359		5 3		4 300049999	
2,3,5-TRIMETHYLNAPHTHALENE	1.397522311	U	1 203622341		3.213402755		2 491023073		2 577172839		5 3		2 786541907	
2,6-DIMETHYLNAPHTHALENE	5 283530103		3 337641716		6 622190955		4 955587827		3 671349443		7 1		4 543395159	
2-METHYLNAPHTHALENE	- 12 44472234		7 321776932	U	13 32867758		9 879031255	U	7 5928282	U	17		9 348287681	U
ACENAPHTHENE	3 419675846		2 497497399		4 244600308		2 910298554		5 215514597		7 7		3 84635017	
ACENAPHTHYLENE	5 130240651		4 941894413		4 040127051		5 894707987		4 607785913		7 3		4 074187737	
ANTHRACENE	6 47159275	J	7 371429966	J	9.217745153	J	8 962538338	J	7 243449768	J	9.7		7 836687643	J
BENZO(A)ANTHRACENE	8 176134116		16 38773922		18 95000773		7 476021872		12 03232643		16		11 82207482	
BENZO(A)PYRENE	4 789827898		8.768101769		8 667164844		5 494758812		6 799411019		10		5 8844787	
BENZO(B)FLUORANTHENE	9 409983013		12 41258275		25 73805325		9 544860723		12 45878217		18		12 89299037	
BENZO(E)PYRENE	15 29325606		19 08096586		42 91424938		17.75188851		17 97282367		30		28.08456913	
BENZO(G,H,I)PERYLENE	9 612537137		11 12562688		19 19731106		6 83739038	J	9 093733146	J	16		11 87257698	J
BENZO(K)FLUORANTHENE	8 465027485		15 75284858		25 18006542		10 36061734		12 16384964		18		12 54005528	
CHRYSENE	23 07302199		28 70578508		44 46738186		27 23232962		24 12639773		37		29 37023733	
DIBENZO(A,H)ANTHRACENE	1 695741492	U	1 236914464		1 862130412		1 020283207	J	1.078175553	J	1		1.226318398	J
FLUORANTHENE	47.19992693		58 36035931		81 85133352		67 38835503		60 08592474		91		72 08001821	
FLUORENE	3 139576327		4.034362763		5 333902694		11 18505618		7.005255088		12		6 388356602	
INDENO(1,2,3-CD)PYRENE	5 29365748		8 073340905		10 34120427		3 850535493	J	6 985794356	J	11		7.571326231	J
NAPHTHALENE	17 23841531		9 627001813	U	10 94999483	U	11 92932696	U	7 310299854	U	29		8 666342956	U
PERYLENE	9.079712694		13 31262364		26 80455986		18 4640825		11 85758206		4 2	U	4 089877382	U
PHENANTHRENE	17 34983804		17.98943745		23.98860768		20.48409151		17 83841209		32		18 54674953	
PYRENE	34 15592503		46 60641018		65 96692827		41.22156001		43.03501203		72		55 61987051	
TOTAL PAH	258 2266783		306 7268589		467 6903687		307 9649838		290 7978622		470		329 9774513	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max Poss Conc

MUSSEL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-7-BM-052698	
Date Sampled	5/26/98	
QC Identifier	None	
Interval (ft)		
1,1'-BIPHENYL	1 017094247	
1-METHYLNAPHTHALENE	6 459417851	U
1-METHYLPHENANTHRENE	5 305410731	
2,3,5-TRIMETHYLNAPHTHALENE	3 100053451	
2,6-DIMETHYLNAPHTHALENE	5.51078732	
2-METHYLNAPHTHALENE	12.03094115	
ACENAPHTHENE	5.271132748	
ACENAPHTHYLENE	4 238939631	
ANTHRACENE	11.2599828	J
BENZO(A)ANTHRACENE	18 2969051	
BENZO(A)PYRENE	9 799797065	
BENZO(B)FLUORANTHENE	23 38730324	
BENZO(E)PYRENE	42.73462436	
BENZO(G,H,I)PERYLENE	16.04448516	J
BENZO(K)FLUORANTHENE	23 22621333	
CHRYSENE	43 65594187	
DIBENZO(A,H)ANTHRACENE	2.038154724	J
FLUORANTHENE	109 6157913	
FLUORENE	8 4886989	
INDENO(1,2,3-CD)PYRENE	10.69036727	J
NAPHTHALENE	9 282203098	U
PERYLENE	4 710301916	U
PHENANTHRENE	31 03277762	
PYRENE	95.77581274	
TOTAL PAH	502.9731376	

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NA - Not Analyzed; * - From dilution analysis; R - Rejected; EMPC - Est. Max Poss Conc.

MUSSEL PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-BM-052698		OFF-2-BM-052698		OFF-22-BM-052698		OFF-3-BM-052698		OFF-4-BM-052698		OFF-5-BM-052698-AVG	
Date Sampled	5/26/98		5/26/98		5/26/98		5/26/98		5/26/98		5/26/98	
QC Identifier	None		None		None		None		None		Field Dup OFF-5-BM-052698	
Interval (ft)												
101 (2 2'4 5 5')	15 20674035		13 94779358		10 0759227		16 56775137		13.15909225		15	
138 (2,2',3,4,4',5)	30 83864492		29.24332558		20 79688885		35 05752489		26 51869266		32	
153 (2,2',4,4',5,5')	50 46245289		46 64066981		32 6598067		53 60046469		41 28356165		48	
18 (2,2',5)	0.553269451	U	0 95178166	J	1 46905957	J	1.105175581		0 934992686		1 2	
187 (2,2',3,4',5,5',6)	15 95526227		15.71902522		11.08522834		16 99122197		12 7681898		15	
195 (2,2',3,3',4,4',5,6)	0 813460001	U	0 404776363	U	0.358942822	U	0 755392385	U	0 154605958	J	2	U
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	0 77425509		0 287711831	J	0 72934665		0.715398969	U	0 256419638	J	1 2	
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	1 161389413	U	1 239374041		0 512468214	U	1 44226788		0 951203729		0 85	
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	3 860491951		4 041797931		2 095557955		1 4429298	U	0 500583925	J	3 8	
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	6 053855255		4 268647644		2 696690928		3 112641254	U	15.57089395		16	
2,2',5,5'-TETRACHLOROBIPHENYL	4 558774535		5 917078239		4.430003081		4 852231387		3 873170443		4.9	
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	14 49086336		11 96770558		9 311255505		17 92331186		13 73730499		16	
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	2 637643383		2 61522677		1.89693185		1.147387316	U	3 592703083		4 5	
2,4'-DDD	2.290414778		1 908857339		1 757157924		3 271141227		3 011988022		3	
2,4'-DDE	1 97428956	U	0 982403249	U	0 871163998	U	1 833357875	U	0.996083965	U	4 8	U
2,4'-DDT	1 184027978	J	2 343191545		2 836464854		1 758260476	J	1 918433685		2.9	
2,4,4'-TRICHLOROBIPHENYLS (28)	0 848427318		1 050368918		0 683693684		1 696469222		1 297399657		1 3	
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	0 903841819	U	0 449750208	U	0 398824199	U	0 839322433	U	0 456013323	U	2 2	U
4,4'-DDD	5 236466177		4 349797135		6 55150867		8 535330724		7 155239151		9 4	
4,4'-DDE	13 04156136		13 87010785		15.01991689		18 27990686		14.75167091		16	
4,4'-DDT	2 409033246		4 176432314		4 104939504		5.410711204		4 128167621		3 9	
44 (2,2'3,5')	1 826757383		2.531020542		2 106067039		2 195527644		1 753219403		3 4	
66 (2,3'4,4')	2 035819616		2 118243985		1 410961169		3 569173597		2 877632439		4 4	
8 (2,4)	2 080473686	J	2 393735482		3 02422927		2 259762886		2 324940185		2.1	
ALDRIN	0 267277876	U	0 132997033	U	0 117937545	U	0 248198648	U	0.134849119	U	0.65	U
ALPHA-CHLORDANE	4 723182699		4 928441529		4 356342608		4 598584533		4 010694806		4.7	
DECACHLOROBIPHENYL (209)	1.606741063		0 918464691		0 636864654		1 511115429		1 4442459		1 5	
DIELDRIN	2.419438667		2.667384226		2 540767575		5 659289561		6 414343904		6	
ENDOSULFAN I	0 886627101	U	1.795762299		0 391228129	U	0.823336561	U	0 447328019	U	2 2	U
ENDOSULFAN II	3 030162677		2.913082287		2.028298321		0 644342444	J	0 330894459	J	3	
ENDRIN	1 202672583	U	0 598447907	U	0 530684595	U	1.116821614	U	0 606781751	U	2 9	U
GAMMA-BHC	0.369410937		0.303132784		0 421213408		0 406823202		0 576910381		0 66	
HEPTACHLOR	1.091472964	U	0 543115158	U	0 481617272	U	1 013559811	U	0 550678452	U	2 7	U
HEPTACHLOR EPOXIDE	0 442793813	U	0 220333476	U	0 195384728	U	0 477646674		0 223401788	U	1.1	U
HEXACHLOROBENZENE	0 423420548	U	0.250814338		0 186836189	U	0 27011743	J	0 333864178		0 54	

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NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc

MUSSEL PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-BM-052698		OFF-2-BM-052698		OFF-22-BM-052698		OFF-3-BM-052698		OFF-4-BM-052698		OFF-5-BM-052698-AVG	
Date Sampled	5/26/98		5/26/98		5/26/98		5/26/98		5/26/98		5/26/98	
QC Identifier	None		None		None		None		None		Field Dup OFF-5-BM-052698	
Interval (ft)												
MIREX	0 522251998	U	0 259871738	U	0 230446003	U	0 683179522		0 742862773		5 7	
PCB 103	39 35444321		21 61180118		19.30008134		37.48044041		20 32333316		100	
PCB 112	36 61227741		19 34153011		16.94605862		33.70538463		18 00790724		90	
PCB 166	107 8349707		46.1076652		52 54658863		88 26608815		47 13596278		230	
PCB 188	1.363913894	U	0 678681319	U	0 601833037	U	1 266552957	U	0 688132475	U	3 3	U
PCB 200	0 81369863	U	0 404895105	U	0 359048119	U	0.75561398	U	0 410533579	U	2	U
PCB 29	0 380210162	U	0.189191954	U	0.167769415	U	0 353069433	U	0 191826596	U	0 92	U
PCB 34	38 74755382		19 28071928		17 09752946		35 98161809		19 54921803		94	
PCB 50	0.331291585	U	0.16485015	U	0 146183877	U	0 307642835	U	0 167145814	U	0 8	U
PCB 87	2 740136074		2.738330197		2 126816467		4 783054972		3 553145194		4 8	
SUM OF PCB CONGENERS	162 2984141		150 8824468		109 7803941		174 2510047		148 4656491		180	
SUM OF PCB CONGENERS X 2	324 5968282		301 7648936		219 5607882		348 5020095		296 9312983		370	
TRANS-NONACHLOR	3 442422801		4 081696761		2 738924622		4 31034947		3 688939691		3 5	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max Poss Conc

MUSSEL PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-6-BM-052698		OFF-7-BM-052698	
Date Sampled	5/26/98		5/26/98	
QC Identifier	None		None	
Interval (ft)				
101 (2 2'4 5 5')	10 58834741		14 01677962	
138 (2,2',3,4,4',5)	22 88409187		31 92022346	
153 (2,2',4,4',5,5')	36 68074956		48 95154453	
18 (2,2',5)	0 777840871		1 163714758	
187 (2,2',3,4',5,5',6)	11 05603558		15 76868545	
195 (2,2',3,3',4,4',5,6)	0 105883	J	0 342520758	U
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	0 131582757	J	0 324386374	U
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	0.841924048		1 010281338	
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	1 681792116		0 65427375	U
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	13 36387378		4 0618668	
2,2',5,5'-TETRACHLOROBIPHENYL	3 991817051		4 076615673	
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	1 904316979	U	16.27857937	
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	3 014067533		4 132733412	
2,4'-DDD	2 625487203		3 971987194	
2,4'-DDE	1 212798844	U	0 8313072	U
2,4'-DDT	0 834728116	J	1 154607244	
2,4,4'-TRICHLOROBIPHENYLS (28)	1 510788689		1 847969398	
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	0 555226719	U	0 380577514	U
4,4'-DDD	6 624369435		10 57295286	
4,4'-DDE	2 15443179	U	19 06830406	
4,4'-DDT	4 049253756		4 334098298	
44 (2,2'3,5')	1 819542957		2 546680122	
66 (2,3'4,4')	2.857580303		3 864593109	
8 (2,4)	2 894227694		2 043126531	
ALDRIN	0 16418782	U	0 112541761	U
ALPHA-CHLORDANE	0 24345456	U	4 471748635	
DECACHLOROBIPHENYL (209)	0.973506806		1 113124349	
DIELDRIN	3 536473219		5 276470641	
ENDOSULFAN I	0 54465178	U	0 373328972	U
ENDOSULFAN II	0 374188466	J	0.386309459	J
ENDRIN	0 738797363	U	0 506405138	U
GAMMA-BHC	0 342653105		0 722804197	
HEPTACHLOR	0 670487844	U	0 459582704	U
HEPTACHLOR EPOXIDE	0.272006617	U	0 412801508	
HEXACHLOROBENZENE	0 592771547		0.244950311	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est. Max. Poss Conc

MUSSEL PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-6-BM-052698		OFF-7-BM-052698	
Date Sampled	5/26/98		5/26/98	
QC Identifier	None		None	
Interval (ft)				
MIREX	0 346432728		0 328406252	
PCB 103	24 47312763		16 88149359	
PCB 112	21.29854739		15 2222564	
PCB 166	51 39951455		43 21134894	
PCB 188	0 837847309	U	0 574298453	U
PCB 200	0 499852088	U	0 342621236	U
PCB 29	0 23356171	U	0 160093763	U
PCB 34	23.80248037		16 31529697	
PCB 50	0 203511207	U	0 139495789	U
PCB 87	3.227718951		4 120787041	
SUM OF PCB CONGENERS	122.635687		159.8355726	
SUM OF PCB CONGENERS X 2	245 271374		319 6711452	
TRANS-NONACHLOR	3 158088909		4 058144011	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est Max. Poss Conc

APPENDIX P-5

SHORELINE SEDIMENT ANALYTICAL RESULTS

SHORELINE SEDIMENT TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SSD-333-00005-MAX		OFF-SSD-334-00005		OFF-SSD-335-00005		OFF-SSD-336-00005		OFF-SSD-337-00005	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98	
QC Identifier	Field Dup. OFF-SSD-333-00005		None		None		None		None	
Interval (ft)	0 0-0 5		0 0-0 5		0 0-0 5		0.0-0 5		0.0-0 5	
ALUMINUM	10300		7700		7180		7060		7550	
ANTIMONY	0 66		0 65	UJ	0.69	J	0 7	U	0 91	U
ARSENIC	4 3		5 3	J	4 2	J	4 8		7 1	
BARIUM	14 8		12 5		15 9		14 4		7 7	U
BERYLLIUM	0 33	U	0 32	U	0 24	U	0 22	U	0 48	
CADMIUM	0 08	U	0 1	U	0 1	U	0 09	UJ	0 09	UJ
CALCIUM	29000		33500	J	2080	J	2750		6370	
CHROMIUM	13		13 3		11 8		10 9		15 8	
COBALT	7		11 9		6 1		7 3		6 6	
COPPER	16.2		21 2		61 4		26 3		31 5	
IRON	20000		26100		19400		22700		41500	
LEAD	54 8		56 6		168		42 6	J	39 4	J
MAGNESIUM	9100		5330		4800		4080		4570	
MANGANESE	497		1240		322		265		380	
MERCURY	0 05	U	0.06	U	0 06	U	0 06	U	0 05	U
NICKEL	14 8		20 6		18		50 8		17	
POTASSIUM	507		476		550		485		509	
SELENIUM	0 67	U	0 8	U	0 76	U	0 69	U	0.71	U
SILVER	5.7		8	J	6 5	J	6 4	U	11 3	J
SODIUM	1730		1920	J	4460	J	3140		2380	
THALLIUM	0 5	U	0 6	U	0 57	U	0 52	U	0 53	U
VANADIUM	17 8		16 9		52 5		24 9		15 7	
ZINC	78 3		125		228		89.9		78 3	

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc

SHORELINE SEDIMENT SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SSD-333-00005-MAX		OFF-SSD-334-00005		OFF-SSD-335-00005		OFF-SSD-336-00005		OFF-SSD-337-00005	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98	
QC Identifier	Field Dup OFF-SSD-333-00005		None		None		None		None	
Interval (ft)	0 0-0 5		0 0-0 5		0.0-0 5		0 0-0.5		0 0-0 5	
1,2,4-TRICHLOROBENZENE	1800	U	2300	U	2100	U	4000	U	4000	U
1,2-DICHLOROBENZENE	1800	U	2300	U	2100	U	4000	U	4000	U
1,3-DICHLOROBENZENE	1800	U	2300	U	2100	U	4000	U	4000	U
1,4-DICHLOROBENZENE	1800	U	2300	U	2100	U	4000	U	4000	U
2,2'-OXYBIS(1-CHLOROPROPANE)	1800	U	2300	UJ	2100	UJ	4000	UJ	4000	UJ
2,4,5-TRICHLOROPHENOL	4500	U	5700	UJ	5400	UJ	10000	UJ	10000	U
2,4,6-TRICHLOROPHENOL	1800	U	2300	U	2100	U	4000	U	4000	U
2,4-DICHLOROPHENOL	1800	U	2300	U	2100	U	4000	U	4000	U
2,4-DIMETHYLPHENOL	1800	U	2300	U	2100	U	4000	U	4000	U
2,4-DINITROPHENOL	4500	U	5700	UJ	5400	UJ	10000	UJ	10000	UJ
2,4-DINITROTOLUENE	1800	U	2300	U	2100	U	4000	U	4000	U
2,6-DINITROTOLUENE	1800	U	2300	U	2100	U	4000	U	4000	U
2-CHLORONAPHTHALENE	1800	U	2300	U	2100	U	4000	U	4000	U
2-CHLOROPHENOL	1800	U	2300	U	2100	U	4000	U	4000	U
2-METHYLNAPHTHALENE	1800	U	2300	U	2100	U	4000	U	4000	U
2-METHYLPHENOL	1800	U	2300	U	2100	U	4000	U	4000	U
2-NITROANILINE	4500	U	5700	U	5400	U	10000	U	10000	U
2-NITROPHENOL	1800	U	2300	U	2100	U	4000	U	4000	U
3,3'-DICHLOROBENZIDINE	1800	U	2300	UJ	2100	UJ	4000	UJ	4000	UJ
3-NITROANILINE	4500	U	5700	U	5400	U	10000	U	10000	U
4,6-DINITRO-2-METHYLPHENOL	4500	U	5700	U	5400	U	10000	U	10000	UJ
4-BROMOPHENYL-PHENYLETHER	1800	U	2300	U	2100	U	4000	U	4000	U
4-CHLORO-3-METHYLPHENOL	1800	U	2300	U	2100	U	4000	U	4000	U
4-CHLOROANILINE	1800	U	2300	U	2100	U	4000	U	4000	U
4-CHLOROPHENYL-PHENYLETHER	1800	U	2300	U	2100	U	4000	U	4000	U
4-METHYLPHENOL	1800	U	2300	U	2100	U	4000	U	4000	U
4-NITROANILINE	4500	U	5700	UJ	5400	UJ	10000	UJ	10000	UJ
4-NITROPHENOL	4500	U	5700	UJ	5400	UJ	10000	UJ	10000	U
ACENAPHTHENE	1800	U	2300	UJ	2100	UJ	4000	UJ	4000	U
ACENAPHTHYLENE	1800	U	230	J	2100	U	4000	U	4000	U
ANTHRACENE	400		600	J	500	J	4000	U	4000	U
BENZO(A)ANTHRACENE	1100		1900	J	1800	J	620	J	4000	U
BENZO(A)PYRENE	910		1400	J	1300	J	520	J	4000	U
BENZO(B)FLUORANTHENE	1100		2300	U	1700	J	610	J	4000	U
BENZO(G,H,I)PERYLENE	490		780	J	790	J	4000	U	4000	U

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max Poss Conc.

SHORELINE SEDIMENT SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SSD-333-00005-MAX		OFF-SSD-334-00005		OFF-SSD-335-00005		OFF-SSD-336-00005		OFF-SSD-337-00005	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98	
QC Identifier	Field Dup OFF-SSD-333-00005		None		None		None		None	
Interval (ft)	0 0-0 5		0.0-0 5		0.0-0 5		0 0-0 5		0 0-0 5	
BENZO(K)FLUORANTHENE	550		2300	U	720	J	4000	U	4000	U
BIS(2-CHLOROETHOXY)METHANE	1800	U	2300	U	2100	U	4000	U	4000	U
BIS(2-CHLOROETHYL)ETHER	1800	U	2300	U	2100	U	4000	U	4000	U
BIS(2-ETHYLHEXYL)PHTHALATE	1800	U	2300	U	2100	U	4000	U	4000	U
BUTYLBENZYLPHTHALATE	1800	U	2300	U	2100	U	4000	U	4000	U
CARBAZOLE	1800	U	2300	U	2100	U	4000	U	4000	U
CHRYSENE	1100		1700	J	1500	J	570	J	4000	U
DI-N-BUTYLPHTHALATE	1800	U	2300	U	2100	U	4000	U	4000	U
DI-N-OCTYLPHTHALATE	1800	U	2300	UJ	2100	UJ	4000	UJ	4000	U
DIBENZO(A,H)ANTHRACENE	1800	U	290	J	2100	U	4000	U	4000	U
DIBENZOFURAN	1800	U	2300	U	2100	U	4000	U	4000	U
DIETHYLPHTHALATE	1800	U	2300	U	2100	U	4000	U	4000	U
DIMETHYLPHTHALATE	1800	U	2300	U	2100	U	4000	U	4000	U
FLUORANTHENE	2700		4400		3700		1200	J	420	J
FLUORENE	1800	U	2300	UJ	2100	UJ	4000	UJ	4000	U
HEXACHLOROBENZENE	1800	U	2300	U	2100	U	4000	U	4000	UJ
HEXACHLOROBUTADIENE	1800	U	2300	U	2100	U	4000	U	4000	U
HEXACHLOROCYCLOPENTADIENE	1800	U	2300	U	2100	U	4000	U	4000	U
HEXACHLOROETHANE	1800	U	2300	U	2100	U	4000	U	4000	U
INDENO(1,2,3-CD)PYRENE	550		1000	J	950	J	4000	U	4000	U
ISOPHORONE	1800	U	2300	U	2100	U	4000	U	4000	U
N-NITROSO-DI-N-PROPYLAMINE	1800	U	2300	U	2100	U	4000	U	4000	U
N-NITROSO-DIPHENYLAMINE	1800	U	2300	U	2100	U	4000	U	4000	U
NAPHTHALENE	1800	U	2300	U	2100	U	4000	U	4000	U
NITROBENZENE	1800	U	2300	U	2100	U	4000	U	4000	U
PENTACHLOROPHENOL	4500	U	5700	UJ	5400	UJ	10000	UJ	10000	U
PHENANTHRENE	1700		2100	J	2300		810	J	4000	U
PHENOL	1800	U	2300	U	2100	U	4000	U	4000	U
PYRENE	2100		3700		2900		1100	J	480	J

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc

SHORELINE SEDIMENT VOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SSD-333-00005-MAX		OFF-SSD-334-00005		OFF-SSD-335-00005		OFF-SSD-336-00005		OFF-SSD-337-00005	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98	
QC Identifier	Field Dup OFF-SSD-333-00005		None		None		None		None	
Interval (ft)	0 0-0 5		0 0-0 5		0 0-0.5		0 0-0 5		0 0-0 5	
1,1,1-TRICHLOROETHANE	6	U	6	U	5	U	6	U	5	U
1,1,2,2-TETRACHLOROETHANE	6	U	6	U	5	U	6	U	5	U
1,1,2-TRICHLOROETHANE	6	U	6	U	5	U	6	U	5	U
1,1-DICHLOROETHANE	6	U	6	U	5	U	6	U	5	U
1,1-DICHLOROETHENE	6	U	6	U	5	U	6	U	5	U
1,2-DICHLOROETHANE	6	U	6	U	5	U	6	U	5	U
1,2-DICHLOROETHENE (TOTAL)	6	U	6	U	5	U	6	U	5	U
1,2-DICHLOROPROPANE	6	U	6	U	5	U	6	U	5	U
2-BUTANONE	8		5	J	6	J	11	U	11	U
2-HEXANONE	11	U	11	U	10	U	11	U	11	U
4-METHYL-2-PENTANONE	11	U	11	U	10	U	11	U	11	U
ACETONE	42		30	J	1100	U	28	U	28	U
BENZENE	6	U	6	U	5	U	1	J	5	U
BROMODICHLOROMETHANE	6	U	6	U	5	U	6	U	5	U
BROMOFORM	6	U	6	U	5	U	6	U	5	U
BROMOMETHANE	6	U	6	U	5	U	2	J	5	U
CARBON DISULFIDE	27		6	U	5	U	6	U	2	J
CARBON TETRACHLORIDE	6	U	6	U	5	U	6	U	5	U
CHLOROBENZENE	6	U	6	U	5	U	6	U	5	U
CHLOROETHANE	6	U	6	U	5	U	6	U	5	U
CHLOROFORM	6	U	6	U	5	U	6	U	5	U
CHLOROMETHANE	6	U	6	U	5	U	9		5	U
CIS-1,3-DICHLOROPROPENE	6	U	6	U	5	U	6	U	5	U
DIBROMOCHLOROMETHANE	6	U	6	U	5	U	6	U	5	U
ETHYLBENZENE	6	U	6	U	5	U	6	U	5	U
METHYLENE CHLORIDE	4		4	J	2	J	2	J	2	J
STYRENE	6	U	6	U	5	U	6	U	5	U
TETRACHLOROETHENE	6	U	6	U	5	U	6	U	5	U
TOLUENE	6	U	6	U	5	U	6	U	5	U
TOTAL XYLENES	6	U	6	U	5	U	6	U	5	U
TRANS-1,3-DICHLOROPROPENE	6	U	6	U	5	U	6	U	5	U
TRICHLOROETHENE	6	U	6	U	5	U	6	U	5	U
VINYL CHLORIDE	6	U	6	U	5	U	6	U	5	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est Max Poss Conc

APPENDIX P-6

MARINE SEDIMENT ANALYTICAL RESULTS

MARINE SEDIMENT ACID VOLATILE SULFIDES/SIMULTANEOUSLY EXTRACTED METALS ANALYSIS (µMOLE)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-SD-0015		OFF-10-SD-0015		OFF-11-SD-0015		OFF-12-SD-0015		OFF-13-SD-0015		OFF-14-SD-0015		OFF-15-SD-0015		OFF-16-SD-0015		OFF-17-SD-0015	
Date Sampled	3/27/98		4/3/98		4/3/98		4/3/98		4/3/98		4/7/98		4/7/98		4/3/98		4/3/98	
QC Identifier	None		None		None		None		None		None		None		None		None	
Interval (ft)	0.0-0 5		0 0-0.5		0.0-0 5		0 0-0.5		0 0-0.5		0 0-0 5		0 0-0 5		0 0-0 5		0 0-0 5	
ACID VOLATILE SULFIDE	0 1	U	7 29		13 03		24 03		48.59		10 3		7 1		23 68		14.13	
CADMIUM	0 001		0 002		0.002		0.005		0 009		0.002		0 002		0 005		0 005	
COPPER	0 341		0.212		0 183	U	0 079	U	0 062	U	0 417		0 393		0 303		0 111	U
LEAD	0 505		0 079		0 094		0.249		0 589		0.15		0 121		0.17		0 192	
NICKEL	0 052	U	0 062	U	0 066	U	0 041	U	0 132		0 108	U	0 071	U	0 053	U	0 06	U
SEM-AVS		NA	-6 363	J	-12 018	J	-23 024	J	-46 678	J	-8 347	J	-5 555	J	-22 058	J	-12 651	J
SEM/AVS		NA	0 127	J	0 078	J	0.042	J	0 039	J	0 19	J	0 218	J	0.069	J	0 105	J
ZINC	0 407		0 572		0 667		0 632		1.12		1 277		0 957		1.091		1.11	

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc

MARINE SEDIMENT ACID VOLATILE SULFIDES/SIMULTANEOUSLY EXTRACTED METALS ANALYSIS (µMOLE)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-18-SD-0015		OFF-19-SD-0015		OFF-2-SD-0015		OFF-20-SD-0015		OFF-21-SD-0015		OFF-22-SD-0015		OFF-23-SD-0015		OFF-3-SD-0015		OFF-4-SD-0015	
Date Sampled	4/3/98		4/7/98		3/27/98		4/3/98		4/3/98		3/27/98		4/3/98		3/27/98		3/27/98	
QC Identifier	None		None		None		None		None		None		None		None		None	
Interval (ft)	0.0-0 5		0 0-0.5		0 0-0.5		0.0-0 5		0 0-0 5		0 0-0 5		0 0-0 5		0.0-0.5		0.0-0 5	
ACID VOLATILE SULFIDE	39		17.26		0.1	U	29 52		12 93		2.74		32.95		0 23		0.1	U
CADMIUM	0.011		0 001		0.001		0 004		0.004		0 001		0.006		0.001			NA
COPPER	0.22		0 232		0 117	U	0.285		0 175	U	0.234		0 165	U	0.108	U	0 413	
LEAD	0 476		0.173		0 215		0 13		0.148		0.039		0 236		0 119		0.507	
NICKEL	0 056	U	0 046	U	0.04	U	0 072	U	0.091	U	0 043	U	0.075	U	0 036	U	0.126	
SEM-AVS	-36.114	J	-15 824	J		NA	-27 863	J	-11 47	J	-1 408	J	-30 715	J	0 562	J		NA
SEM/AVS	0 074	J	0 083	J		NA	0 056	J	0 113	J	0 486	J	0 068	J	3 442	J		NA
ZINC	2 123		0 984		0 549		1 166		1 042		1 015		1.753		0 527		0 517	

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NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max Poss Conc

MARINE SEDIMENT ACID VOLATILE SULFIDES/SIMULTANEOUSLY EXTRACTED METALS ANALYSIS (µMOLE)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-5-SD-0015		OFF-6-SD-0015		OFF-7-SD-0015		OFF-8-SD-0015		OFF-9-SD-0015	
Date Sampled	3/27/98		3/27/98		3/27/98		4/7/98		4/7/98	
QC Identifier	None		None		None		None		None	
Interval (ft)	0 0-0 5		0.0-0 5		0 0-0 5		0 0-0 5		0.0-0 5	
ACID VOLATILE SULFIDE	23 82		26 06		38 21		6 21		4 44	
CADMIUM	0 002		0 002		0.002		0 003		0 001	
COPPER	0 156	U	0.177	U	0 09	U	0.397		0 269	
LEAD	0 386		0 168		0.221		0.122		0 061	
NICKEL	0 152		0 077	U	0.068	U	0 065	U	0 049	U
SEM-AVS	-22.144	J	-24 841	J	-37.331	J	-4 647	J	-3.624	J
SEM/AVS	0 07	J	0 047	J	0 023	J	0 252	J	0 184	J
ZINC	0 982		0.794		0 499		0 976		0 435	

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc.

MARINE SEDIMENT GRAIN SIZE (PERCE)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-SD-0015	OFF-10-SD-0015	OFF-10-SD-1520	OFF-10-SD-2530	OFF-11-SD-0015	OFF-11-SD-105110	OFF-11-SD-5055	OFF-12-SD-0015	OFF-13-SD-0015
Date Sampled	3/27/98	4/3/98	4/7/98	4/7/98	4/3/98	4/7/98	4/7/98	4/3/98	4/3/98
QC Identifier	None	None	None	None	None	None	None	None	None
Interval (ft)	0.0-0.5	0.0-0 5	0 5-0.7	0 8-1 0	0.0-0 5	3 4-3 6	1 6-1.8	0 0-0 5	0.0-0.5
PERCENT CLAY	0 2	3 7	0.5	0.4	0.8	0.3	0.9	1	6 1
PERCENT SAND	96	85 7	89	94 3	87.8	49 8	79 8	44 2	14 5
PERCENT SILT	3 9	10 7	10 5	5 3	11 4	49.9	19.3	54 7	79.5

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc.

MARINE SEDIMENT GRAIN SIZE (PERCE)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-14-SD-0015	OFF-15-SD-0015	OFF-16-SD-0015	OFF-17-SD-0015	OFF-18-SD-0015	OFF-18-SD-105110	OFF-18-SD-5055	OFF-19-SD-0015	OFF-2-SD-0015
Date Sampled	4/7/98	4/7/98	4/3/98	4/3/98	4/3/98	4/7/98	4/7/98	4/7/98	3/27/98
QC Identifier	None	None	None	None	None	None	None	None	None
Interval (ft)	0 0-0 5	0 0-0 5	0 0-0 5	0 0-0 5	0 0-0.5	3 4-3.6	1.6-1 8	0 0-0 5	0 0-0 5
PERCENT CLAY	1 3	0 5	3 9	2.3	2.7	3.6	2.7	50.2	0.1
PERCENT SAND	59 1	87 3	3 3	46 2	6.9	6.1	6 4	1 7	97 1
PERCENT SILT	39 7	12 2	92 8	51 6	90.4	90 3	90 9	48 1	2 8

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc

MARINE SEDIMENT GRAIN SIZE (PERCE)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-20-SD-0015	OFF-21-SD-0015	OFF-22-SD-0015	OFF-23-SD-0015	OFF-3-SD-0015	OFF-4-SD-0015	OFF-5-SD-0015	OFF-5-SD-2025	OFF-5-SD-5560
Date Sampled	4/3/98	4/3/98	3/27/98	4/3/98	3/27/98	3/27/98	3/27/98	4/27/98	4/27/98
QC Identifier	None	None	None	None	None	None	None	None	None
Interval (ft)	0 0-0 5	0 0-0 5	0 0-0.5	0 0-0.5	0 0-0 5	0.0-0.5	0 0-0 5	0 7-0.8	1.8-2 0
PERCENT CLAY	60 4	51 1	91 7	54 5	0.2	0.1	0 3	0 3	0 5
PERCENT SAND	1 2	1 8	0 3	1 3	95 2	98.5	97.1	91 4	89.6
PERCENT SILT	38 3	47.2	8	44 1	4 6	1 5	2 6	8 3	9 9

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est. Max Poss. Conc.

MARINE SEDIMENT GRAIN SIZE (PERCE)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-5E-SD-2025		OFF-5E-SD-5560		OFF-6-SD-0015		OFF-6-SD-2025		OFF-6-SD-3540		OFF-7-SD-0015		OFF-8-SD-0015		OFF-9-SD-0015	
Date Sampled	4/27/98		4/27/98		3/27/98		4/27/98		4/27/98		3/27/98		4/7/98		4/7/98	
QC Identifier	None		None		None		None		None		None		None		None	
Interval (ft)	0 7-0 8		1 8-2.0		0.0-0 5		0.7-0 8		1.1-1 3		0 0-0 5		0 0-0.5		0 0-0 5	
PERCENT CLAY	0 5		0 9		0 3		1		0 8		0 6		0.4		0 4	
PERCENT SAND	82.3		81		94 2		81 8		90 6		86 7		72 8		88.1	
PERCENT SILT	17 1		18 1		5.5		17 2		8.6		12.7		26 7		11.5	

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est. Max. Poss Conc.

MARINE SEDIMENT TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-SD-0015		OFF-10-SD-0015		OFF-10-SD-1520		OFF-10-SD-2530		OFF-11-SD-0015		OFF-11-SD-105110		OFF-11-SD-5055		OFF-12-SD-0015		OFF-13-SD-0015	
Date Sampled	3/27/98		4/3/98		4/7/98		4/7/98		4/3/98		4/7/98		4/7/98		4/3/98		4/3/98	
QC Identifier	None		None		None		None		None		None		None		None		None	
Interval (ft)	0 0-0 5		0 0-0.5		0 5-0.7		0 8-1 0		0 0-0.5		3.4-3 6		1 6-1 8		0.0-0 5		0 0-0.5	
ALUMINUM	21671 8	J	26243 8	J	28365 8	J	32370 2	J	19537 4	J	28758 7	J	25777 2	J	35681 1	J	40998 8	J
ARSENIC	6 3	J	3.4	J	2 9	J	3 3	J	2 7	J	4 7	J	5	J	5 2	J	6	J
CADMIUM	0 31		0 15		0 18		0 07		0 22		0 2		0.27		0 53		0 8	
CHROMIUM	31 1		32 1		30 1		39 2		30 2		231 7		32 1		58 6		73 7	
COPPER	58 3		9 8		9		7.7		9.1		5 3		4 9		37		80 8	
IRON	24310	J	17984 9	J	18630 6	J	21863 5	J	14918 6	J	17217	J	20471 9	J	27717 3	J	33406 4	J
LEAD	131 4		27.3		17 1		16 9		38.7		12.7		11 6		114 2		201 9	
MANGANESE	353 6		357 1		409 5		252 6		331		290		364		368 1		335 9	
MERCURY	0 371		0 07		0 07		0 073		0 125		0 051		0.05	U	0 376		1 355	
NICKEL	34		12 5		14 1		19.7		10 9	U	12 8		75 8		21 4		29 7	
SILVER	0 46	J	0 13	UJ	0 13	UJ	0 13	UJ	0 17	J	0.13	UJ	0 13	UJ	0 48	J	1.06	J
ZINC	156 4		53 3	U	60.6	U	48 5	U	55 5	U	26 3	U	257 3		146 5		263 4	

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max Poss. Conc

MARINE SEDIMENT TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-14-SD-0015		OFF-15-SD-0015		OFF-16-SD-0015		OFF-17-SD-0015		OFF-18-SD-0015		OFF-18-SD-105110		OFF-18-SD-5055		OFF-19-SD-0015		OFF-2-SD-0015	
Date Sampled	4/7/98		4/7/98		4/3/98		4/3/98		4/3/98		4/7/98		4/7/98		4/7/98		3/27/98	
QC Identifier	None		None		None		None		None		None		None		None		None	
Interval (ft)	0 0-0 5		0.0-0 5		0 0-0 5		0 0-0 5		0 0-0.5		3 4-3 6		1.6-1.8		0 0-0 5		0.0-0 5	
ALUMINUM	28275.6	J	26842 7	J	29666 5	J	32010.6	J	40749.6	J	41021 5	J	47170.2	J	37769 6	J	26983 7	J
ARSENIC	8.5	J	3.7	J	5	J	4 7	J	6 3	J	6 4	J	5 6	J	5 8	J	8	J
CADMIUM	0.12		0 18		0 36		0 38		0 69		0 5		1.12		0 21		0 14	
CHROMIUM	44 9		41		48		44.1		73 6		76.4		79 7		55 6		36 6	
COPPER	18 9		11 6		23 9		26 4		83 5		66.2		84 9		30.3		23 7	
IRON	21879	J	21010 4	J	24706 3	J	24563 5	J	31884 5	J	32905 4	J	33905 8	J	29787.1	J	29486 5	J
LEAD	44 6		33 1		61 2		71 4		190 4		202		249 5		56		90 2	
MANGANESE	324		366 5		341 6		312 4		332 9		279 7		305.1		362 9		302 2	
MERCURY	0 196		0 1		0 208		0 225		0 562		1.901		0 97		0 299		0 081	
NICKEL	15 9		14 2		18 2		18 7		28 4		25 7		28 3		24		26 2	
SILVER	0 23	J	0.19	J	0 44	J	0 4	J	1 08	J	0 28	J	1.17	J	0 18	J	0 13	UJ
ZINC	96 8	U	73 3	U	101 8	U	125.7		248 3		250 3		305 9		166 3		314 8	

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max Poss. Conc

MARINE SEDIMENT TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-20-SD-0015		OFF-21-SD-0015		OFF-22-SD-0015		OFF-23-SD-0015		OFF-3-SD-0015		OFF-4-SD-0015		OFF-5-SD-0015		OFF-5-SD-2025		OFF-5-SD-5560	
Date Sampled	4/3/98		4/3/98		3/27/98		4/3/98		3/27/98		3/27/98		3/27/98		4/27/98		4/27/98	
QC Identifier	None		None		None		None		None		None		None		None		None	
Interval (ft)	0 0-0 5		0 0-0.5		0 0-0 5		0 0-0 5		0 0-0.5		0 0-0 5		0 0-0 5		0 7-0 8		1 8-2 0	
ALUMINUM	33977	J	37829 4	J	36057 5	J	92357 6	J	23218.6	J	16491 8	J	16256 3	J	25226.7	J	32802 5	J
ARSENIC	4 2	J	4 9	J	3 8	J	4 8	J	3 6	J	4.3	J	3 6	J	4 9	J	5 3	J
CADMIUM	0 25		0.39		0 19		0 43		0.18		0 06		0.23		0 55		1 29	
CHROMIUM	52 5		52.9		47 8		53 2		26 5		24 3		27.4		17.6		29 5	
COPPER	19		22.7		18 3		44 7		12 3		31 4		16.9		13 5		5.7	
IRON	28354 6	J	25992 7	J	28735 9	J	51702 9	J	22871.7	J	22907 6	J	17649 2	J	21741 8	J	22845.6	J
LEAD	40.6		46 2		21.7		74 2		60.1		95 5		138 7		59 8		12 2	
MANGANESE	368 4		377.9		318 5		669 7		387.4		369		166 8		282		345	
MERCURY	0 171		0 112		0 111		0.387		0 05	U	0 05	U	0 05	U	0 071		0 05	U
NICKEL	21		26 9		21 2		42 7		22 2		20 2		19		22.8		24 5	
SILVER	0.19	J	0 16	J	0 13	UJ	0 27	J	0 13	UJ	0.13	UJ	0.13	UJ	0 13	UJ	0.13	UJ
ZINC	108.5		143.9		78 3	U	306 2		100 8	U	108		79 8	U	105 2	U	53 7	U

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NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc.

MARINE SEDIMENT TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-5E-SD-2025		OFF-5E-SD-5560		OFF-6-SD-0015		OFF-6-SD-2025		OFF-6-SD-3540		OFF-7-SD-0015		OFF-8-SD-0015		OFF-9-SD-0015	
Date Sampled	4/27/98		4/27/98		3/27/98		4/27/98		4/27/98		3/27/98		4/7/98		4/7/98	
QC Identifier	None		None		None		None		None		None		None		None	
Interval (ft)	0 7-0.8		1 8-2.0		0 0-0 5		0 7-0.8		1.1-1 3		0.0-0 5		0 0-0 5		0 0-0.5	
ALUMINUM	15734	J	26601 5	J	22706.9	J	24964.6	J	26685 6	J	21885.3	J	27137	J	26673 4	J
ARSENIC	7.3	J	4 6	J	4.1	J	7.5	J	3 7	J	6 8	J	4 3	J	4 3	J
CADMIUM	0.11		0 1		0 15		0 68		0.14		0 29		0.19		0 11	
CHROMIUM	19.7		23 2		23		35.3		29 7		43 1		42 3		38 6	
COPPER	6		2 5		11		42		6 6		32.8		11		6 9	
IRON	11871.7	J	13658 9	J	19992 8	J	23113 2	J	18709	J	27506 2	J	21704 3	J	24714	J
LEAD	13 2		14 6		47.2		156 3		18 7		294		37.9		25 2	
MANGANESE	179 9		262 6		257.5		285.1		211.9		331 6		356 2		515 8	
MERCURY	0.062		0.05	U	0 05	U	0.176		0 05	U	0 119		0 148		0 05	U
NICKEL	16 6		15 7		19 3		24 8		21.6		28 1		15.8		18 3	
SILVER	0.13	UJ	0 13	UJ	0 13	UJ	0.19	J	0 13	UJ	0 18	J	0 17	J	0 13	UJ
ZINC	35 5	U	29 5	U	105 7	U	267 1		75 8	U	155 5		93 4	U	79.9	U

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MARINE SEDIMENT SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-SD-0015		OFF-10-SD-0015		OFF-10-SD-1520		OFF-10-SD-2530		OFF-11-SD-0015		OFF-11-SD-105110		OFF-11-SD-5055		OFF-12-SD-0015	
Date Sampled	3/27/98		4/3/98		4/7/98		4/7/98		4/3/98		4/7/98		4/7/98		4/3/98	
QC Identifier	None		None		None		None		None		None		None		None	
Interval (ft)	0 0-0 5		0 0-0 5		0 5-0.7		0 8-1 0		0 0-0 5		3 4-3 6		1 6-1 8		0 0-0 5	
1,1'-BIPHENYL	7 2		1 2	J	1 4	J	1 6	J	3 7	J	6 4	UJ	2 4	J	28 8	
1-METHYLNAPHTHALENE	14 8	J	2 2	J	2.1	J	0 7	J	6 2	J	7 1	U	7 1	U	78 8	J
1-METHYLPHENANTHRENE	132		3	J	3 3	J	1 9	J	14 8		6 2	U	7 9		220	
2,3,5-TRIMETHYLNAPHTHALENE	7 7	J	4 8	U	0.3	J	0 7	J	2	J	4 8	U	1 8	J	20 8	J
2,6-DIMETHYLNAPHTHALENE	18 9	J	9	J	6 2	J	2 5	J	18 5	J	5	J	15 9		88.9	J
2-METHYLNAPHTHALENE	26	J	3 1	J	3	J	2 6	J	17 5	J	3 6	U	3 6	U	117	J
ACENAPHTHENE	23		2 5	J	1 8	J	0 9	J	27 9		8 2	U	13 4	J	321	
ACENAPHTHYLENE	93		4 1	J	3	J	2 1	J	9		4 6	U	1 1	J	58.3	
ANTHRACENE	255	J	9 8	J	8 9		3 5	J	64	J	0 4	J	21 4		572	J
BENZO(A)ANTHRACENE	100		35 2		23 4		15 5		168		8	U	44 7		1200	
BENZO(A)PYRENE	595		45.1		31 3		19 8		148		3	U	37 5		1420	
BENZO(B,J,K)FLUORANTHENE	2780		94 6		70 8		34 2		284		9	U	71 1		2730	
BENZO(E)PYRENE	910	J	41 3	J	31 2		16 5		107	J	6	U	22 5		1080	J
BENZO(G,H,I)PERYLENE	876	J	40 5	J	31 8		18 6		95 2	J	1 8	J	25 2		815	J
CHRYSENE/TRIPHENYLENE	790		31 8		31	J	15	J	117		10	U	44 2	J	998	
DIBENZO(A,H)ANTHRACENE	441	J	8 6	J	6 6		4 8		23 9	J	0 8	J	4 8		280	J
FLUORANTHENE	1950		86 2		70 4		35 7		388		9	U	146		3120	
FLUORENE	40 3	J	2 8	J	2	J	1 6	J	25 1	J	0 3	J	12	J	271	J
INDENO(1,2,3-CD)PYRENE	1010		35 3		26.9		14 8		86 3		1.5	J	23 1		777	
NAPHTHALENE	31 9		4		3 5	J	2 7	J	9.8		3 6	U	3 6	U	128	
PERYLENE	225		12 8		8.9		6 3		34 8		6 4		40 2		257	
PHENANTHRENE	1060		31 3		26.7		16 2		238		1	U	136		2510	
PYRENE	1780		87.5		63 5		40 2		337		8	U	125		3020	
SUM PAHS (6 HIGH MOLECULAR WEIGHT)	6660		294		226		131		1180		6		402		10000	
SUM PAHS (7 LOW MOLECULAR WEIGHT)	1530		58		49		30		391		1		184		3980	
SUM PAHS (NOAA STATUS &TRENDS)	14200		592		458		258		2230		25		798		20100	

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MARINE SEDIMENT SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-13-SD-0015		OFF-14-SD-0015		OFF-15-SD-0015		OFF-16-SD-0015		OFF-17-SD-0015		OFF-18-SD-0015		OFF-18-SD-105110		OFF-18-SD-5055	
Date Sampled	4/3/98		4/7/98		4/7/98		4/3/98		4/3/98		4/3/98		4/7/98		4/7/98	
QC Identifier	None		None		None		None		None		None		None		None	
Interval (ft)	0 0-0 5		0 0-0 5		0 0-0.5		0 0-0 5		0 0-0 5		0 0-0.5		3 4-3 6		1.6-1.8	
1,1'-BIPHENYL	20.5	J	6 4	U	6 4	U	9.1	J	5 6	J	17.3		32 1	J	38 3	J
1-METHYLNAPHTHALENE	43 2	J	9 4		4 6	J	17 6	J	11	J	31 4	J	59		64 4	
1-METHYLPHENANTHRENE	177	J	20 1		11 4		43 6	J	25 3		108		168		359	
2,3,5-TRIMETHYLNAPHTHALENE	12 9	J	2 6	J	0.8	J	6	J	2 5	J	11.5	J	17 7		13 6	
2,6-DIMETHYLNAPHTHALENE	55 2	J	15 6		7 3	J	37 8	J	22 1	J	45 3	J	82 4		245	
2-METHYLNAPHTHALENE	65 6	J	15 5		9 5		23 9	J	19.7	J	63 8	J	91 1		210	
ACENAPHTHENE	110	J	11 4		5.1	J	37 6	J	25.6		59 7		208	J	52.8	J
ACENAPHTHYLENE	156	J	25 2		11.9		35 8	J	41 1		141		80 2		210	
ANTHRACENE	482	J	51 8		35		88	J	120	J	340	J	799		741	
BENZO(A)ANTHRACENE	1160	J	216		106		195	J	251		730		1260		787	
BENZO(A)PYRENE	1150	J	255		103		220	J	333		984		1170		931	
BENZO(B,J,K)FLUORANTHENE	2430	J	457		366		435	J	654		2290		2190		1790	
BENZO(E)PYRENE	939	J	213		140		187	J	273	J	963	J	841		772	
BENZO(G,H,I)PERYLENE	744	J	195		100		181	J	270	J	899	J	643		944	
CHRYSENE/TRIPHENYLENE	774	J	190		87 3		151	J	203	J	631		951	J	491	J
DIBENZO(A,H)ANTHRACENE	213	J	52 2		44		49.6	J	76 1	J	273	J	204		248	
FLUORANTHENE	2600	J	308		185		444	J	528	J	1880		3020		1350	
FLUORENE	123	J	17.2		7 6		34 1	J	30 9	J	74 8	J	302	J	100	J
INDENO(1,2,3-CD)PYRENE	646	J	172		116		156	J	237		785		619		821	
NAPHTHALENE	61 2	J	20 6		11.3		19 9	J	25		68 1		157		158	
PERYLENE	253	J	79.4		32 9		62 9	J	80 5		276		864		295	
PHENANTHRENE	1440	J	130		87.4		331	J	271		918		1930		528	
PYRENE	2530	J	344		187		513	J	544	J	1810		2520		1500	
SUM PAHS (6 HIGH MOLECULAR WEIGHT)	8430		1360		712		1570		1930		6290		9110		5310	
SUM PAHS (7 LOW MOLECULAR WEIGHT)	2440		271		168		570		533		1670		3570		1999 9	
SUM PAHS (NOAA STATUS &TRENDS)	16200		2800		1660		3280		4050		13400		18200		12700	

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MARINE SEDIMENT SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-19-SD-0015		OFF-2-SD-0015		OFF-20-SD-0015		OFF-21-SD-0015		OFF-22-SD-0015		OFF-23-SD-0015		OFF-3-SD-0015		OFF-4-SD-0015	
Date Sampled	4/7/98		3/27/98		4/3/98		4/3/98		3/27/98		4/3/98		3/27/98		3/27/98	
QC Identifier	None		None		None		None		None		None		None		None	
Interval (ft)	0.0-0 5		0 0-0 5		0 0-0.5		0.0-0.5		0.0-0 5		0 0-0 5		0.0-0 5		0 0-0.5	
1,1'-BIPHENYL	18 2		22.1		17 9		5 9	J	0 8	J	12 8		38 6		6 6	
1-METHYLNAPHTHALENE	18 9		52 4	J	43 7	J	7 7	J	2	J	27 8		62 2	J	35 8	J
1-METHYLPHENANTHRENE	20 2		384		44 4		19 3		2 6	J	49 9		539		282	
2,3,5-TRIMETHYLNAPHTHALENE	3 6	J	45 2	J	5 6	J	2.4	J	0 3	J	8 2		22	J	22 6	J
2,6-DIMETHYLNAPHTHALENE	54 3		103	J	43 9	J	13 7	J	5 8	J	38 6		66 9	J	53 5	J
2-METHYLNAPHTHALENE	31 5		77 6	J	40 4	J	13 1	J	3 1	J	43 4		89 2	J	38 1	J
ACENAPHTHENE	43 8		88 1		75 3		9 4		1.8	J	89 5		371		54	
ACENAPHTHYLENE	40 6		488		14 8		18 3		4 4	J	77 5		350		424	
ANTHRACENE	104		1100	J	217	J	47 9	J	9 5	J	348		1460	J	774	J
BENZO(A)ANTHRACENE	316		3600		320		151		35 6		616		5690		2280	
BENZO(A)PYRENE	322		2410		257		176		38 8		758		3450	J	2090	
BENZO(B,J,K)FLUORANTHENE	618		7710		588		375		78 6		1540		17300	J	3500	
BENZO(E)PYRENE	234		2370	J	197	J	158	J	49 3	J	688		5250	J	1310	J
BENZO(G,H,I)PERYLENE	201		2520	J	131	J	133	J	60 4	J	700		5370	J	1290	J
CHRYSENE/TRIPHENYLENE	277		2340		296		151		26 7		540		4560		1850	
DIBENZO(A,H)ANTHRACENE	57.4		1290	J	50 3	J	40 4	J	12.2	J	179		2810	J	352	J
FLUORANTHENE	542		8350		882		291		65 9		1560		14600		5580	
FLUORENE	51 3		303	J	92 6	J	11 3	J	2 4	J	106		598	J	177	J
INDENO(1,2,3-CD)PYRENE	195		3070		150		126		33 9		511		6560	J	1200	
NAPHTHALENE	53 3		171		40 1		8.7		3 2	J	41.6		149		136	
PERYLENE	85 6		818		63.4		43 3		12.9		205		1490	J	607	
PHENANTHRENE	294		5610		828		126		23 5		770		10700		3030	
PYRENE	523		6750		751		334		69 2		1420		10700		4810	
SUM PAHS (6 HIGH MOLECULAR WEIGHT)	2040		24700		2560		1140		248		5080		41800		16700	
SUM PAHS (7 LOW MOLECULAR WEIGHT)	619		7830		1310		234		48		1480		13700		4640	
SUM PAHS (NOAA STATUS &TRENDS)	4110		49600		5150		2250		543		10300		92100		29900	

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MARINE SEDIMENT SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-5-SD-0015		OFF-5-SD-2025		OFF-5-SD-5560		OFF-5E-SD-2025		OFF-5E-SD-5560		OFF-6-SD-0015		OFF-6-SD-2025		OFF-6-SD-3540	
Date Sampled	3/27/98		4/27/98		4/27/98		4/27/98		4/27/98		3/27/98		4/27/98		4/27/98	
QC Identifier	None		None		None		None		None		None		None		None	
Interval (ft)	0 0-0 5		0.7-0 8		1.8-2 0		0.7-0.8		1.8-2 0		0 0-0 5		0 7-0 8		1.1-1 3	
1,1'-BIPHENYL	151		8 9	J	6.4	UJ	6 5	J	6 4	UJ	46.7		42	J	3	J
1-METHYLNAPHTHALENE	278	J	35		7.1	U	40 8		7 1	U	132	J	120		7 9	
1-METHYLPHENANTHRENE	1460		121		6.2	U	274		6 2	U	680		185		9 8	
2,3,5-TRIMETHYLNAPHTHALENE	121	J	13		4 8	U	22 6		4.8	U	36 3	J	48 1		1.7	J
2,6-DIMETHYLNAPHTHALENE	476	J	30 3		8 6	U	39 9		8 6	U	148	J	261		10	
2-METHYLNAPHTHALENE	330	J	42 5		3 6	U	18 7		3.6	U	170	J	280		9 6	
ACENAPHTHENE	966		132	J	8 2	U	267	J	8 2	U	344		249	J	52 5	J
ACENAPHTHYLENE	509		144		4 6	U	11		0.2	J	195		95 8		3.1	J
ANTHRACENE	2810	J	380		8 4	U	390		8 4	U	1170	J	629		61 5	
BENZO(A)ANTHRACENE	9300		882		8	U	829		8	U	4250		988		118	
BENZO(A)PYRENE	4830		973		3	U	648		3	U	1990		1750		116	
BENZO(B,J,K)FLUORANTHENE	25000		1610		9	U	1130		9	U	9390		3580		237	
BENZO(E)PYRENE	7590	J	616		6	U	404		6	U	3270	J	1490		81.2	
BENZO(G,H,I)PERYLENE	5990	J	547		2 2	J	293		1 9	J	2630	J	1260		74 3	
CHRYSENE/TRIPHENYLENE	7300		790	J	10	U	710	J	10	U	3350		791	J	103	J
DIBENZO(A,H)ANTHRACENE	3410	J	345		2 8	U	115		1	J	1390	J	357		22 3	
FLUORANTHENE	19200		2300		9	U	2050		9	U	11200		2840		322	
FLUORENE	1360	J	124	J	7	UJ	205	J	7	UJ	392	J	253	J	25 7	J
INDENO(1,2,3-CD)PYRENE	7390		524		1 2	J	302		1.5	J	3030		1140		72 2	
NAPHTHALENE	258		88 3		3 6	U	8 8		3 6	U	161		174		10	
PERYLENE	1460		262		4 4	U	175		6 9		734		407		32 9	
PHENANTHRENE	14600		1440		10	U	1950		10	U	9470		2040		249	
PYRENE	16900		2090		8	U	1910		8	U	9770		3340		286	
SUM PAHS (6 HIGH MOLECULAR WEIGHT)	60900		7370		9		6260		7		32000		10100		966	
SUM PAHS (7 LOW MOLECULAR WEIGHT)	20800		2350		1		2850		1		11900		3720		412	
SUM PAHS (NOAA STATUS &TRENDS)	132000		13500		27		11800		22		64000		22300		1910	

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed; * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc

MARINE SEDIMENT SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-7-SD-0015		OFF-8-SD-0015		OFF-9-SD-0015	
Date Sampled	3/27/98		4/7/98		4/7/98	
QC Identifier	None		None		None	
Interval (ft)	0 0-0 5		0.0-0.5		0 0-0 5	
1,1'-BIPHENYL	14 7		6 4	U	6 4	U
1-METHYLNAPHTHALENE	34 6		11		1 7	J
1-METHYLPHENANTHRENE	104		22		4 4	J
2,3,5-TRIMETHYLNAPHTHALENE	17 7		2 3	J	0.4	J
2,6-DIMETHYLNAPHTHALENE	59.8		24 5		12 4	
2-METHYLNAPHTHALENE	54 9		14 4		3 1	J
ACENAPHTHENE	120		34		4 1	J
ACENAPHTHYLENE	169		18 5		5.7	
ANTHRACENE	393		70 1		11 3	
BENZO(A)ANTHRACENE	1160		214		57 3	
BENZO(A)PYRENE	1330		218		76 1	
BENZO(B,J,K)FLUORANTHENE	2850		411		152	
BENZO(E)PYRENE	966		161		58 4	
BENZO(G,H,I)PERYLENE	1020		141		52 5	
CHRYSENE/TRIPHENYLENE	519	J	196		59.6	
DIBENZO(A,H)ANTHRACENE	293		41 5		13 6	U
FLUORANTHENE	2190		455		117	
FLUORENE	160		34 7		5 3	J
INDENO(1,2,3-CD)PYRENE	968		136		48.1	
NAPHTHALENE	70		22.8		4 3	
PERYLENE	363		60 4		21 4	
PHENANTHRENE	1320		261		46.3	
PYRENE	2120		401		102	
SUM PAHS (6 HIGH MOLECULAR WEIGHT)	7620		1530		425	
SUM PAHS (7 LOW MOLECULAR WEIGHT)	2280		456		80	
SUM PAHS (NOAA STATUS &TRENDS)	16300		2960		858	

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NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est. Max. Poss Conc

MARINE SEDIMENT PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-SD-0015		OFF-10-SD-0015		OFF-10-SD-1520		OFF-10-SD-2530		OFF-11-SD-0015		OFF-11-SD-105110		OFF-11-SD-5055	
Date Sampled	3/27/98		4/3/98		4/7/98		4/7/98		4/3/98		4/7/98		4/7/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	0 0-0 5		0 0-0 5		0.5-0 7		0 8-1 0		0 0-0 5		3.4-3 6		1 6-1 8	
101 (2 2'4 5 5') / 90	1 2	U	0 7	U	0.6	U	0 6	U	2.2	U	0 6	U	0 6	U
153 (2,2',4,4',5,5')	1 5		1 1		0.9	J	0 4	UJ	3 3		0 4	UJ	0 4	UJ
18 (2,2',5)	1 3	J	0.7	U	0 7	U	0 7	U	3 5		0 7	U	0 7	U
195 (2,2',3,3',4,4',5,6)	0 5	U	0 6	U	0 6	U	0.6	U	0 7		0 6	U	0 6	U
1A,2A,3B,4A,5A,6B-HEXACHLOROCYCLOHEXANE	0 6	U	0.6	U	0.6	U	0 6	U	0 6	U	0 6	U	0 6	U
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	0 5	U	1 3	U	1	U	1 3	U	1 5	U	0 5	U	0 5	U
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	0 9	U	0 7	U	0 5	U	0 5	U	1 5		0 5	U	0 5	U
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	0.6		0 5	U	0 4	U	0 4	U	0 6		0 4	U	0 4	U
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	1 1		0 6		0 5	U	0.5	U	3 2		0 5	U	0 5	U
2,2',5,5'-TETRACHLOROBIPHENYL	0 8	U	0 7	U	0 7	U	0 7	U	3 4	J	0 7	U	0 7	U
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	0 7	J	0 7	J	0 6	J	0.7	U	2		0 7	U	0 7	U
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	0 6	U	0 3	U	0 6	U	0 6	U	1 3	U	0 6	U	0 6	U
2,4'-DDE	0 5	U	0 8	U	0 8	U	0 8	U	0 8	U	0 5	U	0 8	U
2,4'-DDT	1 1		1	U	1	U	1	U	1	U	1	U	1	U
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	0 5	U	0 5	U	0 5	U	0 5	U	0 7	J	0 5	U	0 5	U
4,4'-DDD	3	J	0 8	U	0 9	U	0 9	U	0 8	U	0 8	U	0 9	U
4,4'-DDE	2 5	U	0 9	U	0 9	U	0 9	U	0 9	U	1	U	0 9	U
4,4'-DDT	4 3		0 7		0 6	J	0 6	U	1 6		0 6	U	0 6	U
44 (2,2'3,5')	0 6	J	0 3	J	0 2	J	0 2	J	3 3	J	0 5	U	0 5	U
8 (2,4)	8 5	J	0 3	U	0 3	U	0 3	U	0 8		0.3	U	0 3	U
ALDRIN	0 7	U	0 7	U	0 7	U	0 7	U	0 7	U	0.7	U	0 7	U
ALPHA-CHLORDANE	0 8		0 8	U	0 8	U	0 8	U	0 8	U	0 8	U	0 8	U
DECACHLOROBIPHENYL (209)	0 5	U	0 7	U	0 5	U	0.5	U	0 5	U	0 5	U	0 5	U
HEPTACHLOR	0 5	U	0.5	U	0 5	U	0 5	U	0 5	U	0 5	U	0 5	U
HEPTACHLOR EPOXIDE	0 5	U	0 5	U	0 5	U	0 5	U	2 8	J	0 5	U	0 5	U
HEXACHLOROBENZENE	0 4	U	0.4	U	0 4	U	0 4	U	0 4	U	0 4	U	0 4	U
MIREX	0 3	J	0 6	U	0 6	U	0 6	U	0 6	U	0 6	U	0 6	U
PCB 138/163/164	1 9		1 2		1		0 6	U	3 5		0 6		0 6	U
PCB 187/182/159	0 6		0 6		0 5	U	0 5	U	2		0.5	U	0.5	U
PCB 188	0 6	U	0.6	U	0 6	U	0 6	U	0 6	J	0.6	U	0 6	U
PCB 200	0.3	J	0 4	J	0.1	J	0 1	J	0 4	J	0.1	J	0 5	U
PCB 28/50	0 7		0 7	U	0 1	J	0 1	J	7 4		0 7	U	0 7	U
PCB 29	0.7	U	0.7	U	0 7	U	0 7	U	0 7	U	0 7	U	0 7	U
PCB 50	0 5	U	0 5	U	0 5	U	0 5	U	0 5	U	0 5	U	0 5	U
PCB 66/95	1 1		0 6		0 5	U	0 5	U	6 5		0 5	U	0 5	U

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NA - Not Analyzed; * - From dilution analysis, R - Rejected, EMPC - Est Max Poss Conc

MARINE SEDIMENT PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-SD-0015		OFF-10-SD-0015		OFF-10-SD-1520		OFF-10-SD-2530		OFF-11-SD-0015		OFF-11-SD-105110		OFF-11-SD-5055	
Date Sampled	3/27/98		4/3/98		4/7/98		4/7/98		4/3/98		4/7/98		4/7/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	0.0-0.5		0 0-0 5		0.5-0.7		0.8-1 0		0 0-0 5		3.4-3 6		1 6-1 8	
PCB 87	0 6	UJ	0 6	UJ	0 6	U	0 6	U	0.8	J	0 6	U	0 6	U
SUM OF PCB CONGENERS	18 9		5 5		2.9		0 4		44.2		0 7		2	
SUM OF PCB CONGENERS X 2	37 8		11		5 8		0 8		88 4		1.4		4	
TRANS-NONACHLOR	0 6	J	0.8	U	0 8	U	0 8	U	0 8	U	0 8	U	0 8	U

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NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc

MARINE SEDIMENT PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-12-SD-0015		OFF-13-SD-0015		OFF-14-SD-0015		OFF-15-SD-0015		OFF-16-SD-0015		OFF-17-SD-0015		OFF-18-SD-0015	
Date Sampled	4/3/98		4/3/98		4/7/98		4/7/98		4/3/98		4/3/98		4/3/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5		0.0-0.5	
101 (2,2'4,5,5') / 90	4.1		5.9		2.2		0.9	U	1.9	U	2.1	U	4.5	
153 (2,2',4,4',5,5')	5.4		9.3		3.4		1.7		3.3		2.8		7.5	
18 (2,2',5)	2.4		0.5	J	1.1		0.7	U	0.3	J	0.7	U	0.7	U
195 (2,2',3,3',4,4',5,6)	0.8	J	3.7		0.6	U	0.6	U	0.6	U	0.6	U	0.6	U
1A,2A,3B,4A,5A,6B-HEXACHLOROCYCLOHEXANE	0.6	U	0.6	U	0.6	U	0.5	J	0.6	U	0.6	U	0.6	U
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	1.9	U	4		1		0.7		0.6	U	1.5	U	2.3	U
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	3.8		5.8		0.9	U	0.6	U	1.5		1.3	U	2.9	
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	1.8		4		0.8	U	0.4	UJ	1		0.9		2.4	
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	6.4		9.3		1.6		1.1		1.7		1.3		5.2	
2,2',5,5'-TETRACHLOROBIPHENYL	3.2	J	2.9	J	1.1		0.7	U	0.8	U	0.7	U	1.2	J
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	3.2		6.6		2.3		0.8		2.3		1.7		5.5	
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	1.7	J	3.5	J	0.9	UJ	0.6	U	0.9	U	1	U	2.4	J
2,4'-DDE	0.9		0.8	U	0.8	U	0.8	U	0.8	U	0.8	U	0.8	U
2,4'-DDT	0.6	J	1.2		1	U	1	U	1.2		0.7	J	1.8	
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	1.8	J	4.9	J	1.1		0.5	UJ	1.2	J	1.3	J	1.8	J
4,4'-DDD	11.2	J	19.7	J	1.4		0.6	J	2.2	J	12.9	J	15.8	J
4,4'-DDE	6.2		10.8		0.9	J	0.5	J	1.8	U	2.3	U	10.5	
4,4'-DDT	4.8		10.9		2		0.8		1.6		4.1		9.5	
44 (2,2'3,5')	2	J	2.4	J	0.6		0.5	U	0.8	J	0.5	J	1.2	J
8 (2,4)	1.5		0.9		0.5	U	0.3	U	0.6		0.3	U	0.8	
ALDRIN	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
ALPHA-CHLORDANE	1.2		1.4		0.2	J	0.1	J	0.9		0.8	U	1.1	
DECACHLOROBIPHENYL (209)	2.2		3		1.2		0.6		0.8	U	1.4		2.6	
HEPTACHLOR	0.5	U	1.3	U	0.2	J	0.1	J	0.5	U	0.5	U	0.5	U
HEPTACHLOR EPOXIDE	2.4	J	1.1	J	0.5	U	0.5	U	0.5	U	0.5	U	1	J
HEXACHLOROBENZENE	0.8	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U	0.4	U
MIREX	0.6	U	0.6	U	0.4	J	0.4	J	0.6	U	0.6	U	0.6	U
PCB 138/163/164	7.7		13.3		3.1		1.7		4.9		3.2		12.2	
PCB 187/182/159	3.7		5.5		1.8		0.7	U	1.7		1.3		3.8	
PCB 188	1		1.6		0.8		0.6	U	1		0.6	U	1.5	
PCB 200	1.6		0.5	U	0.4	J	0.4	J	0.5	U	0.3	J	1.2	
PCB 28/50	4.2		1.3		0.9		0.3	J	0.7	U	0.7	U	0.7	
PCB 29	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U	0.7	U
PCB 50	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
PCB 66/95	5		4.6		2.2		0.9	U	1.7		1.3		3.9	

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MARINE SEDIMENT PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-12-SD-0015		OFF-13-SD-0015		OFF-14-SD-0015		OFF-15-SD-0015		OFF-16-SD-0015		OFF-17-SD-0015		OFF-18-SD-0015	
Date Sampled	4/3/98		4/3/98		4/7/98		4/7/98		4/3/98		4/3/98		4/3/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	0 0-0 5		0 0-0 5		0.0-0 5		0 0-0.5		0 0-0 5		0 0-0 5		0.0-0.5	
PCB 87	1.6	J	2 5	J	0 6	U	0 6	U	0 7	J	0 6	J	1 6	J
SUM OF PCB CONGENERS	65 1		95 5		24 8		7 3		22.7		16 6		62 9	
SUM OF PCB CONGENERS X 2	130 2		191		49 6		14.6		45 4		33 2		125 8	
TRANS-NONACHLOR	0 6	J	1	J	0 4	J	0 2	J	0 8	U	0 8	U	1	J

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NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc

MARINE SEDIMENT PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-18-SD-105110		OFF-18-SD-5055		OFF-19-SD-0015		OFF-2-SD-0015		OFF-20-SD-0015		OFF-21-SD-0015		OFF-22-SD-0015	
Date Sampled	4/7/98		4/7/98		4/7/98		3/27/98		4/3/98		4/3/98		3/27/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	3 4-3 6		1 6-1 8		0.0-0 5		0.0-0 5		0 0-0.5		0 0-0 5		0 0-0 5	
101 (2 2'4 5 5') / 90	0 6	U	3 5		1 8		2 1	U	1.9	U	2 2	U	0 7	U
153 (2,2',4,4',5,5')	0 4	UJ	3 7	J	2.4		2 5		3 6		2.7		0 7	
18 (2,2',5)	0 7	U	0 7	U	1 3	J	0 7	U	0 7	U	0.7	U	0 7	U
195 (2,2',3,3',4,4',5,6)	0 6	U	0 6	U	0 6	U	0 6	U	0 6	U	0.6	U	0.6	U
1A,2A,3B,4A,5A,6B-HEXACHLOROCYCLOHEXANE	0 6	U	0.6	U	0 9		0 6	U	0 6	U	0 6	U	0 6	U
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	1 4	U	4 8		0 8		0 5	U	1	U	1.1	U	1	U
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	0 5	U	1.1		0 9	U	0 7	U	1 5		1.1	U	0 5	U
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	0 9		2 5		0 5	U	0 6	J	0 7		0 9		0 5	U
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	0 5	U	3.1		1 8		1 5		1 9		1.3		0 3	J
2,2',5,5'-TETRACHLOROBIPHENYL	0 7	U	1.4		0 9	UJ	0 7	U	0 7	U	0 9	U	0 7	U
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	0 7	U	2		1 4		2 1		1 8		2		0 7	U
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	0 6	U	1	U	0 6	U	1 2	U	0 6	U	0 9	U	0 2	U
2,4'-DDE	0 8	U	0 8	U	0 8	U	0 8	U	0 8	U	0 8	U	0 8	U
2,4'-DDT	1	U	0 7	J	1	U	1 8		1	U	1	U	1	U
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	0 5	U	1.4	J	0 7	U	0 9	J	1 1	J	0 7	J	0 5	U
4,4'-DDD	0.9	U	46 2	J	1 1		1 4	J	1.1	J	2 4	J	0 8	U
4,4'-DDE	0 9	U	9 5		1 2		2.5	U	1 1	U	1.8	U	0 9	U
4,4'-DDT	1 1	J	17.3	J	1.8		10		1 7		2 1		0 6	J
44 (2,2'3,5')	0 7		0 7		1 1	J	0 4	J	0 4	J	0 5	J	0 2	J
8 (2,4)	0 3	U	0 4	U	8 5		0 3	U	0.3	U	0 3	U	0 3	U
ALDRIN	0 7	U	0 7	U	0 2	J	0 7	U	0 7	U	0 7	U	0 7	U
ALPHA-CHLORDANE	0 8	U	0.7	J	0 8		0 7	J	0 8	U	0 8	U	0 8	U
DECACHLOROBIPHENYL (209)	0 9	U	9.3		0 9		0 5	U	1	U	0 7	U	0 5	U
HEPTACHLOR	0 5	U	0.5	U	0.5	U	0 5	U	0 45995	U	0 5	U	0 5	U
HEPTACHLOR EPOXIDE	0 5	U	0 8		0 5	U	0 5	U	0 5	U	0.5	U	0 5	U
HEXACHLOROBENZENE	0 4	U	0 4	U	0 9		0.4	U	0 4	U	0.4	U	0 4	U
MIREX	0 6	U	0 6	U	0 6	U	0 6	U	0 6	U	0.6	U	0 6	U
PCB 138/163/164	4 3		5.1		3		10 7	J	4 1		2 9		0 9	
PCB 187/182/159	5.9	J	2.9		1 1		0 7		1.4		1 5	J	0 5	
PCB 188	0 6	U	0 8		0 5	J	0 6	U	0.6		0 6		0.6	U
PCB 200	0 5	U	0 5		0 6		1.2		0.4	J	0 3	J	0 2	J
PCB 28/50	0 2	J	0 6	J	0 4	J	0.7	U	0.7	U	0 7	U	0 7	U
PCB 29	0 7	U	0 7	U	0 7	U	0.7	U	0.7	U	0 7	U	0 7	U
PCB 50	0 6	U	0.5	U	0 5	U	0 5	U	0 5	U	0 5	U	0 5	U
PCB 66/95	0 5	U	2.2		2 3		1 4		1 4		1 6		1	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed; * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc

MARINE SEDIMENT PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-18-SD-105110		OFF-18-SD-5055		OFF-19-SD-0015		OFF-2-SD-0015		OFF-20-SD-0015		OFF-21-SD-0015		OFF-22-SD-0015	
Date Sampled	4/7/98		4/7/98		4/7/98		3/27/98		4/3/98		4/3/98		3/27/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	3 4-3 6		1.6-1.8		0.0-0 5		0 0-0.5		0 0-0.5		0.0-0.5		0.0-0 5	
PCB 87	0 6	U	1 2	J	0 5	J	0 9	J	0 6	UJ	0.6	J	0 6	UJ
SUM OF PCB CONGENERS	12		46 8		28 4		22 9		18 9		15 6		2 8	
SUM OF PCB CONGENERS X 2	24		93 6		56 8		45 8		37 8		31 2		5 6	
TRANS-NONACHLOR	0 8	U	0 8	U	0 7	J	0 8	U	0 8	U	0 8	U	0 8	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc.

MARINE SEDIMENT PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-23-SD-0015		OFF-3-SD-0015		OFF-4-SD-0015		OFF-5-SD-0015		OFF-5-SD-2025		OFF-5-SD-5560		OFF-5E-SD-2025	
Date Sampled	4/3/98		3/27/98		3/27/98		3/27/98		4/27/98		4/27/98		4/27/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	0 0-0.5		0.0-0.5		0.0-0.5		0.0-0 5		0.7-0 8		1.8-2.0		0 7-0.8	
101 (2 2'4 5 5') / 90	2 9		2.4	U	2.9		2.2	U	4 6		0 6	U	0 6	U
153 (2,2',4,4',5,5')	4 2		2.5		1.9		4		3 6	J	0 4	UJ	0 4	UJ
18 (2,2',5)	0.7	U	1 7		0.7	U	1 4		0 7	U	0 7	U	1	U
195 (2,2',3,3',4,4',5,6)	1.5	UJ	0 6	U	1.2		3 5		0.7	J	0 6	U	0.6	U
1A,2A,3B,4A,5A,6B-HEXACHLOROCYCLOHEXANE	0.6	U	0 6	U	0 6	U	0 6	U	0 6	U	0 6	U	0 6	U
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	1 2		0 5	U	2 4	U	0 6	U	0 8	U	0 7	U	0 5	U
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	2 1		0.7	U	1 8		1.8		1.1		0 5	U	0 5	U
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	2 3		0 8	J	2 1		0.9	J	1 4		0 4	U	1 5	
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	3 4		2 4		2		3 9		1 1		0 5	U	0 5	U
2,2',5,5'-TETRACHLOROBIPHENYL	1 4		1	U	1.4	J	1.8	J	2 8		0 7	U	0 7	U
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	2 7		1 8		1 3		1.1		3 6		0 7	U	0 7	U
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	1 7	J	1 4	U	0 7	U	1 7	J	1 1	U	0 6	U	0 6	U
2,4'-DDE	0 8	U	0 8	U	0 8	U	0 8	U	0.8	U	0 8	U	0 8	U
2,4'-DDT	0 8		0 7	J	2.6		1 7		1	U	1	U	1	U
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	2		1 3	J	1 7	J	2 5	J	1	J	0 5	U	0 6	J
4,4'-DDD	7.3		1 8	J	2 4	J	2	J	1 1		0 9	U	0 9	U
4,4'-DDE	3 2		2 2	U	2	U	3	U	1 1	U	0.9	U	0.9	U
4,4'-DDT	4 1		4		11 5		11.3		1 8	J	2	J	0 8	J
44 (2,2'3,5')	1 1		1 4	J	1 4	J	1 4	J	1 2		0 5	U	0 7	
8 (2,4)	0 6	U	0 9	J	0 3	U	0.3	U	0 7	J	0.3	U	0 7	J
ALDRIN	0 7	U	0 7	U	0 7	U	0 7	U	0 7	U	0 7	U	0 7	U
ALPHA-CHLORDANE	0 8	J	0 7	J	1.2		1 4		0 8	U	0 8	U	0 8	U
DECACHLOROBIPHENYL (209)	1 5		0 5	U	0 5	U	0 7	U	0 6	U	0 5	U	0 7	U
HEPTACHLOR	0 5	U	0 5	U	1.4	U	0 5	U	0 5	U	0.5	U	0 5	U
HEPTACHLOR EPOXIDE	0 5	U	0 5	U	0.6	J	0 5	U	0 7		0.5	U	0 5	U
HEXACHLOROBENZENE	0.5		0 4	U	0 4	U	0.5	U	0 4	U	0 4	U	0.4	U
MIREX	1.1	J	0 6	U	0 6	U	0 6		0.6	U	0.6	U	0 6	U
PCB 138/163/164	7 6		11.2	J	11.4		16.2	J	7.2		0.6	U	0 6	U
PCB 187/182/159	3 1		0 6		2.8		1 6		1		0.5	U	0 5	U
PCB 188	1		0.8		0.8	U	1 3		0.6		0 6	U	0 6	U
PCB 200	1.1		1		1.8		2		0 5	U	0.5	U	0 5	U
PCB 28/50	1 5		0 6	J	0 7	U	1 8		1 2		0.7	U	0 8	
PCB 29	0 7	U	0 7	U	0.7	U	0.7	U	0 7	U	0 7	U	0 7	U
PCB 50	0.5	U	0.5	U	0 5	U	0.5	U	0 5	U	0 5	U	0.5	U
PCB 66/95	2.7		2		1.7		3.9		4 2		0 5	U	0 5	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max. Poss Conc

MARINE SEDIMENT PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-23-SD-0015		OFF-3-SD-0015		OFF-4-SD-0015		OFF-5-SD-0015		OFF-5-SD-2025		OFF-5-SD-5560		OFF-5E-SD-2025	
Date Sampled	4/3/98		3/27/98		3/27/98		3/27/98		4/27/98		4/27/98		4/27/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	0 0-0.5		0.0-0 5		0 0-0 5		0.0-0 5		0.7-0 8		1 8-2 0		0 7-0.8	
PCB 87	1 1		0 8	J	0 7	J	0 8	J	1		0.6	U	0.6	U
SUM OF PCB CONGENERS	44 6		29 8		36 1		51 6		37		3		4 3	
SUM OF PCB CONGENERS X 2	89 2		59 6		72 2		103 2		74		5		8 6	
TRANS-NONACHLOR	1 2		0 7	J	0 8	U	1 3		0 8	U	0.8	U	0 8	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est. Max. Poss. Conc

MARINE SEDIMENT PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-5E-SD-5560		OFF-6-SD-0015		OFF-6-SD-2025		OFF-6-SD-3540		OFF-7-SD-0015		OFF-8-SD-0015		OFF-9-SD-0015	
Date Sampled	4/27/98		3/27/98		4/27/98		4/27/98		3/27/98		4/7/98		4/7/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	1.8-2 0		0.0-0 5		0 7-0 8		1.1-1 3		0.0-0 5		0.0-0.5		0 0-0.5	
101 (2 2'4 5 5') / 90	0.6	U	2	U	3 3		0 6	U	2.7		1 1	U	0 6	U
153 (2,2',4,4',5,5')	0 4	UJ	2 7		3 6	J	0.4	UJ	3.5		2		1	
18 (2,2',5)	0.7	U	2 8		11 6		0 7	U	0.6	J	0 7	U	0 7	U
195 (2,2',3,3',4,4',5,6)	0 6	U	0 6	UJ	0 6	U	0 6	U	0 6	U	0.6	U	0 6	U
1A,2A,3B,4A,5A,6B-HEXACHLOROCYCLOHEXANE	0 6	U	0 8	J	0.6	U	0 6	U	0.2	J	0 3	J	0 1	J
2,2',3,3',4,4',5,5',6-NONACHLOROBIPHENYL	1	U	0 6	UJ	2 7	U	0 7	U	0.6		0 8		0 4	J
2,2',3,3',4,4',5-HEPTACHLOROBIPHENYL (170)	1	U	1 8	J	2 5		0 6	U	1 2	U	0 9	U	0 5	UJ
2,2',3,3',4,4'-HEXACHLOROBIPHENYL	0 4	U	1 8	J	2 2		0 4	U	1		0 6	U	0 4	UJ
2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL (180)	0 5	U	2 1	J	5 5		0 5	U	2.5		1 2		0 7	
2,2',5,5'-TETRACHLOROBIPHENYL	0 7	U	2 6	J	8 1		0 7	U	1 4		0 7	U	0 7	U
2,3',4,4',5-PENTACHLOROBIPHENYL (118)	0.7	U	1 6		3 1		0 7	U	2 3		1 1		0 5	J
2,3,3',4,4'-PENTACHLOROBIPHENYL (105)	0.6	U	0 7	U	2	J	0 6	U	1 3	UJ	0 6	U	0 6	U
2,4'-DDE	0 8	U	0 8	U	0 8	U	0 8	U	0 8	U	0 8	U	0 8	U
2,4'-DDT	1	U	1 4		1	U	1	U	1	U	1	U	1	U
3,3',4,4',5-PENTACHLOROBIPHENYL (126)	0 5	U	0 5	UJ	2	J	0 5	U	0 8	U	0 5	UJ	0 5	U
4,4'-DDD	0 9	U	3 8	J	2.2		0 9	U	3.8		0.8	J	0 9	U
4,4'-DDE	0 9	U	3 8		3 1		0 9	U	3 1		0 7	J	0 9	U
4,4'-DDT	0 6	U	9 8		2 2	J	0 6	U	2 7		1.1		0 8	
44 (2,2'3,5')	0 5	U	1 8	J	6 9		0 5		1 9		0 5	U	0 5	U
8 (2,4)	0.3	U	0 6		4 4	J	0 3	U	0 3	U	0.3	U	0 3	U
ALDRIN	0 7	U	0.7	U	0.7	U	0 7	U	0 7	U	0 1	J	0 7	U
ALPHA-CHLORDANE	0.8	U	0 6	J	0 8	U	0 8	U	0 7	J	0 1	J	0 1	J
DECACHLOROBIPHENYL (209)	0 5	U	4 1	J	3.5		0.5	U	0 8		0 8		0.3	J
HEPTACHLOR	0 6	U	0 5	U	0 5	U	0 8	U	0 3	J	0 5	U	0 5	U
HEPTACHLOR EPOXIDE	0 5	U	0 5	U	4 7		0.5	U	0 5	U	0 5	U	0 5	U
HEXACHLOROBENZENE	0 4	U	0.6	U	0.4	U	0.4	U	0 4	U	0.4	U	0 4	U
MIREX	0 6	U	0 5	J	0.6	U	0 6	U	0.4	J	0 6	U	0.6	U
PCB 138/163/164	0 6	U	3	J	9.7		0 6		5 2		2.4		1	
PCB 187/182/159	0.5	U	1 9	J	4 3		0 6		1 6		0.9	U	0 6	U
PCB 188	0 6	U	2.6		0.7		0.6	U	0 7		0.5	J	0 6	U
PCB 200	0 5	J	1 1	J	1.2		0.5	U	0 4	J	0.4	J	0.3	J
PCB 28/50	0 7	U	2.7		20		1		1		0.3	J	0 5	J
PCB 29	0.7	U	0 7	U	0.7	U	0.7	U	0 7	U	0.7	U	0 7	U
PCB 50	0.5	U	0 5	U	0.5	U	0 5	U	0.5	U	0 5	U	0 5	U
PCB 66/95	0 5	U	3 4		10.7		0 5	U	3.3		1 1		0 5	UJ

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est Max Poss Conc

MARINE SEDIMENT PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-5E-SD-5560		OFF-6-SD-0015		OFF-6-SD-2025		OFF-6-SD-3540		OFF-7-SD-0015		OFF-8-SD-0015		OFF-9-SD-0015	
Date Sampled	4/27/98		3/27/98		4/27/98		4/27/98		3/27/98		4/7/98		4/7/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	1.8-2 0		0 0-0 5		0 7-0 8		1.1-1 3		0 0-0 5		0 0-0.5		0 0-0 5	
PCB 87	0.6	U	1.6	J	1 6		0 6	U	1		0 6	U	0 6	U
SUM OF PCB CONGENERS	0.5		38.2		106 9		2 7		30.5		10 6		4.7	
SUM OF PCB CONGENERS X 2	1		76 4		213.8		5.4		61		21.2		9.4	
TRANS-NONACHLOR	0 8	U	0.8	U	0.8	U	0.8	U	0 8		0 2	J	0 1	J

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected; EMPC - Est. Max. Poss Conc

MARINE SEDIMENT TOTAL ORGANIC CARBON ANALYSIS (PERCE)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-1-SD-0015	OFF-10-SD-0015	OFF-10-SD-1520	OFF-10-SD-2530	OFF-11-SD-0015	OFF-11-SD-105110	OFF-11-SD-5055	OFF-12-SD-0015	OFF-13-SD-0015
Date Sampled	3/27/98	4/3/98	4/7/98	4/7/98	4/3/98	4/7/98	4/7/98	4/3/98	4/3/98
QC Identifier	None	None	None	None	None	None	None	None	None
Interval (ft)	0.0-0 5	0 0-0 5	0.5-0.7	0 8-1.0	0 0-0 5	3.4-3 6	1.6-1.8	0 0-0 5	0.0-0 5
% WATER	32	31.4	17 1	15.2	33.4	33.6	28 7	48.9	60 2
LOSS ON IGNITION	4 1	2.5	1.6	1.9	2.4	3.7	3 1	5.7	9.3
TOTAL ORGANIC CARBON	1 8	1.1	0.7	0 8	1.1	1 6	1 3	2 5	4

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max Poss Conc.

MARINE SEDIMENT TOTAL ORGANIC CARBON ANALYSIS (PERCE)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-14-SD-0015	OFF-15-SD-0015	OFF-16-SD-0015	OFF-17-SD-0015	OFF-18-SD-0015	OFF-18-SD-105110	OFF-18-SD-5055	OFF-19-SD-0015
Date Sampled	4/7/98	4/7/98	4/3/98	4/3/98	4/3/98	4/7/98	4/7/98	4/7/98
QC Identifier	None	None	None	None	None	None	None	None
Interval (ft)	0 0-0.5	0 0-0 5	0 0-0 5	0 0-0 5	0.0-0 5	3 4-3 6	1 6-1 8	0 0-0 5
% WATER	41 6	32 3	49	47 4	59.7	54	46 5	46.7
LOSS ON IGNITION	4.5	2 8	5 9	6	9 3	11.7	8 3	6 6
TOTAL ORGANIC CARBON	2	1 2	2.6	2 6	4	5.1	3.6	2 9

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss. Conc.

MARINE SEDIMENT TOTAL ORGANIC CARBON ANALYSIS (PERCE)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-2-SD-0015	OFF-20-SD-0015	OFF-21-SD-0015	OFF-22-SD-0015	OFF-23-SD-0015	OFF-3-SD-0015	OFF-4-SD-0015	OFF-5-SD-0015	OFF-5-SD-2025
Date Sampled	3/27/98	4/3/98	4/3/98	3/27/98	4/3/98	3/27/98	3/27/98	3/27/98	4/27/98
QC Identifier	None	None	None	None	None	None	None	None	None
Interval (ft)	0 0-0 5	0.0-0.5	0 0-0 5	0 0-0.5	0 0-0.5	0.0-0.5	0.0-0.5	0.0-0.5	0.7-0.8
% WATER	19 4	48 9	49.3	33 3	49 8	20	20 1	26 2	17.3
LOSS ON IGNITION	2.5	5 2	5.4	3 1	6.1	2.2	2.1	2 4	1 9
TOTAL ORGANIC CARBON	1 1	2.3	2 3	1 3	2.7	0 9	0 9	1	0 8

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc

MARINE SEDIMENT TOTAL ORGANIC CARBON ANALYSIS (PERCE)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-5-SD-5560	OFF-5E-SD-2025	OFF-5E-SD-5560	OFF-6-SD-0015	OFF-6-SD-2025	OFF-6-SD-3540	OFF-7-SD-0015	OFF-8-SD-0015	OFF-9-SD-0015
Date Sampled	4/27/98	4/27/98	4/27/98	3/27/98	4/27/98	4/27/98	3/27/98	4/7/98	4/7/98
QC Identifier	None	None	None	None	None	None	None	None	None
Interval (ft)	1 8-2 0	0.7-0 8	1 8-2.0	0 0-0 5	0 7-0 8	1.1-1 3	0 0-0 5	0 0-0 5	0 0-0 5
% WATER	19 4	39.9	16.9	31.7	22 5	18	34	34 9	28
LOSS ON IGNITION	1 6	6 8	1 7	4 2	3 1	1 7	4.5	3	2.7
TOTAL ORGANIC CARBON	0 7	2 9	0.7	1.8	1.3	0 7	1.9	1.3	1 2

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est Max. Poss. Conc

APPENDIX P-7

SURFACE SOIL ANALYTICAL RESULTS

SURFACE SOIL DIOXIN ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-301-0001		OFF-SS-308-0001		OFF-SS-319-0001-MAX		OFF-SS-322-0001	
Date Sampled	11/20/98		11/20/98		11/19/98		11/19/98	
QC Identifier	None		None		Field Dup OFF-SS-319-0001		None	
Interval (ft)	0.0-1 0		0 0-1 0		0 0-1 0		0.0-1.0	
1,2,3,4,6,7,8-HPCDD	0 000772		0 00154		0 00018		0.000191	
1,2,3,4,6,7,8-HPCDF	0.000034	J	0 000111		0 00003		0 000016	J
1,2,3,4,7,8,9-HPCDF	0 00001	U	0.000009	U	0.000006	U	0.000002	U
1,2,3,4,7,8-HXCDD	0 000079	J	0 00015	J	0.000057		0.00003	U
1,2,3,4,7,8-HXCDF	0 000087	U	0 00017	U	0 000068	U	0 000048	U
1,2,3,6,7,8-HXCDD	0.00013	J	0 00033	J	0 0001		0 000056	J
1,2,3,6,7,8-HXCDF	0 000056	J	0.000088	J	0 000044		0 000026	J
1,2,3,7,8,9-HXCDD	0 00015	J	0.00036	J	0.00011		0 000065	J
1,2,3,7,8,9-HXCDF	0 00004	U	0.00003	U	0 00003	U	0 000008	U
1,2,3,7,8-PECDD	0 0002	U	0 00038	J	0 0001	U	0.000025	U
1,2,3,7,8-PECDF	0 00001	U	0 000031	J	0 000015		0 000005	U
2,3,4,6,7,8-HXCDF	0 000041	J	0 00011	J	0 00005	U	0 00002	U
2,3,4,7,8-PECDF	0 0001	U	0 00043	J	0 0002		0 000095	J
2,3,7,8-TCDD	0.0003	U	0 0001	U	0.0002	U	0 00006	U
2,3,7,8-TCDF	0 000089	J	0 00019		0.000045		0 00004	U
OCDD	0 01145	J	0 01266	J	0 00027		0 00108	
OCDF	0.000003	J	0 000008	J	0 000002		0 000001	UJ
TOXICITY EQUIVALENCY	0 012804		0.016388		0 00084		0.001529	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc.

SURFACE SOIL TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-301-0001		OFF-SS-302-0001		OFF-SS-303-0001-MAX		OFF-SS-304-0001		OFF-SS-305-0001		OFF-SS-306-0001		OFF-SS-307-0001		OFF-SS-308-0001	
Date Sampled	11/20/98		11/18/98		11/18/98		11/20/98		11/20/98		11/18/98		11/18/98		11/20/98	
QC Identifier	None		None		Field Dup. OFF-SS-303-0001		None		None		None		None		None	
Interval (ft)	0 0-1.0		0 0-1 0		0.0-1.0		0.0-1.0		0.0-1 0		0.0-1.0		0.0-1.0		0 0-1.0	
ALUMINUM	10800	J	11200		11000		9090	J	10800	J	12200		11200		12100	J
ANTIMONY	0 54	UJ	0 48	UJ	0 61	U	0.54	UJ	0 59	UJ	0 58	UJ	2 4	J	0.62	J
ARSENIC	5 9	J	7.3	J	5 5		6.4		7.8		7 6	J	8 1	J	9 1	
BARIUM	29.1		24 8		30 3		25		24.9		25 6		28.6		25 3	
BERYLLIUM	0 39	J	0 41	U	0 45	U	0.21	U	0 6		0 36	U	0 63	U	0 26	
CADMIUM	0.08	U	0 07	U	0 09	U	0 08	U	0.09	U	0 09	U	0.09	U	0.09	U
CALCIUM	1040	U	509	J	1520		2270	U	1020	U	1030	J	506	J	750	U
CHROMIUM	13 1	J	11 1		14.1		9.2		11.6		17 7		13.1		11 9	
COBALT	12.4		6 2		7 9		6 4	U	8.2		7 5		6 5		9	
COPPER	19		9 4		10 6		14 9		11.7		21 8		28.8		15 4	
IRON	22000	J	16300		16300		18300	J	18000	J	22500		18500		20700	J
LEAD	29 2		16 4		25.8		45.6		21 1		44 6		40.7		30 7	
MAGNESIUM	3070	J	2330		3570		1870	J	1800	J	3080		2100		2350	J
MANGANESE	478	J	174		345		265	J	214	J	246		224		274	J
MERCURY	0 05	U	0 06	U	0 06	U	0 05	U	0 06		0 07	J	0.05	J	0.06	U
NICKEL	18 8		14 1		12 5		14 2	U	16 6	U	16		14 1		18 6	
POTASSIUM	882		319		1270		215		225		432		398		398	
SELENIUM	0 67	U	0 6	U	0 75	U	0.66	U	0 73	U	0 72	U	0.7	U	0.74	U
SILVER	5.3		5.4	J	6 3		4.1		4 2		7.1	J	6 3	J	5.3	
SODIUM	461	U	125	J	50.3		211	U	200	U	54 4	UJ	52.7	UJ	155	U
THALLIUM	0 5	U	0.45	U	0 56	U	0 5	U	0 55	U	0.54	U	0 52	U	0 55	U
VANADIUM	20 7		15 7		19 3		14.5		18 1		21 1		17.5		20.8	
ZINC	50.2		36 2		66.4		68 6		42.9		82.9		117		69.6	

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NA - Not Analyzed, * - From dilution analysis; R - Rejected; EMPC - Est. Max Poss Conc

SURFACE SOIL TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-309-0001		OFF-SS-310-0001		OFF-SS-311-0001		OFF-SS-312-0001		OFF-SS-313-0001		OFF-SS-314-0001		OFF-SS-315-0001		OFF-SS-316-0001	
Date Sampled	11/18/98		11/18/98		11/18/98		11/19/98		11/19/98		11/19/98		11/20/98		11/19/98	
QC Identifier	None		None		None		None		None		None		None		None	
Interval (ft)	0 0-1.0		0.0-1 0		0.0-1.0		0 0-1 0		0 0-1 0		0 0-1.0		0 0-1.0		0 0-1 0	
ALUMINUM	10800		10600		11500		8290		6720		8270		10600	J	5000	
ANTIMONY	0 55	UJ	0 59	J	0 5	UJ	1.1	U	2	U	0 55	U	0 52	UJ	0 52	U
ARSENIC	6 5	J	9	J	8	J	6 2		3 1		5 3		6.9		4 3	
BARIUM	27 6		23 1		27		25		24 6		27 9		25 2		12 4	
BERYLLIUM	0 4	U	0 36	U	0.19	U	0 43		0.26	J	0 38	J	0 22	J	0 51	
CADMIUM	0 08	U	0 09	U	0.08	U	0 08	UJ	0 07	UJ	0 09	U	0.08	U	0 08	U
CALCIUM	650	J	411	J	776	J	1530		2140		6070		1340	U	509	U
CHROMIUM	11 6		12 9		11 6		11 2		37.9		10 5		12 1		8	
COBALT	5.2		6.5		5.5		10.6		12 3		8 4		7.5		5.6	U
COPPER	9 1		20 2		11 7		19		72.2		17 9		12 9		8	J
IRON	16000		18600		16400		26300		107000		17700		18600	J	10800	
LEAD	25 8		26.9		27		57.4	J	113	J	33 9	J	33 2		14 1	J
MAGNESIUM	1910		1980		2290		2240		2260		2580		2280	J	1390	
MANGANESE	223		242		217		490		688		330		262	J	177	
MERCURY	0.06	U	0.06	U	0 05	U	0 05	U	0 26		0 06	U	0.06	U	0 05	U
NICKEL	11,9		14.4		13.6		16 6		34.2		13.8		14 4	U	7 9	
POTASSIUM	423		299		440		300	U	213	U	455		304		323	
SELENIUM	0.67	U	0.72	U	0.61	U	0 63	U	0 56	U	0 68	U	0 63	U	0 65	U
SILVER	6.2	J	5 4	J	5 2	J	7 5	J	26 5	J	5 5	U	4.8		3 7	U
SODIUM	50 8	UJ	54 3	UJ	46	UJ	115	U	174	U	180	U	104	U	75 9	U
THALLIUM	0 5	U	0 54	U	0.46	U	0 47	U	0.42	U	0.51	U	0 48	U	0 48	U
VANADIUM	16 9		17.5		17 9		14 8		20 9		15.3		16.4		10 1	
ZINC	45		56		46 1		253		137		114		55 3		27 4	

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SURFACE SOIL TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-317-0001		OFF-SS-318-0001		OFF-SS-319-0001-MAX		OFF-SS-320-0001		OFF-SS-321-0001		OFF-SS-322-0001		OFF-SS-323-0001		OFF-SS-324-0001	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98	
QC Identifier	None		None		Field Dup OFF-SS-319-0001		None		None		None		None		None	
Interval (ft)	0.0-1.0		0 0-1.0		0 0-1 0		0 0-1 0		0 0-1.0		0 0-1 0		0.0-1 0		0 0-1 0	
ALUMINUM	2630		2120		1480		5130		3850		3240		2950		9900	
ANTIMONY	0.53	U	0 46	U	0 54	U	0 49	U	0.73	U	0 53	U	0 5	U	0 54	UJ
ARSENIC	1 8		6 1		2.1		3		2.3		1 5		1 5		6 7	J
BARIUM	6 7	U	3 2	U	2 3	U	13 3		12 1		11 2		6 6	U	24 9	
BERYLLIUM	0 3	J	0 25	J	0 3		0 41		0 46		0 3	J	0 42		0 46	U
CADMIUM	0 08	U	0 07	U	0 08	U	0 08	U	0 09	U	0 08	U	0 08	U	0 08	U
CALCIUM	389	U	294	U	179	U	422	U	381	U	644		806		343	J
CHROMIUM	1.9	J	2 2	J	1.7		6 5		29 6		6 2		4 7	J	10 4	
COBALT	2.4	U	2 4	U	1.4	U	3	U	2 3	U	3 6	U	2 3	U	7 3	
COPPER	3 9	J	2 6	J	2.2	U	4 7	J	3 4	J	4 4	J	2 4	J	12	
IRON	5420		4890		4030		8540		6150		6120		5050		15400	
LEAD	8 1	J	5	J	2.9		10 2	J	7.1	J	6 8	J	5 1	J	31.1	
MAGNESIUM	871		792		555		1170		1290		1260		997		2030	
MANGANESE	117		109		77 5		155		134		159		122		262	
MERCURY	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 05	U	0 06	U	0 06	J
NICKEL	3 6	J	2 2	J	2.1	U	4 7		2 7	J	5 6		1 9	U	13	
POTASSIUM	209	U	166	U	215	U	295		418		350		329		327	
SELENIUM	0.66	J	0 56	U	0 66	U	0.6	U	0 68	U	0 65	U	0 62	U	0.66	U
SILVER	2 6	U	2 1	U	1 9	U	3	U	2 4	U	2 1	U	2	U	1 9	J
SODIUM	66 5	U	53 7	U	50	U	68.7	U	51 1	U	49.2	U	55 3	U	49.9	UJ
THALLIUM	0 49	U	0 42	U	0 5	U	0.45	U	0 51	U	0.49	U	0 47	U	0 5	U
VANADIUM	5 4		4 3		3 8		8		6 2		7 5		5 5		15 1	
ZINC	18 6		15 2		13 4		28 4		50 2		33.2		126		45 4	

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NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max Poss Conc

SURFACE SOIL TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-325-0001		OFF-SS-326-0001		OFF-SS-327-0001		OFF-SS-328-0001-MAX		OFF-SS-329-0001		OFF-SS-330-0001		OFF-SS-331-0001		OFF-SS-332-0001	
Date Sampled	11/19/98		11/19/98		11/19/98		11/20/98		11/20/98		11/18/98		11/18/98		11/20/98	
QC Identifier	None		None		None		Field Dup OFF-SS-328-0001		None		None		None		None	
Interval (ft)	0.0-1 0		0.0-1 0		0 0-1.0		0 0-1.0		0.0-1 0		0 0-1 0		0 0-1 0		0 0-1 0	
ALUMINUM	10700		10900		11000		11000		11400	J	11400		10400		10600	J
ANTIMONY	1 1	U	0 56	U	0.58	J	0 55	U	0 55	UJ	0 57	UJ	0.56	UJ	0 59	J
ARSENIC	10 4		10 1		7 7	J	10 3		7 2		8.7	J	6 8	J	7.9	
BARIUM	24.7		24 7		27.7		25.7		27 7		27 4		25 9		26 2	
BERYLLIUM	0 35	J	0 47		0 32	U	0 38		0 39	J	0 49	U	0 48	U	0 32	
CADMIUM	0.1	U	0 09	U	0.08	U	0 09	U	0 09	U	0 09	U	0 09	U	0 09	U
CALCIUM	707		1210		2610	J	1070	U	5970		759	J	650	J	903	U
CHROMIUM	11 1		11		12 2		9 6		10 9		13.7		14 6		11 4	
COBALT	8 6		6 8		7		8 5		9 4		5.8		6 5		9 1	
COPPER	16 6		8.8	J	13 6		13 5		14 1		7.6		12 2		17 4	
IRON	20200		18100		18000		21000		18100	J	16700		16300		19800	J
LEAD	46 1	J	18 9	J	36.1		24.2		26 1		30 3		33 9		55 1	
MAGNESIUM	2420		1910		2420		1910		3780	J	2110		2750		2180	J
MANGANESE	293		196		282		305		226	J	223		240		274	J
MERCURY	0.06	U	0 06	U	0 05	U	0 06	U	0.07		0 06	U	0 06	U	0 05	U
NICKEL	15 7		13 2		13.1		15 5	U	17 2		12.8		11 8		16 4	
POTASSIUM	260	U	274	U	425		234		269		409		932		272	
SELENIUM	0.77	U	0.69	U	0 64	U	0.68	U	0.68	U	0.71	U	0 7	U	0 69	U
SILVER	6	U	5 6	U	3 1	J	5 3		4 3		5 2	J	5	J	4 2	
SODIUM	84 9	U	99.1	U	103	J	218	U	128	U	53 4	UJ	52.5	UJ	247	U
THALLIUM	0.58	U	0 51	U	0 48	U	0 51	U	0.51	U	0.53	U	0 52	U	0.52	U
VANADIUM	18 8		19.3		17 3		18 3		20		18 9		19 8		19 9	
ZINC	61 5		33 8		75.1		50 3		52 8		50.1		49 9		67 2	

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NA - Not Analyzed; * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc

SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-301-0001		OFF-SS-302-0001		OFF-SS-303-0001-MAX		OFF-SS-304-0001		OFF-SS-305-0001		OFF-SS-306-0001		OFF-SS-307-0001	
Date Sampled	11/20/98		11/18/98		11/18/98		11/20/98		11/20/98		11/18/98		11/18/98	
QC Identifier	None		None		Field Dup OFF-SS-303-0001		None		None		None		None	
Interval (ft)	0 0-1.0		0.0-1 0		0 0-1.0		0.0-1.0		0 0-1.0		0.0-1 0		0.0-1.0	
1,2,4-TRICHLOROBENZENE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
1,2-DICHLOROBENZENE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
1,3-DICHLOROBENZENE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
1,4-DICHLOROBENZENE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
2,2'-OXYBIS(1-CHLOROPROPANE)	370	U	380	U	380	U	500	U	400	UJ	420	UJ	390	UJ
2,4,5-TRICHLOROPHENOL	940	U	940	U	970	U	1300	U	1000	U	1100	UJ	980	UJ
2,4,6-TRICHLOROPHENOL	370	U	380	U	380	U	500	U	400	U	420	U	390	U
2,4-DICHLOROPHENOL	370	U	380	U	380	U	500	U	400	U	420	U	390	U
2,4-DIMETHYLPHENOL	370	U	380	U	380	U	500	U	400	U	420	U	390	U
2,4-DINITROPHENOL	940	U	940	UJ	970	U	1300	U	1000	UJ	1100	UJ	980	UJ
2,4-DINITROTOLUENE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
2,6-DINITROTOLUENE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
2-CHLORONAPHTHALENE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
2-CHLOROPHENOL	370	U	380	U	380	U	500	U	400	U	420	U	390	U
2-METHYLNAPHTHALENE	370	U	380	U	380	U	56	J	400	U	420	U	390	U
2-METHYLPHENOL	370	U	380	U	380	U	500	U	400	U	420	U	390	U
2-NITROANILINE	940	U	940	U	970	U	1300	U	1000	U	1100	U	980	U
2-NITROPHENOL	370	U	380	U	380	U	500	U	400	U	420	U	390	U
3,3'-DICHLOROBENZIDINE	370	UJ	380	U	380	U	500	UJ	400	UJ	420	UJ	390	UJ
3-NITROANILINE	940	U	940	U	970	U	1300	U	1000	U	1100	U	980	U
4,6-DINITRO-2-METHYLPHENOL	940	U	940	U	970	U	1300	U	1000	UJ	1100	U	980	U
4-BROMOPHENYL-PHENYLETHER	370	U	380	U	380	U	500	U	400	U	420	U	390	U
4-CHLORO-3-METHYLPHENOL	370	U	380	U	380	U	500	U	400	U	420	U	390	U
4-CHLOROANILINE	370	UJ	380	U	380	U	500	UJ	400	U	420	U	390	U
4-CHLOROPHENYL-PHENYLETHER	370	U	380	U	380	U	500	U	400	U	420	U	390	U
4-METHYLPHENOL	370	U	380	U	380	U	500	U	400	U	420	U	390	U
4-NITROANILINE	940	U	940	UJ	970	U	1300	U	1000	UJ	1100	UJ	980	UJ
4-NITROPHENOL	940	U	940	U	970	U	1300	U	1000	U	1100	UJ	980	UJ
ACENAPHTHENE	370	U	380	U	380	U	500	U	400	U	420	UJ	390	UJ
ACENAPHTHYLENE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
ANTHRACENE	370	U	380	U	380	U	84	J	400	U	420	U	50	J
BENZO(A)ANTHRACENE	47	J	380	U	70		410	J	50	J	120	J	170	J
BENZO(A)PYRENE	56	J	380	U	54		430	J	52	J	120	J	160	J
BENZO(B)FLUORANTHENE	59	J	380	U	67		500	J	55	J	150	J	200	J
BENZO(G,H,I)PERYLENE	370	U	380	U	380	U	220	J	400	U	140	J	100	J

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est Max Poss Conc.

SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-301-0001		OFF-SS-302-0001		OFF-SS-303-0001-MAX		OFF-SS-304-0001		OFF-SS-305-0001		OFF-SS-306-0001		OFF-SS-307-0001	
Date Sampled	11/20/98		11/18/98		11/18/98		11/20/98		11/20/98		11/18/98		11/18/98	
QC Identifier	None		None		Field Dup OFF-SS-303-0001		None		None		None		None	
Interval (ft)	0 0-1.0		0.0-1.0		0 0-1.0		0.0-1 0		0.0-1.0		0 0-1 0		0 0-1.0	
BENZO(K)FLUORANTHENE	370	U	380	U	380	U	140	J	400	U	67	J	81	J
BIS(2-CHLOROETHOXY)METHANE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
BIS(2-CHLOROETHYL)ETHER	370	U	380	U	380	U	500	U	400	U	420	U	390	U
BIS(2-ETHYLHEXYL)PHTHALATE	370	UJ	380	U	42		500	UJ	46	J	65	J	46	J
BUTYLBENZYLPHTHALATE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
CARBAZOLE	370	U	380	UJ	380	U	500	U	400	U	420	U	390	U
CHRYSENE	60	J	380	U	54		380	J	50	J	120	J	160	J
DI-N-BUTYLPHTHALATE	370	U	76	J	69		500	U	400	U	67	J	56	J
DI-N-OCTYLPHTHALATE	370	UJ	380	U	380	U	500	UJ	400	U	420	UJ	390	UJ
DIBENZO(A,H)ANTHRACENE	370	U	380	U	380	U	59	J	400	U	420	U	390	U
DIBENZOFURAN	370	U	380	U	380	U	500	U	400	U	420	U	390	U
DIETHYLPHTHALATE	370	U	380	UJ	380	U	500	U	400	U	420	U	390	U
DIMETHYLPHTHALATE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
FLUORANTHENE	93	J	380	U	110		560		87	J	220	J	330	J
FLUORENE	370	U	380	UJ	380	U	500	U	400	U	420	UJ	390	UJ
HEXACHLOROBENZENE	370	U	380	U	380	U	500	U	400	UJ	420	U	390	U
HEXACHLOROBUTADIENE	370	U	380	UJ	380	U	500	U	400	U	420	U	390	U
HEXACHLOROCYCLOPENTADIENE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
HEXACHLOROETHANE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
INDENO(1,2,3-CD)PYRENE	370	U	380	U	380	U	230	J	400	U	99	J	99	J
ISOPHORONE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
N-NITROSO-DI-N-PROPYLAMINE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
N-NITROSO-DIPHENYLAMINE	370	U	380	U	380	U	500	UJ	400	U	420	U	390	U
NAPHTHALENE	370	U	380	U	380	U	56	J	400	U	420	U	390	U
NITROBENZENE	370	U	380	U	380	U	500	U	400	U	420	U	390	U
PENTACHLOROPHENOL	940	U	940	UJ	970	U	1300	U	1000	U	1100	UJ	980	UJ
PHENANTHRENE	43	J	380	U	79		320	J	400	U	120	J	190	J
PHENOL	370	U	380	UJ	380	U	500	U	400	U	420	U	390	U
PYRENE	100	J	380	U	120		670	J	83	J	230	J	300	J

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max Poss Conc

SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-308-0001		OFF-SS-309-0001		OFF-SS-310-0001		OFF-SS-311-0001		OFF-SS-312-0001		OFF-SS-313-0001		OFF-SS-314-0001	
Date Sampled	11/20/98		11/18/98		11/18/98		11/18/98		11/19/98		11/19/98		11/19/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	0 0-1.0		0 0-1 0		0 0-1.0		0 0-1 0		0 0-1.0		0 0-1 0		0 0-1 0	
1,2,4-TRICHLOROBENZENE	390	U	400	UJ	400	U	400	U	3800	U	3700	U	3700	U
1,2-DICHLOROBENZENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
1,3-DICHLOROBENZENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
1,4-DICHLOROBENZENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
2,2'-OXYBIS(1-CHLOROPROPANE)	390	UJ	400	U	400	U	400	U	3800	UJ	3700	UJ	3700	UJ
2,4,5-TRICHLOROPHENOL	980	U	1000	U	1000	U	990	U	9500	UJ	9300	UJ	9300	UJ
2,4,6-TRICHLOROPHENOL	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
2,4-DICHLOROPHENOL	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
2,4-DIMETHYLPHENOL	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
2,4-DINITROPHENOL	980	UJ	1000	UJ	1000	UJ	990	UJ	9500	UJ	9300	UJ	9300	UJ
2,4-DINITROTOLUENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
2,6-DINITROTOLUENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
2-CHLORONAPHTHALENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
2-CHLOROPHENOL	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
2-METHYLNAPHTHALENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
2-METHYLPHENOL	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
2-NITROANILINE	980	U	1000	U	1000	U	990	U	9500	U	9300	U	9300	U
2-NITROPHENOL	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
3,3'-DICHLOROBENZIDINE	390	UJ	400	U	400	U	400	U	3800	UJ	3700	UJ	3700	UJ
3-NITROANILINE	980	U	1000	U	1000	U	990	U	9500	U	9300	U	9300	U
4,6-DINITRO-2-METHYLPHENOL	980	UJ	1000	U	1000	U	990	U	9500	U	9300	U	9300	U
4-BROMOPHENYL-PHENYLETHER	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
4-CHLORO-3-METHYLPHENOL	68	J	400	U	400	U	400	U	3800	U	3700	U	3700	U
4-CHLOROANILINE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
4-CHLOROPHENYL-PHENYLETHER	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
4-METHYLPHENOL	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
4-NITROANILINE	980	UJ	1000	UJ	1000	UJ	990	UJ	9500	UJ	9300	UJ	9300	UJ
4-NITROPHENOL	980	U	1000	U	1000	U	990	U	9500	UJ	9300	UJ	9300	UJ
ACENAPHTHENE	390	U	400	U	400	U	400	U	3800	UJ	3700	UJ	780	J
ACENAPHTHYLENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
ANTHRACENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3800	
BENZO(A)ANTHRACENE	54	J	54	J	61	J	64	J	1400	J	740	J	9100	
BENZO(A)PYRENE	54	J	42	J	63	J	61	J	1300	J	790	J	7100	
BENZO(B)FLUORANTHENE	85	J	62	J	76	J	78	J	1700	J	1100	J	9700	
BENZO(G,H,I)PERYLENE	390	U	400	U	41	J	400	U	840	J	1000	J	4300	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc

SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-308-0001		OFF-SS-309-0001		OFF-SS-310-0001		OFF-SS-311-0001		OFF-SS-312-0001		OFF-SS-313-0001		OFF-SS-314-0001	
Date Sampled	11/20/98		11/18/98		11/18/98		11/18/98		11/19/98		11/19/98		11/19/98	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	0 0-1 0		0.0-1 0		0 0-1.0		0 0-1.0		0 0-1 0		0.0-1.0		0 0-1 0	
BENZO(K)FLUORANTHENE	390	U	400	U	400	U	400	U	730	J	400	J	3500	J
BIS(2-CHLOROETHOXY)METHANE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
BIS(2-CHLOROETHYL)ETHER	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
BIS(2-ETHYLHEXYL)PHTHALATE	55	J	400	U	400	U	400	U	3800	U	3700	U	3700	U
BUTYLBENZYLPHTHALATE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
CARBAZOLE	390	U	400	UJ	400	UJ	400	UJ	3800	U	3700	U	930	J
CHRYSENE	55	J	61	J	73	J	75	J	1400	J	930	J	8100	
DI-N-BUTYLPHTHALATE	390	U	41	J	79	J	61	J	3800	U	3700	U	3700	U
DI-N-OCTYLPHTHALATE	390	U	400	U	400	U	400	U	3800	UJ	3700	UJ	3700	UJ
DIBENZO(A,H)ANTHRACENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
DIBENZOFURAN	390	U	400	U	400	U	400	U	3800	U	3700	U	420	J
DIETHYLPHTHALATE	390	U	400	UJ	400	UJ	400	UJ	3800	U	3700	U	3700	U
DIMETHYLPHTHALATE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
FLUORANTHENE	120	J	90	J	150	J	120	J	2700	J	1300	J	15000	
FLUORENE	390	U	400	UJ	400	UJ	400	UJ	3800	UJ	3700	UJ	830	J
HEXACHLOROBENZENE	390	UJ	400	U	400	U	400	U	3800	U	3700	U	3700	U
HEXACHLOROBUTADIENE	390	U	400	UJ	400	UJ	400	UJ	3800	U	3700	U	3700	U
HEXACHLOROCYCLOPENTADIENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
HEXACHLOROETHANE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
INDENO(1,2,3-CD)PYRENE	390	U	400	U	42	J	42	J	850	J	770	J	4100	
ISOPHORONE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
N-NITROSO-DI-N-PROPYLAMINE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
N-NITROSO-DIPHENYLAMINE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
NAPHTHALENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
NITROBENZENE	390	U	400	U	400	U	400	U	3800	U	3700	U	3700	U
PENTACHLOROPHENOL	980	U	1000	UJ	1000	UJ	990	UJ	9500	UJ	9300	UJ	9300	UJ
PHENANTHRENE	54	J	58	J	63	J	64	J	1300	J	1300	J	9700	
PHENOL	390	U	400	UJ	400	UJ	400	UJ	3800	U	3700	U	3700	U
PYRENE	110	J	120	J	120	J	140	J	2300	J	2000	J	12000	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc

SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-315-0001		OFF-SS-316-0001		OFF-SS-317-0001		OFF-SS-318-0001		OFF-SS-319-0001-MAX		OFF-SS-320-0001		OFF-SS-321-0001	
Date Sampled	11/20/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98	
QC Identifier	None		None		None		None		Field Dup OFF-SS-319-0001		None		None	
Interval (ft)	0 0-1.0		0 0-1 0		0 0-1 0		0 0-1.0		0 0-1 0		0 0-1.0		0 0-1 0	
1,2,4-TRICHLOROBENZENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
1,2-DICHLOROBENZENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
1,3-DICHLOROBENZENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
1,4-DICHLOROBENZENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
2,2'-OXYBIS(1-CHLOROPROPANE)	1900	UJ	360	U	340	UJ	350	UJ	350	U	360	UJ	360	UJ
2,4,5-TRICHLOROPHENOL	4800	U	910	U	860	UJ	870	U	890	U	910	U	910	U
2,4,6-TRICHLOROPHENOL	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
2,4-DICHLOROPHENOL	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
2,4-DIMETHYLPHENOL	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
2,4-DINITROPHENOL	4800	UJ	910	UJ	860	UJ	870	U	890	U	910	UJ	910	U
2,4-DINITROTOLUENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
2,6-DINITROTOLUENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
2-CHLORONAPHTHALENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
2-CHLOROPHENOL	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
2-METHYLNAPHTHALENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
2-METHYLPHENOL	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
2-NITROANILINE	4800	U	910	UJ	860	UJ	870	U	890	U	910	U	910	U
2-NITROPHENOL	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
3,3'-DICHLOROBENZIDINE	1900	UJ	360	UJ	340	UJ	350	U	350	U	360	UJ	360	U
3-NITROANILINE	4800	U	910	U	860	UJ	870	U	890	U	910	U	910	U
4,6-DINITRO-2-METHYLPHENOL	4800	UJ	910	UJ	860	UJ	870	U	890	U	910	UJ	910	U
4-BROMOPHENYL-PHENYLETHER	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
4-CHLORO-3-METHYLPHENOL	1900	U	360	U	340	UJ	350	U	350	U	91	J	360	U
4-CHLOROANILINE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
4-CHLOROPHENYL-PHENYLETHER	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
4-METHYLPHENOL	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
4-NITROANILINE	4800	UJ	910	UJ	860	UJ	870	U	890	U	910	UJ	910	U
4-NITROPHENOL	4800	U	910	UJ	860	UJ	870	U	890	U	910	U	910	U
ACENAPHTHENE	310	J	360	U	340	UJ	350	U	350	U	360	U	360	U
ACENAPHTHYLENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
ANTHRACENE	510	J	360	U	340	UJ	350	U	350	U	360	U	360	U
BENZO(A)ANTHRACENE	1100	J	63	J	340	UJ	350	U	350	U	360	U	360	U
BENZO(A)PYRENE	920	J	56	J	340	UJ	350	U	350	U	360	U	360	U
BENZO(B)FLUORANTHENE	1000	J	93	J	340	UJ	350	U	350	U	360	U	360	U
BENZO(G,H,I)PERYLENE	550	J	46	J	340	UJ	350	U	350	U	360	U	360	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc.

SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-315-0001		OFF-SS-316-0001		OFF-SS-317-0001		OFF-SS-318-0001		OFF-SS-319-0001-MAX		OFF-SS-320-0001		OFF-SS-321-0001	
Date Sampled	11/20/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98	
QC Identifier	None		None		None		None		Field Dup. OFF-SS-319-0001		None		None	
Interval (ft)	0 0-1 0		0 0-1.0		0.0-1 0		0 0-1 0		0 0-1.0		0 0-1 0		0.0-1 0	
BENZO(K)FLUORANTHENE	590	J	360	U	340	UJ	350	U	350	U	360	U	360	U
BIS(2-CHLOROETHOXY)METHANE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
BIS(2-CHLOROETHYL)ETHER	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
BIS(2-ETHYLHEXYL)PHTHALATE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
BUTYLBENZYLPHTHALATE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
CARBAZOLE	230	J	360	U	340	UJ	350	U	350	U	360	U	360	U
CHRYSENE	910	J	65	J	340	UJ	350	U	350	U	37	J	360	U
DI-N-BUTYLPHTHALATE	1900	U	360	U	340	UJ	350	U	39		360	U	38	J
DI-N-OCTYLPHTHALATE	1900	U	360	UJ	340	UJ	350	U	350	U	360	U	360	U
DIBENZO(A,H)ANTHRACENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
DIBENZOFURAN	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
DIETHYLPHTHALATE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
DIMETHYLPHTHALATE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
FLUORANTHENE	2400		130	J	340	UJ	350	U	350	U	73	J	360	U
FLUORENE	310	J	360	U	340	UJ	350	U	350	U	360	U	360	U
HEXACHLOROBENZENE	1900	UJ	360	UJ	340	UJ	350	U	350	U	360	UJ	360	U
HEXACHLOROBUTADIENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
HEXACHLOROCYCLOPENTADIENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
HEXACHLOROETHANE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
INDENO(1,2,3-CD)PYRENE	500	J	360	U	340	UJ	350	U	350	U	360	U	360	U
ISOPHORONE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
N-NITROSO-DI-N-PROPYLAMINE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
N-NITROSO-DIPHENYLAMINE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
NAPHTHALENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
NITROBENZENE	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
PENTACHLOROPHENOL	4800	U	910	UJ	860	UJ	870	U	890	U	910	U	910	U
PHENANTHRENE	1900	J	82	J	340	UJ	350	U	350	U	84	J	360	U
PHENOL	1900	U	360	U	340	UJ	350	U	350	U	360	U	360	U
PYRENE	2000		160	J	340	UJ	350	U	350	U	95	J	360	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max Poss Conc

SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-322-0001		OFF-SS-323-0001		OFF-SS-324-0001		OFF-SS-325-0001		OFF-SS-326-0001		OFF-SS-327-0001		OFF-SS-328-0001-MAX	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/20/98	
QC Identifier	None		None		None		None		None		None		Field Dup OFF-SS-328-0001	
Interval (ft)	0 0-1.0		0 0-1.0		0 0-1 0		0 0-1 0		0 0-1 0		0 0-1 0		0 0-1 0	
1,2,4-TRICHLOROBENZENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
1,2-DICHLOROBENZENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
1,3-DICHLOROBENZENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
1,4-DICHLOROBENZENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2,2'-OXYBIS(1-CHLOROPROPANE)	350	UJ	360	UJ	1800	UJ	670	U	400	UJ	1900	UJ	390	U
2,4,5-TRICHLOROPHENOL	890	U	900	U	4600	UJ	1700	U	1000	U	4700	UJ	980	U
2,4,6-TRICHLOROPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2,4-DICHLOROPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2,4-DIMETHYLPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2,4-DINITROPHENOL	890	U	900	U	4600	UJ	1700	UJ	1000	UJ	4700	UJ	980	U
2,4-DINITROTOLUENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2,6-DINITROTOLUENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2-CHLORONAPHTHALENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2-CHLOROPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2-METHYLNAPHTHALENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2-METHYLPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
2-NITROANILINE	890	U	900	U	4600	U	1700	UJ	1000	U	4700	U	980	U
2-NITROPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
3,3'-DICHLOROBENZIDINE	350	U	360	U	1800	UJ	670	UJ	400	UJ	1900	UJ	390	U
3-NITROANILINE	890	U	900	U	4600	U	1700	U	1000	U	4700	U	980	U
4,6-DINITRO-2-METHYLPHENOL	890	U	900	U	4600	U	1700	UJ	1000	UJ	4700	U	980	U
4-BROMOPHENYL-PHENYLETHER	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
4-CHLORO-3-METHYLPHENOL	350	U	360	U	1800	U	670	U	140	J	1900	U	390	U
4-CHLOROANILINE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
4-CHLOROPHENYL-PHENYLETHER	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
4-METHYLPHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
4-NITROANILINE	890	U	900	U	4600	UJ	1700	UJ	1000	UJ	4700	UJ	980	U
4-NITROPHENOL	890	U	900	U	4600	UJ	1700	UJ	1000	U	4700	UJ	980	U
ACENAPHTHENE	350	U	360	U	1800	UJ	670	U	400	U	240	J	390	U
ACENAPHTHYLENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
ANTHRACENE	350	U	360	U	1800	U	95	J	400	U	1800	J	390	U
BENZO(A)ANTHRACENE	350	U	360	U	1800	U	300	J	400	U	2500		390	U
BENZO(A)PYRENE	350	U	360	U	1800	U	300	J	400	U	1900		390	U
BENZO(B)FLUORANTHENE	350	U	360	U	210	J	400	J	400	U	2400		45	
BENZO(G,H,I)PERYLENE	350	U	360	U	1800	U	150	J	400	U	1200	J	390	U

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed; * - From dilution analysis; R - Rejected, EMPC - Est. Max Poss Conc

SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-322-0001		OFF-SS-323-0001		OFF-SS-324-0001		OFF-SS-325-0001		OFF-SS-326-0001		OFF-SS-327-0001		OFF-SS-328-0001-MAX	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/20/98	
QC Identifier	None		None		None		None		None		None		Field Dup OFF-SS-328-0001	
Interval (ft)	0.0-1 0		0 0-1 0		0 0-1 0		0 0-1 0		0.0-1.0		0 0-1 0		0.0-1.0	
BENZO(K)FLUORANTHENE	350	U	360	U	1800	U	170	J	400	U	930	J	390	U
BIS(2-CHLOROETHOXY)METHANE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
BIS(2-CHLOROETHYL)ETHER	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
BIS(2-ETHYLHEXYL)PHTHALATE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
BUTYLBENZYLPHTHALATE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
CARBAZOLE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
CHRYSENE	350	U	360	U	1800	U	270	J	400	U	2300		41	
DI-N-BUTYLPHTHALATE	53	J	50	J	1800	U	94	J	400	U	1900	U	390	U
DI-N-OCTYLPHTHALATE	350	U	360	U	1800	UJ	670	UJ	400	U	1900	UJ	390	U
DIBENZO(A,H)ANTHRACENE	350	U	360	U	1800	U	670	U	400	U	230	J	390	U
DIBENZOFURAN	350	U	360	U	1800	U	670	U	400	U	220	J	390	U
DIETHYLPHTHALATE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
DIMETHYLPHTHALATE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
FLUORANTHENE	350	U	360	U	210	J	660	J	400	U	5500		78	
FLUORENE	350	U	360	U	1800	U	670	U	400	U	370	J	390	U
HEXACHLOROBENZENE	350	U	360	U	1800	U	670	UJ	400	UJ	1900	U	390	U
HEXACHLOROBUTADIENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
HEXACHLOROCYCLOPENTADIENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
HEXACHLOROETHANE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
INDENO(1,2,3-CD)PYRENE	350	U	360	U	1800	U	160	J	400	U	1100	J	390	U
ISOPHORONE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
N-NITROSO-DI-N-PROPYLAMINE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
N-NITROSO-DIPHENYLAMINE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
NAPHTHALENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
NITROBENZENE	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
PENTACHLOROPHENOL	890	U	900	U	4600	UJ	1700	UJ	1000	U	4700	UJ	980	U
PHENANTHRENE	350	U	360	U	1800	U	440	J	400	U	4700		47	
PHENOL	350	U	360	U	1800	U	670	U	400	U	1900	U	390	U
PYRENE	41	J	360	U	270	J	690		400	U	4700		72	

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SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-329-0001		OFF-SS-330-0001		OFF-SS-331-0001		OFF-SS-332-0001	
Date Sampled	11/20/98		11/18/98		11/18/98		11/20/98	
QC Identifier	None		None		None		None	
Interval (ft)	0 0-1 0		0 0-1 0		0 0-1 0		0 0-1 0	
1,2,4-TRICHLOROBENZENE	400	UJ	410	U	400	U	1700	UJ
1,2-DICHLOROBENZENE	400	U	410	U	400	U	1700	U
1,3-DICHLOROBENZENE	400	U	410	U	400	U	1700	U
1,4-DICHLOROBENZENE	400	U	410	U	400	U	1700	UJ
2,2'-OXYBIS(1-CHLOROPROPANE)	400	UJ	410	U	400	U	1700	U
2,4,5-TRICHLOROPHENOL	1000	U	1000	U	1000	U	4300	U
2,4,6-TRICHLOROPHENOL	400	U	410	U	400	U	1700	U
2,4-DICHLOROPHENOL	400	U	410	U	400	U	1700	U
2,4-DIMETHYLPHENOL	400	U	410	U	400	U	1700	U
2,4-DINITROPHENOL	1000	UJ	1000	UJ	1000	UJ	4300	U
2,4-DINITROTOLUENE	400	U	410	U	400	U	1700	U
2,6-DINITROTOLUENE	400	U	410	U	400	U	1700	U
2-CHLORONAPHTHALENE	400	U	410	U	400	U	1700	U
2-CHLOROPHENOL	400	U	410	U	400	U	1700	U
2-METHYLNAPHTHALENE	400	U	410	U	400	U	1700	U
2-METHYLPHENOL	400	U	410	U	400	U	1700	U
2-NITROANILINE	1000	U	1000	U	1000	U	4300	U
2-NITROPHENOL	400	U	410	U	400	U	1700	U
3,3'-DICHLOROBENZIDINE	400	UJ	410	U	400	U	1700	UJ
3-NITROANILINE	1000	U	1000	U	1000	U	4300	U
4,6-DINITRO-2-METHYLPHENOL	1000	UJ	1000	U	1000	U	4300	U
4-BROMOPHENYL-PHENYLETHER	400	U	410	U	400	U	1700	U
4-CHLORO-3-METHYLPHENOL	400	U	410	U	400	U	1700	U
4-CHLOROANILINE	400	U	410	U	400	U	1700	UJ
4-CHLOROPHENYL-PHENYLETHER	400	U	410	U	400	U	1700	U
4-METHYLPHENOL	400	U	410	U	400	U	1700	U
4-NITROANILINE	1000	UJ	1000	UJ	1000	UJ	4300	U
4-NITROPHENOL	1000	U	1000	U	1000	U	4300	U
ACENAPHTHENE	400	U	410	U	400	U	1700	UJ
ACENAPHTHYLENE	400	U	410	U	400	U	1700	U
ANTHRACENE	400	U	410	U	400	U	1700	U
BENZO(A)ANTHRACENE	88	J	47	J	200	J	420	J
BENZO(A)PYRENE	79	J	45	J	170	J	380	J
BENZO(B)FLUORANTHENE	110	J	57	J	180	J	450	J
BENZO(G,H,I)PERYLENE	59	J	410	U	400	U	240	J

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NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max Poss Conc

SURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-329-0001		OFF-SS-330-0001		OFF-SS-331-0001		OFF-SS-332-0001	
Date Sampled	11/20/98		11/18/98		11/18/98		11/20/98	
QC Identifier	None		None		None		None	
Interval (ft)	0 0-1.0		0.0-1 0		0 0-1.0		0 0-1 0	
BENZO(K)FLUORANTHENE	64	J	410	U	140	J	190	J
BIS(2-CHLOROETHOXY)METHANE	400	U	410	U	400	U	1700	U
BIS(2-CHLOROETHYL)ETHER	400	U	410	U	400	U	1700	U
BIS(2-ETHYLHEXYL)PHTHALATE	400	U	43	J	130	J	3200	J
BUTYLBENZYLPHTHALATE	400	U	410	U	400	U	1700	U
CARBAZOLE	400	U	410	UJ	400	UJ	1700	U
CHRYSENE	90	J	55	J	220	J	350	J
DI-N-BUTYLPHTHALATE	400	U	76	J	51	J	1700	U
DI-N-OCTYLPHTHALATE	400	U	410	U	400	U	1700	UJ
DIBENZO(A,H)ANTHRACENE	400	U	410	U	400	U	1700	U
DIBENZOFURAN	400	U	410	U	400	U	1700	U
DIETHYLPHTHALATE	400	U	410	UJ	400	UJ	1700	U
DIMETHYLPHTHALATE	400	U	410	U	400	U	1700	U
FLUORANTHENE	150	J	130	J	410		810	J
FLUORENE	400	U	410	UJ	400	UJ	1700	U
HEXACHLOROBENZENE	400	UJ	410	U	400	U	1700	U
HEXACHLOROBUTADIENE	400	U	410	UJ	400	UJ	1700	U
HEXACHLOROCYCLOPENTADIENE	400	U	410	U	400	U	1700	U
HEXACHLOROETHANE	400	U	410	U	400	U	1700	U
INDENO(1,2,3-CD)PYRENE	56	J	410	U	79	J	220	J
ISOPHORONE	400	U	410	U	400	U	1700	U
N-NITROSO-DI-N-PROPYLAMINE	400	UJ	410	U	400	U	1700	UJ
N-NITROSO-DIPHENYLAMINE	400	U	410	U	400	U	1700	U
NAPHTHALENE	400	U	410	U	400	U	1700	U
NITROBENZENE	400	U	410	U	400	U	1700	U
PENTACHLOROPHENOL	1000	U	1000	UJ	1000	UJ	4300	U
PHENANTHRENE	69	J	88	J	230	J	330	J
PHENOL	400	U	410	UJ	400	UJ	1700	U
PYRENE	180	J	97	J	370	J	710	J

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est. Max Poss Conc.

SURFACE SOIL VOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-301-0001		OFF-SS-302-0001		OFF-SS-303-0001-MAX		OFF-SS-304-0001		OFF-SS-305-0001		OFF-SS-306-0001		OFF-SS-307-0001	
Date Sampled	11/20/98		11/18/98		11/18/98		11/20/98		11/20/98		11/18/98		11/18/98	
QC Identifier	None		None		Field Dup OFF-SS-303-0001		None		None		None		None	
Interval (ft)	0 0-1 0		0 0-1 0		0 0-1 0		0.0-1 0		0 0-1 0		0.0-1.0		0 0-1 0	
1,1,1-TRICHLOROETHANE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
1,1,2,2-TETRACHLOROETHANE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
1,1,2-TRICHLOROETHANE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
1,1-DICHLOROETHANE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
1,1-DICHLOROETHENE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
1,2-DICHLOROETHANE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
1,2-DICHLOROETHENE (TOTAL)	5	U	5	U	5	U	7	U	5	U	6	U	5	U
1,2-DICHLOROPROPANE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
2-BUTANONE	9	U	5	J	6		18	U	16	U	13		8	J
2-HEXANONE	9	U	9	U	10	U	14	U	10	U	11	U	10	U
4-METHYL-2-PENTANONE	9	U	9	U	10	U	14	U	10	U	11	U	10	U
ACETONE	110	J	43	J	50		180	J	1900	U	110	J	71	J
BENZENE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
BROMODICHLOROMETHANE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
BROMOFORM	5	U	5	U	5	U	7	U	5	U	6	U	5	U
BROMOMETHANE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
CARBON DISULFIDE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
CARBON TETRACHLORIDE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
CHLOROBENZENE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
CHLOROETHANE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
CHLOROFORM	5	U	5	U	5	U	7	U	5	U	6	U	5	U
CHLOROMETHANE	5	U	5	U	5	U	1	J	1	J	6	U	5	U
CIS-1,3-DICHLOROPROPENE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
DIBROMOCHLOROMETHANE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
ETHYLBENZENE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
METHYLENE CHLORIDE	1	J	2	J	2		1	J	2	J	3	J	2	J
STYRENE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
TETRACHLOROETHENE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
TOLUENE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
TOTAL XYLENES	5	U	5	U	5	U	7	U	5	U	6	U	5	U
TRANS-1,3-DICHLOROPROPENE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
TRICHLOROETHENE	5	U	5	U	5	U	7	U	5	U	6	U	5	U
VINYL CHLORIDE	5	U	5	U	5	U	7	U	5	U	6	U	5	U

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NA - Not Analyzed; * - From dilution analysis, R - Rejected; EMPC - Est Max. Poss. Conc.

SURFACE SOIL VOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-308-0001		OFF-SS-309-0001		OFF-SS-310-0001		OFF-SS-311-0001		OFF-SS-312-0001		OFF-SS-313-0001		OFF-SS-314-0001		OFF-SS-315-0001	
Date Sampled	11/20/98		11/18/98		11/18/98		11/18/98		11/19/98		11/19/98		11/19/98		11/20/98	
QC Identifier	None		None		None		None		None		None		None		None	
Interval (ft)	0 0-1.0		0.0-1 0		0 0-1.0		0 0-1.0		0.0-1.0		0.0-1 0		0.0-1.0		0 0-1 0	
1,1,1-TRICHLOROETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2,2-TETRACHLOROETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1,2-TRICHLOROETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1-DICHLOROETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,1-DICHLOROETHENE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-DICHLOROETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-DICHLOROETHENE (TOTAL)	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
1,2-DICHLOROPROPANE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
2-BUTANONE	14	U	8	J	9	J	8	J	15	U	9	U	9	U	21	U
2-HEXANONE	11	U	10	U	10	U	10	U	10	U	9	U	9	U	10	U
4-METHYL-2-PENTANONE	11	U	10	U	10	U	10	U	10	U	9	U	9	U	10	U
ACETONE	130	J	74	J	88	J	83	J	150	J	27	U	25	U	160	J
BENZENE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
BROMODICHLOROMETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
BROMOFORM	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
BROMOMETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	1	J
CARBON DISULFIDE	5	U	5	U	5	U	5	U	5	U	5	U	2	J	5	U
CARBON TETRACHLORIDE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
CHLOROBENZENE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
CHLOROETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
CHLOROFORM	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
CHLOROMETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
CIS-1,3-DICHLOROPROPENE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
DIBROMOCHLOROMETHANE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
ETHYLBENZENE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
METHYLENE CHLORIDE	2	J	3	J	3	J	3	J	2	J	2	J	2	J	5	UJ
STYRENE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
TETRACHLOROETHENE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
TOLUENE	5	U	5	U	5	U	5	U	4	J	5	U	5	U	5	U
TOTAL XYLENES	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
TRANS-1,3-DICHLOROPROPENE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
TRICHLOROETHENE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
VINYL CHLORIDE	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc.

SURFACE SOIL VOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-316-0001		OFF-SS-317-0001		OFF-SS-318-0001		OFF-SS-319-0001-MAX		OFF-SS-320-0001		OFF-SS-321-0001		OFF-SS-322-0001	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/19/98	
QC Identifier	None		None		None		Field Dup OFF-SS-319-0001		None		None		None	
Interval (ft)	0.0-1 0		0 0-1 0		0 0-1 0		0 0-1 0		0 0-1 0		0.0-1.0		0 0-1.0	
1,1,1-TRICHLOROETHANE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
1,1,2,2-TETRACHLOROETHANE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
1,1,2-TRICHLOROETHANE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
1,1-DICHLOROETHANE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
1,1-DICHLOROETHENE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
1,2-DICHLOROETHANE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
1,2-DICHLOROETHENE (TOTAL)	7	U	4	U	5	U	5	U	5	U	5	U	6	U
1,2-DICHLOROPROPANE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
2-BUTANONE	13	U	9	U	11	U	10	U	11	U	9	U	12	U
2-HEXANONE	13	U	9	U	11	U	10	U	11	U	9	U	12	U
4-METHYL-2-PENTANONE	13	U	9	U	11	U	10	U	11	U	9	U	12	U
ACETONE	17	U	29	U	73	U	28	U	90	J	56	U	45	U
BENZENE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
BROMODICHLOROMETHANE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
BROMOFORM	7	U	4	U	5	U	5	U	5	U	5	U	6	U
BROMOMETHANE	7	U	4	U	1	J	5	U	5	U	5	U	6	U
CARBON DISULFIDE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
CARBON TETRACHLORIDE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
CHLOROBENZENE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
CHLOROETHANE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
CHLOROFORM	7	U	4	U	5	U	5	U	5	U	5	U	6	U
CHLOROMETHANE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
CIS-1,3-DICHLOROPROPENE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
DIBROMOCHLOROMETHANE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
ETHYLBENZENE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
METHYLENE CHLORIDE	3	J	2	J	2	J	3		2	J	2	J	3	J
STYRENE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
TETRACHLOROETHENE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
TOLUENE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
TOTAL XYLENES	7	U	4	U	5	U	5	U	5	U	5	U	6	U
TRANS-1,3-DICHLOROPROPENE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
TRICHLOROETHENE	7	U	4	U	5	U	5	U	5	U	5	U	6	U
VINYL CHLORIDE	7	U	4	U	5	U	5	U	5	U	5	U	6	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est Max Poss Conc

SURFACE SOIL VOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-323-0001		OFF-SS-324-0001		OFF-SS-325-0001		OFF-SS-326-0001		OFF-SS-327-0001		OFF-SS-328-0001-MAX		OFF-SS-329-0001	
Date Sampled	11/19/98		11/19/98		11/19/98		11/19/98		11/19/98		11/20/98		11/20/98	
QC Identifier	None		None		None		None		None		Field Dup OFF-SS-328-0001		None	
Interval (ft)	0 0-1.0		0.0-1 0		0 0-1 0		0 0-1 0		0.0-1.0		0.0-1 0		0 0-1 0	
1,1,1-TRICHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,1,2,2-TETRACHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,1,2-TRICHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,1-DICHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,1-DICHLOROETHENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,2-DICHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,2-DICHLOROETHENE (TOTAL)	4	U	5	U	8	U	5	U	5	U	5	U	5	U
1,2-DICHLOROPROPANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
2-BUTANONE	9	U	9	J	28	U	11	U	7	J	11	U	11	U
2-HEXANONE	9	U	9	U	17	U	11	U	10	U	10	U	11	U
4-METHYL-2-PENTANONE	9	U	9	U	17	U	11	U	10	U	10	U	11	U
ACETONE	150	J	130	J	320	J	80	U	77	J	110		100	J
BENZENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
BROMODICHLOROMETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
BROMOFORM	4	U	5	U	8	U	5	U	5	U	5	U	5	U
BROMOMETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CARBON DISULFIDE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CARBON TETRACHLORIDE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CHLOROBENZENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CHLOROETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CHLOROFORM	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CHLOROMETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
CIS-1,3-DICHLOROPROPENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
DIBROMOCHLOROMETHANE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
ETHYLBENZENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
METHYLENE CHLORIDE	2	J	4	J	3	J	2	J	3	J	2		3	J
STYRENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
TETRACHLOROETHENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
TOLUENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
TOTAL XYLENES	4	U	5	U	8	U	5	U	5	U	5	U	5	U
TRANS-1,3-DICHLOROPROPENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
TRICHLOROETHENE	4	U	5	U	8	U	5	U	5	U	5	U	5	U
VINYL CHLORIDE	4	U	5	U	8	U	5	U	6	U	5	U	5	U

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed; * - From dilution analysis, R - Rejected, EMPC - Est Max Poss Conc

SURFACE SOIL VOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-SS-330-0001		OFF-SS-331-0001		OFF-SS-332-0001	
Date Sampled	11/18/98		11/18/98		11/20/98	
QC Identifier	None		None		None	
Interval (ft)	0 0-1.0		0 0-1 0		0 0-1 0	
1,1,1-TRICHLOROETHANE	5	U	5	U	5	U
1,1,2,2-TETRACHLOROETHANE	5	U	5	U	5	U
1,1,2-TRICHLOROETHANE	5	U	5	U	5	U
1,1-DICHLOROETHANE	5	U	5	U	5	U
1,1-DICHLOROETHENE	5	U	5	U	5	U
1,2-DICHLOROETHANE	5	U	5	U	5	U
1,2-DICHLOROETHENE (TOTAL)	5	U	5	U	5	U
1,2-DICHLOROPROPANE	5	U	5	U	5	U
2-BUTANONE	11		9	J	10	U
2-HEXANONE	32		10	U	10	U
4-METHYL-2-PENTANONE	10	U	10	U	10	U
ACETONE	92	J	80	J	94	J
BENZENE	5	U	5	U	5	U
BROMODICHLOROMETHANE	5	U	5	U	5	U
BROMOFORM	5	U	5	U	5	U
BROMOMETHANE	5	U	5	U	5	U
CARBON DISULFIDE	5	U	5	U	5	U
CARBON TETRACHLORIDE	5	U	5	U	5	U
CHLOROBENZENE	5	U	5	U	5	U
CHLOROETHANE	5	U	5	U	5	U
CHLOROFORM	5	U	5	U	5	U
CHLOROMETHANE	5	U	5	U	1	J
CIS-1,3-DICHLOROPROPENE	5	U	5	U	5	U
DIBROMOCHLOROMETHANE	5	U	5	U	5	U
ETHYLBENZENE	5	U	5	U	5	U
METHYLENE CHLORIDE	3	J	3	J	5	UJ
STYRENE	5	U	5	U	5	U
TETRACHLOROETHENE	5	U	5	U	5	U
TOLUENE	5	U	5	U	5	U
TOTAL XYLENES	5	U	5	U	5	U
TRANS-1,3-DICHLOROPROPENE	5	U	5	U	5	U
TRICHLOROETHENE	5	U	5	U	5	U
VINYL CHLORIDE	5	U	5	U	5	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max Poss Conc

APPENDIX P-8

SUBSURFACE SOIL ANALYTICAL RESULTS

SUBSURFACE SOIL TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-MW101-0608		OFF-S-MW102-0608		OFF-S-TP-02-0203		OFF-S-TP-05-0708		OFF-S-TP-06-0607		OFF-S-TP-07-0708		OFF-S-TP-08-0304	
Date Sampled	7/9/97		7/7/97		6/30/97		7/1/97		7/1/97		7/2/97		7/2/97	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	6 0-8.0		6 0-8 0		2 0-3 0		7 0-8 0		6 0-7 0		7.0-8.0		3.0-4 0	
ALUMINUM	15300		4570		6600		11100		11900		9000		11800	
ANTIMONY	0 35	UR	12	J	0.34	UR	0.49	U	0.36	U	0.93	U	0 35	UR
ARSENIC	9 3	J	53.6	J	4 1	J	14.3	J	5 7	J	6 2	J	13 8	J
BARIUM	13 4		220		14 1	J	41 4	J	26	J	22 7	J	33 7	J
BERYLLIUM	0 24	U	0 15	U	0.27	U	0 27	U	0 32	U	0.29	U	0 35	U
CADMIUM	0 03	U	2	U	1.3	U	0.14	U	0 09	U	0 09	U	0 03	U
CALCIUM	764	J	28800		597	J	1480	J	1570	J	1320	J	1090	J
CHROMIUM	14.8		44 3		8.7	J	15 6	J	12 3	J	10 1	J	15 4	J
COBALT	9 2		18	J	6 8		14 2		10		7 4		10 8	
COPPER	10 4		2310		16 5		88 2		22 7		19 7		41	
IRON	42000		204000		25300		56300		25000		19100		27500	
LEAD	12 7		5400		46 6	J	540	J	55 5	J	40 7	J	57 8	J
MAGNESIUM	4260		7770		2360		3970		3000		2180		2590	
MANGANESE	144	J	562	J	292	J	698	J	410	J	417	J	478	J
MERCURY	0.01	UJ	0.65	J	0.02	U	0 21	J	0.06	J	0.1	J	0 11	J
NICKEL	22 5		64.1		14 6		24.5		20 5		19 2		20.1	
POTASSIUM	268	U	590		418		417		363	U	316	U	380	U
SELENIUM	0 5	J	1.3	J	0 81	J	0 53	J	0 45	UJ	0.5	J	0 66	J
SILVER	0.13	U	0 91	U	0.13	U	0.13	U	0 13	U	0 13	U	0 13	U
SODIUM	98.3	U	3240		99 1	U	1070	J	71.9	U	65	U	51 4	U
THALLIUM	0.64	UJ	0.73	UJ	0 62	UJ	0.63	U	0 61	UJ	0 61	UJ	0 65	UJ
VANADIUM	25 7		18.8		8 2		17 8		17 5		13 2		20 7	
ZINC	45		3410		986	J	533	J	101	J	80	J	60 6	J

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
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SUBSURFACE SOIL TAL METAL ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-TP-11-0506-MAX		OFF-S-TP-12-0405		OFF-S-TP-13-0607		OFF-S-TP-14-0304-MAX		OFF-S-TP-15-0506		OFF-S-TP-16-1011		OFF-S-TP-17-0809-MAX	
Date Sampled	7/2/97		7/2/97		7/3/97		7/3/97		7/3/97		7/7/97		7/7/97	
QC Identifier	Field Dup OFF-S-TP-11-0506		None		None		Field Dup. OFF-S-TP-14-0304		None		None		Field Dup. OFF-S-TP-17-0809	
Interval (ft)	5 0-6 0		4.0-5 0		6 0-7 0		3 0-4.0		5 0-6 0		10 0-11 0		8.0-9 0	
ALUMINUM	9210		8340		8620		13200		5220		7510		11700	
ANTIMONY	0 51	U	0 44	U	39.2	J	0.41	U	0 76	U	4	J	0 36	U
ARSENIC	8.3		4 8	J	18 3	J	10 5		9 9	J	74 4	J	8 2	
BARIUM	90		23 9	J	160	J	15 6		144	J	126		13 4	
BERYLLIUM	0 46	U	0 22	U	0 2	U	0 28	U	0 38	U	0 24	J	0 32	U
CADMIUM	0.13	U	0 03	U	4 4	J	0 04	U	1 7	U	6.3	U	0 03	U
CALCIUM	1650		1740	J	24400	J	917		5190	J	14400		1090	
CHROMIUM	13 1		8	J	21 7	J	16 6		12.3	J	61 9		14 5	
COBALT	9 9		6		12.9		9 8		5 6		15 3	J	14 1	
COPPER	49 7		51		604		22 8		146		264		25 6	
IRON	26500		18500		110000		31100		19000		186000		31400	
LEAD	563		283	J	7820	J	42		766	J	3350		13 3	
MAGNESIUM	2400		1800	J	3870		4720		2810		3240		4320	
MANGANESE	306		516	J	898	J	231		157	J	1110	J	267	
MERCURY	0.24		0 09	J	0.35		0 05	U	0 18	J	2 2	J	0 01	U
NICKEL	19 6		18 4		29 1		21 9		14 3		37 3		25	
POTASSIUM	450		355	U	382	U	492		481	U	362	U	374	U
SELENIUM	1.1		0 5	UJ	0 71	J	0 65		0 87	J	1 2	J	0 5	U
SILVER	0 16	U	0 14	U	0 97	U	0.16	U	0.89	U	0 48	U	0 14	U
SODIUM	199		85 6	U	926	J	1540		1720	J	1030	J	243	
THALLIUM	0 73	U	0 68	UJ	0 75	UJ	0 76	U	0.86	UJ	0 89	UJ	0 67	U
VANADIUM	19.8		13 8		18 2		17.4		19 2		16 5		16	
ZINC	201		63.7	J	2870	J	70 1		577	J	4240		65 9	

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est. Max. Poss Conc

SUBSURFACE SOIL VOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-MW101-0608		OFF-S-MW102-0608		OFF-S-TP-02-0203		OFF-S-TP-05-0708		OFF-S-TP-06-0607		OFF-S-TP-07-0708		OFF-S-TP-08-0304	
Date Sampled	7/9/97		7/7/97		6/30/97		7/1/97		7/1/97		7/2/97		7/2/97	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	6 0-8 0		6 0-8 0		2 0-3 0		7.0-8.0		6.0-7 0		7 0-8 0		3.0-4.0	
1,1,1-TRICHLOROETHANE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
1,1,2,2-TETRACHLOROETHANE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
1,1,2-TRICHLOROETHANE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
1,1-DICHLOROETHANE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
1,1-DICHLOROETHENE	1400	UJ	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
1,2-DICHLOROETHANE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
1,2-DICHLOROETHENE (TOTAL)	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
1,2-DICHLOROPROPANE	1400	U	130	UJ	10	UJ	11	UJ	12	UJ	12	U	12	U
2-BUTANONE	1400	UJ	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
2-HEXANONE	1400	UJ	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
4-METHYL-2-PENTANONE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
ACETONE	1400	UJ	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
BENZENE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
BROMODICHLOROMETHANE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
BROMOFORM	1400	U	130	UJ	10	UJ	11	UJ	12	UJ	12	UJ	12	UJ
BROMOMETHANE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
CARBON DISULFIDE	1400	UJ	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
CARBON TETRACHLORIDE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
CHLOROBENZENE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
CHLOROETHANE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
CHLOROFORM	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
CHLOROMETHANE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
CIS-1,3-DICHLOROPROPENE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
DIBROMOCHLOROMETHANE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
ETHYLBENZENE	1400	U	630	J	10	UJ	11	UJ	12	UJ	12	U	12	U
METHYLENE CHLORIDE	1400	UJ	100	J	10	U	11	U	12	U	57	U	98	
STYRENE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
TETRACHLOROETHENE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
TOLUENE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
TOTAL XYLENES	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
TRANS-1,3-DICHLOROPROPENE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
TRICHLOROETHENE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U
VINYL CHLORIDE	1400	U	130	U	10	UJ	11	UJ	12	UJ	12	U	12	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed; * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc.

SUBSURFACE SOIL VOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-TP-11-0506-MAX		OFF-S-TP-12-0405		OFF-S-TP-13-0607		OFF-S-TP-14-0304-MAX		OFF-S-TP-15-0506		OFF-S-TP-16-1011	
Date Sampled	7/2/97		7/2/97		7/3/97		7/3/97		7/3/97		7/7/97	
QC Identifier	Field Dup. OFF-S-TP-11-0506		None		None		Field Dup. OFF-S-TP-14-0304		None		None	
Interval (ft)	5 0-6.0		4 0-5.0		6.0-7 0		3 0-4 0		5 0-6 0		10 0-11 0	
1,1,1-TRICHLOROETHANE	64	U	57	U	61	U	66	U	70	UJ	150	U
1,1,2,2-TETRACHLOROETHANE	64	U	57	U	61	U	66	U	70	UJ	150	U
1,1,2-TRICHLOROETHANE	64	U	57	U	61	U	66	U	70	UJ	150	U
1,1-DICHLOROETHANE	64	U	57	U	61	U	66	U	70	UJ	150	U
1,1-DICHLOROETHENE	64	U	57	U	61	U	66	U	70	UJ	150	U
1,2-DICHLOROETHANE	64	U	57	U	61	U	66	U	70	UJ	150	U
1,2-DICHLOROETHENE (TOTAL)	64	U	57	U	61	U	66	U	70	UJ	150	U
1,2-DICHLOROPROPANE	64	U	57	U	61	U	66	U	70	UJ	150	UJ
2-BUTANONE	64	U	57	U	61	U	66	U	70	UJ	150	U
2-HEXANONE	64	U	57	U	61	U	66	U	70	UJ	150	U
4-METHYL-2-PENTANONE	64	U	57	U	61	U	66	U	70	UJ	150	U
ACETONE	1100	U	110	U	170	U	66	U	440	U	270	U
BENZENE	64	U	57	U	61	U	66	U	70	UJ	150	U
BROMODICHLOROMETHANE	64	U	57	U	61	U	66	U	70	UJ	150	U
BROMOFORM	64	U	57	UJ	61	UJ	66	U	70	UJ	150	UJ
BROMOMETHANE	64	U	57	U	61	U	66	U	70	UJ	150	U
CARBON DISULFIDE	64	U	57	U	61	U	66	U	70	UJ	150	U
CARBON TETRACHLORIDE	64	U	57	U	61	U	66	U	70	UJ	150	U
CHLOROBENZENE	64	U	57	U	61	U	66	U	70	UJ	150	U
CHLOROETHANE	64	U	57	U	61	U	66	U	70	UJ	150	U
CHLOROFORM	64	U	57	U	61	U	66	U	70	UJ	150	U
CHLOROMETHANE	64	U	57	U	61	U	66	U	70	UJ	150	U
CIS-1,3-DICHLOROPROPENE	64	U	57	U	61	U	66	U	70	UJ	150	U
DIBROMOCHLOROMETHANE	64	U	57	U	61	U	66	U	70	UJ	150	U
ETHYLBENZENE	64	U	57	U	61	U	66	U	70	UJ	150	U
METHYLENE CHLORIDE	1800		120	U	61	U	66	U	70	U	150	U
STYRENE	64	U	57	U	61	U	66	U	70	UJ	150	U
TETRACHLOROETHENE	64	U	57	U	61	U	66	U	70	UJ	150	U
TOLUENE	64	U	57	U	61	U	66	U	70	UJ	150	U
TOTAL XYLENES	64	U	57	U	61	U	66	U	70	UJ	150	U
TRANS-1,3-DICHLOROPROPENE	64	U	57	U	61	U	66	U	70	UJ	150	U
TRICHLOROETHENE	64	U	57	U	61	U	66	U	70	UJ	150	U
VINYL CHLORIDE	64	U	57	U	61	U	66	U	70	UJ	150	U

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max Poss Conc.

SUBSURFACE SOIL VOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-TP-17-0809-MAX	
Date Sampled	7/7/97	
QC Identifier	Field Dup. OFF-S-TP-17-0809	
Interval (ft)	8 0-9 0	
1,1,1-TRICHLOROETHANE	120	U
1,1,2,2-TETRACHLOROETHANE	120	U
1,1,2-TRICHLOROETHANE	120	U
1,1-DICHLOROETHANE	120	U
1,1-DICHLOROETHENE	120	U
1,2-DICHLOROETHANE	120	U
1,2-DICHLOROETHENE (TOTAL)	120	U
1,2-DICHLOROPROPANE	120	U
2-BUTANONE	120	U
2-HEXANONE	120	U
4-METHYL-2-PENTANONE	120	U
ACETONE	120	U
BENZENE	120	U
BROMODICHLOROMETHANE	120	U
BROMOFORM	120	U
BROMOMETHANE	120	U
CARBON DISULFIDE	120	U
CARBON TETRACHLORIDE	120	U
CHLOROBENZENE	120	U
CHLOROETHANE	120	U
CHLOROFORM	120	U
CHLOROMETHANE	120	U
CIS-1,3-DICHLOROPROPENE	120	U
DIBROMOCHLOROMETHANE	120	U
ETHYLBENZENE	120	U
METHYLENE CHLORIDE	120	U
STYRENE	120	U
TETRACHLOROETHENE	120	U
TOLUENE	120	U
TOTAL XYLENES	120	U
TRANS-1,3-DICHLOROPROPENE	120	U
TRICHLOROETHENE	120	U
VINYL CHLORIDE	120	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est. Max. Poss Conc.

SUBSURFACE SOIL PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-MW101-0608		OFF-S-MW102-0608		OFF-S-TP-02-0203		OFF-S-TP-05-0708		OFF-S-TP-06-0607		OFF-S-TP-07-0708		OFF-S-TP-08-0304	
Date Sampled	7/9/97		7/7/97		6/30/97		7/1/97		7/1/97		7/2/97		7/2/97	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	6 0-8.0		6 0-8 0		2.0-3.0		7 0-8 0		6 0-7 0		7.0-8 0		3 0-4.0	
4,4'-DDD	3 7	U	4 2	UJ	3 4	U	3 7	U	3 8	U	3 8	U	4	U
4,4'-DDE	3 7	U	4 2	UJ	3 4	U	3 7	U	3 8	U	3 8	U	4	U
4,4'-DDT	3 7	U	4 2	UJ	3.4	U	3 7	U	3 8	U	3 8	U	4	U
ALDRIN	1 9	U	2 2	UJ	1.8	U	1.9	U	2	U	2	U	2 1	U
ALPHA-BHC	1 9	UJ	2 2	UJ	1 8	U	1 9	U	2	U	2	U	2 1	U
ALPHA-CHLORDANE	1 9	U	2 2	UJ	1 8	U	1.9	U	2	U	2	U	2.1	U
AROCLOR-1016	37	U	42	UJ	34	U	37	U	38	U	38	U	40	U
AROCLOR-1221	75	U	85	UJ	70	U	75	U	78	U	78	U	82	U
AROCLOR-1232	37	U	42	UJ	34	U	37	U	38	U	38	U	40	U
AROCLOR-1242	37	U	42	UJ	34	U	37	U	38	U	38	U	40	U
AROCLOR-1248	37	U	42	UJ	34	U	37	U	38	U	38	U	40	U
AROCLOR-1254	37	U	42	UJ	34	U	37	U	38	U	38	U	40	U
AROCLOR-1260	37	U	42	UJ	34	U	37	U	38	U	38	U	40	U
BETA-BHC	1.9	U	2 2	UJ	1 8	U	1 9	U	2	U	2	U	2 1	U
DELTA-BHC	1 9	U	2.2	UJ	1 8	U	1 9	U	2	U	2	U	2 1	U
DIELDRIN	3 7	U	4 2	UJ	3 4	U	3 7	U	3 8	U	3 8	U	4	U
ENDOSULFAN I	1 9	U	2 2	UJ	1.8	U	1 9	U	2	U	2	U	2.1	U
ENDOSULFAN II	3 7	U	4 2	UJ	3.4	U	3 7	U	3 8	U	3 8	U	4	U
ENDOSULFAN SULFATE	3 7	U	4 2	UJ	3 4	U	3 7	U	3 8	U	3 8	U	4	U
ENDRIN	3 7	U	4 2	UJ	3.4	U	3 7	U	3 8	U	3 8	U	4	U
ENDRIN ALDEHYDE	3 7	U	4 2	UJ	3 4	U	3 7	U	3 8	U	3 8	U	4	U
ENDRIN KETONE	3 7	UJ	4 2	UJ	3 4	U	3 7	U	3 8	U	3 8	U	4	U
GAMMA-BHC	1 9	U	2 2	UJ	1 8	U	1.9	U	2	U	2	U	2 1	U
GAMMA-CHLORDANE	1 9	U	2.2	UJ	1.8	U	1 9	U	2	U	2	U	2 1	U
HEPTACHLOR	1 9	UJ	2 2	UJ	1 8	U	1.9	U	2	U	2	U	2 1	U
HEPTACHLOR EPOXIDE	1 9	U	2 2	UJ	1 8	J	1.9	U	2	U	2	U	2 1	J
METHOXYCHLOR	19	U	22	UJ	18	U	19	U	20	U	20	U	21	U
TOXAPHENE	190	U	220	UJ	180	U	190	U	200	U	200	U	210	U

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Tnp Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est Max Poss Conc

SUBSURFACE SOIL PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-TP-11-0506-MAX		OFF-S-TP-12-0405		OFF-S-TP-13-0607		OFF-S-TP-14-0304-MAX		OFF-S-TP-15-0506		OFF-S-TP-16-1011	
Date Sampled	7/2/97		7/2/97		7/3/97		7/3/97		7/3/97		7/7/97	
QC Identifier	Field Dup. OFF-S-TP-11-0506		None		None		Field Dup OFF-S-TP-14-0304		None		None	
Interval (ft)	5 0-6 0		4.0-5 0		6 0-7 0		3 0-4 0		5 0-6 0		10 0-11 0	
4,4'-DDD	4	U	3 8	U	4 1	U	4 3	U	4 6	U	5 1	UJ
4,4'-DDE	4	U	3 8	U	4 1	U	4 3	U	4 6	U	5 1	UJ
4,4'-DDT	4	U	3 8	U	4 1	U	4 3	U	4 6	U	5 1	UJ
ALDRIN	2 1	U	1 9	U	2 1	UJ	2 2	U	2 4	U	2 6	UJ
ALPHA-BHC	1 2		1 9	U	2 1	U	2.2	U	2 4	U	2 6	UJ
ALPHA-CHLORDANE	2 1	U	1.9	U	2.1	U	2 2	U	2 4	U	2 6	UJ
AROCLOR-1016	40	U	38	U	41	U	43	U	46	U	51	UJ
AROCLOR-1221	82	U	76	U	83	U	88	U	93	U	100	UJ
AROCLOR-1232	40	U	38	U	41	U	43	U	46	U	51	UJ
AROCLOR-1242	40	U	38	U	41	U	43	U	46	U	51	UJ
AROCLOR-1248	40	U	38	U	41	U	43	U	46	U	51	UJ
AROCLOR-1254	40	U	38	U	41	U	43	U	46	U	51	UJ
AROCLOR-1260	40	U	38	U	41	U	43	U	46	U	51	UJ
BETA-BHC	2.1	U	1.9	U	2.1	U	2 2	U	2 4	U	2 6	UJ
DELTA-BHC	2 1	U	1.9	U	2.1	U	2 2	U	2 4	U	2 6	UJ
DIELDRIN	4	U	3 8	U	4.1	U	4 3	U	4 6	U	5 1	UJ
ENDOSULFAN I	2 1	U	1 9	U	2 1	U	2 2	U	2 4	U	2 6	UJ
ENDOSULFAN II	4	U	3.8	U	4.1	U	4.3	U	4 6	U	5 1	UJ
ENDOSULFAN SULFATE	4	U	3 8	U	4 1	U	4.3	U	4 6	U	5 1	UJ
ENDRIN	4	U	3 8	U	4 1	U	4 3	U	4 6	U	5 1	UJ
ENDRIN ALDEHYDE	4	U	3 8	U	4 1	U	4 3	U	4.6	U	5 1	UJ
ENDRIN KETONE	4	U	3 8	U	4 1	U	4 3	U	4 6	U	5.1	UJ
GAMMA-BHC	2.1	U	1.9	U	2.1	U	2 2	U	3		2 6	UJ
GAMMA-CHLORDANE	2.1	U	1.9	U	2.1	U	2.2	U	2.4	U	2.6	UJ
HEPTACHLOR	2 1	U	1 9	U	2 1	UJ	2 2	U	2 4	U	2 6	UJ
HEPTACHLOR EPOXIDE	2.1	U	1.9	U	2.1	U	5		2.4	U	2.6	UJ
METHOXYCHLOR	21	U	19	U	21	U	22	U	24	U	26	UJ
TOXAPHENE	210	U	190	U	210	U	220	U	240	U	260	UJ

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max Poss Conc.

SUBSURFACE SOIL PESTICIDE/PCB ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-TP-17-0809-MAX	
Date Sampled	7/7/97	
QC Identifier	Field Dup. OFF-S-TP-17-0809	
Interval (ft)	8 0-9.0	
4,4'-DDD	3 8	U
4,4'-DDE	3 8	U
4,4'-DDT	3 8	U
ALDRIN	2	U
ALPHA-BHC	2	U
ALPHA-CHLORDANE	2	U
AROCLOR-1016	38	U
AROCLOR-1221	78	U
AROCLOR-1232	38	U
AROCLOR-1242	38	U
AROCLOR-1248	38	U
AROCLOR-1254	38	U
AROCLOR-1260	38	U
BETA-BHC	2	U
DELTA-BHC	2	U
DIELDRIN	3 8	U
ENDOSULFAN I	2	U
ENDOSULFAN II	3 8	U
ENDOSULFAN SULFATE	3 8	U
ENDRIN	3 8	U
ENDRIN ALDEHYDE	3 8	U
ENDRIN KETONE	3 8	U
GAMMA-BHC	2	U
GAMMA-CHLORDANE	2	U
HEPTACHLOR	2	U
HEPTACHLOR EPOXIDE	2	U
METHOXYCHLOR	20	U
TOXAPHENE	200	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed; * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss. Conc.

SUBSURFACE SOIL TOTAL PETROLEUM HYDROCARBON ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-MW101-0608		OFF-S-MW102-0608		OFF-S-TP-02-0203		OFF-S-TP-05-0708		OFF-S-TP-06-0607		OFF-S-TP-07-0708		OFF-S-TP-08-0304	
Date Sampled	7/9/97		7/7/97		6/30/97		7/1/97		7/1/97		7/2/97		7/2/97	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	6.0-8.0		6 0-8 0		2 0-3.0		7.0-8.0		6 0-7 0		7 0-8 0		3.0-4.0	
TOTAL PETROLEUM HYDROCARBONS	1900	J	8200	J	140	J	40	U	130	J	59	U	31	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc.

SUBSURFACE SOIL TOTAL PETROLEUM HYDROCARBON ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-TP-11-0506-MAX		OFF-S-TP-12-0405		OFF-S-TP-13-0607		OFF-S-TP-14-0304-MAX		OFF-S-TP-15-0506		OFF-S-TP-16-1011	
Date Sampled	7/2/97		7/2/97		7/3/97		7/3/97		7/3/97		7/7/97	
QC Identifier	Field Dup OFF-S-TP-11-0506		None		None		Field Dup OFF-S-TP-14-0304		None		None	
Interval (ft)	5.0-6 0		4 0-5 0		6 0-7 0		3 0-4 0		5 0-6 0		10 0-11.0	
TOTAL PETROLEUM HYDROCARBONS	7500		4100	J	7400	J	4800		21000	J	6400	J

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est Max. Poss. Conc

SUBSURFACE SOIL TOTAL PETROLEUM HYDROCARBON ANALYSIS (MG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-TP-17-0809-MAX	
Date Sampled	7/7/97	
QC Identifier	Field Dup OFF-S-TP-17-0809	
Interval (ft)	8 0-9 0	
TOTAL PETROLEUM HYDROCARBONS	200	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed; * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc.

SUBSURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-MW101-0608		OFF-S-MW102-0608		OFF-S-TP-02-0203		OFF-S-TP-05-0708		OFF-S-TP-06-0607		OFF-S-TP-07-0708		OFF-S-TP-08-0304	
Date Sampled	7/9/97		7/7/97		6/30/97		7/1/97		7/1/97		7/2/97		7/2/97	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	6 0-8 0		6.0-8.0		2 0-3 0		7 0-8 0		6 0-7.0		7.0-8.0		3 0-4.0	
1,2,4-TRICHLOROBENZENE	360	UJ	430	UJ	360	U	360	U	400	U	400	U	400	U
1,2-DICHLOROBENZENE	360	UJ	430	U	360	U	360	U	400	U	400	U	400	U
1,3-DICHLOROBENZENE	360	UJ	430	U	360	U	360	U	400	U	400	U	400	U
1,4-DICHLOROBENZENE	360	UJ	430	U	360	U	360	U	400	U	400	U	400	U
2,2'-OXYBIS(1-CHLOROPROPANE)	360	UJ	430	UJ	360	U	360	U	400	U	400	U	400	U
2,4,5-TRICHLOROPHENOL	910	U	1100	UR	910	U	910	U	1000	U	1000	U	1000	U
2,4,6-TRICHLOROPHENOL	360	U	430	UR	360	U	360	U	400	U	400	U	400	U
2,4-DICHLOROPHENOL	360	U	430	UJ	360	U	360	U	400	U	400	U	400	U
2,4-DIMETHYLPHENOL	360	U	430	UJ	360	U	360	U	400	U	400	U	400	U
2,4-DINITROPHENOL	910	U	1100	UR	910	U	910	U	1000	U	1000	U	1000	U
2,4-DINITROTOLUENE	360	UJ	430	UR	360	U	360	U	400	U	400	U	400	U
2,6-DINITROTOLUENE	360	UJ	430	UR	360	U	360	U	400	U	400	U	400	U
2-CHLORONAPHTHALENE	360	UJ	430	UR	360	U	360	U	400	U	400	U	400	U
2-CHLOROPHENOL	360	U	430	U	360	U	360	U	400	U	400	U	400	U
2-METHYLNAPHTHALENE	11000		4300	J	360	U	360	U	400	U	400	U	400	U
2-METHYLPHENOL	360	U	430	U	360	U	360	U	400	U	400	U	400	U
2-NITROANILINE	910	UJ	1100	UR	910	U	910	U	1000	U	1000	U	1000	U
2-NITROPHENOL	360	U	430	UJ	360	U	360	U	400	U	400	U	400	U
3,3'-DICHLOROBENZIDINE	360	UJ	430	UJ	360	U	360	U	400	U	400	U	400	U
3-NITROANILINE	910	UJ	1100	UR	910	U	910	U	1000	U	1000	U	1000	U
4,6-DINITRO-2-METHYLPHENOL	910	UJ	1100	UR	910	U	910	U	1000	U	1000	U	1000	U
4-BROMOPHENYL-PHENYLETHER	360	UJ	430	UR	360	U	360	U	400	U	400	U	400	U
4-CHLORO-3-METHYLPHENOL	360	U	430	UJ	360	U	360	U	400	U	400	U	400	U
4-CHLOROANILINE	360	UJ	430	UJ	360	U	360	U	400	U	400	U	400	U
4-CHLOROPHENYL-PHENYLETHER	360	UJ	430	UR	360	U	360	U	400	U	400	U	400	U
4-METHYLPHENOL	360	U	430	U	360	U	360	U	400	U	400	U	400	U
4-NITROANILINE	910	UJ	1100	UR	910	U	910	U	1000	U	1000	U	1000	U
4-NITROPHENOL	910	U	1100	U	910	U	910	U	1000	U	1000	U	1000	U
ACENAPHTHENE	360	UJ	430	UR	360	U	190	J	400	U	400	U	400	U
ACENAPHTHYLENE	360	UJ	430	UR	360	U	360	U	400	U	400	U	400	U
ANTHRACENE	890	J	4800		360	U	420		400	U	400	U	400	U
BENZO(A)ANTHRACENE	470		3400		360	U	840		610		350	J	170	J
BENZO(A)PYRENE	360		4000		360	U	690		500		360	J	400	U
BENZO(B)FLUORANTHENE	260	J	2700	J	360	U	650		380	J	240	J	400	U
BENZO(G,H,I)PERYLENE	180	J	1900	J	360	U	360	U	400	U	400	U	400	U

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss. Conc.

SUBSURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-MW101-0608		OFF-S-MW102-0608		OFF-S-TP-02-0203		OFF-S-TP-05-0708		OFF-S-TP-06-0607		OFF-S-TP-07-0708		OFF-S-TP-08-0304	
Date Sampled	7/9/97		7/7/97		6/30/97		7/1/97		7/1/97		7/2/97		7/2/97	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)	6.0-8.0		6.0-8 0		2 0-3.0		7.0-8.0		6.0-7 0		7.0-8 0		3 0-4 0	
BENZO(K)FLUORANTHENE	310	J	2200	J	360	U	530		410		270	J	400	U
BIS(2-CHLOROETHOXY)METHANE	360	UJ	430	UJ	360	U	360	U	400	U	400	U	400	U
BIS(2-CHLOROETHYL)ETHER	360	UJ	430	U	360	U	360	U	400	U	400	U	400	U
BIS(2-ETHYLHEXYL)PHTHALATE	360	UJ	430	UJ	360	U	360	U	400	U	400	U	400	U
BUTYLBENZYLPHTHALATE	360	UJ	430	UJ	360	U	360	U	400	U	400	U	400	U
CARBAZOLE	360	UJ	430	UR	360	U	170	J	400	U	400	U	400	U
CHRYSENE	430		3200	J	360	U	810		650		380	J	160	J
DI-N-BUTYLPHTHALATE	360	UJ	430	UR	360	U	360	U	400	U	400	U	400	U
DI-N-OCTYLPHTHALATE	360	UJ	430	UJ	360	U	360	U	400	U	400	U	400	U
DIBENZO(A,H)ANTHRACENE	360	UJ	820	J	360	U	180	J	190	J	400	U	400	U
DIBENZOFURAN	830		430	UR	360	U	360	U	400	U	400	U	400	U
DIETHYLPHTHALATE	360	UJ	430	UR	360	U	360	U	400	U	400	U	400	U
DIMETHYLPHTHALATE	360	UJ	430	UR	360	U	360	U	400	U	400	U	400	U
FLUORANTHENE	2500	J	16000		360	U	1700		860		520		240	J
FLUORENE	1200	J	430	UR	360	U	160	J	400	U	400	U	400	UJ
HEXACHLOROBENZENE	360	UJ	430	UR	360	U	360	U	400	U	400	U	400	U
HEXACHLOROBUTADIENE	360	UJ	430	UJ	360	U	360	U	400	U	400	U	400	U
HEXACHLOROCYCLOPENTADIENE	360	UJ	430	U	360	U	360	U	400	U	400	U	400	U
HEXACHLOROETHANE	360	UJ	430	U	360	U	360	U	400	U	400	U	400	U
INDENO(1,2,3-CD)PYRENE	210	J	2300	J	360	U	520		350	J	280	J	400	U
ISOPHORONE	360	UJ	430	UJ	360	U	360	U	400	U	400	U	400	U
N-NITROSO-DI-N-PROPYLAMINE	360	UJ	430	U	360	U	360	U	400	U	400	U	400	U
N-NITROSO-DIPHENYLAMINE	360	UJ	430	UR	360	U	360	U	400	U	400	U	400	U
NAPHTHALENE	3700	J	430	UJ	360	U	360	U	400	U	400	U	400	U
NITROBENZENE	360	UJ	430	UJ	360	U	360	U	400	U	400	U	400	U
PENTACHLOROPHENOL	910	UJ	1100	UR	910	U	910	U	1000	U	1000	U	1000	U
PHENANTHRENE	3800		12000		360	U	1800		1300		510		200	J
PHENOLS	360	U	430	U	360	U	360	U	400	U	400	U	400	U
PYRENE	970	J	5300		360	U	1700		1800		800		330	J

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SUBSURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-TP-11-0506-MAX		OFF-S-TP-12-0405		OFF-S-TP-13-0607		OFF-S-TP-14-0304-MAX		OFF-S-TP-15-0506		OFF-S-TP-16-1011	
Date Sampled	7/2/97		7/2/97		7/3/97		7/3/97		7/3/97		7/7/97	
QC Identifier	Field Dup OFF-S-TP-11-0506		None		None		Field Dup OFF-S-TP-14-0304		None		None	
Interval (ft)	5 0-6.0		4.0-5 0		6 0-7 0		3.0-4 0		5 0-6 0		10 0-11 0	
1,2,4-TRICHLOROBENZENE	430	U	360	U	400	UJ	430	U	460	U	5000	U
1,2-DICHLOROBENZENE	430	U	360	U	400	U	430	U	460	U	5000	U
1,3-DICHLOROBENZENE	430	U	360	U	400	U	430	U	460	U	5000	U
1,4-DICHLOROBENZENE	430	U	360	U	400	U	430	U	460	U	5000	U
2,2'-OXYBIS(1-CHLOROPROPANE)	430	U	360	U	400	U	430	U	460	U	5000	U
2,4,5-TRICHLOROPHENOL	1100	U	910	UJ	1000	UJ	1100	U	1200	UR	12000	U
2,4,6-TRICHLOROPHENOL	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
2,4-DICHLOROPHENOL	430	U	360	U	400	U	430	U	460	U	5000	U
2,4-DIMETHYLPHENOL	430	U	360	U	400	U	430	U	460	U	5000	U
2,4-DINITROPHENOL	1100	U	910	UJ	1000	UJ	1100	U	1200	UR	12000	U
2,4-DINITROTOLUENE	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
2,6-DINITROTOLUENE	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
2-CHLORONAPHTHALENE	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
2-CHLOROPHENOL	430	U	360	U	400	U	430	U	460	U	5000	U
2-METHYLNAPHTHALENE	3700		360	U	400	U	430	U	1300	J	5000	U
2-METHYLPHENOL	430	U	360	U	400	U	430	U	460	U	5000	U
2-NITROANILINE	1100	U	910	UJ	1000	UJ	1100	U	1200	UR	12000	U
2-NITROPHENOL	430	U	360	U	400	U	430	U	460	U	5000	U
3,3'-DICHLOROBENZIDINE	430	U	360	UJ	400	UJ	430	U	460	UJ	5000	UJ
3-NITROANILINE	1100	U	910	UJ	1000	UJ	1100	U	1200	UR	12000	U
4,6-DINITRO-2-METHYLPHENOL	1100	U	910	UJ	1000	UJ	1100	U	1200	UR	12000	U
4-BROMOPHENYL-PHENYLETHER	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
4-CHLORO-3-METHYLPHENOL	430	U	360	U	400	UJ	430	U	460	U	5000	U
4-CHLOROANILINE	430	U	360	U	400	U	430	U	460	U	5000	U
4-CHLOROPHENYL-PHENYLETHER	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
4-METHYLPHENOL	430	U	360	U	400	U	430	U	460	U	5000	U
4-NITROANILINE	1100	U	910	UJ	1000	UJ	1100	U	1200	UR	12000	U
4-NITROPHENOL	1100	U	910	UJ	1000	UJ	1100	U	1200	U	12000	U
ACENAPHTHENE	430	U	1900	J	400	UJ	430	U	4900		5000	U
ACENAPHTHYLENE	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
ANTHRACENE	1500		700	J	400	UJ	430	U	2200	J	5000	U
BENZO(A)ANTHRACENE	580		360	U	230	J	430	U	1200	J	5000	U
BENZO(A)PYRENE	350		360	U	200	J	430	U	970	J	5000	U
BENZO(B)FLUORANTHENE	430		360	U	400	U	430	U	610	J	300	J
BENZO(G,H,I)PERYLENE	430	U	360	U	400	U	430	U	460	UJ	5000	U

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc

SUBSURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-TP-11-0506-MAX		OFF-S-TP-12-0405		OFF-S-TP-13-0607		OFF-S-TP-14-0304-MAX		OFF-S-TP-15-0506		OFF-S-TP-16-1011	
Date Sampled	7/2/97		7/2/97		7/3/97		7/3/97		7/3/97		7/7/97	
QC Identifier	Field Dup. OFF-S-TP-11-0506		None		None		Field Dup OFF-S-TP-14-0304		None		None	
Interval (ft)	5.0-6 0		4.0-5 0		6 0-7.0		3 0-4.0		5.0-6 0		10.0-11.0	
BENZO(K)FLUORANTHENE	490		360	U	400	U	430	U	730	J	5000	U
BIS(2-CHLOROETHOXY)METHANE	430	U	360	U	400	U	430	U	460	U	5000	U
BIS(2-CHLOROETHYL)ETHER	430	U	360	U	400	U	430	U	460	U	5000	U
BIS(2-ETHYLHEXYL)PHTHALATE	430	U	360	UJ	400	U	430	U	460	UJ	5000	U
BUTYLBENZYLPHTHALATE	430	U	360	U	400	U	430	U	460	UJ	5000	U
CARBAZOLE	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
CHRYSENE	460		170	J	280	J	170		1700	J	5000	U
DI-N-BUTYLPHTHALATE	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
DI-N-OCTYLPHTHALATE	430	U	360	UJ	400	U	430	U	460	UJ	5000	UJ
DIBENZO(A,H)ANTHRACENE	430	U	360	U	400	U	430	U	460	UJ	5000	UJ
DIBENZOFURAN	1800		1100	J	400	UJ	430	U	4000		5000	U
DIETHYLPHTHALATE	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
DIMETHYLPHTHALATE	430	U	360	UJ	400	U	430	U	460	UR	5000	U
FLUORANTHENE	2000		650	J	750	J	340		3600	J	910	J
FLUORENE	3400		2600	J	400	UJ	430	U	1900	J	5000	U
HEXACHLOROBENZENE	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
HEXACHLOROBUTADIENE	430	U	360	U	400	U	430	U	460	U	5000	U
HEXACHLOROCYCLOPENTADIENE	430	U	360	UJ	400	UJ	430	U	460	UR	5000	UJ
HEXACHLOROETHANE	430	U	360	U	400	U	430	U	460	U	5000	U
INDENO(1,2,3-CD)PYRENE	350		360	U	400	U	180		800	J	5000	U
ISOPHORONE	430	U	360	U	400	U	430	U	460	U	5000	U
N-NITROSO-DI-N-PROPYLAMINE	430	U	360	U	400	U	430	U	460	U	5000	U
N-NITROSO-DIPHENYLAMINE	430	U	360	UJ	400	UJ	430	U	460	UR	5000	U
NAPHTHALENE	4000		360	U	400	U	430	U	1300		5000	U
NITROBENZENE	430	U	360	U	400	U	430	U	460	U	5000	U
PENTACHLOROPHENOL	1100	U	910	UJ	1000	UJ	1100	U	1200	UR	12000	U
PHENANTHRENE	4900		3600	J	400	UJ	520		14000		5000	U
PHENOLS	430	U	360	U	400	U	430	U	460	U	5000	U
PYRENE	710		360		710		310		2700	J	1300	J

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SUBSURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-TP-17-0809-MAX	
Date Sampled	7/7/97	
QC Identifier	Field Dup OFF-S-TP-17-0809	
Interval (ft)	8 0-9.0	
1,2,4-TRICHLOROBENZENE	400	U
1,2-DICHLOROBENZENE	400	U
1,3-DICHLOROBENZENE	400	U
1,4-DICHLOROBENZENE	400	U
2,2'-OXYBIS(1-CHLOROPROPANE)	400	U
2,4,5-TRICHLOROPHENOL	1000	U
2,4,6-TRICHLOROPHENOL	400	U
2,4-DICHLOROPHENOL	400	U
2,4-DIMETHYLPHENOL	400	U
2,4-DINITROPHENOL	1000	U
2,4-DINITROTOLUENE	400	U
2,6-DINITROTOLUENE	400	U
2-CHLORONAPHTHALENE	400	U
2-CHLOROPHENOL	400	U
2-METHYLNAPHTHALENE	690	
2-METHYLPHENOL	400	U
2-NITROANILINE	1000	U
2-NITROPHENOL	400	U
3,3'-DICHLOROBENZIDINE	400	U
3-NITROANILINE	1000	U
4,6-DINITRO-2-METHYLPHENOL	1000	U
4-BROMOPHENYL-PHENYLETHER	400	U
4-CHLORO-3-METHYLPHENOL	400	U
4-CHLOROANILINE	400	U
4-CHLOROPHENYL-PHENYLETHER	400	U
4-METHYLPHENOL	400	U
4-NITROANILINE	1000	U
4-NITROPHENOL	1000	U
ACENAPHTHENE	400	U
ACENAPHTHYLENE	400	U
ANTHRACENE	400	U
BENZO(A)ANTHRACENE	400	U
BENZO(A)PYRENE	400	U
BENZO(B)FLUORANTHENE	400	U
BENZO(G,H,I)PERYLENE	400	U

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SUBSURFACE SOIL SEMIVOLATILE ORGANIC ANALYSIS (UG/KG)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-S-TP-17-0809-MAX	
Date Sampled	7/7/97	
QC Identifier	Field Dup OFF-S-TP-17-0809	
Interval (ft)	8 0-9 0	
BENZO(K)FLUORANTHENE	400	U
BIS(2-CHLOROETHOXY)METHANE	400	U
BIS(2-CHLOROETHYL)ETHER	400	U
BIS(2-ETHYLHEXYL)PHTHALATE	400	U
BUTYLBENZYLPHTHALATE	400	U
CARBAZOLE	400	U
CHRYSENE	400	U
DI-N-BUTYLPHTHALATE	400	U
DI-N-OCTYLPHTHALATE	400	U
DIBENZO(A,H)ANTHRACENE	400	U
DIBENZOFURAN	400	U
DIETHYLPHTHALATE	400	U
DIMETHYLPHTHALATE	400	U
FLUORANTHENE	400	U
FLUORENE	120	
HEXACHLOROBENZENE	400	U
HEXACHLOROBUTADIENE	400	U
HEXACHLOROCYCLOPENTADIENE	400	U
HEXACHLOROETHANE	400	U
INDENO(1,2,3-CD)PYRENE	400	U
ISOPHORONE	400	U
N-NITROSO-DI-N-PROPYLAMINE	400	U
N-NITROSO-DIPHENYLAMINE	400	U
NAPHTHALENE	140	
NITROBENZENE	400	U
PENTACHLOROPHENOL	1000	U
PHENANTHRENE	240	
PHENOLS	400	U
PYRENE	400	U

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APPENDIX P-9

STORMWATER ANALYTICAL RESULTS

STORMWATER TAL METAL ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-SW1-0506		OFF-A-SW2-0506-AVG	
Date Sampled	7/11/97		7/11/97	
QC Identifier	None		Field Dup OFF-A-SW2-0506	
Interval (ft)	0 0-0 0		0 0-0 0	
ALUMINUM	2300	J	3370	
ANTIMONY	2 1	U	2.8	U
ARSENIC	6 5	U	9 5	
BARIUM	50 7		73 7	
BERYLLIUM	0.3	U	0.14	U
CADMIUM	0 19	U	1	U
CALCIUM	126000	J	125000	
CHROMIUM	6.7	J	7.3	
COBALT	3 8	U	4	U
COPPER	11.7	U	21 3	
IRON	17900	J	49700	
LEAD	27 3		37.9	
MAGNESIUM	245000	J	251000	
MANGANESE	3150	J	3140	
MERCURY	0 01	UJ	0 04	
NICKEL	8 4	U	17 8	U
POTASSIUM	71500	J	80300	
SELENIUM	2 9	U	2 9	U
SILVER	1.5	U	1.3	U
SODIUM	1810000	J	1960000	
THALLIUM	3 9	UJ	5.1	U
VANADIUM	8.2	J	10.6	
ZINC	90 3		142	

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc

STORMWATER SEMIVOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-SW1-0506		OFF-A-SW2-0506-AVG	
Date Sampled	7/11/97		7/11/97	
QC Identifier	None		Field Dup OFF-A-SW2-0506	
Interval (ft)	0 0-0 0		0 0-0 0	
1,2,4-TRICHLOROBENZENE	11	U	11	U
1,2-DICHLOROBENZENE	11	U	11	U
1,3-DICHLOROBENZENE	11	U	11	U
1,4-DICHLOROBENZENE	11	U	11	U
2,2'-OXYBIS(1-CHLOROPROPANE)	11	UJ	11	U
2,4,5-TRICHLOROPHENOL	28	U	28	U
2,4,6-TRICHLOROPHENOL	11	U	11	U
2,4-DICHLOROPHENOL	11	U	11	U
2,4-DIMETHYLPHENOL	11	U	11	U
2,4-DINITROPHENOL	28	U	28	U
2,4-DINITROTOLUENE	11	U	11	U
2,6-DINITROTOLUENE	11	U	11	U
2-CHLORONAPHTHALENE	11	U	11	U
2-CHLOROPHENOL	11	U	11	U
2-METHYLNAPHTHALENE	11	U	11	U
2-METHYLPHENOL	11	U	11	U
2-NITROANILINE	28	U	28	U
2-NITROPHENOL	11	U	11	U
3,3'-DICHLOROBENZIDINE	11	U	11	U
3-NITROANILINE	28	U	28	U
4,6-DINITRO-2-METHYLPHENOL	28	U	28	U
4-BROMOPHENYL-PHENYLETHER	11	U	11	U
4-CHLORO-3-METHYLPHENOL	11	U	11	U
4-CHLOROANILINE	11	U	11	U
4-CHLOROPHENYL-PHENYLETHER	11	U	11	U
4-METHYLPHENOL	11	U	11	U
4-NITROANILINE	28	U	28	U
4-NITROPHENOL	28	U	28	U
ACENAPHTHENE	11	U	11	U
ACENAPHTHYLENE	11	U	11	U
ANTHRACENE	11	U	11	U
BENZO(A)ANTHRACENE	11	U	11	U
BENZO(A)PYRENE	11	U	11	U
BENZO(B)FLUORANTHENE	11	U	11	U
BENZO(G,H,I)PERYLENE	11	U	11	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est Max. Poss Conc.

STORMWATER SEMIVOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-SW1-0506		OFF-A-SW2-0506-AVG	
Date Sampled	7/11/97		7/11/97	
QC Identifier	None		Field Dup OFF-A-SW2-0506	
Interval (ft)	0 0-0 0		0 0-0 0	
BENZO(K)FLUORANTHENE	11	U	11	U
BIS(2-CHLOROETHOXY)METHANE	11	U	11	U
BIS(2-CHLOROETHYL)ETHER	11	U	11	U
BIS(2-ETHYLHEXYL)PHTHALATE	2	J	2	
BUTYLBENZYLPHTHALATE	11	U	11	U
CARBAZOLE	11	U	11	U
CHRYSENE	11	U	11	U
DI-N-BUTYLPHTHALATE	11	U	11	U
DI-N-OCTYLPHTHALATE	11	UJ	11	U
DIBENZO(A,H)ANTHRACENE	11	U	11	U
DIBENZOFURAN	11	U	11	U
DIETHYLPHTHALATE	11	U	11	U
DIMETHYLPHTHALATE	11	U	11	U
FLUORANTHENE	11	U	11	U
FLUORENE	11	U	11	U
HEXACHLOROBENZENE	11	U	11	U
HEXACHLOROBUTADIENE	11	U	11	U
HEXACHLOROCYCLOPENTADIENE	11	U	11	U
HEXACHLOROETHANE	11	U	11	U
INDENO(1,2,3-CD)PYRENE	11	U	11	U
ISOPHORONE	11	U	11	U
N-NITROSO-DI-N-PROPYLAMINE	11	U	11	U
N-NITROSO-DIPHENYLAMINE	11	U	11	U
NAPHTHALENE	11	U	11	U
NITROBENZENE	11	U	11	U
PENTACHLOROPHENOL	28	U	28	U
PHENANTHRENE	11	U	11	U
PHENOLS	11	U	2	
PYRENE	11	U	11	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc

STORMWATER VOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-SW1-0506		OFF-A-SW2-0506-AVG	
Date Sampled	7/11/97		7/11/97	
QC Identifier	None		Field Dup OFF-A-SW2-0506	
Interval (ft)	0 0-0 0		0.0-0.0	
1,1,1-TRICHLOROETHANE	10	U	10	U
1,1,2,2-TETRACHLOROETHANE	10	U	10	U
1,1,2-TRICHLOROETHANE	10	U	10	U
1,1-DICHLOROETHANE	10	U	10	U
1,1-DICHLOROETHENE	10	U	10	U
1,2-DICHLOROETHANE	10	U	10	U
1,2-DICHLOROETHENE (TOTAL)	10	U	10	U
1,2-DICHLOROPROPANE	10	U	10	U
2-BUTANONE	10	UJ	10	U
2-HEXANONE	10	UJ	10	U
4-METHYL-2-PENTANONE	10	U	10	U
ACETONE	16	U	20	U
BENZENE	10	U	10	U
BROMODICHLOROMETHANE	10	U	10	U
BROMOFORM	10	U	10	U
BROMOMETHANE	10	U	10	U
CARBON DISULFIDE	10	U	10	U
CARBON TETRACHLORIDE	10	U	10	U
CHLOROBENZENE	10	U	10	U
CHLOROETHANE	10	U	10	U
CHLOROFORM	10	U	10	U
CHLOROMETHANE	10	U	10	U
CIS-1,3-DICHLOROPROPENE	10	U	10	U
DIBROMOCHLOROMETHANE	10	U	10	U
ETHYLBENZENE	10	U	10	U
METHYLENE CHLORIDE	10	U	10	U
STYRENE	10	U	10	U
TETRACHLOROETHENE	10	U	10	U
TOLUENE	10	U	10	U
TOTAL XYLENES	10	U	10	U
TRANS-1,3-DICHLOROPROPENE	10	U	10	U
TRICHLOROETHENE	10	U	10	U
VINYL CHLORIDE	10	U	10	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc.

STORMWATER PESTICIDE/PCB ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-SW1-0506		OFF-A-SW2-0506-AVG	
Date Sampled	7/11/97		7/11/97	
QC Identifier	None		Field Dup OFF-A-SW2-0506	
Interval (ft)	0 0-0 0		0 0-0 0	
4,4'-DDD	0 11	U	0 11	U
4,4'-DDE	0 11	U	0 11	U
4,4'-DDT	0 11	U	0 11	U
ALDRIN	0 054	U	0 054	U
ALPHA-BHC	0 054	UJ	0 054	U
ALPHA-CHLORDANE	0 054	U	0 054	U
AROCLOR-1016	1.1	U	1 1	U
AROCLOR-1221	2.2	U	2 2	U
AROCLOR-1232	1 1	U	1 1	U
AROCLOR-1242	1 1	U	1 1	U
AROCLOR-1248	1.1	U	1 1	U
AROCLOR-1254	1 1	U	1 1	U
AROCLOR-1260	1.1	U	1 1	U
BETA-BHC	0 054	U	0 054	U
DELTA-BHC	0 054	U	0.054	U
DIELDRIN	0 11	U	0 11	U
ENDOSULFAN I	0 054	U	0.054	U
ENDOSULFAN II	0 11	U	0.11	U
ENDOSULFAN SULFATE	0 11	U	0.11	U
ENDRIN	0 11	U	0 11	U
ENDRIN ALDEHYDE	0 11	U	0.11	U
ENDRIN KETONE	0 11	U	0.11	U
GAMMA-BHC	0 054	U	0 054	U
GAMMA-CHLORDANE	0 054	U	0 054	U
HEPTACHLOR	0 054	UJ	0.054	U
HEPTACHLOR EPOXIDE	0 054	U	0 054	U
METHOXYCHLOR	0 54	U	0.54	U
TOXAPHENE	5 4	U	5 4	U

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max. Poss Conc.

STORMWATER TOTAL PETROLEUM HYDROCARBON ANALYSIS (MG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-SW1-0506		OFF-A-SW2-0506-AVG	
Date Sampled	7/11/97		7/11/97	
QC Identifier	None		Field Dup. OFF-A-SW2-0506	
Interval (ft)	0.0-0 0		0.0-0 0	
TOTAL PETROLEUM HYDROCARBONS	1 1	UJ	1 1	U

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed; * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc.

APPENDIX P-10

UNFILTERED GROUNDWATER ANALYTICAL RESULTS

UNFILTERED GROUNDWATER TAL METAL ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW101-01		OFF-A-MW102-01		OFF-A-MW10S-01		OFF-A-MW11R-01		OFF-A-MW11S-01		OFF-A-MW1R-01		OFF-A-MW2D-01		OFF-A-MW2S-01	
Date Sampled	7/11/97		7/11/97		7/9/97		7/10/97		7/10/97		7/8/97		7/9/97		7/9/97	
QC Identifier	None		None		None		None		None		None		None		None	
Interval (ft)																
ALUMINUM	14.3	UJ	885	J	564	U	98.2	U	487	U	665	J	396	U	101	U
ANTIMONY	2 1	U	2 1	U	2 1	U	2 1	U	2.1	U	2.1	U	2 8	U	2.1	U
ARSENIC	44 5		1 8	U	2 9	U	4	U	1.8	U	1.8	U	1 8	U	1 8	U
BARIUM	35.3		390		60		5.3		112		13 9		10 9		183	
BERYLLIUM	0 14	U	0 14	U	0 14	UJ	0 14	U	0 14	UJ	0 14	U	0 14	U	0 14	UJ
CADMIUM	0.19	U	0 52	U	0 28	U	0.19	U	0 19	U	0 19	U	0 19	U	2 4	J
CALCIUM	16200	J	93200	J	199000	J	53500	J	196000	J	92500	J	63700	J	281000	J
CHROMIUM	3 2		19 8		10 8	J	39 9		12 4	J	33.2		7 3		3 6	J
COBALT	19 5		3 8	U	27.8		6 1		0.94	U	33 8		3 6	U	14 3	J
COPPER	3 6	U	12.3	U	14 5	J	3 8	U	6 8	U	1 4	U	2 9	U	139	J
IRON	11900	J	12200	J	2250	J	6480	J	1120	J	1260	J	1570	J	1580	J
LEAD	1 4	UJ	27 6	J	8 7	J	1 4	UJ	7 9	J	1 6	J	5	J	19 4	J
MAGNESIUM	20000	J	232000	J	481000	J	107000	J	323000	J	22000	J	70600	J	718000	J
MANGANESE	441	J	1180	J	4450	J	3460	J	1340	J	1580	J	6390	J	396	J
MERCURY	0 01	UJ	0 15	J	0.01	UJ	0 01	UJ	0.01	UJ	0 01	UJ	0 01	UJ	0 02	J
NICKEL	1.7	U	13 5	U	11 9	U	31.5	U	9 3	U	61 2	U	8 8	U	25	U
POTASSIUM	20200	J	97000	J	156000	J	54200	J	118000	J	7980	J	39200	J	258000	J
SELENIUM	2 9	U	2 9	U	2.9	UJ	2 9	U	2.9	U	2.9	U	2 9	U	2 9	UJ
SILVER	0 82	U	1.8	U	3 3	U	0.82	J	1.9	J	0 82	U	0 82	U	5 1	U
SODIUM	339000	J	2260000	J	5130000	J	1010000	U	2760000	J	127000	J	429000	J	5960000	J
THALLIUM	3 9	UJ	5 7	U	5	U	3.9	UJ	3.9	UJ	3 9	UJ	3 9	UJ	4 1	U
VANADIUM	0 57	U	2		0 59	J	0 57	U	1.7		0.57	U	0 57	U	0 57	U
ZINC	4.8	U	128		44 1	U	33 1	U	15 2	U	52	U	13 7	U	1570	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed; * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss. Conc

UNFILTERED GROUNDWATER TAL METAL ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW3S-01		OFF-A-MW4S-01-AVG		OFF-A-MW7S-01		OFF-A-MW8R-01		OFF-A-MW9R-01-AVG	
Date Sampled	7/10/97		7/10/97		7/10/97		7/8/97		7/9/97	
QC Identifier	None		Field Dup. OFF-A-MW4S-01		None		None		Field Dup. OFF-A-MW9R-01	
Interval (ft)										
ALUMINUM	13000	J	1060		2120	J	645	J	163	U
ANTIMONY	2 1	U	2 1	U	2 1	U	2.1	U	4.1	U
ARSENIC	49.8		6 9	U	1 8	U	1 8	U	1 8	U
BARIUM	93.2		8 2		23 2		11.5		3 6	U
BERYLLIUM	0 14	U	0 14	U	0 14	U	0 14	U	0.14	U
CADMIUM	3.4	J	0 19	U	2 9		0 19	U	0.19	U
CALCIUM	46300	J	18800		114000	J	85000	J	56500	
CHROMIUM	37 8		5 6		7		15 8		1 3	U
COBALT	22 4		16 1		87		62 3		2	U
COPPER	166	J	3 4	U	13 6	J	4 4	U	2 5	U
IRON	129000	J	7010		4540	J	934	J	187	U
LEAD	207	J	2 8		9	J	1.7	J	1 4	U
MAGNESIUM	46400	J	18000		30200	J	13200	J	11600	
MANGANESE	3560	J	12500		11800	J	1780	J	832	
MERCURY	0 24		0.01	U	0.01	UJ	0 01	UJ	0 01	U
NICKEL	33 6	U	5	U	35.7	U	18	U	6 2	U
POTASSIUM	19400	J	9070		12400	J	5700	J	7020	
SELENIUM	2.9	U	2 9	U	2 9	U	2.9	U	2 9	U
SILVER	1.2	U	6 5	U	1 3	U	0.82	U	0.82	U
SODIUM	443000	J	135000		95300	J	128000	J	41700	
THALLIUM	4 2	U	6.6	U	5 9	U	3 9	UJ	3 9	U
VANADIUM	37.5		1 6		0 79	J	0 71	J	0.57	U
ZINC	715		10 4	U	658		12.3	U	8	

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max Poss Conc.

UNFILTERED GROUNDWATER SEMIVOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW101-01		OFF-A-MW102-01		OFF-A-MW10S-01		OFF-A-MW11R-01		OFF-A-MW11S-01		OFF-A-MW1R-01		OFF-A-MW2D-01	
Date Sampled	7/11/97		7/11/97		7/9/97		7/10/97		7/10/97		7/8/97		7/9/97	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)														
1,2,4-TRICHLOROBENZENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
1,2-DICHLOROBENZENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
1,3-DICHLOROBENZENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
1,4-DICHLOROBENZENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	UJ	10	UJ	10	U	11	U	11	U	10	U	10	U
2,4,5-TRICHLOROPHENOL	25	U	25	U	25	U	28	U	28	U	25	U	25	U
2,4,6-TRICHLOROPHENOL	10	U	10	U	10	U	11	U	11	U	10	U	10	U
2,4-DICHLOROPHENOL	10	U	10	U	10	U	11	U	11	U	10	U	10	U
2,4-DIMETHYLPHENOL	10	U	10	U	10	U	11	U	11	U	10	U	10	U
2,4-DINITROPHENOL	25	U	25	U	25	U	28	U	28	UJ	25	U	25	U
2,4-DINITROTOLUENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
2,6-DINITROTOLUENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
2-CHLORONAPHTHALENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
2-CHLOROPHENOL	10	U	10	U	10	U	11	U	11	U	10	U	10	U
2-METHYLNAPHTHALENE	190		3	J	10	U	11	U	11	U	10	U	10	U
2-METHYLPHENOL	10	U	10	U	10	U	11	U	11	U	10	U	10	U
2-NITROANILINE	25	U	25	U	25	U	28	U	28	U	25	U	25	U
2-NITROPHENOL	10	U	10	U	10	U	11	U	11	U	10	U	10	U
3,3'-DICHLOROBENZIDINE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
3-NITROANILINE	25	U	25	U	25	U	28	U	28	U	25	U	25	U
4,6-DINITRO-2-METHYLPHENOL	25	U	25	U	25	U	28	U	28	UJ	25	U	25	U
4-BROMOPHENYL-PHENYLETHER	10	U	10	U	10	U	11	U	11	U	10	U	10	U
4-CHLORO-3-METHYLPHENOL	10	U	10	U	10	U	11	U	11	U	10	U	10	U
4-CHLOROANILINE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
4-CHLOROPHENYL-PHENYLETHER	10	U	10	U	10	U	11	U	11	U	10	U	10	U
4-METHYLPHENOL	10	U	10	U	10	U	11	U	11	U	10	U	10	U
4-NITROANILINE	25	U	25	U	25	U	28	U	28	UJ	25	U	25	U
4-NITROPHENOL	25	U	25	U	25	U	28	U	28	UJ	25	U	25	U
ACENAPHTHENE	9	J	3	J	10	U	11	U	11	U	10	U	10	U
ACENAPHTHYLENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
ANTHRACENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
BENZO(A)ANTHRACENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
BENZO(A)PYRENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
BENZO(B)FLUORANTHENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
BENZO(G,H,I)PERYLENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected; EMPC - Est. Max Poss Conc

UNFILTERED GROUNDWATER SEMIVOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW101-01		OFF-A-MW102-01		OFF-A-MW10S-01		OFF-A-MW11R-01		OFF-A-MW11S-01		OFF-A-MW1R-01		OFF-A-MW2D-01	
Date Sampled	7/11/97		7/11/97		7/9/97		7/10/97		7/10/97		7/8/97		7/9/97	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)														
BENZO(K)FLUORANTHENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
BIS(2-CHLOROETHOXY)METHANE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
BIS(2-CHLOROETHYL)ETHER	10	U	10	U	10	U	11	U	11	U	10	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	10	U	10	U	19	U	11	U	11	U	34	U	10	U
BUTYLBENZYLPHTHALATE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
CARBAZOLE	2	J	1	J	10	U	11	U	11	U	10	U	10	U
CHRYSENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
DI-N-BUTYLPHTHALATE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
DI-N-OCTYLPHTHALATE	10	UJ	10	UJ	10	UJ	11	U	11	U	10	UJ	10	UJ
DIBENZO(A,H)ANTHRACENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
DIBENZOFURAN	8	J	2	J	10	U	11	U	11	U	10	U	10	U
DIETHYLPHTHALATE	10	U	10	U	10	U	11	UJ	11	UJ	10	U	10	U
DIMETHYLPHTHALATE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
FLUORANTHENE	10	U	10	U	10	U	11	UJ	11	UJ	10	U	10	U
FLUORENE	9	J	3	J	10	U	11	U	11	U	10	U	10	U
HEXACHLOROBENZENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
HEXACHLOROBUTADIENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
HEXACHLOROCYCLOPENTADIENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
HEXACHLOROETHANE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
INDENO(1,2,3-CD)PYRENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
ISOPHORONE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
N-NITROSO-DI-N-PROPYLAMINE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
N-NITROSO-DIPHENYLAMINE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
NAPHTHALENE	150		11		10	U	11	U	11	U	10	U	10	U
NITROBENZENE	10	U	10	U	10	U	11	U	11	U	10	U	10	U
PENTACHLOROPHENOL	25	U	25	U	25	U	28	U	28	U	25	U	25	U
PHENANTHRENE	7	J	3	J	10	U	11	U	11	U	10	U	10	U
PHENOLS	10	U	2	J	10	U	5	J	11	U	10	U	10	U
PYRENE	10	U	10	U	10	UJ	11	U	11	U	10	UJ	10	UJ

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est. Max Poss Conc

UNFILTERED GROUNDWATER SEMIVOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW2S-01		OFF-A-MW3S-01		OFF-A-MW4S-01-AVG		OFF-A-MW7S-01		OFF-A-MW8R-01		OFF-A-MW9R-01-AVG	
Date Sampled	7/9/97		7/10/97		7/10/97		7/10/97		7/8/97		7/9/97	
QC Identifier	None		None		Field Dup. OFF-A-MW4S-01		None		None		Field Dup OFF-A-MW9R-01	
Interval (ft)												
1,2,4-TRICHLOROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
1,2-DICHLOROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
1,3-DICHLOROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
1,4-DICHLOROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	10	U	10	U	10	U	10	U	10	U	10	U
2,4,5-TRICHLOROPHENOL	25	U	25	U	25	U	25	U	25	U	25	U
2,4,6-TRICHLOROPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
2,4-DICHLOROPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
2,4-DIMETHYLPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
2,4-DINITROPHENOL	25	U	25	U	25	U	25	U	25	U	25	U
2,4-DINITROTOLUENE	10	U	10	U	10	U	10	U	10	U	10	U
2,6-DINITROTOLUENE	10	U	10	U	10	U	10	U	10	U	10	U
2-CHLORONAPHTHALENE	10	U	10	U	10	U	10	U	10	U	10	U
2-CHLOROPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
2-METHYLNAPHTHALENE	10	U	10	U	10	U	10	U	10	U	10	U
2-METHYLPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
2-NITROANILINE	25	U	25	U	25	U	25	U	25	U	25	U
2-NITROPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
3,3'-DICHLOROBENZIDINE	10	U	10	U	10	U	10	U	10	U	10	U
3-NITROANILINE	25	U	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	25	U
4-BROMOPHENYL-PHENYLETHER	10	U	10	U	10	U	10	U	10	U	10	U
4-CHLORO-3-METHYLPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
4-CHLOROANILINE	10	U	10	U	10	U	10	U	10	U	10	U
4-CHLOROPHENYL-PHENYLETHER	10	U	10	U	10	U	10	U	10	U	10	U
4-METHYLPHENOL	10	U	10	U	10	U	10	U	10	U	10	U
4-NITROANILINE	25	U	25	U	25	U	25	U	25	U	25	U
4-NITROPHENOL	25	U	25	U	25	U	25	U	25	U	25	U
ACENAPHTHENE	10	U	10	U	10	U	10	U	10	U	10	U
ACENAPHTHYLENE	10	U	10	U	10	U	10	U	10	U	10	U
ANTHRACENE	10	U	10	U	10	U	10	U	10	U	10	U
BENZO(A)ANTHRACENE	10	U	10	U	10	U	10	U	10	U	10	U
BENZO(A)PYRENE	10	U	10	U	10	U	10	U	10	U	10	U
BENZO(B)FLUORANTHENE	10	U	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	10	U

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NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est Max Poss. Conc.

UNFILTERED GROUNDWATER SEMIVOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW2S-01		OFF-A-MW3S-01		OFF-A-MW4S-01-AVG		OFF-A-MW7S-01		OFF-A-MW8R-01		OFF-A-MW9R-01-AVG	
Date Sampled	7/9/97		7/10/97		7/10/97		7/10/97		7/8/97		7/9/97	
QC Identifier	None		None		Field Dup. OFF-A-MW4S-01		None		None		Field Dup OFF-A-MW9R-01	
Interval (ft)												
BENZO(K)FLUORANTHENE	10	U	10	U	10	U	10	U	10	U	10	U
BIS(2-CHLOROETHOXY)METHANE	10	U	10	U	10	U	10	U	10	U	10	U
BIS(2-CHLOROETHYL)ETHER	10	U	10	U	10	U	10	U	10	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	10	U	10	U	10	U	10	U	14	U	20	U
BUTYLBENZYLPHTHALATE	10	U	10	U	10	U	10	U	10	U	10	U
CARBAZOLE	10	U	10	U	10	U	10	U	10	U	10	U
CHRYSENE	10	U	10	U	10	U	10	U	10	U	10	U
DI-N-BUTYLPHTHALATE	10	U	10	U	10	U	10	U	10	U	10	U
DI-N-OCTYLPHTHALATE	10	UJ	10	UJ	10	U	10	UJ	10	UJ	10	U
DIBENZO(A,H)ANTHRACENE	10	U	10	U	10	U	10	U	10	U	10	U
DIBENZOFURAN	10	U	10	U	10	U	10	U	10	U	10	U
DIETHYLPHTHALATE	10	U	10	U	10	U	10	U	10	U	10	U
DIMETHYLPHTHALATE	10	U	10	U	10	U	10	U	10	U	10	U
FLUORANTHENE	10	U	10	U	10	U	10	U	10	U	10	U
FLUORENE	10	U	10	U	10	U	10	U	10	U	10	U
HEXACHLOROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
HEXACHLOROBUTADIENE	10	U	10	U	10	U	10	U	10	U	10	U
HEXACHLOROCYCLOPENTADIENE	10	U	10	U	10	U	10	U	10	U	10	U
HEXACHLOROETHANE	10	U	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	10	U
ISOPHORONE	10	U	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	10	U
N-NITROSO-DIPHENYLAMINE	10	U	10	U	10	U	10	U	10	U	10	U
NAPHTHALENE	10	U	10	U	10	U	10	U	10	U	10	U
NITROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
PENTACHLOROPHENOL	25	U	25	U	25	U	25	U	25	U	25	U
PHENANTHRENE	10	U	10	U	10	U	10	U	10	U	10	U
PHENOLS	10	U	10	U	10	U	10	U	10	U	10	U
PYRENE	10	UJ	10	UJ	10	U	10	UJ	10	UJ	10	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max. Poss. Conc.

UNFILTERED GROUNDWATER VOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW101-01		OFF-A-MW102-01		OFF-A-MW10S-01		OFF-A-MW11R-01		OFF-A-MW11S-01		OFF-A-MW1R-01		OFF-A-MW2D-01	
Date Sampled	7/11/97		7/11/97		7/9/97		7/10/97		7/10/97		7/8/97		7/9/97	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)														
1,1,1-TRICHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-TETRACHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-TRICHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1-DICHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,1-DICHLOROETHENE	10	U	10	U	10	UJ	10	U	10	U	10	U	10	UJ
1,2-DICHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,2-DICHLOROETHENE (TOTAL)	10	U	10	U	10	U	10	U	10	U	10	U	10	U
1,2-DICHLOROPROPANE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
2-BUTANONE	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
2-HEXANONE	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ	10	UJ
4-METHYL-2-PENTANONE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
ACETONE	41	U	89	U	10	UJ	10	U	14	U	13	U	10	U
BENZENE	8	J	33		10	U	10	U	10	U	10	U	10	U
BROMODICHLOROMETHANE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
BROMOFORM	10	U	10	U	10	U	10	U	10	U	10	U	10	U
BROMOMETHANE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
CARBON DISULFIDE	10	U	10	U	10	UJ	10	UJ	10	U	10	UJ	10	UJ
CARBON TETRACHLORIDE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROFORM	10	U	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROMETHANE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
CIS-1,3-DICHLOROPROPENE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
DIBROMOCHLOROMETHANE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
ETHYLBENZENE	10	U	38		10	U	10	U	10	U	10	U	10	U
METHYLENE CHLORIDE	10	U	10	U	10	UJ	10	U	10	U	10	UJ	10	UJ
STYRENE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
TETRACHLOROETHENE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
TOLUENE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
TOTAL XYLENES	10	U	10	U	10	U	10	U	10	U	10	U	10	U
TRANS-1,3-DICHLOROPROPENE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
TRICHLOROETHENE	10	U	10	U	10	U	10	U	10	U	10	U	10	U
VINYL CHLORIDE	10	U	10	U	10	U	10	U	10	U	10	U	10	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed; * - From dilution analysis; R - Rejected, EMPC - Est. Max. Poss Conc

UNFILTERED GROUNDWATER VOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW2S-01		OFF-A-MW3S-01		OFF-A-MW4S-01-AVG		OFF-A-MW7S-01		OFF-A-MW8R-01		OFF-A-MW9R-01-AVG	
Date Sampled	7/9/97		7/10/97		7/10/97		7/10/97		7/8/97		7/9/97	
QC Identifier	None		None		Field Dup OFF-A-MW4S-01		None		None		Field Dup. OFF-A-MW9R-01	
Interval (ft)												
1,1,1-TRICHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2,2-TETRACHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U
1,1,2-TRICHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U
1,1-DICHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U
1,1-DICHLOROETHENE	10	UJ	10	U	10	U	10	U	10	U	10	U
1,2-DICHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U
1,2-DICHLOROETHENE (TOTAL)	10	U	10	U	10	U	10	U	10	U	10	U
1,2-DICHLOROPROPANE	10	U	10	U	10	U	10	U	10	U	10	U
2-BUTANONE	10	UJ	10	UJ	10	U	10	UJ	10	UJ	10	U
2-HEXANONE	10	UJ	10	UJ	10	U	10	UJ	10	UJ	10	U
4-METHYL-2-PENTANONE	10	U	10	U	10	U	10	U	10	U	10	U
ACETONE	21	U	10	UJ	10	U	180	U	11	U	10	U
BENZENE	10	U	10	U	10	U	10	U	10	U	10	U
BROMODICHLOROMETHANE	10	U	10	U	10	U	10	U	10	U	10	U
BROMOFORM	10	U	10	U	10	U	10	U	10	U	10	U
BROMOMETHANE	10	U	10	U	10	U	10	U	10	U	10	U
CARBON DISULFIDE	10	UJ	10	UJ	10	U	10	UJ	10	UJ	10	U
CARBON TETRACHLORIDE	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROETHANE	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROFORM	10	U	10	U	10	U	10	U	10	U	10	U
CHLOROMETHANE	10	U	10	U	10	U	10	U	10	U	10	U
CIS-1,3-DICHLOROPROPENE	10	U	10	U	10	U	10	U	10	U	10	U
DIBROMOCHLOROMETHANE	10	U	10	U	10	U	10	U	10	U	10	U
ETHYLBENZENE	10	U	10	U	10	U	10	U	10	U	10	U
METHYLENE CHLORIDE	10	UJ	10	U	10	U	10	U	10	UJ	10	U
STYRENE	10	U	10	U	10	U	10	U	10	U	10	U
TETRACHLOROETHENE	10	U	10	U	10	U	10	U	10	U	10	U
TOLUENE	10	U	10	U	10	U	10	U	10	U	10	U
TOTAL XYLENES	10	U	10	U	10	U	10	U	10	U	10	U
TRANS-1,3-DICHLOROPROPENE	10	U	10	U	10	U	10	U	10	U	10	U
TRICHLOROETHENE	10	U	10	U	10	U	10	U	10	U	10	U
VINYL CHLORIDE	10	U	10	U	10	U	10	U	10	U	10	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected; EMPC - Est. Max. Poss Conc

UNFILTERED GROUNDWATER PESTICIDE/PCB ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW101-01		OFF-A-MW102-01		OFF-A-MW10S-01		OFF-A-MW11R-01		OFF-A-MW11S-01		OFF-A-MW1R-01		OFF-A-MW2D-01		OFF-A-MW2S-01	
Date Sampled	7/11/97		7/11/97		7/9/97		7/10/97		7/10/97		7/8/97		7/9/97		7/9/97	
QC Identifier	None		None		None		None		None		None		None		None	
Interval (ft)																
4,4'-DDD	0.1	U	0 1	U	0 1	U	0 11	U	0 11	U	0 1	U	0 1	U	0.1	U
4,4'-DDE	0 1	U	0.1	U	0 1	U	0.11	U	0.11	U	0.1	U	0.1	U	0 1	U
4,4'-DDT	0 1	U	0 1	U	0 1	U	0.11	U	0.11	U	0.1	U	0.1	U	0 1	U
ALDRIN	0 05	U	0 051	U	0.051	U	0 053	U	0 053	U	0 051	U	0 05	U	0.051	U
ALPHA-BHC	0.05	UJ	0 051	UJ	0 051	U	0 053	U	0 053	U	0 051	U	0 05	U	0.051	U
ALPHA-CHLORDANE	0 05	U	0 051	U	0 051	U	0.053	U	0 053	U	0 051	U	0 05	U	0.051	U
AROCLOR-1016	1	U	1	U	1	U	1 1	U	1.1	U	1	U	1	U	1	U
AROCLOR-1221	2	U	2	U	2	U	2.1	U	2 1	U	2	U	2	U	2	U
AROCLOR-1232	1	U	1	U	1	U	1 1	U	1 1	U	1	U	1	U	1	U
AROCLOR-1242	1	U	1	U	1	U	1 1	U	1.1	U	1	U	1	U	1	U
AROCLOR-1248	1	U	1	U	1	U	1.1	U	1 1	U	1	U	1	U	1	U
AROCLOR-1254	1	U	1	U	1	U	1 1	U	1.1	U	1	U	1	U	1	U
AROCLOR-1260	1	U	1	U	1	U	1 1	U	1.1	U	1	U	1	U	1	U
BETA-BHC	0.05	U	0 051	U	0 051	U	0 053	U	0.053	U	0 051	U	0 05	U	0 051	U
DELTA-BHC	0 05	U	0 051	U	0 051	U	0 053	U	0 053	U	0 051	U	0 05	U	0 051	U
DIELDRIN	0 1	U	0 1	U	0 1	U	0 11	U	0.11	U	0 1	U	0 1	U	0.1	U
ENDOSULFAN I	0 05	U	0 051	U	0 051	U	0 053	U	0 053	U	0 051	U	0 05	U	0 051	U
ENDOSULFAN II	0 1	U	0 1	U	0 1	U	0 11	U	0 11	U	0 1	U	0 1	U	0 1	U
ENDOSULFAN SULFATE	0.1	U	0 1	U	0.1	U	0.11	U	0 11	U	0 1	U	0 1	U	0 1	U
ENDRIN	0 1	U	0.1	U	0.1	U	0 11	U	0 11	U	0 1	U	0 1	U	0 1	U
ENDRIN ALDEHYDE	0.1	U	0 1	U	0 1	U	0 11	U	0.11	U	0.1	U	0 1	U	0 1	U
ENDRIN KETONE	0 1	U	0 1	U	0 1	U	0.1	U	0.11	U	0 1	U	0 1	U	0.1	U
GAMMA-BHC	0 05	U	0.051	U	0 051	U	0 053	U	0.053	U	0 051	U	0 05	U	0 051	U
GAMMA-CHLORDANE	0.05	U	0 051	U	0 051	U	0 053	U	0 053	U	0 051	U	0 05	U	0 051	U
HEPTACHLOR	0 05	UJ	0 051	UJ	0 051	U	0 053	U	0 053	U	0 051	U	0.05	U	0.051	U
HEPTACHLOR EPOXIDE	0 05	U	0 051	U	0.051	U	0.053	U	0.053	U	0 051	U	0 05	U	0 051	U
METHOXYCHLOR	0.5	U	0 51	U	0.51	U	0 53	U	0 53	U	0 51	U	0 5	U	0.51	U
TOXAPHENE	5	U	5.1	U	5 1	U	5 3	U	5.3	U	5.1	U	5	U	5 1	U

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est. Max Poss Conc

UNFILTERED GROUNDWATER PESTICIDE/PCB ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW3S-01		OFF-A-MW4S-01-AVG		OFF-A-MW7S-01		OFF-A-MW8R-01		OFF-A-MW9R-01-AVG	
Date Sampled	7/10/97		7/10/97		7/10/97		7/8/97		7/9/97	
QC Identifier	None		Field Dup OFF-A-MW4S-01		None		None		Field Dup OFF-A-MW9R-01	
Interval (ft)										
4,4'-DDD	0 1	U	0.1	U	0.11	U	0 1	U	0 1	U
4,4'-DDE	0.1	U	0 1	U	0 11	U	0 1	U	0 1	U
4,4'-DDT	0.1	U	0.1	U	0.11	U	0 1	U	0 1	U
ALDRIN	0 051	U	0 051	U	0 053	U	0.051	U	0 05	U
ALPHA-BHC	0 051	U	0 051	U	0.053	U	0.051	U	0 05	U
ALPHA-CHLORDANE	0 051	U	0 051	U	0 053	U	0.051	U	0 05	U
AROCLOR-1016	1	U	1	U	1 1	U	1	U	1	U
AROCLOR-1221	2	U	2	U	2 1	U	2	U	2	U
AROCLOR-1232	1	U	1	U	1 1	U	1	U	1	U
AROCLOR-1242	1	U	1	U	1 1	U	1	U	1	U
AROCLOR-1248	1	U	1	U	1 1	U	1	U	1	U
AROCLOR-1254	1	U	1	U	1 1	U	1	U	1	U
AROCLOR-1260	1	U	1	U	1 1	U	1	U	1	U
BETA-BHC	0 051	U	0 051	U	0 053	U	0 051	U	0 05	U
DELTA-BHC	0 051	U	0 051	U	0 053	U	0 051	U	0 05	U
DIELDRIN	0 1	U	0 1	U	0 11	U	0 1	U	0 1	U
ENDOSULFAN I	0 051	U	0 051	U	0.053	U	0 051	U	0 05	U
ENDOSULFAN II	0.1	U	0.1	U	0 11	U	0 1	U	0 1	U
ENDOSULFAN SULFATE	0 1	U	0.1	U	0 11	U	0 1	U	0.1	U
ENDRIN	0 1	U	0 1	U	0 11	U	0 1	U	0 1	U
ENDRIN ALDEHYDE	0 1	U	0 1	U	0 11	U	0 1	U	0 1	U
ENDRIN KETONE	0 1	U	0 1	U	0 11	U	0 1	U	0 1	U
GAMMA-BHC	0.051	U	0 051	U	0 053	U	0 051	U	0 05	U
GAMMA-CHLORDANE	0 051	U	0 051	U	0 053	U	0 051	U	0.05	U
HEPTACHLOR	0 051	U	0 051	U	0 053	U	0 051	U	0 05	U
HEPTACHLOR EPOXIDE	0.051	U	0 051	U	0 053	U	0.051	U	0 05	U
METHOXYCHLOR	0 51	U	0.51	U	0.53	U	0 51	U	0 5	U
TOXAPHENE	5 1	U	5.1	U	5.3	U	5.1	U	5	U

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max. Poss. Conc.

UNFILTERED GROUNDWATER TOTAL PETROLEUM HYDROCARBON ANALYSIS (MG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW101-01		OFF-A-MW102-01		OFF-A-MW10S-01		OFF-A-MW11R-01		OFF-A-MW11S-01		OFF-A-MW1R-01		OFF-A-MW2D-01	
Date Sampled	7/11/97		7/11/97		7/9/97		7/10/97		7/10/97		7/8/97		7/9/97	
QC Identifier	None		None		None		None		None		None		None	
Interval (ft)														
TOTAL PETROLEUM HYDROCARBONS	1	UJ	1	UJ	1	UJ	1 1	UJ	1 1	UJ	1	UJ	1	UJ

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss. Conc.

UNFILTERED GROUNDWATER TOTAL PETROLEUM HYDROCARBON ANALYSIS (MG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW2S-01		OFF-A-MW3S-01		OFF-A-MW4S-01-AVG		OFF-A-MW7S-01		OFF-A-MW8R-01		OFF-A-MW9R-01-AVG	
Date Sampled	7/9/97		7/10/97		7/10/97		7/10/97		7/8/97		7/9/97	
QC Identifier	None		None		Field Dup OFF-A-MW4S-01		None		None		Field Dup. OFF-A-MW9R-01	
Interval (ft)												
TOTAL PETROLEUM HYDROCARBONS	1	UJ	1	UJ	1	U	1.1	UJ	1	UJ	1	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est Max. Poss. Conc.

APPENDIX P-11

FILTERED GROUNDWATER ANALYTICAL RESULTS

FILTERED GROUNDWATER TAL METAL ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW101-01-F		OFF-A-MW102-01-F		OFF-A-MW9R-01-F	
Date Sampled	7/11/97		7/11/97		7/11/97	
QC Identifier	None		None		None	
Interval (ft)						
ALUMINUM	14 3	UJ	14 3	UJ	19 3	U
ANTIMONY	2 1	U	2 1	U	2 1	U
ARSENIC	28 3		1.8	U	1 8	U
BARIUM	11		319		2.6	U
BERYLLIUM	0 14	U	0 14	U	0 14	U
CADMIUM	0 19	U	0 19	U	0 23	U
CALCIUM	15900	J	89400	J	46500	J
CHROMIUM	0 53	U	0 53	U	0 53	U
COBALT	3 8	U	3 8	U	3 8	U
COPPER	3 2	U	3 9	U	4 7	U
IRON	4640	J	493	J	10 8	U
LEAD	1 4	UJ	1 4	UJ	1.4	UJ
MAGNESIUM	19900	J	232000	J	9780	J
MANGANESE	468	J	1120	J	660	J
MERCURY	0 02		0 01	UJ	0.01	UJ
NICKEL	0 72	U	1 9	U	8 4	U
POTASSIUM	20000	J	98600	J	6800	J
SELENIUM	2.9	U	2 9	U	2 9	U
SILVER	0 82	U	1 8	J	0 82	U
SODIUM	353000	J	2340000	J	39100	J
THALLIUM	3 9	UJ	3 9	UJ	3.9	UJ
VANADIUM	0 57	U	0 57	U	0 57	U
ZINC	10	U	16	U	8 2	U

U - Not detected; UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max. Poss Conc

APPENDIX P-12

UPGRADIENT UNFILTERED GROUNDWATER ANALYTICAL RESULTS

UPGRADIENT UNFILTERED GROUNDWATER TAL METAL ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW5S-01		OFF-A-MW6R-01	
Date Sampled	7/10/97		7/11/97	
QC Identifier	None		None	
Interval (ft)				
ALUMINUM	1300	J	958	J
ANTIMONY	2 1	U	2 1	U
ARSENIC	1 8	U	1 8	U
BARIUM	12 2		16 1	
BERYLLIUM	0.14	U	0 14	U
CADMIUM	0.19	U	0 29	U
CALCIUM	76800	J	30200	J
CHROMIUM	15 6		12 1	
COBALT	1 4	U	5	J
COPPER	3.4	U	5 5	U
IRON	3180	J	2580	J
LEAD	1.4	UJ	1.4	UJ
MAGNESIUM	20500	J	24100	J
MANGANESE	578	J	216	J
MERCURY	0 01	UJ	0 01	UJ
NICKEL	15 2	U	24 1	U
POTASSIUM	5570	J	6740	J
SELENIUM	2 9	U	2 9	U
SILVER	0 82	U	0 82	U
SODIUM	46500	J	129000	J
THALLIUM	3 9	UJ	3 9	UJ
VANADIUM	1 6		1 4	
ZINC	13 4	U	32 6	U

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc.

UPGRADIENT UNFILTERED GROUNDWATER SEMIVOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW5S-01		OFF-A-MW6R-01	
Date Sampled	7/10/97		7/11/97	
QC Identifier	None		None	
Interval (ft)				
1,2,4-TRICHLOROBENZENE	11	U	10	U
1,2-DICHLOROBENZENE	11	U	10	U
1,3-DICHLOROBENZENE	11	U	10	U
1,4-DICHLOROBENZENE	11	U	10	U
2,2'-OXYBIS(1-CHLOROPROPANE)	11	U	10	UJ
2,4,5-TRICHLOROPHENOL	28	U	25	U
2,4,6-TRICHLOROPHENOL	11	U	10	U
2,4-DICHLOROPHENOL	11	U	10	U
2,4-DIMETHYLPHENOL	11	U	10	U
2,4-DINITROPHENOL	28	UJ	25	U
2,4-DINITROTOLUENE	11	U	10	U
2,6-DINITROTOLUENE	11	U	10	U
2-CHLORONAPHTHALENE	11	U	10	U
2-CHLOROPHENOL	11	U	10	U
2-METHYLNAPHTHALENE	11	U	10	U
2-METHYLPHENOL	11	U	10	U
2-NITROANILINE	28	U	25	U
2-NITROPHENOL	11	U	10	U
3,3'-DICHLOROBENZIDINE	11	U	10	U
3-NITROANILINE	28	U	25	U
4,6-DINITRO-2-METHYLPHENOL	28	UJ	25	U
4-BROMOPHENYL-PHENYLETHER	11	U	10	U
4-CHLORO-3-METHYLPHENOL	11	U	10	U
4-CHLOROANILINE	11	U	10	U
4-CHLOROPHENYL-PHENYLETHER	11	U	10	U
4-METHYLPHENOL	11	U	10	U
4-NITROANILINE	28	UJ	25	U
4-NITROPHENOL	28	UJ	25	U
ACENAPHTHENE	11	U	10	U
ACENAPHTHYLENE	11	U	10	U
ANTHRACENE	11	U	10	U
BENZO(A)ANTHRACENE	11	U	10	U
BENZO(A)PYRENE	11	U	10	U
BENZO(B)FLUORANTHENE	11	U	10	U
BENZO(G,H,I)PERYLENE	11	U	10	U

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est. Max Poss Conc

UPGRADIENT UNFILTERED GROUNDWATER SEMIVOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW5S-01		OFF-A-MW6R-01	
Date Sampled	7/10/97		7/11/97	
QC Identifier	None		None	
Interval (ft)				
BENZO(K)FLUORANTHENE	11	U	10	U
BIS(2-CHLOROETHOXY)METHANE	11	U	10	U
BIS(2-CHLOROETHYL)ETHER	11	U	10	U
BIS(2-ETHYLHEXYL)PHTHALATE	11	U	14	U
BUTYLBENZYLPHTHALATE	11	U	10	U
CARBAZOLE	11	U	10	U
CHRYSENE	11	U	10	U
DI-N-BUTYLPHTHALATE	11	U	10	U
DI-N-OCTYLPHTHALATE	11	U	10	UJ
DIBENZO(A,H)ANTHRACENE	11	U	10	U
DIBENZOFURAN	11	U	10	U
DIETHYLPHTHALATE	11	UJ	10	U
DIMETHYLPHTHALATE	11	U	10	U
FLUORANTHENE	11	UJ	10	U
FLUORENE	11	U	10	U
HEXACHLOROBENZENE	11	U	10	U
HEXACHLOROBUTADIENE	11	U	10	U
HEXACHLOROCYCLOPENTADIENE	11	U	10	U
HEXACHLOROETHANE	11	U	10	U
INDENO(1,2,3-CD)PYRENE	11	U	10	U
ISOPHORONE	11	U	10	U
N-NITROSO-DI-N-PROPYLAMINE	11	U	10	U
N-NITROSO-DIPHENYLAMINE	11	U	10	U
NAPHTHALENE	11	U	10	U
NITROBENZENE	11	U	10	U
PENTACHLOROPHENOL	28	U	25	U
PHENANTHRENE	11	U	10	U
PHENOLS	11	U	10	U
PYRENE	11	U	10	U

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed; * - From dilution analysis, R - Rejected; EMPC - Est. Max Poss Conc

UPGRADIENT UNFILTERED GROUNDWATER VOLATILE ORGANIC ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW5S-01		OFF-A-MW6R-01	
Date Sampled	7/10/97		7/11/97	
QC Identifier	None		None	
Interval (ft)				
1,1,1-TRICHLOROETHANE	10	U	10	U
1,1,2,2-TETRACHLOROETHANE	10	U	10	U
1,1,2-TRICHLOROETHANE	10	U	10	U
1,1-DICHLOROETHANE	10	U	10	U
1,1-DICHLOROETHENE	10	U	10	U
1,2-DICHLOROETHANE	10	U	10	U
1,2-DICHLOROETHENE (TOTAL)	10	U	10	U
1,2-DICHLOROPROPANE	10	U	10	U
2-BUTANONE	10	UJ	10	UJ
2-HEXANONE	10	UJ	10	U
4-METHYL-2-PENTANONE	10	U	10	U
ACETONE	10	U	10	U
BENZENE	10	U	10	U
BROMODICHLOROMETHANE	10	U	10	U
BROMOFORM	10	U	10	U
BROMOMETHANE	10	U	10	U
CARBON DISULFIDE	10	UJ	10	U
CARBON TETRACHLORIDE	10	U	10	U
CHLOROBENZENE	10	U	10	U
CHLOROETHANE	10	U	10	U
CHLOROFORM	10	U	10	U
CHLOROMETHANE	10	U	10	U
CIS-1,3-DICHLOROPROPENE	10	U	10	U
DIBROMOCHLOROMETHANE	10	U	10	U
ETHYLBENZENE	10	U	10	U
METHYLENE CHLORIDE	10	U	10	U
STYRENE	10	U	10	U
TETRACHLOROETHENE	10	U	10	U
TOLUENE	10	U	10	U
TOTAL XYLENES	10	U	10	U
TRANS-1,3-DICHLOROPROPENE	10	U	10	U
TRICHLOROETHENE	10	U	10	U
VINYL CHLORIDE	10	U	10	U

U - Not detected, UJ - Detection limit approximate; J - Quantitation approximate; EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected, EMPC - Est Max. Poss Conc

UPGRADIENT UNFILTERED GROUNDWATER PESTICIDE/PCB ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW5S-01		OFF-A-MW6R-01	
Date Sampled	7/10/97		7/11/97	
QC Identifier	None		None	
Interval (ft)				
4,4'-DDD	0.11	U	0 11	U
4,4'-DDE	0 11	U	0 11	U
4,4'-DDT	0 11	U	0 11	U
ALDRIN	0 054	U	0 053	U
ALPHA-BHC	0 054	U	0 053	UJ
ALPHA-CHLORDANE	0 054	U	0 053	U
AROCLOR-1016	1 1	U	1 1	U
AROCLOR-1221	2 2	U	2.1	U
AROCLOR-1232	1 1	U	1.1	U
AROCLOR-1242	1.1	U	1 1	U
AROCLOR-1248	1 1	U	1.1	U
AROCLOR-1254	1.1	U	1 1	U
AROCLOR-1260	1.1	U	1 1	U
BETA-BHC	0 054	U	0 053	U
DELTA-BHC	0 054	U	0 053	U
DIELDRIN	0 11	U	0 11	U
ENDOSULFAN I	0 054	U	0 053	U
ENDOSULFAN II	0 11	U	0 11	U
ENDOSULFAN SULFATE	0 11	U	0.11	U
ENDRIN	0 11	U	0 11	U
ENDRIN ALDEHYDE	0 11	U	0 11	U
ENDRIN KETONE	0.11	U	0 11	U
GAMMA-BHC	0 054	U	0 053	U
GAMMA-CHLORDANE	0 054	U	0 053	U
HEPTACHLOR	0 054	U	0 053	UJ
HEPTACHLOR EPOXIDE	0 054	U	0 053	U
METHOXYCHLOR	0.54	U	0 53	U
TOXAPHENE	5 4	U	5 3	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination;
NA - Not Analyzed, * - From dilution analysis; R - Rejected, EMPC - Est. Max Poss Conc.

UPGRADIENT UNFILTERED GROUNDWATER TOTAL PETROLEUM HYDROCARBON ANALYSIS (MG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW5S-01		OFF-A-MW6R-01	
Date Sampled	7/10/97		7/11/97	
QC Identifier	None		None	
Interval (ft)				
TOTAL PETROLEUM HYDROCARBONS	1 1	UJ	1.1	UJ

U - Not detected; UJ - Detection limit approximate, J - Quantitation approximate, EB/TB - Equipment/Trip Blank contamination,
NA - Not Analyzed, * - From dilution analysis; R - Rejected; EMPC - Est Max. Poss Conc.

APPENDIX P-13

UPGRADIENT FILTERED GROUNDWATER ANALYTICAL RESULTS

UPGRADIENT FILTERED GROUNDWATER TAL METAL ANALYSIS (UG/L)
OLD FIREFIGHTER TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

Sample Number	OFF-A-MW6R-01-F	
Date Sampled	7/11/97	
QC Identifier	None	
Interval (ft)		
ALUMINUM	14 5	U
ANTIMONY	2 1	U
ARSENIC	1.8	U
BARIUM	23 1	
BERYLLIUM	0 14	U
CADMIUM	0 64	U
CALCIUM	30600	J
CHROMIUM	0.58	U
COBALT	28.2	
COPPER	3 3	U
IRON	260	J
LEAD	1.4	UJ
MAGNESIUM	23400	J
MANGANESE	2760	J
MERCURY	0.01	UJ
NICKEL	37 6	U
POTASSIUM	7780	J
SELENIUM	2 9	U
SILVER	0 82	U
SODIUM	134000	J
THALLIUM	3 9	UJ
VANADIUM	0.57	U
ZINC	11.9	U

U - Not detected, UJ - Detection limit approximate, J - Quantitation approximate; EB/TB - Equipment/Tnp Blank contamination,
NA - Not Analyzed, * - From dilution analysis, R - Rejected; EMPC - Est. Max Poss. Conc

APPENDIX P-14

RECOMMENDED BACKGROUND SOIL INORGANIC LEVELS

RECOMMENDED BACKGROUND SOIL INORGANIC LEVELS
OLD FIRE FIGHTING TRAINING AREA
REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT, RHODE ISLAND

SUBSTANCE	SURFACE SOIL	SUBSURFACE SOIL	RIDEM CRITERIA[2]
Aluminum	11900	15800	--
Antimony	** (0.67)	** (.42)	10
Arsenic	5.55	42.8	1.7
Barium	38.5	21.3	5500
Beryllium	0.439	** (1.1)	0.4
Cadmium	** (0.7)	ND	39
Calcium	1220	1080	--
Chromium	20.2	24.1	1400
Cobalt	9.01	20.3	--
Copper	23.8	30.9	3100
Iron	23200	46400	--
Lead	48.8	15.4	150
Magnesium	2240	5310	--
Manganese	372	563	390
Mercury	0.189	ND	23
Nickel	17.4	34.5	1000
Potassium	** (312)	** (539)	--
Silver	ND	12.7	200
Vanadium	22.6	26	550
Zinc	** (225)	** (175)	6000

Units are mg/kg.

1 - Recommended background values are the calculated 95% UTLs for each compound unless otherwise noted. See Appendix B, Tables B-12 and B-13 for parameters used in UTL calculations.

2 - State of Rhode Island Direct Exposure Criteria for Residential Soils. Source: RIDEM Remediation Regulations, DEM-DSR-01-93, March 31, 1993

** - UTL could not be determined for this analyte because the distribution did not match normal or lognormal distributional shape.

(value) - Value in parenthesis is the maximum detected concentration. As an approximation, the maximum detected value could be used in lieu of a UTL for these metals; however, this value may not have the same confidence or may be less conservative than the UTL.

ND - Analyte was not detected in samples from this depth range. No background value is recommended.

APPENDIX Q

HUMAN HEALTH RISK ASSESSMENT DOCUMENTATION

APPENDIX Q-1
TABLES Q-1 THROUGH Q-11
SAMPLES USED FOR RISK ASSESSMENT

TABLE Q-1
OFFTA SURFACE SOIL SAMPLES

FF-SS1-411
FF-SS3-411
OFF-B101-112393
OFF-B111-112493
OFF-B121-112493
OFF-B131-112393
OFF-B141-121393
OFF-B151-121393
OFF-B161-112393
OFF-B161-112393-D
OFF-B171-112493
OFF-B181-112393
OFF-B81-112293
OFF-B91-112393
OFF-M101-112993
OFF-M111-112993
OFF-M71-112993
OFF-M81-113093
OFF-M91-120193
OFF-M91-120193-D
OFF-SS-07
OFF-SS-08
OFF-SS-08-D
OFF-SS-09
OFF-SS-10
OFF-SS-11
OFF-SS-301-0001
OFF-SS-302-0001
OFF-SS-303-0001
OFF-SS-303-0001-D
OFF-SS-304-0001
OFF-SS-305-0001
OFF-SS-306-0001
OFF-SS-307-0001
OFF-SS-308-0001
OFF-SS-309-0001
OFF-SS-310-0001
OFF-SS-311-0001
OFF-SS-312-0001
OFF-SS-313-0001
OFF-SS-314-0001
OFF-SS-315-0001
OFF-SS-316-0001
OFF-SS-317-0001
OFF-SS-318-0001
OFF-SS-319-0001
OFF-SS-319-0001-D
OFF-SS-320-0001

TABLE Q-1
OFFTA SURFACE SOIL SAMPLES

OFF-SS-321-0001
OFF-SS-322-0001
OFF-SS-323-0001
OFF-SS-324-0001
OFF-SS-325-0001
OFF-SS-326-0001
OFF-SS-327-0001
OFF-SS-328-0001
OFF-SS-328-0001-D
OFF-SS-329-0001
OFF-SS-330-0001
OFF-SS-331-0001
OFF-SS-332-0001
OFF-SS1-411
OFF-SS12-110393
OFF-SS13-110393
OFF-SS14-110393
OFF-SS15-110393
OFF-SS16-110393
OFF-SS17-110393
OFF-SS18-110393
OFF-SS19-110393
OFF-SS2-425
OFF-SS20-110393
OFF-SS21-110493
OFF-SS22-110493
OFF-SS23-110493
OFF-SS24-110493
OFF-SS25-110493
OFF-SS26-110493
OFF-SS27-110493
OFF-SS27-110493-D
OFF-SS28-110493
OFF-SS3-411
OFF-SS4-411
OFF-SS5-411
OFF-SS6-411

TABLE Q-2
OFFTA SUBSURFACE SOIL SAMPLES

FF-B011-418
FF-B021-418
FF-B022-418
FF-B023-418
FF-B031-418
FF-B032-418
FF-B033-418
FF-B041-420
FF-B042-420
FF-B051-417
FF-B052-417
FF-B061-419
FF-B062-419
FF-B071-419
FF-B072-419
FF-M21-423
FF-M22-423
FF-M31-424
FF-M32-424
OFF-B112-112493
OFF-B122-112493
OFF-B132-112393
OFF-B142-121393
OFF-B152-121393
OFF-B153-121393
OFF-B162-112393
OFF-B163-112393
OFF-B172-112493
OFF-B82-112293
OFF-M102-112993
OFF-M112-112993
OFF-M72-112993
OFF-M92-120193
OFF-S-MW101-0608
OFF-S-MW102-0608
OFF-S-TP-02-0203
OFF-S-TP-05-0708
OFF-S-TP-06-0607
OFF-S-TP-07-0708
OFF-S-TP-08-0304
OFF-S-TP-11-0506
OFF-S-TP-11-0506-D
OFF-S-TP-12-0405
OFF-S-TP-13-0607
OFF-S-TP-14-0304
OFF-S-TP-14-0304-D

TABLE Q-2
OFFTA SUBSURFACE SOIL SAMPLES

OFF-S-TP-15-0506
OFF-S-TP-16-1011
OFF-S-TP-17-0809
OFF-S-TP-17-0809-D
OFF-TP12-011194
OFF-TP21-011194
OFF-TP22-011194
OFF-TP23-011194
OFF-TP31-011194
OFF-TP32-011194
OFF-TP33-011194
OFF-TP33-011294

TABLE Q-3
OFFTA SEDIMENT SAMPLES

OFF-SSD-333-00005
OFF-SSD-333-00005-D
OFF-SSD-334-00005
OFF-SSD-335-00005
OFF-SSD-336-00005
OFF-SSD-337-00005

TABLE Q-4
OFFTA LOBSTER SAMPLES

OFF-13-LOB-061098
OFF-14-LOB-061298
OFF-15-LOB-060898
OFF-16-LOB-060898
OFF-16-LOB-061098
OFF-17-LOB-061098
OFF-17-LOB-061298
OFF-18-LOB-060898
OFF-19-LOB-060898
OFF-20-LOB-060898
OFF-21-LOB-060898
OFF-21-LOB-061598

TABLE Q-5
OFFTA CLAM SAMPLES

OFF-10-HC-051498
OFF-10-HC-051498-FD
OFF-11-HC-051498
OFF-12-HC-051498
OFF-14-PM-052198
OFF-15-HC-051498
OFF-15-HC-051498-FD
OFF-15-PM-051498
OFF-16-HC-052198
OFF-17-HC-051498
OFF-19-PM-052198
OFF-20-HC-051498
OFF-21-HC-051498
OFF-8-HC-051498
S9-OS-11-CL
S9-OS-8-CL
S9-OS-9-CL

TABLE Q-6
OFFTA BLUE MUSSELS SAMPLES

OFF-1-BM-052698
OFF-2-BM-052698
OFF-3-BM-052698
OFF-4-BM-052698
OFF-5-BM-052698
OFF-5-BM-052698-FD
OFF-6-BM-052698
OFF-7-BM-052698

TABLE Q-7
BACKGROUND SURFACE SOIL SAMPLES

OFF-SO-BK01-0002
OFF-SO-BK02-0002
OFF-SO-BK03-0002
OFF-SO-BK04-0002
OFF-SO-BK05-0002
OFF-SO-BK06-0002
OFF-SO-BK07-0002
OFF-SO-BK08-0002
OFF-SO-BK09-0002
OFF-SO-BK10-0002
OFF-SO-BK11-0002
OFF-SO-BK12-0002
OFF-SO-BK13-0002
OFF-SO-BK14-0002
OFF-SO-BK15-0002
OFF-SO-BK16-0002
OFF-SO-BK17-0002

TABLE Q-8
BACKGROUND SUBSURFACE SOIL SAMPLES

OFF-SO-BK01-0406
OFF-SO-BK02-0406
OFF-SO-BK03-0406
OFF-SO-BK04-0406
OFF-SO-BK05-0406
OFF-SO-BK06-0406
OFF-SO-BK07-0406
OFF-SO-BK08-0406
OFF-SO-BK09-0406
OFF-SO-BK11-0406
OFF-SO-BK12-0406
OFF-SO-BK13-0406
OFF-SO-BK14-0406
OFF-SO-BK15-0406
OFF-SO-BK16-0406
OFF-SO-BK17-0203
OFF-SO-DUP01
OFF-SO-DUP02
OFF-SO-DUP03

TABLE Q-9
BACKGROUND LOBSTER SAMPLES

OFF-23-LOB-060898
OFF-23-LOB-061098

TABLE Q-10
BACKGROUND CLAM SAMPLES

OFF-23-HC-051498

TABLE Q-11
BACKGROUND BLUE MUSSELS SAMPLES

OFF-22-BM-052698

APPENDIX Q-2
TABLES Q-12 THROUGH Q-17
REPRESENTATIVE CONCENTRATION AND STATISTICAL DISTRIBUTION OF COPCS

TABLE Q-12
REPRESENTATIVE CONCENTRATION AND STATISTICAL DISTRIBUTION OF COPCS IN SURFACE SOIL
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

						Parameter Used in EPC Calculation						
Substance	Number of Sample Results	Statistical Distribution of Site Data	Results of Shapiro-Wilk or Shapiro-Francia Distribution Tests			Type of EPC Calc	Coefficient for $H_{0.95}$ (Lognorm) or $T_{0.95}$ (Normal) or Chebychev	Std Dev , Log Std Dev or Min Var Estimate	Arithmetic Mean, Mean of Logs, or Min Var Est	Upper Confidence Limit (UCL) on Mean	Maximum Positive Site Concentration	RME Exposure Point Concentration
			W-norm	W-lognorm	W-Table							
Total 2,3,7,8-TCDD Equiv	7	normal	0 9082	0 9078	0 803	95%UCL-N	1 9432	0 00603	0 00752	0 012	0 016388	0 012
Aluminum	76	nonparametric (assumed normal)	0 8563	0 739	0 984	95%UCL-N	1 6654	2720	8820	9340	12200	9340
Antimony	76	nonparametric (assumed lognorm)	0 8017	0 8104	0 984	95%UCL-H	2 4012	1 16	1 23	3 35	9 1	3 35
Arsenic	76	nonparametric (assumed normal)	0 9743	0 864	0 984	95%UCL-N	1 6654	2 12	5 96	6 36	10 4	6 36
Barium	76	nonparametric (assumed lognorm)	0 246	0 6391	0 984	95%UCL-H	1 9754	0 69	21 4	31 8	282	31 8
Beryllium	76	nonparametric (assumed normal)	0 9796	0 8862	0 984	95%UCL-N	1 6654	0 107	0 328	0 348	0 6	0 348
Cadmium	76	nonparametric (assumed normal)	0 7723	0 7623	0 984	95%UCL-N	1 6654	0 197	0 24	0 278	0 94	0 278
Calcium	76	nonparametric (assumed lognorm)	0 3558	0 9456	0 984	95%UCL-H	2 1304	0 88	911	1670	21000	1670
Chromium	76	nonparametric (assumed lognorm)	0 8071	0 8392	0 984	95%UCL-H	1 8547	0 514	11 2	14 3	37 9	14 3
Cobalt	76	nonparametric (assumed normal)	0 9422	0 861	0 984	95%UCL-N	1 6654	3 34	6 79	7 43	20	7 43
Copper	76	nonparametric (assumed lognorm)	0 4366	0 9089	0 984	95%UCL-H	2 0747	0 815	14 1	23 8	220	23 8
Iron	76	nonparametric (assumed lognorm)	0 5519	0 9146	0 984	95%UCL-H	1 8586	0 52	15500	19800	107000	19800
Lead	76	nonparametric (assumed lognorm)	0 1332	0 8856	0 984	Mean-T	2 2312	0 99	30 8	64 8	2970	49 7
Magnesium	76	nonparametric (assumed lognorm)	0 8428	0 9576	0 984	95%UCL-H	1 8187	0 452	1980	2410	7340	2410
Manganese	76	nonparametric (assumed lognorm)	0 8009	0 9503	0 984	95%UCL-H	1 8022	0 422	243	290	750	290
Mercury	76	nonparametric (assumed lognorm)	0 4327	0 8238	0 984	95%UCL-H	1 9674	0 68	0 0484	0 0711	0 61	0 0711
Nickel	76	nonparametric (assumed lognorm)	0 2428	0 8398	0 984	95%UCL-H	2 0387	0 771	10 8	17 4	221	17 4
Potassium	76	nonparametric (assumed lognorm)	0 7353	0 9221	0 984	95%UCL-H	1 8603	0 523	319	409	1270	409
Selenium	76	nonparametric (assumed lognorm)	0 8025	0 9034	0 984	95%UCL-H	1 7463	0 309	0 294	0 328	0 66	0 328
Silver	76	nonparametric (assumed lognorm)	0 4953	0 8667	0 984	95%UCL-H	2 3634	1 12	1 1	2 81	26 5	2 81
Sodium	76	nonparametric (assumed lognorm)	0 5558	0 931	0 984	95%UCL-H	2 1119	0 858	89	159	907	159
Vanadium	76	nonparametric (assumed normal)	0 8913	0 8516	0 984	95%UCL-N	1 6654	6 41	16 7	18	41 2	18
Zinc	76	nonparametric (assumed lognorm)	0 2425	0 8521	0 984	95%UCL-H	2 0384	0 771	59	95 2	1910	95 2
4,4'-DDD	39	lognormal	0 7987	0 9593	0 939	95%UCL-H	2 0466	0 682	3 66	5 79	17	5 79
4,4'-DDE	39	lognormal	0 797	0 9466	0 939	95%UCL-H	2 2124	0 858	6 81	13 4	42	13 4
4,4'-DDT	39	lognormal	0 775	0 9763	0 939	95%UCL-H	2 1611	0 806	12 6	23	74	23
Aldrin	39	nonparametric (assumed lognorm)	0 1909	0 6756	0 939	Max	2 4435	1 07	1 21	3 28	1 5	1 5
Alpha-BHC	39	nonparametric (assumed normal)	0 688	0 647	0 939	95%UCL-N	1 686	0 797	1 35	1 56	1 7	1 56
Alpha-Chlordane	39	nonparametric (assumed lognorm)	0 553	0 8034	0 939	95%UCL-H	2 6868	1 27	2 14	8 41	14	8 41
Aroclor-1254	39	nonparametric (assumed lognorm)	0 2514	0 5384	0 939	95%UCL-H	1 997	0 624	24 9	37 1	530	37 1
Beta-BHC	39	nonparametric (assumed lognorm)	0 6744	0 8059	0 939	Max	1 8995	0 498	1 15	1 52	0 99	0 99
Dieldrin	39	lognormal	0 7068	0 9683	0 939	95%UCL-H	2 1447	0 789	2 78	4 99	11	4 99
Endosulfan I	39	nonparametric (assumed lognorm)	0 5394	0 7632	0 939	95%UCL-H	1 9886	0 614	1 28	1 88	9 4	1 88
Endosulfan II	39	nonparametric (assumed lognorm)	0 6156	0 8644	0 939	95%UCL-H	2 5121	1 13	2 35	7 05	25	7 05
Endosulfan Sulfate	39	nonparametric (assumed lognorm)	0 5233	0 8768	0 939	95%UCL-H	2 2792	0 922	2 39	5 14	33	5 14
Endrin	39	lognormal	0 5058	0 9743	0 939	95%UCL-H	2 3063	0 948	5 01	11 2	74	11 2
Endrin Aldehyde	33	lognormal	0 753	0 9392	0 931	95%UCL-H	2 2069	0 818	4 14	7 95	25	7 95
Endrin Ketone	39	nonparametric (assumed lognorm)	0 6091	0 6949	0 939	Max	1 8413	0 412	2 41	2 97	2 9	2 9
Gamma-BHC (Lindane)	39	nonparametric (assumed normal)	0 8928	0 8633	0 939	95%UCL-N	1 686	0 946	1 4	1 66	2 4	1 66
Gamma-Chlordane	39	nonparametric (assumed lognorm)	0 532	0 8565	0 939	Max	2 9337	1 47	1 59	9 4	7 8	7 8
Heptachlor	39	nonparametric (assumed lognorm)	0 5399	0 7815	0 939	Max	1 9521	0 568	1 2	1 69	0 74	0 74
Heptachlor Epoxide	39	lognormal	0 5624	0 9779	0 939	95%UCL-H	2 3917	1 03	1 22	3 08	8 1	3 08
Methoxychlor	39	nonparametric (assumed lognorm)	0 7638	0 84	0 939	Max	2 0914	0 732	10 1	16 9	10	10
2-Methylnaphthalene	71	nonparametric (assumed lognorm)	0 4795	0 7056	0 983	95%UCL-H	2 1246	0 864	216	390	660	390
4-Chloro-3-methylphenol	71	nonparametric (assumed lognorm)	0 4544	0 6187	0 983	Max	2 0603	0 788	229	380	140	140
Acenaphthene	71	nonparametric (assumed lognorm)	0 4719	0 7055	0 983	95%UCL-H	2 0643	0 793	214	356	940	356
Acenaphthylene	71	nonparametric (assumed lognorm)	0 4686	0 712	0 983	Max	2 1197	0 858	212	380	140	140
Anthracene	71	nonparametric (assumed lognorm)	0 4436	0 7894	0 983	95%UCL-H	2 2231	0 971	214	444	3800	444
Benz(a)anthracene	70	nonparametric (assumed lognorm)	0 3152	0 9008	0 983	95%UCL-H	2 419	1 16	202	559	9100	559
Benzo(a)pyrene	71	nonparametric (assumed lognorm)	0 3781	0 8946	0 983	95%UCL-H	2 4017	1 15	205	553	7100	553
Benzo(b)fluoranthene	70	nonparametric (assumed lognorm)	0 3435	0 9324	0 983	95%UCL-H	2 5057	1 25	202	639	9700	639
Benzo(g,h,i)perylene	71	nonparametric (assumed lognorm)	0 3521	0 8487	0 983	95%UCL-H	2 2047	0 952	187	378	4300	378
Benzo(k)fluoranthene	71	nonparametric (assumed lognorm.)	0 2952	0 6365	0 983	95%UCL-H	2 0665	0 796	202	337	3500	337
Bis(2-ethylhexyl)phthalate	71	nonparametric (assumed lognorm)	0 4641	0 8196	0 983	95%UCL-H	2 2517	1	195	421	3200	421
Carbazole	65	nonparametric (assumed lognorm)	0 4223	0 6659	0 982	95%UCL-H	1 9393	0 622	225	318	930	318
Chrysene	70	nonparametric (assumed lognorm)	0 3308	0 9187	0 983	95%UCL-H	2 422	1 17	192	533	8100	533

TABLE Q-12
REPRESENTATIVE CONCENTRATION AND STATISTICAL DISTRIBUTION OF COPCS IN SURFACE SOIL
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

						Parameter Used in EPC Calculation						
Substance	Number of Sample Results	Statistical Distribution of Site Data	Results of Shapiro-Wilk or Shapiro-Francia Distribution Tests			Type of EPC Calc	Coefficient for $H_{0.95}$ (Lognorm) or $T_{0.95}$ (Normal) or Chebychev	Std Dev , Log Std Dev or Min Var Estimate	Arithmetic Mean, Mean of Logs, or Min Var Est	Upper Confidence Limit (UCL) on Mean	Maximum Positive Site Concentration	RME Exposure Point Concentration
			W-norm	W-lognorm	W-Table							
Di-n-butylphthalate	71	nonparametric (assumed lognorm)	0 5094	0 8507	0 983	Max	2 2163	0 964	174	358	170	170
Di-n-octylphthalate	71	nonparametric (assumed lognorm)	0 4549	0 636	0 983	Max	2 0728	0 803	220	371	54	54
Dibenz(a,h)anthracene	71	nonparametric (assumed lognorm)	0 4431	0 7034	0 983	95%UCL-H	2 0898	0 823	210	361	610	361
Dibenzofuran	71	nonparametric (assumed lognorm)	0 4427	0 6624	0 983	95%UCL-H	2 0463	0 772	212	345	650	345
Fluoranthene	70	nonparametric (assumed lognorm)	0 3301	0 9253	0 983	95%UCL-H	2 617	1 35	240	908	15000	908
Fluorene	71	nonparametric (assumed lognorm)	0 4777	0 719	0 983	95%UCL-H	2 071	0 801	213	358	1200	358
Hexachlorobenzene	71	nonparametric (assumed lognorm)	0 4575	0 6429	0 983	Max	2 0775	0 809	221	374	210	210
Indeno(1,2,3-cd)pyrene	71	nonparametric (assumed lognorm)	0 3569	0 8521	0 983	95%UCL-H	2 181	0 926	188	368	4100	368
N-Nitrosodiphenylamine (1)	71	nonparametric (assumed lognorm)	0 4496	0 6116	0 983	Max	2 0586	0 786	224	371	150	150
Naphthalene	71	nonparametric (assumed lognorm)	0 4802	0 6878	0 983	95%UCL-H	2 1038	0 84	222	391	740	391
Pentachlorophenol	71	nonparametric (assumed lognorm)	0 4274	0 563	0 983	Max	2 0673	0 797	588	983	350	350
Phenanthrene	70	nonparametric (assumed lognorm)	0 3723	0 9108	0 983	95%UCL-H	2 5376	1 28	228	759	9700	759
Phenol	71	nonparametric (assumed lognorm)	0 4555	0 636	0 983	Max	2 0702	0 8	222	372	60	60
Pyrene	70	nonparametric (assumed lognorm)	0 3862	0 9424	0 983	95%UCL-H	2 6257	1 35	245	940	12000	940
1,1,1-Trichloroethane	67	nonparametric (assumed lognorm)	0 8288	0 8614	0 982	Max	1 8419	0 479	3 49	4 36	2	2
1,2-Dichloroethene (Total)	67	nonparametric (assumed lognorm)	0 6627	0 8204	0 982	95%UCL-H	1 8254	0 451	3 79	4 65	17	4 65
2-Butanone	61	nonparametric (assumed normal)	0 8571	0 7566	0 981	95%UCL-N	1 6706	2 27	6 25	6 74	13	6 74
2-Hexanone	67	nonparametric (assumed lognorm)	0 227	0 4954	0 982	95%UCL-H	1 7273	0 252	5 68	6 19	32	6 19
Acetone	67	nonparametric (assumed lognorm)	0 3839	0 8702	0 982	95%UCL-H	2 806	1 5	17 4	90 5	320	90 5
Bromomethane	67	nonparametric (assumed normal)	0 817	0 81	0 982	Max	1 6683	1 8	4 29	4 66	1	1
Carbon Disulfide	67	nonparametric (assumed lognorm)	0 8033	0 8233	0 982	Max	1 8074	0 419	3 72	4 46	2	2
Chloromethane	67	nonparametric (assumed normal)	0 8206	0 8113	0 982	Max	1 6683	1 85	4 25	4 63	1	1
Methylene Chloride	67	nonparametric (assumed lognorm)	0 8592	0 8978	0 982	Max	1 8662	0 518	3 21	4 13	4	4
Tetrachloroethene	67	nonparametric (assumed lognorm)	0 705	0 8489	0 982	95%UCL-H	1 8421	0 479	3 67	4 59	16	4 59
Toluene	67	nonparametric (assumed lognorm)	0 8167	0 8601	0 982	Max	1 836	0 469	3 33	4 14	4	4
Trichloroethene	67	nonparametric (assumed lognorm)	0 8387	0 8699	0 982	Max	1 8537	0 498	3 45	4 38	1	1
Vinyl Chloride	67	nonparametric (assumed lognorm)	0 7966	0 8133	0 982	Max	1 8051	0 415	3 74	4 46	3	3
Xylene (Total)	67	nonparametric (assumed lognorm)	0 824	0 8754	0 982	Max	1 8396	0 475	3 21	4	3	3

Notes

Units are mg/kg for inorganics, ug/kg for organics
Number of sample results excludes rejected data or blank-qualified data Duplicates are consolidated into one result Non-detected results are treated as present at one-half the detection limit in all calculations
Statistical distribution of data is determined using Shapiro-Wilk test for n <= 50, Shapiro-Francia test for n > 50 Statistical significance level is 0 05
A normal distribution is assumed if the test statistic W-norm is >= than the reference value (W-table), and W-norm > W-lognorm
A lognormal distribution is assumed if the test statistic W-lognorm is >= the reference value (W-table), and W-lognorm >= W-norm The better fitting distribution is assumed if neither distribution passes Shapiro test
Arithmetic mean includes positive detections and non-detected results (detection limits are divided by two)
-- - Parameter not estimated because distributional shape uncertain for small n
*Distributional shape based on n<5 Evaluation may not be accurate
Parameters listed for EPC calculation are as follows for each type of EPC statistic
95%UCL-H Parameters used in EPC Calculation consist of the H-coefficient, the standard deviation, the arithmetic mean, and the H-distribution upper 95% confidence limit
95%UCL-T Parameters used in EPC Calculation consist of the T-coefficient, the standard deviation, the arithmetic mean, and the T-distribution upper 95% confidence limit

TABLE Q-13
REPRESENTATIVE CONCENTRATION AND STATISTICAL DISTRIBUTION OF COPCS IN SUBSURFACE SOIL
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

						Parameter Used in EPC Calculation						
Substance	Number of Sample Results	Statistical Distribution of Site Data	Results of Shapiro-Wilk or Shapiro-Francia Distribution Tests			Type of EPC Calc	Coefficient for $H_{0.95}$ (Lognorm) or $T_{0.95}$ (Normal) or Chebychev	Std Dev , Log Std Dev or Min Var Estimate	Arithmetic Mean, Mean of Logs, or Min Var Est	Upper Confidence Limit (UCL) on Mean	Maximum Positive Site Concentration	RME Exposure Point Concentration
			W-norm	W-lognorm	W-Table							
Aluminum	50	lognormal	0 9393	0 9738	0 947	95%UCL-H	1 7988	0 372	8150	9610	20700	9610
Antimony	34	nonparametric (assumed lognorm)	0 5005	0 8565	0 933	95%UCL-H	2 6385	1 2	2 55	9 08	39 2	9 08
Arsenic	50	lognormal	0 4838	0 9482	0 947	95%UCL-H	2 0924	0 775	5 95	10 1	74 4	10 1
Barium	50	nonparametric (assumed lognorm)	0 6413	0 9233	0 947	95%UCL-H	2 2271	0 918	25 1	51 2	220	51 2
Beryllium	39	normal	0 948	0 9373	0 939	95%UCL-N	1 686	0 104	0 24	0 268	0 48	0 268
Cadmium	38	nonparametric (assumed lognorm)	0 5674	0 925	0 938	95%UCL-H	3 3955	1 8	0 238	3 27	8 1	3 27
Calcium	50	nonparametric (assumed lognorm)	0 4287	0 9004	0 947	95%UCL-H	2 5166	1 19	2470	7700	91300	7700
Chromium	50	nonparametric (assumed lognorm)	0 6472	0 9384	0 947	95%UCL-H	1 8518	0 461	12 4	15 6	61 9	15 6
Cobalt	50	normal	0 9592	0 9388	0 947	95%UCL-N	1 6766	3 8	10 4	11 3	20 5	11 3
Copper	50	nonparametric (assumed lognorm)	0 313	0 8783	0 947	95%UCL-H	2 4719	1 15	38 7	113	2310	113
Iron	50	nonparametric (assumed lognorm)	0 5192	0 8558	0 947	95%UCL-H	1 9877	0 651	25700	38200	204000	38200
Lead	49	lognormal	0 433	0 9649	0 947	Mean-T	3 3886	1 88	94 9	1390	7820	507
Magnesium	50	normal	0 9472	0 9469	0 947	95%UCL-N	1 6766	1230	3220	3510	7770	3510
Manganese	50	lognormal	0 9108	0 9638	0 947	95%UCL-H	1 9386	0 587	341	477	1110	477
Mercury	37	lognormal	0 4307	0 9678	0 936	95%UCL-H	2 7096	1 28	0 0841	0 34	2 2	0 34
Nickel	50	lognormal	0 7975	0 9622	0 947	95%UCL-H	1 8649	0 481	17 9	22 8	64 1	22 8
Potassium	50	lognormal	0 8797	0 9578	0 947	95%UCL-H	1 9026	0 537	369	493	1030	493
Selenium	40	nonparametric (assumed lognorm)	0 757	0 862	0 94	95%UCL-H	1 9876	0 617	0 38	0 56	1 7	0 56
Sodium	50	nonparametric (assumed lognorm)	0 6498	0 9363	0 947	95%UCL-H	2 809	1 44	206	1030	3820	1030
Vanadium	50	nonparametric (assumed lognorm)	0 8256	0 8995	0 947	95%UCL-H	1 8876	0 515	14 9	19 6	57	19 6
Zinc	50	nonparametric (assumed lognorm)	0 5032	0 85	0 947	95%UCL-H	2 7728	1 41	130	609	4240	609
4,4'-DDD	33	nonparametric (assumed lognorm)	0 3515	0 6545	0 931	95%UCL-H	2 3666	0 966	2 94	7 02	89	7 02
4,4'-DDE	33	nonparametric (assumed lognorm)	0 3383	0 7779	0 931	95%UCL-H	2 4347	1 03	2 29	6 01	67	6 01
4,4'-DDT	33	nonparametric (assumed lognorm)	0 311	0 7224	0 931	95%UCL-H	2 9217	1 41	3 74	20 8	370	20 8
Alpha-BHC	33	nonparametric (assumed lognorm)	0 6203	0 6392	0 931	95%UCL-H	2 0814	0 691	1 03	1 68	2 5	1 68
Alpha-Chlordane	33	nonparametric (assumed lognorm)	0 4263	0 6477	0 931	95%UCL-H	1 9835	0 58	1 17	1 7	10	1 7
Aroclor-1254	33	nonparametric (assumed lognorm)	0 4673	0 6639	0 931	95%UCL-H	2 0835	0 693	25 4	41 7	190	41 7
Aroclor-1260	33	nonparametric (assumed lognorm)	0 3709	0 6477	0 931	95%UCL-H	1 9552	0 545	23 1	32 4	39	32 4
Delta-BHC	33	nonparametric (assumed lognorm)	0 3759	0 6522	0 931	95%UCL-H	1 9621	0 554	1 19	1 68	2 4	1 68
Dieldrin	33	nonparametric (assumed lognorm)	0 5004	0 6825	0 931	95%UCL-H	2 3507	0 952	2 98	6 97	44	6 97
Endosulfan I	33	nonparametric (assumed lognorm)	0 5373	0 7265	0 931	95%UCL-H	2 0789	0 688	1 36	2 22	5 4	2 22
Endosulfan II	33	nonparametric (assumed lognorm)	0 6003	0 8627	0 931	95%UCL-H	2 1779	0 789	2 68	4 95	13	4 95
Endosulfan Sulfate	33	nonparametric (assumed lognorm)	0 4321	0 6642	0 931	95%UCL-H	2 0498	0 656	2 38	3 74	17	3 74
Endrin	33	nonparametric (assumed lognorm)	0 3834	0 6907	0 931	95%UCL-H	2 5288	1 1	3 3	9 94	120	9 94
Endrin Aldehyde	33	nonparametric (assumed lognorm)	0 3863	0 7763	0 931	Max	2 7627	1 29	4 06	17 5	16	16
Gamma-BHC (Lindane)	33	nonparametric (assumed lognorm)	0 7711	0 8906	0 931	95%UCL-H	1 9569	0 547	1 23	1 72	3 1	1 72
Gamma-Chlordane	33	nonparametric (assumed lognorm)	0 4226	0 7274	0 931	95%UCL-H	2 1504	0 762	1 12	2	2 5	2
Heptachlor	33	nonparametric (assumed lognorm)	0 3554	0 6288	0 931	Max	1 9508	0 54	1 17	1 63	1 4	1 4
Heptachlor Epoxide	33	nonparametric (assumed lognorm)	0 3083	0 7579	0 931	95%UCL-H	2 2527	0 861	1 57	3 21	43	3 21
Methoxychlor	33	nonparametric (assumed lognorm)	0 373	0 6676	0 931	Max	1 9878	0 585	11 3	16 5	4	4
2-Methylnaphthalene	35	nonparametric (assumed lognorm)	0 5047	0 8029	0 934	95%UCL-H	2 735	1 28	367	1530	11000	1530
4,6-Dinitro-2-methylphenol	29	nonparametric (assumed lognorm)	0 4004	0 5181	0 926	Max	2 3121	0 887	650	1420	320	320
Acenaphthene	36	nonparametric (assumed lognorm)	0 5219	0 7123	0 935	95%UCL-H	2 4387	1 05	314	839	4900	839
Acenaphthylene	31	nonparametric (assumed lognorm)	0 4432	0 7837	0 929	95%UCL-H	2 4453	1 02	230	609	640	609
Anthracene	43	lognormal	0 5639	0 9577	0 943	95%UCL-H	2 3533	1 01	312	752	4800	752
Benz(a)anthracene	43	lognormal	0 7488	0 9686	0 943	95%UCL-H	2 4424	1 09	448	1230	3400	1230
Benzo(a)pyrene	42	lognormal	0 6848	0 9496	0 942	95%UCL-H	2 4292	1 07	452	1210	4000	1210
Benzo(b)fluoranthene	42	lognormal	0 7149	0 9609	0 942	95%UCL-H	2 3847	1 03	429	1080	2800	1080
Benzo(g,h,i)perylene	39	nonparametric (assumed lognorm)	0 5559	0 8918	0 939	95%UCL-H	2 3893	1 02	293	735	1900	735
Benzo(k)fluoranthene	43	nonparametric (assumed lognorm)	0 582	0 908	0 943	95%UCL-H	2 2568	0 92	335	704	2500	704
Benzoic Acid	2	*unknown (assumed lognorm)				Max			499		48	48
Bis(2-ethylhexyl)phthalate	44	nonparametric (assumed lognorm)	0 3689	0 6961	0 944	Max	2 1544	0 821	235	432	110	110
Butylbenzylphthalate	33	nonparametric (assumed lognorm)	0 3914	0 5584	0 931	Max	2 226	0 836	265	522	120	120
Carbazole	30	nonparametric (assumed lognorm)	0 4065	0 6072	0 927	Max	2 3338	0 914	247	557	220	220
Chrysene	43	lognormal	0 7615	0 971	0 943	95%UCL-H	2 4674	1 11	443	1260	3200	1260
Di-n-butylphthalate	38	nonparametric (assumed lognorm)	0 425	0 7299	0 938	95%UCL-H	2 3785	1 01	227	560	1400	560

TABLE Q-13
REPRESENTATIVE CONCENTRATION AND STATISTICAL DISTRIBUTION OF COPCS IN SUBSURFACE SOIL
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

						Parameter Used in EPC Calculation						
Substance	Number of Sample Results	Statistical Distribution of Site Data	Results of Shapiro-Wilk or Shapiro-Francia Distribution Tests			Type of EPC Calc	Coefficient for $H_{0.95}$ (Lognorm) or $T_{0.95}$ (Normal) or Chebychev	Std Dev , Log Std Dev or Min Var Estimate	Arithmetic Mean, Mean of Logs, or Min Var Est	Upper Confidence Limit (UCL) on Mean	Maximum Positive Site Concentration	RME Exposure Point Concentration
			W-norm	W-lognorm	W-Table							
Dibenz(a,h)anthracene	37	nonparametric (assumed lognorm.)	0 4294	0 7495	0 936	95%UCL-H	2 3199	0 949	226	513	820	513
Dibenzofuran	33	nonparametric (assumed lognorm)	0 5462	0 7437	0 931	95%UCL-H	2 4789	1 06	330	924	4000	924
Fluoranthene	47	lognormal	0 539	0 9806	0 946	95%UCL-H	2 6038	1 25	751	2660	16000	2660
Fluorene	35	nonparametric (assumed lognorm)	0 601	0 7883	0 934	95%UCL-H	2 4022	1 01	355	896	3400	896
Hexachlorobenzene	31	nonparametric (assumed lognorm)	0 396	0 5191	0 929	Max	2 2569	0 852	271	553	370	370
Indeno(1,2,3-cd)pyrene	39	nonparametric (assumed lognorm.)	0 5934	0 938	0 939	95%UCL-H	2 4168	1 05	329	860	2300	860
Naphthalene	34	nonparametric (assumed lognorm)	0 5231	0 7623	0 933	95%UCL-H	2 6057	1 17	287	975	4000	975
Phenanthrene	47	lognormal	0 6152	0 9674	0 946	95%UCL-H	2 959	1 54	749	4800	14000	4800
Phenol	22	nonparametric (assumed lognorm)	0 4581	0 6831	0 911	Max	2 4184	0 903	323	781	490	490
Pyrene	49	lognormal	0 7949	0 9585	0 947	95%UCL-H	2 5137	1 18	690	2140	5300	2140
2-Butanone	37	nonparametric (assumed lognorm)	0 4388	0 7171	0 936	95%UCL-H	3 2279	1 67	15 8	156	1100	156
Carbon Disulfide	38	nonparametric (assumed lognorm)	0 3666	0 6872	0 938	Max	2 929	1 46	12 8	74 8	11	11
Chloroethane	35	nonparametric (assumed lognorm)	0 3826	0 728	0 934	Max	3 0995	1 56	12 8	98 6	1	1
Ethylbenzene	37	nonparametric (assumed lognorm)	0 4511	0 6905	0 936	95%UCL-H	3 1914	1 64	16 1	149	630	149
Methylene Chloride	53	nonparametric (assumed lognorm)	0 4311	0 8166	0 979	95%UCL-H	3 3957	1 91	18 5	281	1800	281
Toluene	39	nonparametric (assumed lognorm)	0 3739	0 8253	0 939	Max	3 1838	1 65	10 6	97 9	67	67
Xylene (Total)	37	nonparametric (assumed lognorm)	0 4259	0 757	0 936	95%UCL-H	3 2687	1 7	14 1	151	1200	151

Notes

Units are mg/kg for inorganics, ug/kg for organics
Number of sample results excludes rejected data or blank-qualified data Duplicates are consolidated into one result Non-detected results are treated as present at one-half the detection limit in all calculations
Statistical distribution of data is determined using Shapiro-Wilk test for n <= 50, Shapiro-Francia test for n > 50 Statistical significance level is 0 05
A normal distribution is assumed if the test statistic W-norm is >= than the reference value (W-table), and W-norm > W-lognorm
A lognormal distribution is assumed if the test statistic W-lognorm is >= the reference value (W-table), and W-lognorm >= W-norm A lognormal distribution is also the default assumption if neither distribution passes Shapiro test
Arithmetic mean includes positive detections and non-detected results (detection limits are divided by two)
-- - Parameter not estimated because distributional shape uncertain for small n
*Distributional shape based on n<5 Evaluation may not be accurate
Parameters listed for EPC calculation are as follows for each type of EPC statistic
Cheb95 Parameters used in EPC Calculation consist of the coefficient multiplier, the standard deviation, the arithmetic mean, and the chebychev 95% confidence limit
95%UCL-H Parameters used in EPC Calculation consist of the H-coefficient, the standard deviation, the arithmetic mean, and the H-distribution upper 95% confidence limit
95%UCL-T Parameters used in EPC Calculation consist of the T-coefficient, the standard deviation, the arithmetic mean, and the T-distribution upper 95% confidence limit

TABLE Q-14
REPRESENTATIVE CONCENTRATION AND STATISTICAL DISTRIBUTION OF COPCS IN SEDIMENT
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

						Parameter Used In EPC Calculation						
Substance	Number of Sample Results	Statistical Distribution of Site Data	Results of Shapiro-Wilk or Shapiro-Francia Distribution Tests			Type of EPC Calc	Coefficient for $H_{0.95}$ (Lognorm) or $T_{0.95}$ (Normal) or Chebychev	Std Dev , Log Std Dev or Min Var Estimate	Arithmetic Mean, Mean of Logs, or Min. Var Est	Upper Confidence Limit (UCL) on Mean	Maximum Positive Site Concentration	RME Exposure Point Concentration
			W-norm	W-lognorm	W-Table							
Aluminum	5	nonparametric (assumed lognorm)	0 7285	0 7571	0 762	95%UCL-H	2 1181	0 154	7880	9380	10300	9380
Antimony	5	lognormal	0 8627	0 8775	0 762	Max	2 5177	0 349	0 473	0 779	0 69	0 69
Arsenic	5	lognormal	0 8442	0 8823	0 762	95%UCL-H	2 2214	0 213	5 04	6 53	7 1	6 53
Barium	5	normal	0 7716	0 6836	0 762	Max	2 1318	4 87	12 3	16 9	15 9	15 9
Beryllium	5	lognormal	0 666	0 7693	0 762	Max	3 2792	0 598	0 17	0 542	0 48	0 48
Calcium	5	lognormal	0 797	0 8689	0 762	Max	6 2041	1 3	8120	1050000	33500	33500
Chromium	5	lognormal	0 9509	0 9693	0 762	95%UCL-H	2 0955	0 14	12 9	15	15 8	15
Cobalt	5	lognormal	0 7351	0 7912	0 762	95%UCL-H	2 3222	0 263	7 55	10 6	11 9	10 6
Copper	5	lognormal	0 8391	0 9521	0 762	Max	2 9559	0 503	28 1	67	61 4	61 4
Iron	5	lognormal	0 7898	0 8494	0 762	95%UCL-H	2 4226	0 309	24900	38000	41500	38000
Lead	5	lognormal	0 6762	0 782	0 762	Mean-T	3 2292	0 584	61 4	187	168	70 2
Magnesium	5	lognormal	0 7587	0 8293	0 762	95%UCL-H	2 4321	0 313	5340	8210	9100	8210
Manganese	5	lognormal	0 7439	0 877	0 762	Max	3 2997	0 604	457	1480	1240	1240
Nickel	5	lognormal	0 6839	0 7756	0 762	95%UCL-H	2 9208	0 492	21 6	50 1	50 8	50 1
Potassium	5	lognormal	0 92	0 9284	0 762	95%UCL-H	1 9751	0 0559	505	534	550	534
Silver	5	normal	0 9838	0 9769	0 762	95%UCL-N	2 1318	2 99	6 94	9 79	11 3	9 79
Sodium	5	lognormal	0 9004	0 9462	0 762	Max	2 6095	0 385	2560	4560	4460	4460
Vanadium	5	lognormal	0 7265	0 8078	0 762	Max	2 9419	0 498	22 8	53 8	52 5	52 5
Zinc	5	lognormal	0 7634	0 8272	0 762	Max	2 8009	0 453	109	229	228	228
Acenaphthylene	5	normal	0 8934	0 849	0 762	Max	2 1318	763	1240	1960	230	230
Anthracene	5	lognormal	0 7469	0 81	0 762	Max	3 9808	0 78	863	5530	600	600
Benz(a)anthracene	5	normal	0 8601	0 8277	0 762	Max	2 1318	599	1480	2050	1900	1900
Benzo(a)pyrene	5	normal	0 9847	0 9603	0 762	Max	2 1318	555	1230	1760	1400	1400
Benzo(b)fluoranthene	5	normal	0 9614	0 9421	0 762	Max	2 1318	545	1310	1830	1700	1700
Benzo(g,h,i)perylene	5	lognormal	0 7917	0 8546	0 762	Max	3 3907	0 628	1040	3670	790	790
Benzo(k)fluoranthene	5	lognormal	0 8523	0 888	0 762	Max	3 2373	0 586	1130	3460	720	720
Chrysene	5	normal	0 9709	0 8993	0 762	Max	2 1318	556	1370	1900	1700	1700
Dibenz(a,h)anthracene	5	normal	0 8897	0 8699	0 762	Max	2 1318	743	1250	1960	290	290
Fluoranthene	5	normal	0 9503	0 8937	0 762	95%UCL-N	2 1318	1670	2480	4070	4400	4070
Indeno(1,2,3-cd)pyrene	5	lognormal	0 844	0 8882	0 762	Max	3 1138	0 551	1160	3180	1000	1000
Phenanthrene	5	normal	0 8632	0 7797	0 762	Max	2 1318	585	1780	2340	2300	2300
Pyrene	5	normal	0 9726	0 932	0 762	95%UCL-N	2 1318	1310	2060	3300	3700	3300
2-Butanone	5	lognormal	0 8131	0 8537	0 762	95%UCL-H	2 163	0 18	5 92	7 31	8	7 31
Acetone	5	lognormal	0 5962	0 8003	0 762	Max	7 1735	1 51	42 3	30100	42	42
Benzene	5	normal	0 7684	0 697	0 762	Max	2 1318	0 758	2 3	3 02	1	1
Bromomethane	5	normal	0 8837	0 8783	0 762	Max	2 1318	0 354	2 5	2 84	2	2
Carbon Disulfide	5	nonparametric (assumed lognorm)	0 5886	0 6982	0 762	Max	5 1714	1 06	4 14	113	27	27
Chloromethane	5	nonparametric (assumed lognorm)	0 6032	0 6436	0 762	Max	3 1397	0 558	3 35	9 4	9	9
Methylene Chloride	5	nonparametric (assumed lognorm)	0 6839	0 6839	0 762	Max	2 5966	0 38	2 64	4 64	4	4

Notes

Units are mg/kg for inorganics, ug/kg for organics
Number of sample results excludes rejected data or blank-qualified data Duplicates are consolidated into one result Non-detected results are treated as present at one-half the detection limit in all calculations
Statistical distribution of data is determined using Shapiro-Wilk test for n <= 50, Shapiro-Francia test for n > 50 Statistical significance level is 0 05
A normal distribution is assumed if the test statistic W-norm is >= than the reference value (W-table), and W-norm > W-lognorm
A lognormal distribution is assumed if the test statistic W-lognorm is >= the reference value (W-table), and W-lognorm >= W-norm The better fitting distribution is assumed if neither distribution passes Shapiro test
Arithmetic mean includes positive detections and non-detected results (detection limits are divided by two)
– - Parameter not estimated because distributional shape uncertain for small n
*Distributional shape based on n<5 Evaluation may not be accurate
Parameters listed for EPC calculation are as follows for each type of EPC statistic
Cheb95 Parameters used in EPC Calculation consist of the coefficient multiplier, the standard deviation, the arithmetic mean, and the chebychev 95% confidence limit
95%UCL-H Parameters used in EPC Calculation consist of the H-coefficient, the standard deviation, the arithmetic mean, and the H-distribution upper 95% confidence limit
95%UCL-T Parameters used in EPC Calculation consist of the T-coefficient, the standard deviation, the arithmetic mean, and the T-distribution upper 95% confidence limit.

TABLE Q-15
REPRESENTATIVE CONCENTRATION AND STATISTICAL DISTRIBUTION OF COPCS IN LOBSTER
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

						Parameter Used in EPC Calculation						
Substance	Number of Sample Results	Statistical Distribution of Site Data	Results of Shapiro-Wilk or Shapiro-Francia Distribution Tests			Type of EPC Calc	Coefficient for $H_{0\ 95}$ (Lognorm) or $T_{0\ 95}$ (Normal) or Chebychev	Std Dev , Log Std Dev or Min Var Estimate	Arithmetic Mean, Mean of Logs, or Min Var Est.	Upper Confidence Limit (UCL) on Mean	Maximum Positive Site Concentration	RME Exposure Point Concentration
			W-norm	W-lognorm	W-Table							
Aluminum	12	normal	0 9185	0 9033	0 859	95%UCL-N	1 7959	22 4	365	377	397 3	377
Arsenic	12	normal	0 9841	0 9797	0 859	95%UCL-N	1 7959	1 25	7 9	8 55	10 2	8 55
Cadmium	12	lognormal	0 8621	0 9253	0 859	95%UCL-H	2 9824	1 04	2 92	12 7	13 3	12 7
Chromium	12	normal	0 9597	0 9407	0 859	95%UCL-N	1 7959	3 27	15 4	17 1	21 1	17 1
Copper	12	normal	0 9742	0 9459	0 859	95%UCL-N	1 7959	24 1	150	162	194 2	162
Iron	12	normal	0 9555	0 9504	0 859	95%UCL-N	1 7959	28 5	119	134	160 3	134
Lead	12	normal	0 9463	0 9258	0 859	Mean-N	1 7959	2 49	15 9	17 2	19	15 9
Mercury	12	nonparametric (assumed lognorm)	0 6221	0 7399	0 859	95%UCL-H	2 1407	0 5	2 25	3 53	7 2	3 53
Nickel	12	normal	0 9859	0 9827	0 859	95%UCL-N	1 7959	4 73	36 5	39	44 9	39
Silver	12	lognormal	0 8333	0 8812	0 859	95%UCL-H	1 8757	0 241	2 96	3 5	5	3 5
Zinc	12	normal	0 9806	0 9777	0 859	95%UCL-N	1 7959	19 2	263	273	297 5	273
2,4'-DDD	11	lognormal	0 8294	0 9322	0 85	95%UCL-H	2 135	0 468	0 272	0 417	0 6922	0 417
2,4'-DDT	11	normal	0 9649	0 8827	0 85	95%UCL-N	1 8125	0 195	0 52	0 626	0 787354	0 626
4,4'-DDD	11	normal	0 9709	0 9687	0 85	95%UCL-N	1 8125	0 365	0 836	1 04	1 567613	1 04
4,4'-DDE	11	lognormal	0 8132	0 9136	0 85	95%UCL-H	2 1976	0 516	7 93	13	22 048708	13
4,4'-DDT	11	normal	0 971	0 9104	0 85	95%UCL-N	1 8125	0 174	0 323	0 418	0 627459	0 418
Alpha-Chlordane	11	lognormal	0 667	0 8898	0 85	95%UCL-H	2 2335	0 543	0 393	0 668	1 344033	0 668
Dieldrin	11	lognormal	0 9	0 9502	0 85	95%UCL-H	1 9401	0 291	3 59	4 47	6 273958	4 47
Endosulfan II	11	normal	0 889	0 815	0 85	95%UCL-N	1 8125	0 218	0 617	0 736	0 843737	0 736
Gamma-BHC (Lindane)	11	normal	0 9723	0 7167	0 85	95%UCL-N	1 8125	0 523	1 06	1 35	1 895638	1 35
Heptachlor Epoxide	11	lognormal	0 9366	0 9607	0 85	Max	1 9127	0 261	0 125	0 152	0 084338	0 0843
Mirex	11	lognormal	0 7563	0 8633	0 85	95%UCL-H	2 1879	0 509	0 194	0 314	0 497562	0 314
Total PCB Congeners	11	lognormal	0 9577	0 9763	0 85	95%UCL-H	1 8636	0 204	230	265	331	265
trans-Nonachlor	11	lognormal	0 935	0 9499	0 85	95%UCL-H	2 1456	0 476	0 355	0 549	0 690496	0 549
1,1-Biphenyl	11	lognormal	0 915	0 938	0 85	95%UCL-H	1 9268	0 277	0 609	0 749	0 987034	0 749
1-Methylnaphthalene	11	nonparametric (assumed lognorm)	0 6425	0 7852	0 85	95%UCL-H	2 3652	0 635	3 33	6 55	11 725334	6 55
1-Methylphenanthrene	11	lognormal	0 9182	0 9676	0 85	95%UCL-H	2 2772	0 574	1 76	3 14	4 068748	3 14
2,3,5-Trimethylnaphthalene	11	lognormal	0 8513	0 8861	0 85	95%UCL-H	2 4648	0 699	0 658	1 45	2 073974	1 45
2,6-Dimethylnaphthalene	11	normal	0 8743	0 7574	0 85	95%UCL-N	1 8125	0 615	1 66	2	2 365673	2
2-Methylnaphthalene	11	lognormal	0 853	0 9048	0 85	95%UCL-H	2 4674	0 701	5 29	11 7	16 784856	11 7
Acenaphthene	11	lognormal	0 5988	0 9063	0 85	95%UCL-H	2 5689	0 763	1 26	3 12	7 50818	3 12
Anthracene	11	lognormal	0 8434	0 9684	0 85	95%UCL-H	2 6507	0 811	1 11	3 05	4 44318	3 05
Benz(a)anthracene	11	lognormal	0 5546	0 9171	0 85	95%UCL-H	3 8586	1 42	6 11	94 6	101 610533	94 6
Benzo(a)pyrene	11	lognormal	0 4523	0 9168	0 85	95%UCL-H	3 9923	1 48	8 87	172	258 536201	172
Benzo(b)fluoranthene	11	lognormal	0 4409	0 9185	0 85	95%UCL-H	3 8296	1 41	12 7	187	315 446617	187
Benzo(e)pyrene	11	lognormal	0 5333	0 923	0 85	95%UCL-H	3 107	1 06	10 1	49 7	108 100437	49 7
Benzo(g,h,i)perylene	11	lognormal	0 6143	0 9402	0 85	95%UCL-H	2 8974	0 947	5 4	20 2	41 835148	20 2
Benzo(k)fluoranthene	11	lognormal	0 4777	0 9259	0 85	95%UCL-H	3 6418	1 32	8 2	89 1	160 536235	89 1
Chrysene	11	lognormal	0 5526	0 9444	0 85	95%UCL-H	3 2408	1 12	19 8	118	225 036088	118
Dibenz(a,h)anthracene	11	nonparametric (assumed lognorm)	0 4462	0 7633	0 85	95%UCL-H	2 9815	0 991	0 898	3 74	12 081393	3 74
Fluoranthene	11	lognormal	0 7154	0 9719	0 85	95%UCL-H	2 8299	0 911	36 6	125	212 243442	125
Fluorene	11	lognormal	0 9509	0 9645	0 85	95%UCL-H	2 2066	0 523	1 21	1 99	2 634582	1 99
Hexachlorobenzene	11	normal	0 9478	0 9403	0 85	95%UCL-N	1 8125	0 0865	0 379	0 427	0 547835	0 427
Indeno(1,2,3-cd)pyrene	11	lognormal	0 4825	0 9508	0 85	95%UCL-H	4 0092	1 49	5 07	101	114 478557	101
Naphthalene	11	nonparametric (assumed lognorm)	0 7261	0 8184	0 85	95%UCL-H	2 3113	0 598	7 18	13 3	19 805924	13 3
Perylene	11	lognormal	0 7556	0 9651	0 85	Max	2 6518	0 811	4 02	11	10 356547	10 4
Phenanthrene	11	normal	0 902	0 8852	0 85	95%UCL-N	1 8125	4 31	6 18	8 54	14 592396	8 54
Pyrene	11	lognormal	0 7735	0 9484	0 85	95%UCL-H	2 9993	1	28 5	121	159 98439	121

Notes

Units are mg/kg for inorganics, ug/kg for organics

Number of sample results excludes rejected data or blank-qualified data Duplicates are consolidated into one result Non-detected results are treated as present at one-half the detection limit in all calculations

Statistical distribution of data is determined using Shapiro-Wilk test for n <= 50, Shapiro-Francia test for n > 50 Statistical significance level is 0 05

A normal distribution is assumed if the test statistic W-norm is >= than the reference value (W-table), and W-norm > W-lognorm

A lognormal distribution is assumed if the test statistic W-lognorm is >= the reference value (W-table), and W-lognorm >= W-norm The better fitting distribution is assumed if neither distribution passes Shapiro test.

Arithmetic mean includes positive detections and non-detected results (detection limits are divided by two)

-- - Parameter not estimated because distributional shape uncertain for small n

*Distributional shape based on n<5 Evaluation may not be accurate

Parameters listed for EPC calculation are as follows for each type of EPC statistic

95%UCL-H Parameters used in EPC Calculation consist of the H-coefficient, the standard deviation, the arithmetic mean, and the H-distribution upper 95% confidence limit

95%UCL-T Parameters used in EPC Calculation consist of the T-coefficient, the standard deviation, the arithmetic mean, and the T-distribution upper 95% confidence limit

TABLE Q-16
REPRESENTATIVE CONCENTRATION AND STATISTICAL DISTRIBUTION OF COPCS IN CLAMS
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

						Parameter Used in EPC Calculation						
Substance	Number of Sample Results	Statistical Distribution of Site Data	Results of Shapiro-Wilk or Shapiro-Francia Distribution Tests			Type of EPC Calc	Coefficient for $H_{0.95}$ (Lognorm) or $T_{0.95}$ (Normal) or Chebychev	Std Dev , Log Std Dev or Min Var Estimate	Arithmetic Mean, Mean of Logs, or Min Var Est	Upper Confidence Limit (UCL) on Mean	Maximum Positive Site Concentration	RME Exposure Point Concentration
			W-norm	W-lognorm	W-Table							
Aluminum	15	normal	0 9338	0 7467	0 881	95%UCL-N	1 7613	358	612	775	1203 8	775
Antimony	3	*normal	0 9067	0 8806	0 767	Max	2 92	0 00473	0 0183	0 0263	0 022	0 022
Arsenic	15	nonparametric (assumed lognorm)	0 5805	0 7244	0 881	95%UCL-H	2 1941	0 611	6 73	11 6	33 2	11 6
Barium	15	nonparametric (assumed lognorm)	0 5052	0 5179	0 881	Max	2 6154	0 917	10 3	29 8	2 11	2 11
Beryllium	3	*normal	0 9397	0 9097	0 767	Max	2 92	0 0294	0 105	0 154	0 129	0 129
Boron	3	*lognormal	0 9977	1	0 767	Max	3 1634	0 18	26 6	40 4	31 8	31 8
Cadmium	15	normal	0 9059	0 7114	0 881	95%UCL-N	1 7613	3 28	6 17	7 66	11 2	7 66
Calcium	3	*nonparametric (assumed lognorm)	0 7599	0 7632	0 767	Max	4 261	0 315	7440	20200	10700	10700
Chromium	15	nonparametric (assumed lognorm)	0 6493	0 88	0 881	Max	4 7466	2 09	3 21	408	74 4	74 4
Cobalt	3	*lognormal	0 7639	0 7692	0 767	Max	4 7405	0 359	1 53	5 43	2 31	2 31
Copper	15	nonparametric (assumed lognorm)	0 6467	0 6491	0 881	95%UCL-H	2 1619	0 584	3 65	6 06	10	6 06
Iron	15	lognormal	0 9279	0 9565	0 881	95%UCL-H	1 9703	0 402	233	313	438 6	313
Lead	15	normal	0 9724	0 8979	0 881	Mean-N	1 7613	2 3	5 45	6 5	9 9	5 45
Magnesium	3	*normal	0 9995	0 9984	0 767	Max	2 92	1780	8200	11200	10000	10000
Manganese	3	*lognormal	0 8309	0 9415	0 767	Max	14 6622	1 12	26 7	5700000	92 8	92 8
Mercury	15	normal	0 9026	0 6989	0 881	95%UCL-N	1 7613	1 25	2 28	2 85	4	2 85
Nickel	15	lognormal	0 9594	0 9619	0 881	95%UCL-H	1 8398	0 244	19 3	22 5	29 3	22 5
Potassium	3	*lognormal	0 9157	0 9219	0 767	Max	2 6	0 0597	10200	11400	10900	10900
Selenium	3	*lognormal	0 7882	0 8153	0 767	Max	7 819	0 601	0 741	24 6	1 48	1 48
Silver	15	nonparametric (assumed normal)	0 5154	0 5101	0 881	95%UCL-N	1 7613	0 199	0 346	0 436	0 763	0 436
Sodium	3	*normal	0 9696	0 9461	0 767	Max	2 92	15200	62800	88500	76300	76300
Thallium	3	*normal	0 9643	0 8976	0 767	Max	2 92	0 00153	0 00267	0 00525	0 004	0 004
Vanadium	3	*normal	0 9987	0 989	0 767	Max	2 92	1 19	2 52	4 52	3 73	3 73
Zinc	15	lognormal	0 9346	0 9464	0 881	95%UCL-H	1 8186	0 214	80 2	91	112	91
2,4'-DDD	12	lognormal	0 7268	0 9491	0 859	95%UCL-H	3 0708	1 08	3	14 7	17 283134	14 7
2,4'-DDT	12	lognormal	0 8111	0 9063	0 859	95%UCL-H	2 9892	1 04	0 51	2 24	2 242863	2 24
4,4'-DDD	12	nonparametric (assumed lognorm)	0 5102	0 7837	0 859	95%UCL-H	2 2532	0 587	1 35	2 39	6 796105	2 39
4,4'-DDE	12	normal	0 9878	0 952	0 859	95%UCL-N	1 7959	1 41	3 45	4 19	5 869822	4 19
Alpha-Chlordane	12	lognormal	0 8657	0 8958	0 859	95%UCL-H	1 8724	0 237	1 22	1 43	1 886543	1 43
Aroclor-1254	3	*lognormal	0 8587	0 9127	0 767	Max	7 1251	0 548	46 1	849	85 54	85 5
Dieldrin	12	normal	0 9777	0 9539	0 859	95%UCL-N	1 7959	0 842	3 13	3 57	4 556161	3 57
Endosulfan II	12	lognormal	0 8385	0 9372	0 859	Max	3 2211	1 16	1 15	7	6 809299	6 81
Gamma-BHC (Lindane)	12	nonparametric (assumed lognorm)	0 7046	0 7592	0 859	Max	3 819	1 46	0 241	3 79	2 32353	2 32
Heptachlor	12	normal	0 9558	0 9367	0 859	Max	1 7959	0 096	0 358	0 408	0 270997	0 271
Heptachlor Epoxide	12	normal	0 9302	0 8869	0 859	95%UCL-N	1 7959	0 0373	0 154	0 174	0 193376	0 174
Mirex	12	nonparametric (assumed lognorm)	0 3876	0 6214	0 859	95%UCL-H	2 535	0 778	0 346	0 848	3 6123	0 848
Total PCB Congeners	15	nonparametric (assumed lognorm)	0 5294	0 8722	0 881	95%UCL-H	2 4754	0 823	154	373	1080	373
trans-Nonachlor	12	lognormal	0 9483	0 9715	0 859	95%UCL-H	1 9885	0 364	0 987	1 31	1 689338	1 31
1,1-Biphenyl	15	nonparametric (assumed lognorm)	0 5849	0 7539	0 881	95%UCL-H	2 8975	1 09	1 93	8 21	18 39	8 21
1-Methylnaphthalene	12	nonparametric (assumed lognorm)	0 3806	0 6367	0 859	95%UCL-H	2 6646	0 857	1 48	4 24	19 314667	4 24
1-Methylphenanthrene	12	lognormal	0 9465	0 9597	0 859	95%UCL-H	2 0346	0 408	2 38	3 32	4 656825	3 32
2,3,5-Trimethylnaphthalene	12	normal	0 9266	0 8992	0 859	95%UCL-N	1 7959	0 364	1 02	1 2	1 663607	1 2
2,6-Dimethylnaphthalene	12	lognormal	0 9631	0 976	0 859	95%UCL-H	1 8464	0 204	1 96	2 24	2 866485	2 24
2-Methylnaphthalene	12	nonparametric (assumed lognorm)	0 3787	0 6129	0 859	95%UCL-H	2 5764	0 804	2 14	5 51	24 485875	5 51
Acenaphthene	15	lognormal	0 8881	0 9797	0 881	95%UCL-H	2 0385	0 472	1 85	2 67	4 500314	2 67
Acenaphthylene	15	lognormal	0 8772	0 9408	0 881	95%UCL-H	1 9044	0 328	2 02	2 51	3 69	2 51
Anthracene	15	lognormal	0 9311	0 9421	0 881	95%UCL-H	2 1193	0 547	4 48	7 09	11 149569	7 09
Benz(a)anthracene	15	lognormal	0 8738	0 9745	0 881	95%UCL-H	2 3024	0 697	7 54	14 8	22 88	14 8
Benzo(a)pyrene	15	lognormal	0 9186	0 9809	0 881	95%UCL-H	2 2633	0 667	5 05	9 44	14 72	9 44
Benzo(b)fluoranthene	15	lognormal	0 633	0 9368	0 881	95%UCL-H	2 2493	0 656	8 22	15 1	41 6	15 1
Benzo(e)pyrene	15	lognormal	0 8128	0 9683	0 881	95%UCL-H	2 0702	0 502	11 3	17	34 87	17
Benzo(g,h,i)perylene	15	lognormal	0 7704	0 9536	0 881	95%UCL-H	2 5343	0 863	5 02	13 1	25 03	13 1
Benzo(k)fluoranthene	15	normal	0 9127	0 8804	0 881	95%UCL-N	1 7613	4 66	8 31	10 4	14 809127	10 4
Chrysene	15	normal	0 9665	0 9062	0 881	95%UCL-N	1 7613	6 84	16 1	19 2	27 301548	19 2
Dibenz(a,h)anthracene	15	lognormal	0 7797	0 958	0 881	95%UCL-H	2 144	0 568	0 892	1 45	2 98	1 45
Dibenzofuran	3	*normal	0 8608	0 8499	0 767	Max	2 92	0 781	5 81	7 13	6 37	6 37

TABLE Q-16
REPRESENTATIVE CONCENTRATION AND STATISTICAL DISTRIBUTION OF COPCS IN CLAMS
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

						Parameter Used in EPC Calculation						
Substance	Number of Sample Results	Statistical Distribution of Site Data	Results of Shapiro-Wilk or Shapiro-Francia Distribution Tests			Type of EPC Calc	Coefficient for $H_{0.95}$ (Lognorm) or $T_{0.95}$ (Normal) or Chebychev	Std Dev , Log Std Dev or Min Var Estimate	Arithmetic Mean, Mean of Logs, or Min Var Est	Upper Confidence Limit (UCL) on Mean	Maximum Positive Site Concentration	RME Exposure Point Concentration
			W-norm	W-lognorm	W-Table							
Dibenzothiophene	3	*lognormal	0 8719	0 9029	0 767	Max	4 2802	0 317	1 84	5 04	2 63	2 63
Fluoranthene	15	lognormal	0 9378	0 9672	0 881	95%UCL-H	1 9661	0 398	37	49 4	75 83	49 4
Fluorene	15	lognormal	0 7734	0 9436	0 881	95%UCL-H	2 1403	0 565	2 04	3 31	6 24	3 31
Hexachlorobenzene	12	normal	0 9525	0 8275	0 859	95%UCL-N	1 7959	0 271	0 719	0 859	1 087834	0 859
Indeno(1,2,3-cd)pyrene	15	lognormal	0 8158	0 9288	0 881	95%UCL-H	2 6509	0 941	3 19	9 65	16 78	9 65
Naphthalene	15	nonparametric (assumed lognorm)	0 6276	0 7386	0 881	95%UCL-H	3 5339	1 46	6 81	78	106 57	78
Perylene	15	lognormal	0 7333	0 9658	0 881	95%UCL-H	2 2372	0 646	1 53	2 78	6 44	2 78
Phenanthrene	15	lognormal	0 9091	0 9576	0 881	95%UCL-H	2 033	0 467	13 4	19 2	29 37	19 2
Pyrene	15	lognormal	0 8742	0 9323	0 881	95%UCL-H	1 947	0 377	30 5	39 9	66 46	39 9

Notes

Units are mg/kg for inorganics, ug/kg for organics
Number of sample results excludes rejected data or blank-qualified data Duplicates are consolidated into one result Non-detected results are treated as present at one-half the detection limit in all calculations
Statistical distribution of data is determined using Shapiro-Wilk test for n <= 50, Shapiro-Francia test for n > 50 Statistical significance level is 0 05
A normal distribution is assumed if the test statistic W-norm is >= than the reference value (W-table), and W-norm > W-lognorm
A lognormal distribution is assumed if the test statistic W-lognorm is >= the reference value (W-table), and W-lognorm >= W-norm The better fitting distribution is assumed if neither distribution passes Shapiro test
Arithmetic mean includes positive detections and non-detected results (detection limits are divided by two)
– - Parameter not estimated because distributional shape uncertain for small n
*Distributional shape based on n<5 Evaluation may not be accurate
Parameters listed for EPC calculation are as follows for each type of EPC statistic
95%UCL-H Parameters used in EPC Calculation consist of the H-coefficient, the standard deviation, the arithmetic mean, and the H-distribution upper 95% confidence limit
95%UCL-T Parameters used in EPC Calculation consist of the T-coefficient, the standard deviation, the arithmetic mean, and the T-distribution upper 95% confidence limit

TABLE Q-17
REPRESENTATIVE CONCENTRATION AND STATISTICAL DISTRIBUTION OF COPCS IN BLUE MUSSELS
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

						Parameter Used In EPC Calculation						
Substance	Number of Sample Results	Statistical Distribution of Site Data	Results of Shapiro-Wilk or Shapiro-Francia Distribution Tests			Type of EPC Calc	Coefficient for $H_{0.95}$ (Lognorm) or $T_{0.95}$ (Normal) or Chebychev	Std Dev , Log Std Dev or Min Var Estimate	Arithmetic Mean, Mean of Logs, or Min Var Est	Upper Confidence Limit (UCL) on Mean	Maximum Positive Site Concentration	RME Exposure Point Concentration
			W-norm.	W-lognorm	W-Table							
Aluminum	7	normal	0 917	0 8255	0 803	95%UCL-N	1 9432	81	101	161	212 6	161
Arsenic	7	normal	0 9583	0 9498	0 803	95%UCL-N	1 9432	0 641	1 81	2 29	2 7	2 29
Cadmium	7	lognormal	0 9729	0 9816	0 803	95%UCL-H	2 3056	0 414	9 53	15 3	17	15 3
Chromium	7	nonparametric (assumed lognorm)	0 7189	0 721	0 803	Max	8 3049	2 49	1 78	183000	40 5	40 5
Copper	7	lognormal	0 9241	0 962	0 803	Max	2 8708	0 686	3 92	11 1	10	10
Iron	7	normal	0 8985	0 8857	0 803	95%UCL-N	1 9432	86 1	431	495	538 2	495
Lead	7	lognormal	0 9556	0 9619	0 803	Mean-T	2 0726	0 263	4 48	5 79	6 3	4 62
Mercury	7	normal	0 921	0 9106	0 803	95%UCL-N	1 9432	0 627	2 26	2 72	3	2 72
Nickel	7	lognormal	0 9638	0 9888	0 803	95%UCL-H	2 065	0 257	8 32	10 7	12 4	10 7
Zinc	6	normal	0 8886	0 8863	0 788	95%UCL-N	2 015	26 5	129	150	157 3	150
2,4'-DDD	7	lognormal	0 9853	0 9861	0 803	95%UCL-H	2 0423	0 24	2 79	3 51	3 971987	3 51
2,4'-DDT	7	lognormal	0 9521	0 9646	0 803	95%UCL-H	2 3565	0 442	1 6	2 69	2 931549	2 69
4,4'-DDD	7	normal	0 9732	0 9631	0 803	95%UCL-N	1 9432	2 23	7 41	9 05	10 572953	9 05
4,4'-DDE	7	nonparametric (assumed normal)	0 7966	0 5878	0 803	95%UCL-N	1 9432	5 98	13 7	18 1	19 068304	18 1
4,4'-DDT	7	normal	0 8879	0 8311	0 803	95%UCL-N	1 9432	0 884	4 05	4 7	5 410711	4 7
Alpha-Chlordane	7	nonparametric (assumed normal)	0 6056	0 4987	0 803	Max	1 9432	1 71	3 94	5 19	4 928442	4 93
Dieldrin	7	normal	0 8737	0 8546	0 803	95%UCL-N	1 9432	1 65	4 56	5 77	6 414344	5 77
Endosulfan I	7	lognormal	0 6116	0 814	0 803	95%UCL-H	3 148	0 797	0 354	1 35	1 795762	1 35
Endosulfan II	7	nonparametric (assumed lognorm)	0 7131	0 7631	0 803	Max	3 893	1 07	0 971	9 38	3 030163	3 03
Gamma-BHC (Lindane)	7	lognormal	0 8876	0 9066	0 803	95%UCL-H	2 1891	0 343	0 459	0 661	0 722804	0 661
Heptachlor Epoxide	7	lognormal	0 7971	0 8593	0 803	Max	2 825	0 667	0 183	0 492	0 477647	0 478
Mirex	7	lognormal	0 5579	0 8871	0 803	Max	4 2967	1 21	0 527	9 05	5 732104	5 73
Total PCB Congeners	7	nonparametric (assumed lognorm)	0 7187	0 7879	0 803	95%UCL-H	2 2505	0 381	323	492	683	492
trans-Nonachlor	7	lognormal	0 9507	0 9511	0 803	95%UCL-H	1 8966	0 111	3 73	4 09	4 310349	4 09
1,1-Biphenyl	7	lognormal	0 8116	0 9128	0 803	95%UCL-H	2 3117	0 417	1 59	2 57	3 436154	2 57
1-Methylnaphthalene	7	lognormal	0 8377	0 8518	0 803	Max	2 738	0 629	4 07	10	9 545828	9 55
1-Methylphenanthrene	7	lognormal	0 8907	0 9009	0 803	95%UCL-H	2 0696	0 261	3 9	5 03	5 306226	5 03
2,3,5-Trimethylnaphthalene	7	normal	0 9222	0 9207	0 803	95%UCL-N	1 9432	1 49	2 6	3 7	5 343438	3 7
2,6-Dimethylnaphthalene	7	lognormal	0 9587	0 97	0 803	95%UCL-H	2 0602	0 254	4 78	6 11	7 071235	6 11
2-Methylnaphthalene	7	lognormal	0 8263	0 8418	0 803	Max	2 7798	0 647	7 01	18	17 228148	17 2
Acenaphthene	7	lognormal	0 9138	0 9635	0 803	95%UCL-H	2 2653	0 39	4 12	6 38	7 668564	6 38
Acenaphthylene	7	lognormal	0 8901	0 9315	0 803	95%UCL-H	1 9955	0 203	5 08	6 12	7 316881	6 12
Anthracene	7	lognormal	0 939	0 9606	0 803	95%UCL-H	1 9831	0 193	8 28	9 85	11 259983	9 85
Benz(a)anthracene	7	normal	0 9229	0 9061	0 803	95%UCL-N	1 9432	4 16	12 9	15 9	18 296905	15 9
Benzo(a)pyrene	7	lognormal	0 888	0 9044	0 803	95%UCL-H	2 1172	0 295	7 09	9 55	9 961397	9 55
Benzo(b)fluoranthene	7	lognormal	0 8503	0 9	0 803	95%UCL-H	2 1662	0 328	13 3	18 8	23 387303	18 8
Benzo(e)pyrene	7	lognormal	0 8576	0 9018	0 803	95%UCL-H	2 2354	0 372	23	34 6	42 734624	34 6
Benzo(g,h,i)perylene	7	lognormal	0 9225	0 9476	0 803	95%UCL-H	2 1442	0 313	11 1	15 3	16 406995	15 3
Benzo(k)fluoranthene	7	lognormal	0 9459	0 9829	0 803	95%UCL-H	2 191	0 344	13 7	19 7	23 226213	19 7
Chrysene	7	lognormal	0 8894	0 9264	0 803	95%UCL-H	2 0247	0 226	29 7	36 8	43 655942	36 8
Dibenz(a,h)anthracene	7	lognormal	0 7749	0 8669	0 803	95%UCL-H	2 0914	0 276	1 17	1 54	2 038155	1 54
Fluoranthene	7	lognormal	0 9297	0 9702	0 803	95%UCL-H	2 1019	0 284	69 7	92 6	109 615791	92 6
Fluorene	7	normal	0 933	0 9259	0 803	95%UCL-N	1 9432	3 25	7 4	9 79	11 561423	9 79
Hexachlorobenzene	7	lognormal	0 8073	0 8599	0 803	95%UCL-H	2 2903	0 405	0 324	0 513	0 592772	0 513
Indeno(1,2,3-cd)pyrene	7	normal	0 9601	0 9525	0 803	95%UCL-N	1 9432	2 72	7 71	9 71	11 485193	9 71
Naphthalene	7	nonparametric (assumed lognorm)	0 7099	0 7973	0 803	95%UCL-H	3 1474	0 797	7 25	27 7	29 011531	27 7
Perylene	7	normal	0 886	0 8406	0 803	95%UCL-N	1 9432	6 57	8 41	13 2	18 464083	13 2
Phenanthrene	7	nonparametric (assumed lognorm.)	0 7223	0 7468	0 803	95%UCL-H	2 0794	0 268	21 5	27 9	32 021515	27 9
Pyrene	7	lognormal	0 8786	0 9429	0 803	95%UCL-H	2 2101	0 356	52 4	77	95 775813	77

Notes

Units are mg/kg for inorganics, ug/kg for organics
Number of sample results excludes rejected data or blank-qualified data Duplicates are consolidated into one result. Non-detected results are treated as present at one-half the detection limit in all calculations
Statistical distribution of data is determined using Shapiro-Wilk test for n <= 50, Shapiro-Francia test for n > 50 Statistical significance level is 0 05
A normal distribution is assumed if the test statistic W-norm is >= than the reference value (W-table), and W-norm > W-lognorm
A lognormal distribution is assumed if the test statistic W-lognorm is >= the reference value (W-table), and W-lognorm >= W-norm The better fitting distribution is assumed if neither distribution passes Shapiro test
Arithmetic mean includes positive detections and non-detected results (detection limits are divided by two)
-- - Parameter not estimated because distributional shape uncertain for small n
*Distributional shape based on n<5 Evaluation may not be accurate
Parameters listed for EPC calculation are as follows for each type of EPC statistic
95%UCL-H Parameters used in EPC Calculation consist of the H-coefficient, the standard deviation, the arithmetic mean, and the H-distribution upper 95% confidence limit
95%UCL-T Parameters used in EPC Calculation consist of the T-coefficient, the standard deviation, the arithmetic mean, and the T-distribution upper 95% confidence limit

APPENDIX Q-3
TABLES Q-18 THROUGH Q-22
COMPARISONS OF SITE DATA TO BACKGROUND DATA

TABLE Q-18
BACKGROUND COMPARISON TESTS - SURFACE SOIL
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

Name of Test / Question Posed / Assumptions Valid / Test Criterion	Detection Freq Z or Fisher: Site Freq > Back Freq ? #ND & Pos >=5 or use Fisher P value <= 0 05 ?				95 % Upper Tolerance Limit (UTL): Site Maximum > UTL for Background Data ? Back lognorm or norm If not, #b>18 for Quantile Test Max >95% UTL (parametric) Or, Max >95% Quantile							Upper Ranks: Majority are site? # Site (s) in Top r P<=0 05 that #s>=k				Mann-Whitney/Gehan: Ranks of Site > Back? <40% ND or use Gehan P value <=0 05 ?				Student's or Satterthwaite T-test: Site Mean > Back. Mean ? #s>2,#b>2,>=85% Pos, both norm/log t-Value > t-Table				Bartlett's Test for Equal Standard Deviations: Site Standard Deviation =Background Std Dev ? #s>2,#b>2, site & back both normal or both lognorm F-Value<=F-Table (Students T) If not, Satterthwaite						
Conclusion Site > Back? YN / Substance		Back. Freq	Site Freq	P Value	YN	Back Mean@	Std Dev. Back.@	t Value	L,N Q	Back UTL	Site Max	YN	r	k	P Value	YN	P Value	Test	Used	YN	Back Mean@	Site Mean@	t Value	t Table	YN	Back Distrib	Site Distrib	Std Dev. Back.@	Std Dev. Site@	F Value	F Table	YN
Aluminum	Y	17/17	76/76		NA	8900	1690	1 7459	N	11900	12200	Y	47	42	0 0477	Y	0 1802			N	8900	8780			NA	normal	nonpar					NA
Antimony	N	5/17	10/76		NA	0 258					9 1	NA	1	1	0 8172	N	0 0572	Gehan	Test	N	0 258	2 04			NA	nonpar	nonpar					NA
Arsenic	Y	17/17	76/76		NA	3 49	1 15	1 7459	N	5 55	10 4	Y	67	62	0 0001	Y	< 0001			Y	3 49	5 92			NA	normal	nonpar					NA
Barium	Y	17/17	72/76	1 0000	N	3 01	0 357	1 7459	L	38 5	282	Y	65	57	0 0267	Y	0 0999			N	21 5	26 4			NA	lognor	nonpar					NA
Beryllium	Y	6/17	60/76	0 0005	Y	0 289	0 0836	1 7459	N	0 439	0 6	Y				NA	0 7598	Gehan	Test	N	0 289	0 321			NA	normal	normal					NA
Cadmium	N	1/17	3/76		NA	0 0647					0 94	NA	2	2	0 6662	N	0 2215	Gehan	Test	N	0 0647	0 241			NA	nonpar	nonpar					NA
Calcium	Y	5/17	63/76		NA	5 55	0 867	1 7459	L	1220	21000	Y	9	9	0 1481	N	< 0001	Gehan	Test	Y	365	1460			NA	lognor	nonpar					NA
Chromium	Y	17/17	76/76		NA	2 31	0 389	1 7459	L	20 2	37 9	Y	63	57	0 0025	Y	0 0775			N	10 8	12 5			NA	lognor	nonpar					NA
Cobalt	Y	17/17	67/76		NA	1 66	0 298	1 7459	L	9 01	20	Y	35	33	0 0120	Y	0 0249	Gehan	Test	Y	5 5	6 71			NA	lognor	nonpar					NA
Copper	Y	11/17	75/76		NA	1 93	0 688	1 7459	L	23 8	220	Y	58	53	0 0026	Y	0 0003	Gehan	Test	Y	8 76	20 3			NA	lognor	nonpar					NA
Iron	Y	17/17	76/76		NA	9 43	0 346	1 7459	L	23200	107000	Y	65	58	0 0065	Y	0 0107			Y	13100	17700			NA	lognor	nonpar					NA
Lead	Y	16/16	75/76	1 0000	N	26 2	12 5	1 7531	N	48 8	2970	Y	17	17	0 0271	Y	0 1626			N	26 2	79 6			NA	normal	nonpar					NA
Magnesium	Y	17/17	76/76		NA	7 15	0 315	1 7459	L	2240	7340	Y	65	60	0 0002	Y	0 0001			Y	1330	2170			NA	lognor	nonpar					NA
Manganese	Y	17/17	76/76		NA	5 47	0 252	1 7459	L	372	750	Y	9	9	0 1481	N	0 5178			N	244	264			NA	lognor	nonpar					NA
Mercury	Y	15/17	32/76		NA	-2 94	0 709	1 7459	L	0 189	0 61	Y	4	4	0 4394	N	0 2113	Gehan	Test	N	0 0644	0 0656			NA	lognor	nonpar					NA
Nickel	Y	17/17	66/76		NA	2 31	0 306	1 7459	L	17 4	221	Y	10	10	0 1181	N	0 0179	Gehan	Test	Y	10 5	15			NA	lognor	nonpar					NA
Potassium	Y	5/17	68/76	< 0001	Y	147					1270	NA	45	44	0 0001	Y	< 0001	Gehan	Test	Y	147	355			NA	nonpar	nonpar					NA
Selenium	NA	0/17	8/76		NA						0 66	NA				NA				NA		0 308			NA							NA
Silver	NA	0/17	22/76		NA						26 5	NA	6	6	0 2868	N				NA		2 21			NA							NA
Sodium	NA	0/17	7/76		NA						907	NA	2	2	0 6662	N				NA		129			NA							NA
Vanadium	Y	17/17	76/76		NA	15 4	3 99	1 7459	N	22 6	41 2	Y	52	47	0 0152	Y	0 2111			N	15 4	16 6			NA	normal	nonpar					NA
Zinc	Y	17/17	75/76	1 0000	N	46					1910	NA	51	47	0 0044	Y	0 0009			Y	46	97 6			NA	nonpar	nonpar					NA

Notes

Units are mg/kg

A statistical significance level (P value) of 0 05 is used for all tests that directly compare site to background A two-sided significance level of 0 1 is used for Bartlett's test for equal variance

UTL is the expected value for the upper 95 % quantile of the background population, there is an equal chance of the population's true 95 % quantile being either below or above this estimate

For each test, a YES or NO decision is presented only if all assumptions are met. The overall decision (is site > background) for each chemical appears at the left and is based on four criteria

(1) Overall decision is YES if any one of the UTL, Mann-Whitney/Gehan, Upper Ranks Test, or T-Test is YES, regardless of other test results

(2) Overall decision is NO if at least one of UTL, Mann-Whitney/Gehan, Upper Ranks Test, or T-Test is NO, and none of the aforementioned tests are YES

(3) Overall decision is YES/NO if Z/Fisher Test is YES/NO, respectively, and other tests are NA Z-test is treated as lowest priority since it relies on detection frequency, not magnitude of results

(4) Overall decision is NA if all tests are NA (Chemicals assigned NA are still included in human health risk-based screening and/or risk assessment)

Abbreviations

# NDs or # Pos	Number of non-detected (ND) or positive (Pos) results in data set, not including rejected data or blank-qualified data
# s or # b	Number of site (s) or background (b) samples, not including rejected data or blank-qualified data
s = b	Standard deviation of site results must not be different from the standard deviation of background results
P value	Probability or significance level is defined as the chance of a false positive If P <= 0 05 then test determines site > background with 95 % confidence
L, N, or Q	UTL is based on 95 % upper limit (using t-value) when data are lognormal (L) or normal (N) Otherwise, an upper 95 % quantile (Q) is used if there are > 18 back points
L* or N*	UTL is based on 95 % coverage of upper 95 % confidence limit (using t-value) when data are lognormal (L) or normal (N)
% ND	Mann-Whitney test used if < 40% of data Non-Detected and detect. limits uniformly below the range of positive values If not, the Gehan Test is used
@	Mean and standard deviations are shown of log-transformed data when distributions are of this type, ie , if an (L) code appears for the UTL test or if site and background distributions both match lognormal, and both T-test and Bartlett's test are applicable (Arithmetic mean and normal standard deviation are shown only for illustration in the event that these tests are NA)
r,k	The upper ranks test calculates the probability that k or more samples from the top r ranks of the combined site and background data set are comprised of site data if both populations are in fact equal

TABLE Q-19
BACKGROUND COMPARISON TESTS - SUBSURFACE SOIL
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

Name of Test / Question Posed / Assumptions Valid / Test Criterion	Detection Freq Z or Fisher / Site Freq > Back.Freq ? / #ND & Pos >=5 or use Fisher / P value <= 0 05 ?				95 % Upper Tolerance Limit (UTL) / Site Maximum > UTL for Background Data ? / Back lognorm or norm If not, #b>18 for Quantile Test / Max >95% UTL (parametric) Or, Max >95% Quantile							Upper Ranks / Majority are site? / # Site (s) in Top r / P<=0 05 that #s>=k				Mann-Whitney/Gehan / Ranks of Site > Back? / <40% ND or use Gehan / P value <=0 05 ?				Student's or Satterthwaite T-test / Site Mean > Back. Mean ? / #s>2,#b>2,>=85% Pos, both norm/log / t-Value > t-Table					Bartlett's Test for Equal Standard Deviations / Site Standard Deviation =Background Std.Dev.? / #s>2,#b>2, site & back both normal or both lognorm / F-Value<=F-Table (Students T) If not, Satterthwaite						
Conclusion Site > Back?	YN	Back Freq	Site Freq	P Value	YN	Back Mean@	Std Dev Back@	t Value	L,N Q	Back UTL	Site Max	YN	r	k	P Value	YN	P Value	Test	Used	YN	Back Mean@	Site Mean@	t Value	t Table	YN	Back Distrib	Site Distrib	Std Dev Back@	Std Dev Site@	F Value	F Table	YN
Substance																															
Aluminum	Y	16/16	50/50		NA	9 32	0 192	1 7531	L	15800	20700	Y	1	1	0 7576	N	0 9996			N	9 32	9	-4 5246	1 6766	N	lognor	lognor	0 192	0 369	7 4033	3 8418	N
Antimony	Y	1/16	9/34		NA	0 168					39 2	NA	3	3	0 3053	N	0 0047	Gehan	Test	Y	0 168	4 59			NA	nonpar	nonpar					NA
Arsenic	Y	16/16	50/50		NA	1 55	1 22	1 7531	L	42 8	74 4	Y	34	30	0 0150	Y	0 1141			N	1 55	1 78	0 7294	1 7341	N	lognor	lognor	1 22	0 775	5 3934	3 8418	N
Barium	Y	16/16	50/50		NA	14 8	3 58	1 7531	N	21 3	220	Y	44	37	0 0286	Y	0 0019			Y	14 8	40 1			NA	normal	nonpar					NA
Beryllium	N	9/16	23/39	0 5458	N	0 307					0 48	NA				NA	0 9472	Gehan	Test	N	0 307	0 241			NA	nonpar	normal					NA
Cadmium	NA	0/16	11/38		NA						8 1	NA	1	1	0 7037	N				NA		0 917			NA							NA
Calcium	Y	3/16	50/50		NA	5 35	0 902	1 7531	L	1080	91300	Y	46	43	< 0001	Y	< 0001	Gehan	Test	Y	325	6270			NA	lognor	nonpar					NA
Chromium	Y	16/16	50/50		NA	16 8	4 04	1 7531	N	24 1	61 9	Y	2	2	0 5711	N	0 9990			N	16 8	14			NA	normal	nonpar					NA
Cobalt	Y	16/16	50/50		NA	14 9	2 95	1 7531	N	20 3	20 5	Y	4	3	0 7547	N	1 0000			N	14 9	10 4	-4 3637	1 6690	N	normal	normal	2 95	3 81	1 3274	3 8418	Y
Copper	Y	11/16	49/50	0 0025	Y	17 4	7 46	1 7531	N	30 9	2310	Y	41	36	0 0046	Y	0 0004			Y	17 4	112			NA	normal	nonpar					NA
Iron	Y	16/16	50/50		NA	33400	7250	1 7531	N	46400	204000	Y	5	5	0 2371	N	0 9992			N	33400	34000			NA	normal	nonpar					NA
Lead	Y	16/16	49/49		NA	11	2 47	1 7531	N	15 4	7820	Y	45	41	< 0001	Y	< 0001			Y	2 37	4 55	7 9387	1 6747	Y	lognor	lognor	0 235	1 88	44 8510	3 8418	N
Magnesium	Y	16/16	50/50		NA	8 15	0 234	1 7531	L	5310	7770	Y	20	16	0 4224	N	0 9073			N	3570	3200			NA	lognor	nonpar					NA
Manganese	Y	15/15	50/50		NA	366	108	1 7613	N	563	1110	Y	10	10	0 0574	N	0 5710			N	5 85	5 83	-0 1705	1 6849	N	lognor	lognor	0 353	0 588	4 5303	3 8421	N
Mercury	Y	0/16	26/37		NA						2 2	NA	26	26	< 0001	Y				NA		0 184			NA							NA
Nickel	Y	16/16	50/50		NA	25 3	5 13	1 7531	N	34 5	64 1	Y	3	3	0 4283	N	0 9995			N	3 21	2 88	-3 8042	1 6720	N	lognor	lognor	0 211	0 481	11 0424	3 8418	N
Potassium	Y	13/16	41/50	0 6035	N	350					1030	NA	11	11	0 0348	Y	0 2539	Gehan	Test	N	350	422			NA	nonpar	lognor					NA
Selenium	NA	0/16	18/40		NA						1 7	NA	1	1	0 7143	N				NA		0 457			NA							NA
Sodium	Y	0/16	33/50		NA						3820	NA	19	19	0 0018	Y				NA		508			NA							NA
Vanadium	Y	16/16	47/50		NA	20 7	2 91	1 7531	N	26	57	Y	3	3	0 4283	N	0 9994	Gehan	Test	N	20 7	16 7			NA	normal	nonpar					NA
Zinc	Y	16/16	47/50	1 0000	N	67 6					4240	NA	41	35	0 0218	Y	0 0115			Y	67 6	467			NA	nonpar	nonpar					NA

Notes.

Units are mg/kg.

A statistical significance level (P value) of 0.05 is used for all tests that directly compare site to background. A two-sided significance level of 0 1 is used for Bartlett's test for equal variance

UTL is the expected value for the upper 95 % quantile of the background population, there is an equal chance of the population's true 95 % quantile being either below or above this estimate

For each test, a YES or NO decision is presented only if all assumptions are met. The overall decision (is site > background) for each chemical appears at the left and is based on four criteria

(1) Overall decision is YES if any one of the UTL, Mann-Whitney/Gehan, Upper Ranks Test, or T-Test is YES, regardless of other test results

(2) Overall decision is NO if at least one of UTL, Mann-Whitney/Gehan, Upper Ranks Test, or T-Test is NO, and none of the aforementioned tests are YES.

(3) Overall decision is YES/NO if Z/Fisher Test is YES/NO, respectively, and other tests are NA. Z-test is treated as lowest priority since it relies on detection frequency, not magnitude of results

(4) Overall decision is NA if all tests are NA (Chemicals assigned NA are still included in human health risk-based screening and/or risk assessment)

Abbreviations.

# NDs or # Pos	Number of non-detected (ND) or positive (Pos) results in data set, not including rejected data or blank-qualified data
# s or # b	Number of site (s) or background (b) samples, not including rejected data or blank-qualified data.
s = b	Standard deviation of site results must not be different from the standard deviation of background results
P value	Probability or significance level is defined as the chance of a false positive If P <= 0 05 then test determines site > background with 95 % confidence
L, N, or Q	UTL is based on 95 % upper limit (using t-value) when data are lognormal (L) or normal (N) Otherwise, an upper 95 % quantile (Q) is used if there are > 18 back points

TABLE Q-19
BACKGROUND COMPARISON TESTS - SUBSURFACE SOIL
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

Name of Test. Question Posed· Assumptions Valid. Test Criterion	Detection Freq Z or Fisher Site Freq. > Back.Freq ? #ND & Pos >=5 or use Fisher P value <= 0 05 ?				95 % Upper Tolerance Limit (UTL) Site Maximum > UTL for Background Data ? Back lognorm or norm If not, #b>18 for Quantile Test Max >95% UTL (parametric) Or, Max >95% Quantile						Upper Ranks Majority are site? # Site (s) in Top r P<=0 05 that #s>=k				Mann-Whitney/Gehan Ranks of Site > Back? <40% ND or use Gehan P value <=0 05 ?				Student's or Satterthwaite T-test Site Mean > Back Mean ? #s>2,#b>2,>=85% Pos, both norm/log t-Value > t-Table					Bartlett's Test for Equal Standard Deviations Site Standard Deviation =Background Std Dev.? #s>2,#b>2, site & back both normal or both lognorm F-Value<=F-Table (Students T) If not, Satterthwaite						
Conclusion Site > Back? YN Substance	Back Freq	Site Freq	P Value	YN	Back. Mean@	Std Dev Back @	t Value	L,N Q	Back UTL	Site Max	YN	r	k	P Value	YN	P Value	Test	Used	YN	Back Mean@	Site Mean@	t Value	t Table	YN	Back Distrib	Site Distrib	Std Dev Back @	Std Dev Site@	F Value	F Table	YN

L* or N* UTL is based on 95 % coverage of upper 95 % confidence limit (using t-value) when data are lognormal (L) or normal (N)

% ND Mann-Whitney test used if < 40% of data Non-Detected and detect limits uniformly below the range of positive values If not, the Gehan Test is used

@ Mean and standard deviations are shown of log-transformed data when distributions are of this type, ie., if an (L) code appears for the UTL test or if site and background distributions both match lognormal, and both T-test and Bartlett's test are applicable. (Arithmetic mean and normal standard deviation are shown only for illustration in the event that these tests are NA)

r,k The upper ranks test calculates the probability that k or more samples from the top r ranks of the combined site and background data set are comprised of site data if both populations are in fact equal

TABLE Q-20
OCCURRENCE AND DISTRIBUTION OF ORGANICS AND INORGANICS IN LOBSTER
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

	Background Data					Site-Related Data							
Substance	Freq of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Freq. of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Range of Detection Limits Min.	Range of Detection Limits Max.	Representative Concentration
Aluminum	2/2	314 2	330 2	322	OFF-23-LOB-060898	12/12	321 5	397 3	365	OFF-15-LOB-060898	-		377
Arsenic	2/2	9	9 3	9 15	OFF-23-LOB-061098	12/12	5 7	10 2	7 9	OFF-17-LOB-061298	-		8 55
Cadmium	2/2	3 4	3 7	3 55	OFF-23-LOB-060898	11/12	1 5	13 3	4 3	OFF-13-LOB-061098	0 5	0 5	12 7
Chromium	2/2	13 8	15 1	14 5	OFF-23-LOB-061098	12/12	10 5	21 1	15 4	OFF-20-LOB-060898	-		17 1
Copper	2/2	106 5	112 4	109	OFF-23-LOB-060898	12/12	101 3	194 2	150	OFF-17-LOB-061298	-		162
Iron	2/2	160 1	168 8	164	OFF-23-LOB-060898	12/12	76 4	160 3	119	OFF-20-LOB-060898	-		134
Lead	2/2	12 9	14 8	13 9	OFF-23-LOB-061098	12/12	11 3	19	15 9	OFF-15-LOB-060898	-		15 9
Mercury	2/2	1 9	2 4	2 15	OFF-23-LOB-060898	12/12	1 4	7 2	2 6	OFF-14-LOB-061298	-		3 53
Nickel	2/2	28 7	30 5	29 6	OFF-23-LOB-061098	12/12	28 5	44 9	36 5	OFF-20-LOB-060898	-		39
Silver	2/2	2 5	2 7	2 6	OFF-23-LOB-060898	12/12	2 3	5	3 05	OFF-20-LOB-060898	-		3 5
Zinc	1/1	236 6	236 6	237	OFF-23-LOB-060898	12/12	231	297 5	263	OFF-16-LOB-061098	-		273
2,4'-DDD	1/1	0 267218 J	0 267218 J	0 267	OFF-23-LOB-060898	4/11	0 148288 J	0 6922	0 303	OFF-13-LOB-061098	0 364462	0 701987	0 417
2,4'-DDT	1/1	0 693121 J	0 693121 J	0 693	OFF-23-LOB-060898	10/11	0 157599 J	0 787354 J	0 52	OFF-13-LOB-061098	1 238421	1 238421	0 626
4,4'-DDD	1/1	0 825608 J	0 825608 J	0 826	OFF-23-LOB-060898	11/11	0 304204 J	1 567613 J	0 836	OFF-18-LOB-060898	-		1 04
4,4'-DDE	1/1	12 16705	12 16705	12 2	OFF-23-LOB-060898	11/11	4 154377	22 04871	9 05	OFF-13-LOB-061098	-		13
4,4'-DDT	1/1	0 268715 J	0 268715 J	0 269	OFF-23-LOB-060898	9/11	0 064121 J	0 627459 J	0 323	OFF-16-LOB-061098	0 717388	0 882004	0 418
Alpha-Chlordane	1/1	0 239674	0 239674	0 24	OFF-23-LOB-060898	11/11	0 163579 J	1 344033	0 456	OFF-13-LOB-061098	-		0 668
Dieldrin	1/1	3 451442	3 451442	3 45	OFF-23-LOB-060898	11/11	2 495594	6 273958	3 73	OFF-13-LOB-061098	-		4 47
Endosulfan II	1/1	0 41243 J	0 41243 J	0 412	OFF-23-LOB-060898	11/11	0 200814 J	0 843737	0 617	OFF-21-LOB-061598	-		0 736
Gamma-BHC (Lindane)	1/1	1 356965	1 356965	1 36	OFF-23-LOB-060898	10/11	0 596943	1 895638	1 06	OFF-18-LOB-060898	0 139755	0 139755	1 35
Heptachlor Epoxide	0/1		-			1/11	0 084338 J	0 084338 J	0 129	OFF-19-LOB-060898	0 19684	0 379132	0 0843
Mirex	1/1	0 166169 J	0 166169 J	0 166	OFF-23-LOB-060898	3/11	0 223387 J	0 497562	0 221	OFF-19-LOB-060898	0 232162	0 447167	0 314
Total PCB Congeners	1/1	234	234	234	OFF-23-LOB-060898	11/11	168	331	235	OFF-21-LOB-061598	-		265
trans-Nonachlor	1/1	0 264566 J	0 264566 J	0 265	OFF-23-LOB-060898	10/11	0 191382 J	0 690496	0 392	OFF-13-LOB-061098	0 339869	0 339869	0 549
1,1-Biphenyl	1/1	0 997838	0 997838	1	OFF-23-LOB-060898	1/11	0 987034 J	0 987034 J	0 632	OFF-19-LOB-060898	0 875485	1 686267	0 749
1-Methylnaphthalene	0/1		-			2/11	10 60161 J	11 72533	4 17	OFF-18-LOB-060898	3 751974	7 271296	6 55
1-Methylphenanthrene	1/1	3 164485	3 164485	3 16	OFF-23-LOB-060898	10/11	0 861873 J	4 068748	2 03	OFF-16-LOB-061098	1 351355	1 351355	3 14
2,3,5-Trimethylnaphthalene	1/1	1 119566	1 119566	1 12	OFF-23-LOB-060898	5/11	0 853248	2 073974	0 822	OFF-18-LOB-060898	0 621256	1 196598	1 45
2,6-Dimethylnaphthalene	1/1	1 727071 J	1 727071 J	1 73	OFF-23-LOB-060898	9/11	1 503517 J	2 365673 J	1 66	OFF-18-LOB-060898	0 99957	1 228937	2
2-Methylnaphthalene	1/1	13 36385 J	13 36385 J	13 4	OFF-23-LOB-060898	5/11	8 171734	16 78486	6 61	OFF-18-LOB-060898	4 559908	8 587063	11 7
Acenaphthene	1/1	1 815785	1 815785	1 82	OFF-23-LOB-060898	6/11	1 167782	7 50818	1 75	OFF-16-LOB-060898	1 037314	1 926755	3 12
Anthracene	1/1	2 807967 J	2 807967 J	2 81	OFF-23-LOB-060898	9/11	0 574154 J	4 44318 J	1 48	OFF-16-LOB-061098	0 63148	0 690226	3 05
Benz(a)anthracene	1/1	12 80275	12 80275	12 8	OFF-23-LOB-060898	11/11	1 130349 J	101 6105	16 6	OFF-21-LOB-061598	-		94 6
Benzo(a)pyrene	1/1	12 78627	12 78627	12 8	OFF-23-LOB-060898	11/11	1 559298 J	258 5362	32 9	OFF-21-LOB-061598	-		172
Benzo(b)fluoranthene	1/1	19 90858	19 90858	19 9	OFF-23-LOB-060898	11/11	1 958069	315 4466	40 8	OFF-21-LOB-061598	-		187
Benzo(e)pyrene	1/1	14 69272	14 69272	14 7	OFF-23-LOB-060898	11/11	2 80322	108 1004	18 9	OFF-21-LOB-061598	-		49 7

TABLE Q-20
OCCURRENCE AND DISTRIBUTION OF ORGANICS AND INORGANICS IN LOBSTER
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

	Background Data					Site-Related Data							
Substance	Freq. of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Freq. of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Range of Detection Limits Min.	Range of Detection Limits Max.	Representative Concentration
Benzo(g,h,i)perylene	1/1	7 165877	7 165877	7 17	OFF-23-LOB-060898	11/11	1 581273	41 83515	8 82	OFF-21-LOB-061598	-		20 2
Benzo(k)fluoranthene	1/1	11 06408	11 06408	11 1	OFF-23-LOB-060898	11/11	1 571579	160 5362	22 6	OFF-21-LOB-061598	-		89 1
Chrysene	1/1	28 92516	28 92516	28 9	OFF-23-LOB-060898	11/11	4 646832	225 0361	39 3	OFF-21-LOB-061598	-		118
Dibenz(a,h)anthracene	0/1	-				5/11	0 857179 J	12 08139	1 82	OFF-21-LOB-061598	0 781687	1 451941	3 74
Fluoranthene	1/1	81 30283	81 30283	81 3	OFF-23-LOB-060898	11/11	9 672864	212 2434	54 1	OFF-21-LOB-061598	-		125
Fluorene	1/1	2 044931	2 044931	2 04	OFF-23-LOB-060898	9/11	0 741837 J	2 634582	1 35	OFF-16-LOB-060898	0 925069	1 303	1 99
Hexachlorobenzene	1/1	0 296569	0 296569	0 297	OFF-23-LOB-060898	11/11	0 257338	0 547835	0 379	OFF-18-LOB-060898	-		0 427
Indeno(1,2,3-cd)pyrene	1/1	5 651618 J	5 651618 J	5 65	OFF-23-LOB-060898	9/11	1 942362 J	114 4786 J	15 9	OFF-21-LOB-061598	1 264773	1 382434	101
Naphthalene	1/1	13 24564 J	13 24564 J	13 2	OFF-23-LOB-060898	3/11	13 67689	19 80592	8 62	OFF-16-LOB-060898	7 753173	14 50494	13 3
Perylene	0/1	-				2/11	4 80882	10 35655	5 49	OFF-13-LOB-061098	2 26355	37 50682	10 4
Phenanthrene	1/1	14 62491	14 62491	14 6	OFF-23-LOB-060898	8/11	4 835774	14 5924	6 18	OFF-16-LOB-061098	2 940741	3 024778	8 54
Pyrene	1/1	63 12651	63 12651	63 1	OFF-23-LOB-060898	11/11	6 940448	159 9844	43 6	OFF-21-LOB-061598	-		121

Notes

Units are mg/kg for inorganics, ug/kg for organics
Number of sample results excludes rejected data or blank-qualified data. Duplicates are consolidated into one result
Mean of all data includes positive detections and non-detected results. Detection limits are divided by two
The determination of representative concentrations is based on comparison of maximum to the 95 % UCL, which is presented in a separate table
Frequency of detection refers to number of times compound was detected among all samples versus total number of samples
Number of samples may vary based on the number of usable results.

TABLE Q-21
OCCURRENCE AND DISTRIBUTION OF ORGANICS AND INORGANICS IN CLAMS
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

	Background Data					Site-Related Data							
Substance	Freq. of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Freq. of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Range of Detection Limits Min.	Range of Detection Limits Max.	Representative Concentration
Aluminum	1/1	821 8 J	821 8 J	822	OFF-23-HC-051498	15/15	25 4	1203 8 J	612	OFF-15-HC-051498	-		775
Antimony	0/0	-				3/3	0 013	0 022	0 0183	S9-OS-8-CL	-		0 022
Arsenic	1/1	4 9	4 9	4 9	OFF-23-HC-051498	15/15	4 3	33 2	8 48	S9-OS-9-CL	-		11 6
Barium	0/1	-				3/15	1 43	2 11	13 2	S9-OS-9-CL	32	32	2 11
Beryllium	0/0	-				3/3	0 072	0 129	0 105	S9-OS-11-CL	-		0 129
Boron	0/0	-				3/3	22 2	31 8	26 9	S9-OS-11-CL	-		31 8
Cadmium	1/1	6 4	6 4	6 4	OFF-23-HC-051498	15/15	0 466	11 2	6 17	OFF-15-HC-051498	-		7 66
Calcium	0/0	-				3/3	6170	10700	7700	S9-OS-9-CL	-		10700
Chromium	0/1	-				10/15	3 1 J	74 4	14 6	S9-OS-9-CL	0 5	0 5	74 4
Cobalt	0/0	-				3/3	1 23	2 31	1 6	S9-OS-8-CL	-		2 31
Copper	0/1	-				5/15	4 2 J	10	4 37	S9-OS-11-CL	5	5	6 06
Iron	1/1	106 7	106 7	107	OFF-23-HC-051498	15/15	114	438 6	251	OFF-15-PM-051498	-		313
Lead	1/1	8 6	8 6	8 6	OFF-23-HC-051498	15/15	1 57	9 9	5 45	OFF-15-HC-051498-FD	-		5 45
Magnesium	0/0	-				3/3	6440	10000	8200	S9-OS-8-CL	-		10000
Manganese	0/0	-				3/3	10 5	92 8	40 9	S9-OS-9-CL	-		92 8
Mercury	1/1	2 8	2 8	2 8	OFF-23-HC-051498	15/15	0 061	4	2 28	OFF-16-HC-052198	-		2 85
Nickel	1/1	15 3	15 3	15 3	OFF-23-HC-051498	15/15	13 4	29 3	19 9	OFF-10-HC-051498-FD	-		22 5
Potassium	0/0	-				3/3	9720	10900	10200	S9-OS-8-CL	-		10900
Selenium	0/0	-				1/3	1 48	1 48	0 843	S9-OS-9-CL	1	1 1	1 48
Silver	0/1	-				3/15	0 683	0 763	0 346	S9-OS-9-CL	0 5	0 5	0 436
Sodium	0/0	-				3/3	46300	76300	62800	S9-OS-8-CL	-		76300
Thallium	0/0	-				3/3	0 001	0 004	0 00267	S9-OS-11-CL	-		0 004
Vanadium	0/0	-				3/3	1 36	3 73	2 52	S9-OS-9-CL	-		3 73
Zinc	1/1	80	80	80	OFF-23-HC-051498	15/15	58 9	112	81 9	OFF-15-HC-051498	-		91
2,4'-DDD	1/1	6 401875	6 401875	6 4	OFF-23-HC-051498	11/12	1 13688	17 28313	4 88	OFF-20-HC-051498	0 615958	0 615958	14 7
2,4'-DDT	1/1	0 199414 J	0 199414 J	0 199	OFF-23-HC-051498	11/12	0 133469 J	2.242863	0 808	OFF-19-PM-052198	1 532018	1 532018	2 24
4,4'-DDD	0/1	-				1/12	6 796105 J	6 796105 J	1 68	OFF-10-HC-051498	1 392707	3 394487	2 39
4,4'-DDE	1/1	2 868581	2 868581	2 87	OFF-23-HC-051498	11/12	1 894615 J	5 869822	3 45	OFF-11-HC-051498	2 194683	2 194683	4 19
Alpha-Chlordane	1/1	0 886847	0 886847	0 887	OFF-23-HC-051498	12/12	0 908205	1 886543	1 25	OFF-21-HC-051498	1 841482	1 841482	1 43
Aroclor-1254	0/0	-				3/3	30 01	85 54	51 3	S9-OS-11-CL	-		85 5
Dieldrin	1/1	3 424214	3 424214	3 42	OFF-23-HC-051498	12/12	1 765666	4 556161	3 13	OFF-15-HC-051498	10 18516	10 18516	3 57
Endosulfan II	1/1	3 212398	3 212398	3 21	OFF-23-HC-051498	7/12	1 250247	6 809299	1 99	OFF-20-HC-051498	0 431386	0 939207	6 81
Gamma-BHC (Lindane)	0/1	-				4/12	1 20798	2 32353	0 642	OFF-10-HC-051498	0 111133	0 241957	2 32
Heptachlor	0/1	-				1/12	0 270997 J	0 270997 J	0 358	OFF-16-HC-052198	0 40781	5 071547	0 271
Heptachlor Epoxide	1/1	0 178308 J	0 178308 J	0 178	OFF-23-HC-051498	3/12	0 099925 J	0 193376	0 154	OFF-17-HC-051498	0 165442	2 057449	0 174
Mirex	1/1	0 280784 J	0 280784 J	0 281	OFF-23-HC-051498	10/12	0 202756	3 6123 J	0 565	OFF-15-HC-051498	0 392366	2 426653	0 848
Total PCB Congeners	1/1	167	167	167	OFF-23-HC-051498	15/15	33 55	1080	217	OFF-10-HC-051498	-		373
trans-Nonachlor	1/1	0 65575	0 65575	0 656	OFF-23-HC-051498	12/12	0 500612 J	1 689338	1 05	OFF-19-PM-052198	2 786437	2 786437	1 31
1,1-Biphenyl	1/1	1 450367	1 450367	1 45	OFF-23-HC-051498	15/15	0 677348 J	18 39	3 99	S9-OS-9-CL	9 15091	9 15091	8 21

TABLE Q-21
OCCURRENCE AND DISTRIBUTION OF ORGANICS AND INORGANICS IN CLAMS
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

	Background Data				Site-Related Data					
Substance	Freq. of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Freq. of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Range of Detection Limits Min.	Range of Detection Limits Max.	Representative Concentration
1-Methylnaphthalene	0/1	-				1/12	19 31467	19 31467	2 72	OFF-10-HC-051498	1 335846	4 095961	4 24
1-Methylphenanthrene	1/1	4 522084	4 522084	4 52	OFF-23-HC-051498	12/12	1 272931 J	4 656825	2 57	OFF-19-PM-052198	11 07917	11 07917	3 32
2,3,5-Trimethylnaphthalene	0/1	-				8/12	1 033272	1 663607	1 02	OFF-20-HC-051498	1 014907	6 493611	1 2
2,6-Dimethylnaphthalene	1/1	2 188959	2 188959	2 19	OFF-23-HC-051498	12/12	1 321681	2 866485	2	OFF-19-PM-052198	10 07553	10 07553	2 24
2-Methylnaphthalene	0/1	-				1/12	24 48588	24 48588	3 65	OFF-10-HC-051498	2 179917	5 248169	5 51
Acenaphthene	1/1	4 894635	4 894635	4 89	OFF-23-HC-051498	14/15	1 041739 J	4 500314	2 05	OFF-19-PM-052198	1 420425	10 45598	2 67
Acenaphthylene	1/1	2 491899	2 491899	2 49	OFF-23-HC-051498	15/15	1 259176 J	3 69 J	2 13	S9-OS-11-CL	9 171977	9 171977	2 51
Anthracene	1/1	9 29999 J	9 29999 J	9 3	OFF-23-HC-051498	15/15	1 57 J	11 14957 J	5 09	OFF-19-PM-052198	-		7 09
Benz(a)anthracene	1/1	18 26061	18 26061	18 3	OFF-23-HC-051498	15/15	2 228426	22 88	9 42	S9-OS-11-CL	-		14 8
Benzo(a)pyrene	1/1	8 171594	8 171594	8 17	OFF-23-HC-051498	15/15	1 247985 J	14 72	6 15	S9-OS-11-CL	-		9 44
Benzo(b)fluoranthene	1/1	14 66688	14 66688	14 7	OFF-23-HC-051498	15/15	2 782094	41 6	10 3	S9-OS-11-CL	-		15 1
Benzo(e)pyrene	1/1	21 41679	21 41679	21 4	OFF-23-HC-051498	15/15	4 852933	34 87	12 8	S9-OS-11-CL	-		17
Benzo(g,h,i)perylene	1/1	6 50708 J	6 50708 J	6 51	OFF-23-HC-051498	14/15	1 774952 J	25 03	6 83	S9-OS-11-CL	1 409615	8 717998	13 1
Benzo(k)fluoranthene	1/1	13 70093	13 70093	13 7	OFF-23-HC-051498	15/15	2 05658	14 80913	8 31	OFF-19-PM-052198	-		10 4
Chrysene	1/1	27 65743	27 65743	27 7	OFF-23-HC-051498	15/15	4 42 J	27 30155	16 1	OFF-19-PM-052198	-		19 2
Dibenz(a,h)anthracene	1/1	0 712377 J	0 712377 J	0 712	OFF-23-HC-051498	8/15	0 796473 J	2 98 J	1 05	S9-OS-11-CL	0 633585	7 879291	1 45
Dibenzofuran	0/0	-				3/3	4 92 J	6 37 J	5 81	S9-OS-9-CL	-		6 37
Dibenzothiophene	0/0	-				3/3	1 44 J	2 63 J	1 9	S9-OS-11-CL	-		2 63
Fluoranthene	1/1	77 76515	77 76515	77 8	OFF-23-HC-051498	15/15	19 88821	75 83	39 8	S9-OS-11-CL	-		49 4
Fluorene	1/1	3 384938	3 384938	3 38	OFF-23-HC-051498	15/15	0 75 J	6 24	2 4	S9-OS-11-CL	7 584243	7 584243	3 31
Hexachlorobenzene	1/1	0 707366	0 707366	0 707	OFF-23-HC-051498	11/12	0 336314	1 087834	0 719	OFF-10-HC-051498-FD	0 35945	0 35945	0 859
Indeno(1,2,3-cd)pyrene	1/1	4 557747 J	4 557747 J	4 56	OFF-23-HC-051498	12/15	0 944037 J	16 78	4 67	S9-OS-11-CL	1 457581	11 33398	9 65
Naphthalene	0/1	-				4/15	46 99852	106 57 B	21 2	S9-OS-9-CL	3 687231	10 07672	78
Perylene	0/1	-				3/15	1 86 J	6 44	1 88	S9-OS-11-CL	0 844368	5 581777	2 78
Phenanthrene	1/1	18 20901	18 20901	18 2	OFF-23-HC-051498	15/15	5 978856	29 37	14 8	S9-OS-11-CL	5 588502	5 588502	19 2
Pyrene	1/1	64 15654	64 15654	64 2	OFF-23-HC-051498	15/15	16 83721	66 46	32 7	S9-OS-11-CL	-		39 9

Notes

Units are mg/kg for inorganics, ug/kg for organics.
Number of sample results excludes rejected data or blank-qualified data. Duplicates are consolidated into one result
Mean of all data includes positive detections and non-detected results Detection limits are divided by two
The determination of representative concentrations is based on comparison of maximum to the 95 % UCL, which is presented in a separate table
Frequency of detection refers to number of times compound was detected among all samples versus total number of samples
Number of samples may vary based on the number of usable results.

TABLE Q-22
OCCURRENCE AND DISTRIBUTION OF ORGANICS AND INORGANICS IN BLUE MUSSELS
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

	Background Data					Site-Related Data						
Substance	Freq. of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Freq. of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Range of Detection Limits Min.	Range of Detection Limits Max	Representative Concentration
Aluminum	1/1	69 8 J	69 8 J	69 8	OFF-22-BM-052698	5/7	58 3 J	212 6 J	101	OFF-7-BM-052698	20	20	161
Arsenic	1/1	2	2	2	OFF-22-BM-052698	7/7	0 9	2 7	1 81	OFF-5-BM-052698	-		2 29
Cadmium	1/1	13 8	13 8	13 8	OFF-22-BM-052698	7/7	5	17	10 2	OFF-7-BM-052698	-		15 3
Chromium	0/1	-				3/7	10 3	40 5	12 4	OFF-7-BM-052698	0 5	0 5	40 5
Copper	1/1	1 7 J	1 7 J	1 7	OFF-22-BM-052698	5/7	1 4 J	10	4 74	OFF-5-BM-052698	5	5	10
Iron	1/1	453 8	453 8	454	OFF-22-BM-052698	7/7	320 6	538 2	431	OFF-5-BM-052698	-		495
Lead	1/1	5 6	5 6	5 6	OFF-22-BM-052698	7/7	3	6 3	4 61	OFF-3-BM-052698	-		4 62
Mercury	1/1	1 7	1 7	1 7	OFF-22-BM-052698	7/7	1 3	3	2 26	OFF-1-BM-052698	-		2 72
Nickel	1/1	11 9	11 9	11 9	OFF-22-BM-052698	7/7	5 7	12 4	8 56	OFF-3-BM-052698	-		10 7
Zinc	1/1	153 6	153 6	154	OFF-22-BM-052698	6/6	94	157 3	129	OFF-2-BM-052698	-		150
2,4'-DDD	1/1	1 757158	1 757158	1 76	OFF-22-BM-052698	7/7	1 908857	3 971987	2 86	OFF-7-BM-052698	-		3 51
2,4'-DDT	1/1	2 836465	2 836465	2 84	OFF-22-BM-052698	7/7	0 834728 J	2 931549 J	1 73	OFF-5-BM-052698	-		2 69
4,4'-DDD	1/1	6 551509	6 551509	6 55	OFF-22-BM-052698	7/7	4 349797	10 57295	7 41	OFF-7-BM-052698	-		9 05
4,4'-DDE	1/1	15 01992	15 01992	15	OFF-22-BM-052698	6/7	13 04156	19 0683	13 7	OFF-7-BM-052698	2 154432	2 154432	18 1
4,4'-DDT	1/1	4 10494	4 10494	4 1	OFF-22-BM-052698	7/7	2 409033	5 410711	4 05	OFF-3-BM-052698	-		4 7
Alpha-Chlordane	1/1	4 356343	4 356343	4 36	OFF-22-BM-052698	6/7	4 010695	4 928442	3 94	OFF-2-BM-052698	0 243455	0 243455	4 93
Dieldrin	1/1	2 540768	2 540768	2 54	OFF-22-BM-052698	7/7	2 419439	6 414344	4 56	OFF-4-BM-052698	-		5 77
Endosulfan I	0/1	-				1/7	1 795762	1 795762	0 503	OFF-2-BM-052698	0 371917	2 153557	1 35
Endosulfan II	1/1	2 028298	2 028298	2 03	OFF-22-BM-052698	7/7	0 330894 J	3 030163	1 52	OFF-1-BM-052698	-		3 03
Gamma-BHC (Lindane)	1/1	0 421213	0 421213	0 421	OFF-22-BM-052698	7/7	0 303133	0 722804	0 482	OFF-7-BM-052698	-		0 661
Heptachlor Epoxide	0/1	-				2/7	0 412802	0 477647	0 223	OFF-3-BM-052698	0 18574	1 075516	0 478
Mirex	0/1	-				5/7	0 328406	5 732104 J	1 17	OFF-5-BM-052698	0 219071	0 522252	5 73
Total PCB Congeners	1/1	214	214	214	OFF-22-BM-052698	7/7	238	683	346	OFF-5-BM-052698	-		492
trans-Nonachlor	1/1	2 738925	2 738925	2 74	OFF-22-BM-052698	7/7	3 044991	4 310349	3 75	OFF-3-BM-052698	-		4 09
1,1-Biphenyl	1/1	1 746321	1 746321	1 75	OFF-22-BM-052698	7/7	1 017094	3 436154	1 73	OFF-1-BM-052698	4 78357	4 78357	2 57
1-Methylnaphthalene	1/1	8 162807	8 162807	8 16	OFF-22-BM-052698	3/7	6 946096	9 545828 J	4 83	OFF-5-BM-052698	4 301914	6 459418	9 55
1-Methylphenanthrene	1/1	4 901602	4 901602	4 9	OFF-22-BM-052698	7/7	2 817827	5 306226 J	4 01	OFF-5-BM-052698	-		5 03
2,3,5-Trimethylnaphthalene	1/1	3 213403	3 213403	3 21	OFF-22-BM-052698	6/7	1 203622	5 343438	2 6	OFF-5-BM-052698	1 397522	1 397522	3 7
2,6-Dimethylnaphthalene	1/1	6 622191	6 622191	6 62	OFF-22-BM-052698	7/7	3 337642	7 071235	4 91	OFF-5-BM-052698	-		6 11
2-Methylnaphthalene	1/1	13 32868	13 32868	13 3	OFF-22-BM-052698	3/7	10 08216	17 22815 J	8 4	OFF-5-BM-052698	7 321777	9 879031	17 2
Acenaphthene	1/1	4 2446	4 2446	4 24	OFF-22-BM-052698	7/7	2 497497	7 668564 J	4 4	OFF-5-BM-052698	-		6 38
Acenaphthylene	1/1	4 040127	4 040127	4 04	OFF-22-BM-052698	7/7	4 074188	7 316881	5 17	OFF-5-BM-052698	-		6 12
Anthracene	1/1	9 217745 J	9 217745 J	9 22	OFF-22-BM-052698	7/7	6 471593 J	11 25998 J	8 41	OFF-7-BM-052698	-		9 85
Benz(a)anthracene	1/1	18 95001	18 95001	19	OFF-22-BM-052698	7/7	7 476022	18 29691	12 9	OFF-7-BM-052698	-		15 9
Benzo(a)pyrene	1/1	8 667165	8 667165	8 67	OFF-22-BM-052698	7/7	4 789828	9 961397	7 36	OFF-5-BM-052698	-		9 55
Benzo(b)fluoranthene	1/1	25 73805	25 73805	25 7	OFF-22-BM-052698	7/7	9 409983	23 3873	14	OFF-7-BM-052698	-		18 8

TABLE Q-22
OCCURRENCE AND DISTRIBUTION OF ORGANICS AND INORGANICS IN BLUE MUSSELS
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

	Background Data					Site-Related Data							
Substance	Freq. of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Freq. of Detection	Range of Positive Detection Min.	Range of Positive Detection Max.	Mean of All Data	Sampling Round and Location of Maximum	Range of Detection Limits Min.	Range of Detection Limits Max.	Representative Concentration
Benzo(e)pyrene	1/1	42 91425	42 91425	42 9	OFF-22-BM-052698	7/7	15 29326	42 73462	24 5	OFF-7-BM-052698	-		34 6
Benzo(g,h,i)perylene	1/1	19 19731	19 19731	19 2	OFF-22-BM-052698	7/7	6 83739 J	16 407 J	11 6	OFF-5-BM-052698	-		15 3
Benzo(k)fluoranthene	1/1	25 18007	25 18007	25 2	OFF-22-BM-052698	7/7	8 465027	23 22621	14 4	OFF-7-BM-052698	-		19 7
Chrysene	1/1	44 46738	44 46738	44 5	OFF-22-BM-052698	7/7	23 07302	43 65594	30 4	OFF-7-BM-052698	-		36 8
Dibenz(a,h)anthracene	1/1	1 86213	1 86213	1 86	OFF-22-BM-052698	6/7	1 020283 J	2 038155 J	1 21	OFF-7-BM-052698	1 695741	4 118841	1 54
Fluoranthene	1/1	81 85133	81 85133	81 9	OFF-22-BM-052698	7/7	47 19993	109 6158	72 2	OFF-7-BM-052698	-		92 6
Fluorene	1/1	5 333903	5 333903	5 33	OFF-22-BM-052698	7/7	3 139576	11 56142 J	7 4	OFF-5-BM-052698	-		9 79
Hexachlorobenzene	0/1		-			6/7	0 177184 J	0 592772	0 349	OFF-6-BM-052698	0 423421	0 423421	0 513
Indeno(1,2,3-cd)pyrene	1/1	10 3412	10 3412	10 3	OFF-22-BM-052698	7/7	3 850535 J	11 48519 J	7 71	OFF-5-BM-052698	-		9 71
Naphthalene	0/1		-			2/7	17 23842	29 01153 J	10	OFF-5-BM-052698	7 3103	11 92933	27 7
Perylene	1/1	26 80456	26 80456	26 8	OFF-22-BM-052698	4/7	9 079713	18 46408	8 41	OFF-3-BM-052698	3 454694	4 710302	13 2
Phenanthrene	1/1	23 98861	23 98861	24	OFF-22-BM-052698	7/7	17 34984	32 02152 J	22 2	OFF-5-BM-052698	-		27 9
Pyrene	1/1	65 96693	65 96693	66	OFF-22-BM-052698	7/7	34 15593	95 77581	55 5	OFF-7-BM-052698	-		77

Notes.

Units are mg/kg for inorganics, ug/kg for organics
Number of sample results excludes rejected data or blank-qualified data. Duplicates are consolidated into one result
Mean of all data includes positive detections and non-detected results. Detection limits are divided by two.
The determination of representative concentrations is based on comparison of maximum to the 95 % UCL, which is presented in a separate table
Frequency of detection refers to number of times compound was detected among all samples versus total number of samples
Number of samples may vary based on the number of usable results

APPENDIX Q-4
TABLE Q-23
SURFACE AREAS AND BODY WEIGHTS USED FOR EXPOSURE ASSESSMENT

TABLE Q-23
SURFACE AREAS AND BODY WEIGHTS USED FOR EXPOSURE ASSESSMENT

50 Percentile Surface Areas, Body Weights, and Ratios
Children, Various Ages

						Surface Area divided by Body Weight			Percent of Total Surface Area by Body Part (1,2)				
Age (yrs)	Male Surf Area (1) (cm^2)	Male Body Wt (1) (kg)	Female Surf Area (1) (cm^2)	Female Body Wt (1) (kg)	SA/BW AVE(M+F) (cm^2/kg)	Hands & Feet SEDIMENT EXP (cm^2/kg)	Forearms, Head, Hands, Lower Legs, & Feet SOIL EXP (cm^2/kg)	Whole Body (cm^2/kg)	% TOT SA Forearms (1,2)* (%)	% TOT SA Head (1)**** (%)	% TOT SA Hands (1,2) (%)	% TOT SA Lower Legs (1,2)** (%)	% TOT SA Feet (1,2) (%)
1-2	---	11 8	---	10 8	617	78 822	267 994	617	5 12	16 5	5 89	9 04	6 885
2-3	6030	13 6	5790	13 0	444 383	53 481	179 597	444 383	4 98	14 2	5 15	9 2	6 885
3-4	6640	15 7	6490	14 9	429 25	56 618	182 818	429 250	5 54	13 6	5 885	10 26	7 305
4-5	7310	17 8	7060	17 0	412 984	53 874	176 943	412 984	5 42	13 8	5 6	10 58	7 445
5-6	7930	19 8	7790	19 6	398 977	52.047	170 942	398 977	5 42	13 8	5 6	10 58	7 445
6-7	8660	23 0	8430	22 1	378 985	46 255	157 904	378 985	5 38	13 1	4 955	10 98	7 25
7-8	9360	25 1	9170	24 7	372 082	45 413	155 028	372 082	5 38	13 1	4 955	10 98	7 25
8-9	10000	28 2	10000	27 9	356 516	43 513	148 542	356 516	5 38	13 1	4 955	10 98	7 25
9-10	10700	31 1	10600	31 9	338 17	43 421	140 543	338 170	5 42	12	5 25	11 3	7 59
10-11	11800	36 4	11700	36 1	324 138	42 430	135 911	324 138	5 2	12	5 3	11 64	7 79
11-12	12300	40 3	13000	41 8	308 108	39 623	130 453	308 108	5 48	12	5 345	12	7 515
12-13	13400	44 2	14000	46 4	302 446	38 970	119 270	302 446	5 79	8 74	5 295	12 02	7 59
13-14	14700	49 9	14800	50 9	292 678	38 751	119 998	292 678	5 47	9 97	5 155	12.32	8 085
14-15	16100	57 1	15500	54 8	282 404	37 390	115 786	282 404	5 47	9 97	5 155	12 32	8 085
15-16	17000	61 0	15700	55 1	288 71	36 175	117 505	288 710	5 5	9 97	5 365	12 7	7 165
16-17	17600	67 1	16000	58 1	268 841	33 686	104 015	268 841	5 5	7 96	5 365	12 7	7 165
BW (kg) = 14 3		4 yrs exp ***		1-4 yr	SUM = 1904	243	807	1904					
BW (kg) = 16 6		6 yrs exp ***		1-6 yr	SUM = 2682	341	1136	2682					
BW (kg) = 31 2		8 yrs exp ***		5-12 yr	SUM = 2477	352	1159	2779					
CTE EXPOSURE PARAMETERS													
BW (kg) = 16 4		2 yrs exp		3-4 yr	SUM = 842	110	360	842					

50 Percentile Surface Areas
Adults

				Total Surface Area by Body Part				
SEX	Hands & Feet (cm^2)	Forearms, Head, Hands, Lower Legs, & Feet (cm^2)	Whole Body (cm^2)	TOT SA Forearms (1) (cm^2)	TOT SA Head (1)**** (cm^2)	TOT SA Hands (1) (cm^2)	TOT SA Lower Legs (1) (cm^2)	TOT SA Feet (1) (cm^2)
MALE	2300	7470	19400	1310	1300	990	2560	1310
FEMALE	1957	6557	16900	NA	1110	817	2180	1140
AVE.	2129	7014	18150					

(1) EPA, 1997 Exposure Factors Handbook Update to Exposure Factors Handbook EPA/600/8-89/043 - May 1989 Office of Research and Development.
(2) EPA, 1985 Development of Statistical Distributions or Ranges of Standard Factors Used in Exposure Assessments EPA/600/8-85/010 Office of Research and Development Table 3-3 Percent of Total Body Surface Area or Parts by Sex and Age of Japanese Students

Note = (1,2) Percent Surface Area is an Average of EPA (1997) and EPA (1985) values
* = Forearms for children are estimated from the assumption that the ratio of forearm to arm in a child is the same as the ratio in an adult (Approx = 40%, EPA, 1997)
** = Lower Legs for children are estimated from the assumption that the ratio of lower leg to leg in a child is the same as the ratio in an adult (Approx = 40%, EPA, 1997)
*** = RME parameter
**** - 100% of head surface area assumed to be equivalent to face and neck areas
NA = Not Available

APPENDIX Q-5
TABLE Q-24
CHLORINATED DIOXIN/FURAN TOXICITY EQUIVALENT FACTORS

TABLE Q-24
CHLORINATED DIOXIN/FURAN TOXICITY EQUIVALENT FACTORS
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

Dioxin/Furan Congener	TEF
2,3,7,8-TCDD	1
2,3,7,8-TCDF	0.1
1,2,3,7,8-PeCDD	1
1,2,3,7,8-PeCDF	0.05
2,3,4,7,8-PeCDF	0.5
1,2,3,7,8,9-HxCDD	0.1
1,2,3,4,7,8-HxCDD	0.1
1,2,3,6,7,8-HxCDD	0.1
2,3,4,6,7,8-HxCDF	0.1
1,2,3,6,7,8-HxCDF	0.1
1,2,3,4,7,8-HxCDF	0.1
1,2,3,7,8,9-HxCDF	0.1
1,2,3,4,6,7,8-HpCDD	0.01
1,2,3,4,6,7,8-HpCDF	0.01
1,2,3,4,7,8,9-HpCDF	0.01
OCDD	0.0001
OCDF	0,0001

APPENDIX Q-6
LEAD RISKS:

RESIDENTIAL CHILD EXPOSURE TO SURFACE SOIL (IEUBK MODEL RESULTS)
RESIDENTIAL CHILD EXPOSURE TO SUBSURFACE SOIL (IEUBK MODEL RESULTS)
RECREATIONAL CHILD INGESTION OF LOBSTER (IEUBK MODEL RESULTS)
RECREATIONAL CHILD INGESTION OF CLAMS (IEUBK MODEL RESULTS)
RECREATIONAL CHILD INGESTION OF BLUE MUSSELS (IEUBK MODEL RESULTS)
TABLE Q-25: LEAD RISKS TO SUBSISTENCE FISHERMAN

APPENDIX Q-6.1
LEAD RISKS
RESIDENTIAL CHILD EXPOSURE TO SURFACE SOIL (IEUBK MODEL RESULTS)

LEAD MODEL Version 0.99d

AIR CONCENTRATION: 0.100 ug Pb/m3 DEFAULT
Indoor AIR Pb Conc: 30.0 percent of outdoor.
Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m3/day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 4.00 ug Pb/L DEFAULT
WATER Consumption: DEFAULT

SOIL & DUST:
Soil: constant conc.
Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	49.7	49.7
1-2	49.7	49.7
2-3	49.7	49.7
3-4	49.7	49.7
4-5	49.7	49.7
5-6	49.7	49.7
6-7	49.7	49.7

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

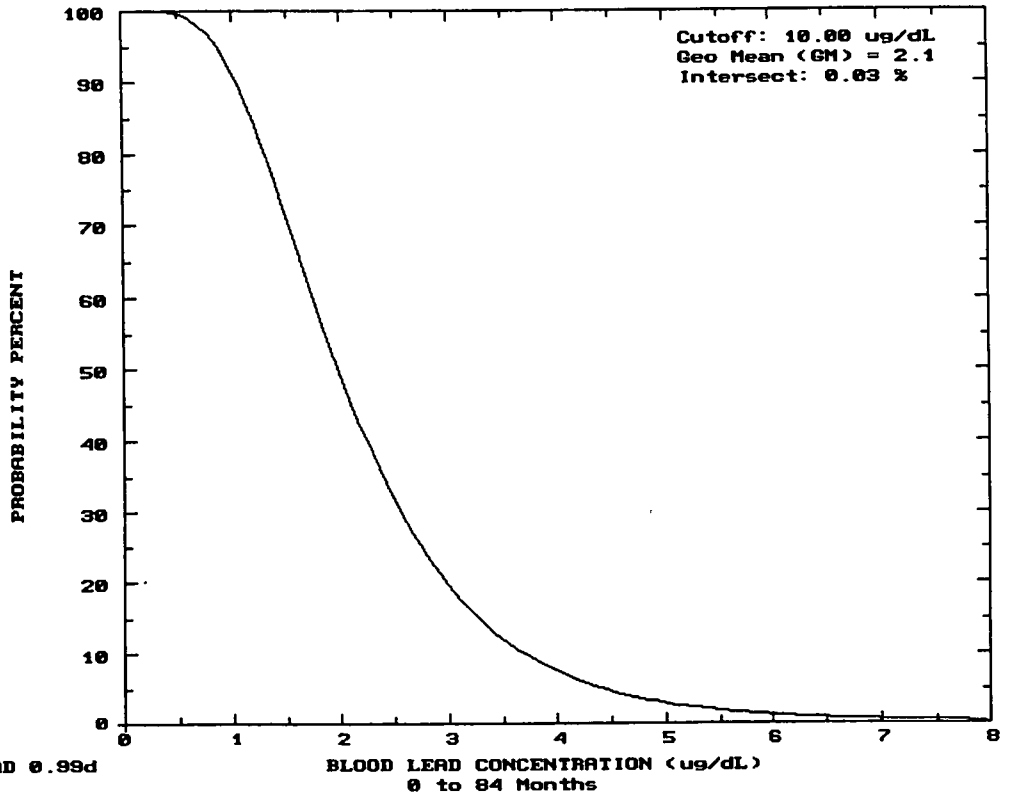
MATERNAL CONTRIBUTION: Infant Model
Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

YEAR	Blood Level (ug/dL)	Total Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	2.3	4.25	1.21
1-2:	2.4	5.65	1.92
2-3:	2.3	6.08	1.92
3-4:	2.1	6.03	1.94
4-5:	1.9	5.50	1.45
5-6:	1.7	5.62	1.31
6-7:	1.7	5.89	1.24

YEAR	Diet Uptake (ug/day)	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	2.64	0.38	0.00	0.02
1-2:	2.75	0.95	0.00	0.03
2-3:	3.10	0.99	0.00	0.06

3-4:	3.00	1.02	0.00	0.07
4-5:	2.92	1.07	0.00	0.07
5-6:	3.09	1.13	0.00	0.09
6-7:	3.41	1.15	0.00	0.09


Cutoff: 10.00 ug/dL
Geo Mean (GM) = 2.1
Intersect: 0.03 %
PROBABILITY PERCENT
100
90
80
70
60
50
40
30
20
10
0
0
1
2
3
4
5
6
7
8
BLOOD LEAD CONCENTRATION (ug/dL)
0 to 84 Months

LEAD 0.99d

APPENDIX Q-6.2
LEAD RISKS
RESIDENTIAL CHILD EXPOSURE TO SUBSURFACE SOIL (IEUBK MODEL RESULTS

LEAD MODEL Version 0.99d

AIR CONCENTRATION: 0.100 ug Pb/m3 DEFAULT
Indoor AIR Pb Conc: 30.0 percent of outdoor.
Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m3/day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIET: DEFAULT

DRINKING WATER Conc: 4.00 ug Pb/L DEFAULT
WATER Consumption: DEFAULT

SOIL & DUST:
Soil: constant conc.
Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	507.0	507.0
1-2	507.0	507.0
2-3	507.0	507.0
3-4	507.0	507.0
4-5	507.0	507.0
5-6	507.0	507.0
6-7	507.0	507.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

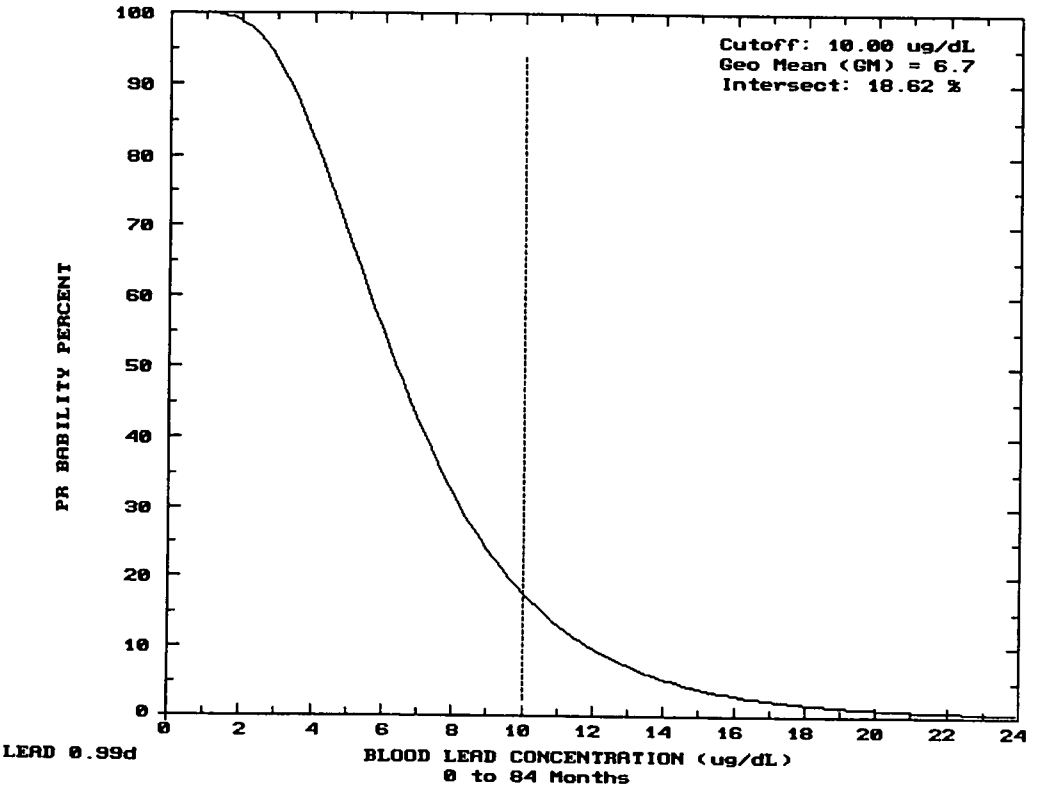
MATERNAL CONTRIBUTION: Infant Model
Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

YEAR	Blood Level (ug/dL)	Total Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	7.3	13.75	11.03
1-2:	8.3	20.38	17.11
2-3:	7.8	21.20	17.49
3-4:	7.5	21.57	17.87
4-5:	6.2	17.59	13.80
5-6:	5.3	16.70	12.62
6-7:	4.7	16.45	12.01

YEAR	Diet Uptake (ug/day)	Water Uptake (ug/day)	Paint Uptake (ug/day)	Air Uptake (ug/day)
0.5-1:	2.36	0.34	0.00	0.02
1-2:	2.41	0.83	0.00	0.03
2-3:	2.76	0.89	0.00	0.06

3-4:	2.71	0.92	0.00	0.07
4-5:	2.73	1.00	0.00	0.07
5-6:	2.92	1.07	0.00	0.09
6-7:	3.25	1.10	0.00	0.09


Cutoff: 10.00 ug/dL
Geo Mean (GM) = 6.7
Intersect: 18.62 %
PR BABILITY PERCENT
100
90
80
70
60
50
40
30
20
10
0
0
2
4
6
8
10
12
14
16
18
20
22
24
LEAD 0.99d
BLOOD LEAD CONCENTRATION (ug/dL)
0 to 84 Months

APPENDIX Q-6.3
LEAD RISKS
RECREATIONAL CHILD INGESTION OF LOBSTER (IEUBK MODEL RESULTS)

LEAD MODEL Version 0.99d

AIR CONCENTRATION: 0.100 ug Pb/m3 DEFAULT
Indoor AIR Pb Conc: 30.0 percent of outdoor.
Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m3/day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

Diet: alternate diet selected by user as follows:

Home-grown Fruit:	0.000 ug Pb/g	0.0 %
Home-grown Vegetables:	0.000 ug Pb/g	0.0 %
Recreational Fish:	15.900 ug Pb/g	4.0 %
Wild Game:	0.000 ug Pb/g	0.0 %

DRINKING WATER Conc: 4.00 ug Pb/L DEFAULT
WATER Consumption: DEFAULT

SOIL & DUST:
Soil: constant conc.
Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	200.0	200.0
1-2	200.0	200.0
2-3	200.0	200.0
3-4	200.0	200.0
4-5	200.0	200.0
5-6	200.0	200.0
6-7	200.0	200.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

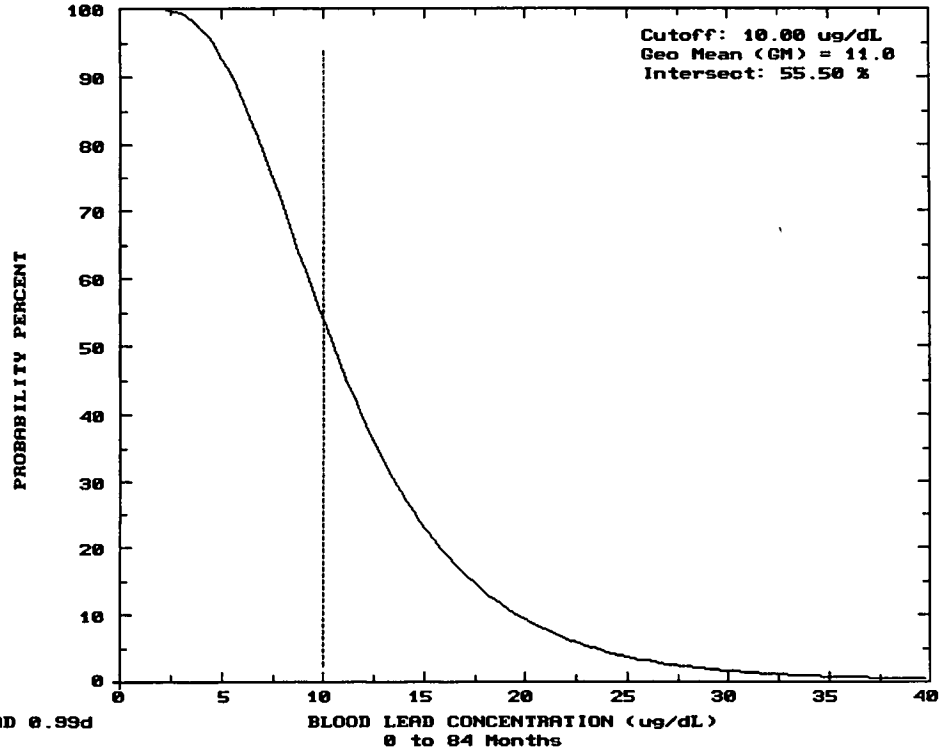
MATERNAL CONTRIBUTION: Infant Model
Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

YEAR	Blood Level (ug/dL)	Total Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	8.0	15.00	4.28
1-2:	11.8	30.31	6.15
2-3:	12.0	33.30	6.27
3-4:	12.0	35.51	6.42
4-5:	11.7	36.28	4.89
5-6:	11.3	37.79	4.47
6-7:	11.0	40.38	4.24

Diet Uptake	Water Uptake	Paint Uptake	Air Uptake

YEAR	(ug/day)	(ug/day)	(ug/day)	(ug/day)
0.5-1:	10.36	0.34	0.00	0.02
1-2:	23.36	0.76	0.00	0.03
2-3:	26.17	0.80	0.00	0.06
3-4:	28.18	0.84	0.00	0.07
4-5:	30.42	0.90	0.00	0.07
5-6:	32.26	0.96	0.00	0.09
6-7:	35.06	0.98	0.00	0.09


Cutoff: 10.00 ug/dL
Geo Mean (GM) = 11.0
Intersect: 55.50 %
PROBABILITY PERCENT
100
90
80
70
60
50
40
30
20
10
0
0
5
10
15
20
25
30
35
40
LEAD 0.99d
BLOOD LEAD CONCENTRATION (ug/dL)
0 to 84 Months

APPENDIX Q-6.4
LEAD RISKS
RECREATIONAL CHILD INGESTION OF CLAMS (IEUBK MODEL RESULTS)

LEAD MODEL Version 0.99d

AIR CONCENTRATION: 0.100 ug Pb/m3 DEFAULT
Indoor AIR Pb Conc: 30.0 percent of outdoor.
Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m3/day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

Diet: alternate diet selected by user as follows:

Home-grown Fruit:	0.000 ug Pb/g	0.0 %
Home-grown Vegetables:	0.000 ug Pb/g	0.0 %
Recreational Fish:	5.450 ug Pb/g	4.0 %
Wild Game:	0.000 ug Pb/g	0.0 %

DRINKING WATER Conc: 4.00 ug Pb/L DEFAULT
WATER Consumption: DEFAULT

SOIL & DUST:
Soil: constant conc.
Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	200.0	200.0
1-2	200.0	200.0
2-3	200.0	200.0
3-4	200.0	200.0
4-5	200.0	200.0
5-6	200.0	200.0
6-7	200.0	200.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

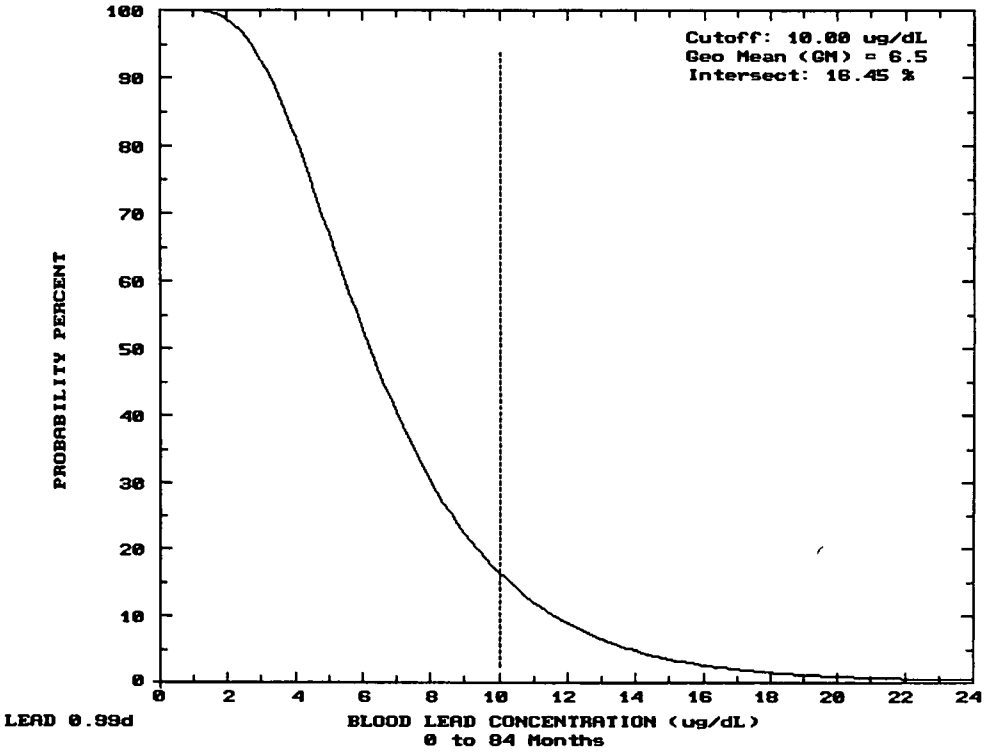
MATERNAL CONTRIBUTION: Infant Model
Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

YEAR	Blood Level (ug/dL)	Total Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	5.6	10.37	4.53
1-2:	7.3	18.35	6.88
2-3:	7.3	19.82	6.97
3-4:	7.1	20.64	7.09
4-5:	6.6	19.76	5.38
5-6:	6.2	20.13	4.89
6-7:	5.9	21.17	4.64

Diet Uptake Water Uptake Paint Uptake Air Uptake

YEAR	(ug/day)	(ug/day)	(ug/day)	(ug/day)
0.5-1:	5.46	0.36	0.00	0.02
1-2:	10.59	0.85	0.00	0.03
2-3:	11.89	0.90	0.00	0.06
3-4:	12.55	0.93	0.00	0.07
4-5:	13.33	0.99	0.00	0.07
5-6:	14.10	1.05	0.00	0.09
6-7:	15.37	1.07	0.00	0.09


Cutoff: 10.00 ug/dL
Geo Mean (GM) = 6.5
Intersect: 16.45 %
PROBABILITY PERCENT
100
90
80
70
60
50
40
30
20
10
0
0
2
4
6
8
10
12
14
16
18
20
22
24
LEAD 0.99d
BLOOD LEAD CONCENTRATION (ug/dL)
0 to 84 Months

APPENDIX Q-6.5
LEAD RISKS
RECREATIONAL CHILD INGESTION OF BLUE MUSSELS (IEUBK MODEL RESULTS)

LEAD MODEL Version 0.99d

AIR CONCENTRATION: 0.100 ug Pb/m3 DEFAULT
Indoor AIR Pb Conc: 30.0 percent of outdoor.
Other AIR Parameters:

Age	Time Outdoors (hr)	Vent. Rate (m3/day)	Lung Abs. (%)
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

Diet: alternate diet selected by user as follows:

Home-grown Fruit:	0.000 ug Pb/g	0.0 %
Home-grown Vegetables:	0.000 ug Pb/g	0.0 %
Recreational Fish:	4.620 ug Pb/g	4.0 %
Wild Game:	0.000 ug Pb/g	0.0 %

DRINKING WATER Conc: 4.00 ug Pb/L DEFAULT
WATER Consumption: DEFAULT

SOIL & DUST:
Soil: constant conc.
Dust: constant conc.

Age	Soil (ug Pb/g)	House Dust (ug Pb/g)
0-1	200.0	200.0
1-2	200.0	200.0
2-3	200.0	200.0
3-4	200.0	200.0
4-5	200.0	200.0
5-6	200.0	200.0
6-7	200.0	200.0

Additional Dust Sources: None DEFAULT

PAINT Intake: 0.00 ug Pb/day DEFAULT

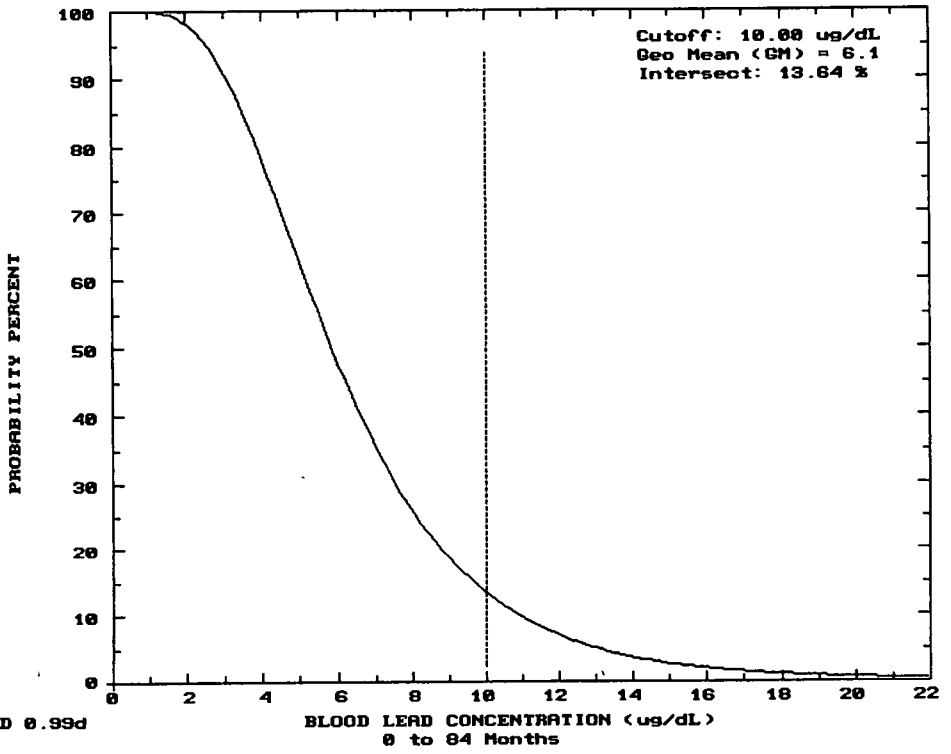
MATERNAL CONTRIBUTION: Infant Model
Maternal Blood Conc: 2.50 ug Pb/dL

CALCULATED BLOOD Pb and Pb UPTAKES:

YEAR	Blood Level (ug/dL)	Total Uptake (ug/day)	Soil+Dust Uptake (ug/day)
0.5-1:	5.4	9.98	4.55
1-2:	6.9	17.29	6.94
2-3:	6.8	18.62	7.04
3-4:	6.7	19.33	7.15
4-5:	6.2	18.31	5.42
5-6:	5.7	18.59	4.93
6-7:	5.4	19.49	4.67

Diet Uptake Water Uptake Paint Uptake Air Uptake

YEAR	(ug/day)	(ug/day)	(ug/day)	(ug/day)
0.5-1:	5.05	0.36	0.00	0.02
1-2:	9.45	0.86	0.00	0.03
2-3:	10.62	0.90	0.00	0.06
3-4:	11.17	0.94	0.00	0.07
4-5:	11.83	0.99	0.00	0.07
5-6:	12.51	1.06	0.00	0.09
6-7:	13.65	1.08	0.00	0.09


Cutoff: 10.00 ug/dL
Geo Mean (GM) = 6.1
Intersect: 13.64 %
PROBABILITY PERCENT
100
90
80
70
60
50
40
30
20
10
0
0
2
4
6
8
10
12
14
16
18
20
22
LEAD 0.99d
BLOOD LEAD CONCENTRATION (ug/dL)
0 to 84 Months

APPENDIX Q-6.6
TABLE Q-25
LEAD RISKS TO SUBSISTENCE FISHERMAN

TABLE Q-25
LEAD RISKS TO SUBSISTENCE FISHERMAN
OFFTA REMEDIAL INVESTIGATION REPORT
NAVSTA NEWPORT - NEWPORT, RHODE ISLAND

TYPE OF SHELLFISH	RECEPTOR ACTIVITY	MAX. SHELLFISH CONC. (MG/KG)	95 Percentile ug/dl Fetal Lead
Lobster	Subsistence Fishing	15.9	40.2
Clams	Subsistence Fishing	5.45	16.4
Blue Mussels	Subsistence Fishing	4.62	14.5

Adult risks are based on EPA, 1996.

APPENDIX Q-7
EXAMPLE CALCULATIONS

APPENDIX Q, PART VII

RISK ASSESSMENT EXAMPLE CALCULATIONS

The example calculations listed in this appendix are presented in order to verify the approaches taken and calculations used to estimate risk at OFFTA/Katy Field Site. The example calculations are all based on RME exposure. Examples are shown for representative receptors for surface soils, sediment, and shellfish exposure. CTE risks are not shown here, however, they would be estimated following the same pattern as the risks shown here.

Surface Soils Exposure

Three potential exposure routes are associated with direct exposure to surface soils at OFFTA/Katy Field Site. These exposure routes include ingestion, dermal absorption, and inhalation of fugitive dust.

Ingestion of COPCs in Surface Soils:

Ingestion of arsenic in surface soils at OFFTA/Katy Field Site for a future child resident under an RME scenario was evaluated using the following equation (EPA, 1989a):

$$IngestionDose(mg/kg/day) = \frac{CS * IR_{soil} * FI * EF * ED * CF}{BW * AT}$$

Where:

Carc-Ingestion Dose	= 4.32E-6	= Carcinogenic Ingestion exposure dose (mg/kg-day)
Noncarc-Ingestion Dose	= 5.04E-5	= Noncarcinogenic Ingestion exposure dose (mg/kg-day)
CS	= 6.36 mg/kg	= Arsenic concentration in surface soils
IR_{soil}	= 200 mg/day	= Ingestion rate
FI	= 100%	= Fraction Ingested from contaminated source
CF	= 1E-06 kg/mg	= Conversion Factor
EF	= 240 days/yr	= Exposure frequency
ED	= 6 yr	= Exposure duration
BW	= 16.6 kg	= Body weight
ATC	= 25550 days	= Averaging time for carcinogens (365 d/yr x 70 yrs)
ATN	= 2190 days	= Averaging time for noncarcinogens (365 d/yr x 6 yrs)

The RME cancer risk for a future child resident from ingestion of arsenic in surface soils at OFFTA/Katy Field Site is estimated as follows:

CA	= Ingestion Dose x SF	
CA	= 6.48E-6	= Incremental cancer risk
SF	= 1.5 $(mg/kg\text{-}day)^{-1}$	= Oral slope factor
Carc-Ingestion Dose	= 4.32E-6	= Carcinogenic Ingestion exposure dose (mg/kg-day)

The RME noncarcinogenic risk for a future child resident from ingestion of arsenic in surface soils at OFFTA/Katy Field Site is estimated as follows:

NC = Ingestion Dose / RfD

NC	= 1.68E-1	= Noncarcinogenic risk
RfD	= 0.0003 mg/kg-day	= Oral reference dose
Noncarc-Ingestion Dose	= 5.04E-5	= Noncarcinogenic Ingestion exposure dose (mg/kg-day)

Dermal Absorption of COPCs in Surface Soils:

Dermal absorption of arsenic in surface soils at OFFTA/Katy Field Site for a future child resident under an RME scenario was evaluated using the following equations (EPA, 1992e):

$$DermalDose(mg/kg/day) = \frac{CS * SAADJ * SSAF * DABS * EV * EF * CF}{AT}$$

Where:

Carc-Dermal Dose	= 4.07E-7	= Carcinogenic Dermal exposure dose (mg/kg-day)
Noncarc-Dermal Dose	= 4.75E-6	= Noncarcinogenic Dermal exposure dose (mg/kg-day)

CS	= 6.36 mg/kg	= Arsenic concentration in surface soils
SA-ADJ	= 1136 cm^2-years/kg	= Age-Adjusted Skin Surface Area/Body Weight Ratio
SSAF	= 0.2 mg/cm^2/event	= Soil-to-Skin Adherence Factor
EV	= 1 event/day	= Event Frequency
EF	= 240 days/yr	= Exposure Frequency
DABS	= 0.03	= Absorption Factor
CF	= 1E-06 kg/mg	= Conversion Factor
ATC	= 25550 days	= Averaging time for carcinogens (365 d/yr x 70 yrs)
ATN	= 2190 days	= Averaging time for noncarcinogens (365 d/yr x 6 yrs)

The RME cancer risk for a future child resident from dermal absorption of arsenic in surface soils at OFFTA/Katy Field Site is estimated as follows:

CA	= Dermal Dose x SF	
CA	= 6.11E-7	= Incremental cancer risk
SF	= 1.5 $(mg/kg\text{-}day)^{-1}$	= Dermal slope factor
Carc-Dermal Dose	= 4.07E-7	= Carcinogenic Dermal exposure dose (mg/kg-day)

The RME noncarcinogenic risk for a future child resident from dermal absorption of arsenic in surface soils at OFFTA/Katy Field Site is estimated as follows:

NC	= Dermal Dose / RfD	
NC	= 1.58E-2	= Noncarcinogenic risk
RfD	= 3.00E-4 mg/kg-day	= Dermal reference dose
Noncarc-Dermal Dose	= 4.75E-6	= Noncarcinogenic Dermal exposure dose (mg/kg-day)

Inhalation of COPC's in Fugitive Dust:

Inhalation of chromium in surface soils (via fugitive dust) at OFFTA/Katy Field Site for a future child resident under an RME scenario was evaluated using the following equations (EPA, 1992e):

$$InhalationDose(mg/kg/day) = \frac{\left(CS/_{PEF}\right) * IN * ET * EF * ED}{BW * AT}$$

Where:

Carc-Inhalation Dose	= 1.06E-9	= Carcinogenic Inhalation exposure dose (mg/kg-day)
Noncarc-Inhalation Dose	= 1.24E-8	= Noncarcinogenic Inhalation exposure dose (mg/kg-day)

CS	= 14.3 mg/kg	= Chromium concentration in surface soils
PEF	= 1.32E+9 m^3/kg	= Particulate Emission Factor from soil
IN	= 1.2 m^3/hr	= Inhalation Rate
ET	= 24 hr/day	= Exposure Time
EF	= 240 days/yr	= Exposure Frequency
ED	= 6 yr	= Exposure Duration
BW	= 16.6 kg	= Body Weight
ATC	= 25550 days	= Averaging time for carcinogens (365 d/yr x 70 yrs)
ATN	= 2190 days	= Averaging time for noncarcinogens (365 d/yr x 6 yrs)

The RME cancer risk for a future child resident from inhalation of chromium in surface soils at OFFTA/Katy Field Site is estimated as follows:

CA	= Inhalation Dose x SF	
CA	= 4.34E-8	= Incremental cancer risk
SF	= 41 $(mg/kg\text{-}day)^{-1}$	= Inhalation slope factor
Carc-Inhalation Dose	= 1.06E-9	= Carcinogenic Inhalation exposure dose (mg/kg-day)

The RME noncarcinogenic risk for a future child resident from inhalation of chromium in surface soils at OFFTA/Katy Field Site is estimated as follows:

NC	= Inhalation Dose / RfD	
NC	= 4.32E-4	= Noncarcinogenic risk
RfC	= 2.86E-5 mg/kg-day	= Reference Concentration (mg/kg-day)
Noncarc- Inhalation Dose	= 1.24E-8	= Noncarcinogenic Inhalation exposure dose (mg/kg-day)

Sediment Exposure

Two potential exposure routes are associated with direct exposure to sediment at OFFTA/Katy Field Site. These exposure routes include ingestion and dermal absorption.

Ingestion of COPCs in Sediment:

Ingestion of arsenic in sediment at OFFTA/Katy Field Site for a future adult resident under an RME scenario was evaluated using the following equation (EPA 1989a):

$$IngestionDose(mg/kg/day) = \frac{CS * IR_{Sed} * FI * CF1 * EF * ED}{BW * AT}$$

Where:

Carc-Ingestion Dose	= 1.05E-6	= Carcinogenic Ingestion exposure dose (mg/kg/day)
Noncarc-Ingestion Dose	= 3.07E-6	= Noncarcinogenic Ingestion exposure dose (mg/kg/day)

CS	= 6.53 mg/kg	= Arsenic concentration in sediment
IR_{soil}	= 50 mg/day	= Ingestion rate
FI	= 100%	= Fraction Ingested from contaminated source
CF1	= 1E-06 kg/mg	= Conversion Factor
EF	= 240 days/yr	= Exposure frequency

ED	= 24 yr	= Exposure duration
BW	= 70 kg	= Body weight
ATC	= 25550 days	= Averaging time for carcinogens (365 d/yr x 70 yrs)
ATN	= 8760 days	= Averaging time for noncarcinogens (365 d/yr x 24 yrs)

The RME cancer risk for a future adult resident from ingestion of arsenic in sediment at OFFTA/Katy Field Site is estimated as follows:

CA = Ingestion Dose x SF

CA	= 1.58E-6	= Incremental cancer risk
SF	= 1.5 $(mg/kg/day)^{-1}$	= Oral slope factor
Carc-Ingestion Dose	= 1.05E-6	= Carcinogenic Ingestion exposure dose (mg/kg/day)

The RME noncarcinogenic risk for a future adult resident from ingestion of arsenic in sediment at OFFTA/Katy Field Site is estimated as follows:

NC = Ingestion Dose / RfD

NC	= 1.02E-2	= Noncarcinogenic risk
RfD	= 0.0003 mg/kg/day	= Oral reference dose
Noncarc-Ingestion Dose	= 3.07E-6	= Noncarcinogenic Ingestion exposure dose (mg/kg/day)

Dermal Absorption of COPCs in Sediment:

Dermal absorption of arsenic in sediment at OFFTA/Katy Field Site for a future adult resident und r an RME scenario was evaluated using the following equations (EPA 1989; EPA 1995):

$$DermalDose(mg/kg/day) = \frac{CS * SA * SSAF * DABS * EV * EF * ED * CF}{BW * AT}$$

Where:

Carc-Dermal Dose	= 5.37E-7	= Carcinogenic Dermal exposure dose (mg/kg/day)
Noncarc-Dermal Dose	= 1.57E-6	= Noncarcinogenic Dermal exposure dose (mg/kg/day)

CS	= 6.53 mg/kg	= Arsenic concentration in sediment
SA	= 2129 cm^2-years/kg	= Skin Surface Area Available for Contact
SSAF	= 0.4 mg/cm^2/event	= Soil-to-Skin Adherence Factor
ED	= 24 years	= Exposure Duration
EV	= 1 event/day	= Event Frequency
EF	= 240 days/yr	= Exposure Frequency
DABS	= 0.03	= Absorption Factor
CF	= 1E-06 kg/mg	= Conversion Factor
BW	= 70 kg	= Body Weight
ATC	= 25550 days	= Averaging time for carcinogens (365 d/yr x 70 yrs)
ATN	= 8760 days	= Averaging time for noncarcinogens (365 d/yr x 24 yrs)

The RME cancer risk for a future adult resident from dermal absorption of arsenic in sediment at OFFTA/Katy Field Site is estimated as follows:

CA = Dermal Dose x SF

CA	= 8.06E-7	= Incremental cancer risk
SF	= 1.5 $(mg/kg/day)^{-1}$	= Dermal slope factor
Carc-Dermal Dose	= 5.37E-7	= Carcinogenic Dermal exposure dose (mg/kg/day)

The RME noncarcinogenic risk for a future adult resident from dermal absorption of arsenic in sediment at OFFTA/Katy Field Site is estimated as follows:

NC = Dermal Dose / RfD

NC	= 5.22E-3	= Noncarcinogenic risk
RfD	= 3.0E-4 mg/kg/day	= Dermal reference dose
Noncarc-Dermal Dose	= 1.57E-6	= Noncarcinogenic Dermal exposure dose (mg/kg/day)

Shellfish Exposure

One potential exposure route is associated with direct exposure to shellfish at OFFTA/Katy Field Site. This exposure route is ingestion.

Ingestion of Lobster:

Ingestion of arsenic in lobster at OFFTA/Katy Field Site for a future subsistent fisherman under an RME scenario was evaluated using the following equation (EPA1989a):

$$IngestionDose(mg/kg/day) = \frac{CS * IR * FI * CF1 * EF * ED}{BW * AT}$$

Where:

Carc-Ingestion Dose	= 8.03E-4	= Carcinogenic Ingestion exposure dose (mg/kg/day)
Noncarc-Ingestion Dose	= 2.34E-3	= Noncarcinogenic Ingestion exposure dose (mg/kg/day)

CS	= 8.55 mg/kg	= Arsenic concentration in lobster
IR	= 20000 mg/day	= Ingestion rate
FI	= 100%	= Fraction Ingested from contaminated source
EF	= 350 days/yr	= Exposure frequency
ED	= 24 yr	= Exposure duration
CF1	= 1E-06 kg/mg	= Conversion Factor
BW	= 70 kg	= Body weight
ATC	= 25550 days	= Averaging time for carcinogen (365 d/yr x 70 yrs)
ATN	= 8760 days	= Averaging time for noncarcinogens (365 d/yr x 24 yrs)

The RME cancer risk for a future subsistent fisherman from ingestion of arsenic in lobster at OFFTA/Katy Field Site is estimated as follows:

CA = Ingestion Dose x SF

CA	= 1.20E-3	= Incremental cancer risk
SF	= 1.5 $(mg/kg/day)^{-1}$	= Oral slope factor
Carc-Ingestion Dose	= 8.03E-4	= Carcinogenic Ingestion exposure dose (mg/kg/day)

The RME noncarcinogenic risk for a future subsistent fisherman from ingestion of arsenic in lobster at OFFTA/Katy Field Site is estimated as follows:

NC = Ingestion Dose/RfD

NC	= 7.81	= Noncarcinogenic risk
RfD	= 3.0E-4 (mg/kg/day)	= Oral reference dose
Noncarc-Ingestion Dose	= 2.34E-3	= Noncarcinogenic Ingestion exposure dose (mg/kg/day)

APPENDIX Q-8
TOXICOLOGICAL PROFILES

Appendix Q - Part VIII

Toxicological Profiles

Q.1 Alpha-HCH/Gamma-HCH (Lindane)

Q.1.1 Pharmacokinetics

The alpha, beta, and gamma isomers of hexachlorocyclohexane (HCH) have all been shown to cause liver tumors in rats and mice. HCH has not been thoroughly tested for genotoxic effects but does not appear to be mutagenic. The alpha, beta, and delta isomers have not been tested for their teratogenic or reproductive toxicological potential. Lindane (gamma-HCH) has been tested and was not teratogenic, but in two studies it decreased the number of live young produced. Lindane has been associated with the development of aplastic anemia in humans. The liver is considered to be the most sensitive target organ for evaluating noncarcinogenic toxicity from chronic oral exposure.

Alpha-HCH is classified as a cancer weight-of-evidence Group B2 compound (probable human carcinogen), based on increased incidence of liver tumors in rats and mice (EPA 2000). Human carcinogenicity data are inadequate. An oral slope factor of 6.3 per mg/kg/day (EPA 2000) was derived from the incidence of liver tumors in rats and mice fed alpha-HCH.

Beta-HCH is classified as a cancer weight-of-evidence Group C compound (possible human carcinogen), based on increased incidence of liver tumors in mice (EPA 2000). Human carcinogenicity data are inadequate.

DELTA – BHC

Non-carcinogenic Toxicity

Neither an oral nor an inhalation RfD has been determined for this material. The gamma isomer (lindane) has been more extensively evaluated and its toxicologic characteristics are described below. Delta-BHC has been generically described as a CNS depressant with an unknown mechanism of action (Ecobichon, 1996). There was a reported rat study in which 78 weeks of treatment with 1000 mg/kg in the diet produced liver hypertrophy (EPA 1980b).

Exposure to lindane causes tremors, ataxia, convulsions, respiratory stimulation, and prostration (Ecobichon, 1996). In a subchronic dietary study (rat), 12 to 18 weeks of exposure produced liver hypertrophy, kidney tubular degeneration, hyaline droplets, tubular distension, interstitial nephritis, and basophilic tubules (EPA 2000). The LOAEL was 20 ppm (1.55 mg/kg/day). No significant effects were

reported at 4 ppm (0.29 to 0.33 mg/kg/day). Rats dosed with gamma-BHC in the diet for two years developed slight liver and kidney damage (100 ppm) and a NOAEL was determined to be 50 ppm (2.5 mg/kg/day). In dogs, two years of dietary inclusion resulted in increased alkaline phosphatase and enlarged dark friable livers at a level of 100 ppm. A dose level of 50 ppm (1.6 mg/kg/day) was determined to be the NOAEL. Based on the 0.33 mg/kg/day NOAEL from the subchronic rat study, and applying an uncertainty factor of 1,000, the oral RfD for Lindane was calculated to be 3E-4 mg/kg/day.

Carcinogenicity

Delta-BHC is classified as a cancer weight of evidence Group D compound (not classifiable as to human carcinogenicity) based on the lack of definitive carcinogenicity data (EPA 2000). In two reported mouse studies, with treatment periods of 26 or 110 weeks, 400 to 600 mg/kg in the diet resulted in hepatic tumors and lung metastases (EPA 1980b). The oral slope factor for gamma-BHC (lindane) is under review by the EPA, but is listed by HEAST (EPA 1997) as 1.3 E+0 per mg/kg/day based on a 2-year mouse study (EPA 2000). The dietary inclusion study was reported to produce tumors in the livers of treated mice. The weight of evidence Group B2-C (possible to probably human carcinogen) was assigned to gamma-BHC.

Q.2 Alpha-Chlordane/Trans-Nonachlor

Technical chlordane is a mixture of at least 50 related compounds (ATSDR 1992a). The principal components of the mixture are cis- and trans-chlordane, heptachlor, cis- and trans-nonachlor, and alpha-, beta- and gamma-chlordane. Each component has its own environmental fate and transport kinetics.

Q.2.1 Pharmacokinetics

Kinetic studies in rats, in which the area under the curve was compared following intravenous and oral dosing, indicate that approximately 80 percent of an oral dose of trans-chlordane is absorbed from the GI tract (Ohno et al. 1986). In animals, absorbed chlordane is distributed most rapidly to the liver and kidneys, probably because of the extensive vascularity of these organs (Ohno et al. 1986), followed by redistribution to adipose tissue (Barnett and Dorough 1974). In humans, levels of chlordane residues in adipose tissue increase with increasing duration of exposure (ATSDR 1992a). Metabolism involves principally oxidation, dechlorination, and conjugation, yielding lipophilic products that accumulate in adipose tissue as well as more polar products that are excreted. Chlordane residues are excreted principally through the bile, although considerable species differences occur. Lactation is an important mechanism of excretion of chlordane residues retained in body fat.

Q.2.2 Non-carcinogenic Toxicity

An acute oral lethal dose of chlordane in humans is estimated to be 25 to 50 mg/kg (ATSDR 1992a). Symptoms of acute oral or inhalation intoxication in humans consistently include GI disturbances such as

vomiting, cramps, and diarrhea, and neurological effects including headache, irritability, dizziness, incoordination, convulsions, and coma. Data were not located regarding symptoms or effects in humans chronically exposed by the oral route, and no noncancer effects were observed in several studies of occupationally exposed humans. Mild liver lesions were observed in chronic oral studies in rats and mice. Prenatal or early postnatal exposure of mice to chlordane damages the developing immune system and nervous system. Target organs of chlordane include the liver, nervous system, and the fetus and neonate. The liver is considered the most sensitive target organ for evaluating chronic oral exposure.

Q.2.3 Carcinogenicity

The EPA (2000) classifies chlordane in cancer weight-of-evidence Group B2, based on inadequate evidence in humans and sufficient evidence in animals. The human data consist of several epidemiologic studies of chlordane manufacturing workers and pesticide applicators. The only indication of a carcinogenic effect was a borderline significantly increased incidence of bladder cancer in one study of pesticide applicators, but chlordane exposure was not quantified and the workers were concomitantly exposed to other carcinogenic pesticides. The animal data consist of several studies in which oral exposure induced a dose-related increase in the incidence of liver tumors.

Q.3 Antimony

Q.3.1 Pharmacokinetics

Ingested antimony is absorbed slowly and incompletely from the gastrointestinal (GI) tract (Iffland 1988). Within a few days of acute exposure, highest tissue concentrations are found in the liver, kidney, and thyroid. Organs of storage include skin, bone, and teeth. Highest concentrations in deceased smelter workers (inhalation exposure) occurred in the lungs and skeleton. Excretion is largely via the urine or feces, although some is incorporated into the hair.

Q.3.2 Non-carcinogenic Toxicity

Acute intoxication from ingestion of large doses of antimony induces GI disturbances, dehydration, and cardiac effects in humans (Iffland 1988). Chronic effects from occupational exposure include irritation of the respiratory tract, pneumoconiosis, pustular eruptions of the skin called "antimony spots," allergic contact dermatitis, and cardiac effects, including abnormalities of the electrocardiograph (EKG) and myocardial changes. Cardiac effects were also observed in rats and rabbits exposed by inhalation for six weeks and in animals (dogs, and possibly other species) treated by intravenous injection (Elinder and Friberg 1986a).

Chronic oral exposure studies in laboratory animals include two briefly reported lifetime drinking water studies in rats and mice (Kanisawa and Schroeder 1969; Schroeder et al. 1970). The only dose tested, 5

ppm potassium antimony tartrate, resulted in reduced longevity, reduced glucose levels, and altered cholesterol levels in rats. EPA (2000) verified an RfD of 4.00E-04 mg/kg/day for chronic oral exposure to antimony from the LOAEL of 5 ppm potassium antimony tartrate (0.35 mg antimony/kg body weight-day) in the lifetime study in rats (Schroeder et al. 1970). An uncertainty factor of 1000 was applied; factors of 10 each for inter- and intraspecies variation and to estimate an NOAEL from an LOAEL. The circulatory system is considered a likely target organ for chronic oral exposure of humans. EPA (2000) has not published an RfC or Inhalation RfD for antimony.

Q.3.3 Carcinogenicity

Antimony has not undergone a complete evaluation under EPA's IRIS Program for evidence of carcinogenic potential (EPA 2000).

Q.4 Arsenic

Q.4.1 Pharmacokinetics

Several studies confirm that soluble inorganic arsenic compounds and organic arsenic compounds are almost completely (>90 percent) absorbed from the GI tract in both animals and humans (Ishinishi et al. 1986). The absorption efficiency of insoluble inorganic arsenic compounds depends on particle size and stomach pH. Initial distribution of absorbed arsenic is to the liver, kidneys, and lungs, followed by redistribution to hair, nails, teeth, bone, and skin, which are considered tissues of accumulation. Arsenic has a longer half-life in the blood of rats, compared with other animals and humans, because of firm binding to the hemoglobin in erythrocytes

Metabolism of inorganic arsenic includes reversible oxidation-reduction so that both arsenite (valence of 3) and arsenate (valence of 5) are present in the urine of animals treated with arsenic of either valence (Ishinishi et al. 1986). Arsenite is subsequently oxidized and methylated by a saturable mechanism to form mono- or dimethylarsenate; the latter is the predominant metabolite in the urine of animals or humans. Organic arsenic compounds (arsenilic acid, cacodylic acid) are not readily converted to inorganic arsenic. Excretion of organic or inorganic arsenic is largely via the urine, but considerable species variation exists. Continuously exposed humans appear to excrete 60 to 70 percent of their daily intake of arsenate or arsenite via the urine.

Q.4.2 Non-carcinogenic Toxicity

A lethal dose of arsenic trioxide in humans is 70 to 180 mg (approximately 50 to 140 mg arsenic; Ishinishi et al. 1986). Acute oral exposure of humans to high doses of arsenic produce liver swelling, skin lesions, disturbed heart function, and neurological effects. The only non-carcinogenic effects in humans clearly attributable to chronic oral exposure to arsenic are dermal hyperpigmentation and keratosis, as revealed by studies of several hundred Chinese exposed to naturally occurring arsenic in well water (Tseng 1977; Tseng et al. 1968; EPA 2000). Similar effects were observed in persons exposed to high levels of arsenic in water in Utah and the northern part of Mexico (Cebrian et al. 1983; Southwick et al. 1983). Occupational (predominantly inhalation) exposure is also associated with neurological deficits, anemia, and cardiovascular effects (Ishinishi et al. 1986), but concomitant exposure to other chemicals cannot be ruled out. EPA (2000) derived an RfD of 3.00E-03 mg/kg/day for chronic oral exposure, based on an NOAEL of 0.0008 mg/kg/day for skin lesions from the Chinese data. An uncertainty of 3 is applied to account for both the lack of data to preclude reproductive toxicity as a critical effect and to account for some of the uncertainty in whether the NOAEL of the critical study accounts for all sensitive individuals. The principal target organ for arsenic appears to be the skin. The nervous system and cardiovascular systems appear to be less significant target organs. Inorganic arsenic may be an essential nutrient, exerting beneficial effects on growth, health, and feed conversion efficiency (Underwood 1977). EPA (2000) has not published an RfC or Inhalation RfD for arsenic.

Q.4.3 Carcinogenicity

Inorganic arsenic is clearly a carcinogen in humans. Inhalation exposure is associated with increased risk of lung cancer in persons employed as smelter workers, in arsenical pesticide applicators, and in a population residing near a pesticide manufacturing plant (EPA 2000). Oral exposure to high levels in well water is associated with increased risk of skin cancer (Tseng 1977; EPA 2000). Extensive animal testing with various forms of arsenic given by many routes of exposure to several species, however, has not demonstrated th carcinogenicity of arsenic (International Agency for Research on Cancer [IARC] 1980). EPA (2000) classifies inorganic arsenic in cancer weight-of-evidence Group A (human carcinogen), and recommends an oral unit risk of 0.00005 ug/L in drinking water, based on the incidence of skin cancer in the Tseng (1977) study. . EPA (2000) published an oral SF of 1.50E+00 per mg/kg/day. EPA (2000) notes that the uncertainties associated with the oral unit risk are considerably less than those for most carcinogens, so that the unit risk might be reduced an order of magnitude. An inhalation unit risk of 0.0043 per ug/m3, equivalent to a inhalation RfD of 1.51E+01 per mg/kg/day, was derived for inorganic arsenic from the incidence of lung cancer in occupationally exposed men (EPA 2000).

A. 5 Boron

Q.5.1 Non-carcinogenic Toxicity

EPA (2000) published an oral reference dose RfD of 9.0E-02 mg/kg/day based on testicular atrophy and spermatogenic arrest in an oral chronic study on dogs (Weir and Fisher, 1972). EPA (2000) has not published a reference concentration (RfC) or Inhalation reference dose (RfD) for boron.

Q.5.2 Carcinogenicity

EPA (2000) has not classified the carcinogenicity of boron.

Q.6 Cadmium

Q.6.1 Pharmacokinetics

Estimates of cadmium uptake by the respiratory tract range from 10 to 50 percent; uptake is greatest for fumes and small particles and least for large dust particles (Friberg et al., 1986; Goyer, 1991). GI absorption of ingested cadmium is ordinarily 5 to 8 percent, but may reach 20 percent in cases of serious dietary ion deficiency. Highest tissue levels are normally found in the kidneys followed by the liver, although levels in the liver may exceed those in the kidneys of persons suffering from cadmium-induced renal dysfunction. The half-life of cadmium in the kidneys and liver may be as long as 10-30 years. Fecal and urinary excretion of cadmium are approximately equivalent to normal humans exposed to small amounts. Urinary excretion increases markedly in humans with cadmium-induced renal disease.

Q.6.2 Non-carcinogenic Toxicity

Acute inhalation exposure to fumes or particles of cadmium induces respiratory symptoms, general weakness, and, in severe cases, respiratory insufficiency, shock, and death (Friberg et al., 1986). Acute oral exposure induces GI disturbances. Chronic inhalation exposure induces pulmonary emphysema, and chronic exposure by either route consistently produces renal tubular disease in humans and laboratory animals. Proteinuria is a reliable early indicator of cadmium-induced kidney disease. The combination of pulmonary emphysema and renal tubular disease, if severe, may result in early mortality. Painful osteomalacia and osteoporosis may arise from altered metabolism of bone minerals secondary to renal damage. The combination of renal and skeletal damage is called itai-itai disease in Japan. Cadmium exposure ahs been associated with liver damage, but the liver appears to be less sensitive than the kidney. The kidney is the primary target organ of cadmium toxicity. EPA (2000) derived chronic oral RfD values of 5.00E-04 mg/kg/day for cadmium ingested in water and 1.00E-03 g/kg/day for cadmium ingested in food (solid material), based on a toxicokinetic model that predicted NOAELs from renal cortical concentration of cadmium. The different RfD values reflect assumed differences in GI absorption of cadmium from water (5 percent) and food (2.5 percent). EPA (2000) has not published an RfC or Inhalation RfD for cadmium.

Q.6.3 Carcinogenicity

Carcinogenicity data in humans consist of several occupational studies that associate cadmium exposure with lung cancer, but concomitant exposure to other carcinogenic chemicals and smoking were not adequately controlled. Other occupational studies reported significantly increased risk of prostatic cancer, but this effect was not observed in the largest occupational study of workers exposed to high levels (Thun et al., 1985). The animal data consist of an inhalation study in rats that showed a significant increase in lung tumors, and several parenteral injection studies that produced injection site tumors. No evidence of carcinogenicity, however, was observed in seven oral studies in rats and mice. EPA (2000) classifies cadmium a cancer weight-of-evidence Group B1 substance for inhalation exposure on the basis of limited evidence of carcinogenicity in humans and sufficient evidence in animals. The data were insufficient to classify cadmium as carcinogenic to humans exposed by the oral route. An inhalation unit risk of 0.0018 mg/m3, equivalent to 6.30E+00 per mg/kg/day, was derived from the occupational exposure study by Thun et al. (1985) assuming an inhalation rate of 20 m3/day and a body weight of 70 kg for humans.

Q.7 Chromium

Q.7.1 Non-carcinogenic Toxicity

In nature, chromium (III) predominates over chromium (VI) (Langård and Norseth 1986). Little chromium (VI) exists in biological materials, except shortly after exposure, because reduction to chromium (III) occurs rapidly. Chromium (III) is considered a nutritionally essential trace element and is considerably less toxic than chromium (VI).

No effects were observed in rats consuming 1800 mg chromium (III)/kg/day in the diet for over two years (EPA 2000). The NOEL of 1800 mg/kg/day and an uncertainty factor of 1,000 was the basis for a verified chronic oral RfD of 1.0E+00 mg/kg/day (EPA 2000). A target organ was not identified for chromium (III).

Acute oral exposure of humans to high doses of chromium (VI) induced neurological effects, GI hemorrhage and fluid loss, and kidney and liver effects. Parenteral dosing of animals with chromium (VI) is selectively toxic to the kidney tubules. An NOAEL of 2.4 mg chromium (VI)/kg/day in a one-year drinking water study in rats was the basis of a verified RfD of 3.00E-03 mg/kg/day for chronic oral exposure (EPA 2000). An uncertainty factor of 300 represents two 10-fold decreases in dose to account for both the expected interhuman and interspecies variability in the toxicity of the chemical in lieu of specific data and an additional factor of 3 to compensate for the less-than-lifetime exposure duration of the study (EPA 2000). The kidney may be the principal target organ for repeated oral dosing with chromium (VI), but effects seen in the principal RfD study were increased levels of chromium (VI) in kidneys, livers, and femurs of test subjects.

EPA (2000) published an inhalation RfC of 0.0004 mg/m3, equivalent to 2.86E-05 mg/kg/day, based on a BMD of 0.016 mg/m3 in a rat subchronic study. Critical effects seen were lactate dehydrogenase in bronchioalveolar lavage fluid. An uncertainty factor of 300 was also applied to the inhalation RfC based on a

accounting for pharmacodyna differences not accounted for, and a 10-fold factor to account for the less than lifetime exposure and a 10-fold factor to account for variation in the human population (EPA 1988).

Q.7.2 Carcinogenicity

Data were not located regarding the carcinogenicity of chromium (III). EPA (2000) classifies chromium (VI) in cancer weight-of-evidence Group D (not classifiable regarding human carcinogenicity), via the oral route of exposure. EPA (2000) classifies chromium (VI) in cancer weight-of-evidence Group A (human carcinogen), via inhalation exposure based on the consistent observation of increased risk of lung cancer in occupational studies of workers in chromate production or the chrome pigment industry. Parenteral dosing of animals with chromium (VI) compounds consistently induced injection-site tumors. inhalation unit risk of 0.012 per ug/m3, equivalent to 4.10E+01 per mg/kg/day (EPA 2000), assuming humans inhale 20 m3/day and weigh 70 kg, was based on increased risk of lung cancer deaths in chromate production workers.

Q.8 DDD [1,1-bis(4-Chlorophenyl)-2,2-Dichloroethane]

Q.8.1 Non-carcinogenic Toxicity

DDD is considered a poison through ingestion. Moderately toxic by skin contact (Sax and Lewis 1989). Short-term exposure to high doses of DDT primarily affects the nervous system. Rashes, irritation to the eyes, nose and throat were observed in some people exposed to DDT. People exposed a long time to DDT exhibited changes in the level of liver enzymes. Tests in animals have suggested that short term exposure to DDT may have a harmful effect on reproduction (ATSDR 1989).

No RfDs or RfCs were established for DDD.

Q.8.2 Carcinogenicity

With respect to carcinogenicity, EPA (2000) has assigned DDD a weight-of evidence of B2, meaning the EPA regards DDD as a "possible" human carcinogen. This classification is based of an increased incidence of lung tumors in male and female mice, liver tumors in male mice and thyroid tumors in male rats. DDD is structurally similar to, and is a known metabolite of DDT, a probable human carcinogen (EPA 2000). The evidence for carcinogenicity in humans of DDT is based on autopsy studies relating tissue levels of DDT to cancer incidence. Human epidemiological data are not available for DDD. Tomatis et al. (1974) fed DDD for 130 weeks at 250ppm to mice. A statistically significant increase in incidence of lung tumors was observed. In males, a statistically significant increase in incidence of liver

tumors was also observed. An increased incidence of thyroid tumors was observed in male rats fed DDD (EPA 2000).

An oral slope factor for DDD is 0.24 per mg/kg/day (EPA 2000). An inhalation slope factor is not available.

Q.9 DDE [2,2-bis(p-Chlorophenyl)-1,1-Dichloroethylene]

Q.9.1 Non-carcinogenic Toxicity

DDE is considered a poison through ingestion. Reproductive effects were observed in DDE studies (Sax and Lewis 1989). Refer to the discussion on DDT for systemic effects.

RfDs and RfCs are not available for this compound.

Q.9.2 Carcinogenicity

DDE is classified as cancer weight-of-evidence B2, a "probable" human carcinogen based on increased incidence of liver tumors (Tomatis 1974), including carcinomas in two strains of mice and in hamsters and the presence of thyroid tumors in female rats fed DDE in the diet. Rossi et al. (1983) administered DDE in feed to hamsters and a statistically significant increase in incidence of neoplastic nodules of the liver were observed. An increased incidence of thyroid tumors was observed in females (NCI 1978).

The oral slope factor derived is 0.34 per mg/kg/day. An inhalation slope factor is not available.

DDE was mutagenic in mouse lymphoma cells and chinese hamster cells. DDE is structurally similar to and a metabolite of DDT which is a probable human carcinogen.

Q.10 DDT (4,4'-Dichlorodiphenyl-Trichloroethane)

Q.10.1 Pharmacokinetics

Dichlorodiphenyltrichloroethane (DDT) is readily absorbed when dissolved in oils, fats, or lipid solvents, but is poorly absorbed as dry powder or aqueous suspension. Once absorbed, DDT concentrates in adipose tissue. Storage in fat is protective because it decreases the amount of chemicals at the site of toxic action, the brain. At a constant rate of intake, concentrations in adipose tissue reach a steady state and remain relatively constant. When exposure ceases, DDT is slowly eliminated. The rate of elimination is estimat d to be 1 percent of stored DDT excreted per day (Gartrell 1985).

After absorption in mammals, DDT degrades by dehydrochlorination to unsaturated DDE and by substitution of hydrogen for one chlorine atom yielding DDD. DDD is further metabolized through a series of

intermediates yielding DDA. DDA is relatively water soluble and excreted primarily in the urine. Ingestion studies of DDT administered to volunteers demonstrated that within 24 hours, urinary DDA excretion increased detectably. Excretion of DDT as DDA appeared to be totally dependent on preferential reductive dechlorination of DDT to DDD (rather than DDE) and then to DDA (Clayton 1981).

Q.10.2 Non-carcinogenic Toxicity

The CNS is an important target organ in humans acutely exposed to DDT. Symptoms include altered sensory perception, headache, nausea, disequilibrium, confusion, tremors, and convulsions (Hayes 1982; ATSDR 1989). Tremors and hyperirritability were observed in chronically exposed animals (NCI 1978; Rossi et al. 1977). The liver appears to be the other important target organ, at least in animals. Liver effects include enzyme induction, increased liver weight, increased serum levels of liver enzymes, hepatocellular hypertrophy, and necrosis (ATSDR 1989).

Dermal exposure has been associated with no illness and usually no irritation. Subcutaneous injection of colloidal suspensions of DDT in saline up to 30 ppm caused no irritation. Studies of DDT-impregnated clothing have found it to cause no irritation (Hayes 1982). The earliest symptom of acute DDT poisoning is paresthesia of the mouth and lower part of the face. This is followed by paresthesia of same areas and of the tongue and then dizziness, and tremors of extremities, confusion, malaise, headache, fatigue, and delayed vomiting. Vomiting is probably of central origin and not due to local irritation. Convulsions occur only in severe poisoning. Onset may be as soon as 30 minutes after ingestion of a large dose or as late as six hours after smaller but still-toxic doses. Recovery from mild poisoning usually is essentially complete in 24 hours, but recovery from severe poisoning requires several days (Hayes 1982).

There is no documented evidence that dietary absorption of DDT, alone or in combination with insecticides of the aldrin-toxaphene group, has caused cancer in the general population. No evidence has been presented that DDT has caused cancer among the millions of individuals (almost entirely men) who have been handling or spraying DDT (as dust, solution, and suspension) in all parts of the world and under all possible climatic conditions.

DDT is a mixture of p,p'-DDT and related compounds. One of the more important of the DDT isomers is o,p'-DDT. These agents have prominent estrogenic effects that have been well-characterized in a number of assay systems (Johnson, et al. 1988). The estrogenicity of DDT has lead to the supposition that it may adversely affect reproductive outcome by causing birth defects, increasing pregnancy complications, or affecting fertility (RTC 1990).

Q.10.3 Carcinogenicity

The EPA (1997) has classified DDT in cancer weight-of-evidence Group B 2 (probable human carcinogen) based on the observation of tumors (generally of the liver) in seven studies in various mouse strains and in three studies in rats.

Q.11 Dieldrin

Q.11.1 Pharmacokinetics

Dieldrin is a carcinogen, causing increases in a variety of tumors in rats at low but not at high doses and producing a higher incidence of liver tumors in mice. The reason for this reversed dose-response relationship is unclear. Neither appears to be mutagenic when tested in a number of systems. Dieldrin is toxic to the reproductive system and teratogenic. Reproductive effects include decreased fertility, increased fetal death, and effects on gestation; while teratogenic effects include cleft palate, webbed foot, and skeletal anomalies. Chronic effects attributed to dieldrin include liver toxicity and central nervous system abnormalities. Both chemicals are acutely toxic; the oral LD_{50} is around 50 mg/kg, and the dermal LD_{50} is about 100 mg/kg.

Q.11.2 Non-carcinogenic Toxicity

Chronic feeding with dieldrin induced evidence of degeneration of the liver in rats. (EPA 2000). The EPA (2000) presented a verified chronic oral RfD of 0.05 ug/kg/day based on a LOAEL for liver effects in rats and an uncertainty factor of 1000. The principal target organ of dieldrin is the liver.

Q.11.3 Carcinogenicity

The EPA (2000) classifies dieldrin in cancer weight-of-evidence Group B2 (probable human carcinogen), based on inadequate human data and sufficient animal data. The human data consist of epidemiologic studies that had results which were statistically insignificant. Animal studies associated treatment with liver tumors in male and female mice. The EPA (2000) presented a verified oral slope factor of 16 per mg/kg/day, based on the increased incidence of liver tumors in mice treated in the diet. An inhalation risk estimate was not derived.

Q.12 2,3,7,8-SUBSTITUTED-DIOXIN/FURAN CONGENERS

Q.12.1 Carcinogenicity

EPA (1997) established an oral and inhalation slope factor of 1.5E+05 based on respiratory and liver tumors in rats. An absorption factor of 0.75 is used to calculate the unit risk from the oral slope factor. Other dioxin/furan 2,3,7,8-substituted congeners have equivalency factors that are presented in Appendix P of the RI report.

Q.13 Heptachlor Epoxide (Clement Associates 1985)

Q.13.1 Pharmacokinetics

Heptachlor and heptachlor epoxide are liver carcinogens when administered orally to mice. Results from mutagenicity bioassays suggest that these compounds also may have genotoxic activity. Reproductive and teratogenic effects in rats include decreased litter size, shortened life span of suckling rats, and development of cataracts in offspring.

Tests with laboratory animals, primarily rodents, demonstrate acute and chronic toxic effects due to heptachlor exposure. Although heptachlor and heptachlor epoxide are absorbed most readily through the gastrointestinal tract, inhalation and skin contact are also potential routes of exposure. Acute exposure by various routes can cause development of hepatic vein thrombi and can effect the central nervous system and cause death. Chronic exposure induces liver changes, affects hepatic microsomal enzyme activity, and causes increased mortality in offspring. The oral LD_{50} in the rat is 40 mg/kg for heptachlor and 47 mg/kg for heptachlor epoxide. The liver is considered to be the most sensitive target organ for evaluating chronic oral exposure.

Although there are reports of acute and chronic toxicity in humans, with symptoms including tremors, convulsions, kidney damage, respiratory collapse, and death, details of such episodes are not well documented. Heptachlor epoxide has been found in a high percentage of human adipose tissue samples, and also in human milk samples and biomagnification of heptachlor/heptachlor epoxide occurs. This compound also has been found in the tissues of stillborn infants, suggesting an ability to cross the placenta and bioaccumulate in the fetus.

Q.13.2 Carcinogenicity

EPA classifies heptachlor and heptachlor epoxide as Group B2 (probable human) carcinogens based on sufficient evidence of cancer in animals but inadequate human data.

Q.14 L ad

Q.14.1 Pharmacokinetics

Studies in humans indicate that an average of 10 percent of ingested lead is absorbed, but estimates as high as 40 percent were obtained in some individuals (Tsuchiya 1986). Nutritional factors have a profound effect on GI absorption efficiency. Children absorb ingested lead more efficiently than adults; absorption efficiencies up to 53 percent were recorded for children three months to eight years of age. Similar results were obtained for laboratory animals; absorption efficiencies of 5 to 10 percent were obtained for adults and 50 percent were obtained for young animals. The deposition rate of inhaled lead averages approximately 30 to 50 percent, depending on particle size. All lead deposited in the lungs is eventually absorbed.

Approximately 95 percent of the lead in the blood is located in the erythrocytes (EPA 1991a). Lead in the plasma exchanges with several body compartments, including the internal organs, bone, and several excretory pathways. In humans, lead concentrations in bone increase with age (Tsuchiya 1986). About 90 percent of the body burden of lead is located in the skeleton. Neonatal blood concentrations are about 85 percent of maternal concentrations. Excretion of absorbed lead is principally through the urine, although GI secretion, biliary excretion, and loss through hair, nails, and sweat are also significant.

Q.14.2 Non-carcinogenic Toxicity

The non-carcinogenic toxicity of lead to humans has been well characterized through decades of medical observation and scientific research (EPA 2000). The principal effects of acute oral exposure are colic with diffuse paroxysmal abdominal pain (probably due to vagal irritation), anemia, and, in severe cases, acute encephalopathy, particularly in children (Tsuchiya 1986). The primary effects of long-term exposure are neurological and hematological. Limited occupational data indicate that long-term exposure to lead may induce kidney damage. The principal target organs of lead toxicity are the erythrocyte and the nervous system. Some of the effects on the blood, particularly changes in levels of certain blood enzymes, and subtle neurologic behavioral changes in children, appear to occur at levels so low as to be considered non-threshold effects.

EPA (2000) presents no inhalation RfC for lead, but referred to the National Ambient Air Quality Standard (NAAQS) for lead. The NAAQSs are based solely on human health considerations and are designed to protect the most sensitive subgroup of the human population. The NAAQS for lead is 1.5 ug/m3, averaged quarterly (EPA 2000).

EPA (1991a, 2000) determined that it is inappropriate to derive an RfD for oral exposure to lead for several reasons. First, the use of an RfD assumes that a threshold for toxicity exists, below which adverse effects are not expected to occur; however, the most sensitive effects of lead exposure, impaired neurologic behavioral development in children and altered blood enzyme levels associated with anemia, may occur at

blood lead concentrations so low as to be considered practically non-threshold in nature. Second, RfD values are specific for the route of exposure for which they are derived. Lead, however, is ubiquitous, so that exposure occurs from virtually all media and by all pathways simultaneously, making it practically impossible to quantify the contribution to blood lead from any one route of exposure. Finally, the dose-response relationships common to many toxicants, and upon which derivation of an RfD is based, do not hold true for lead. This is because the fate of lead within the body depends, in part, on the amount and rate of previous exposures, the age of the recipient, and the rate of exposure. There is, however, a reasonably good correlation between blood lead concentration and effect. Therefore, blood lead concentration is the appropriate parameter on which to base the regulation of lead.

EPA IEUBK lead model is an iterated set of equations that estimate blood lead concentration in children aged 0 to 7 years (EPA 1991a; 1991b). The biokinetic part of the model describes the movement of lead between the plasma and several body compartments and estimates the resultant blood lead concentration. The rate of the movement of lead between the plasma and each compartment is a function of the transition or residence time (i.e., the mean time for lead to leave the plasma and enter a given compartment, or the mean residence time for lead in that compartment). Compartments modeled include the erythrocytes, liver, kidneys, all the other soft tissue of the body, cortical bone, and trabecular bone. Excretory pathways and their rates are also modeled. These include the mean time for excretion from the plasma to the urine, from the liver to the bile, and from the other soft tissues to the hair, skin, sweat, etc. The model permits the user to adjust the transition and residence times.

EPA guidance establishes an interim soil cleanup level for lead of 400 parts per million (ppm) to be applied at Superfund sites. This value is considered by EPA to be protective for direct contact with lead-contaminated soils in residential settings. The guidance is to be followed when current or predicted land use is residential.

Q.14.3 Carcinogenicity

EPA (2000) classifies lead in cancer weight-of-evidence Group B2 (probable human carcinogen), based on inadequate evidence of cancer in humans and sufficient animal evidence. The human data consist of several epidemiological occupational studies that yielded confusing results. All of the studies lacked quantitative exposure data and failed to control for smoking and concomitant exposure to other possibly carcinogenic metals. Rat and mouse bioassays showed statistically significant increases in renal tumors following dietary and subcutaneous exposure to several soluble lead salts. Various lead compounds were observed to induce chromosomal alterations in vivo and in vitro, sister chromatid exchange in exposed workers, and cell transformation in Syrian hamster embryo cells; to enhance simian adenovirus induction; and to alter molecular processes that regulate gene expression. EPA (2000) declined to estimate risk for oral exposure to lead because many factors (e.g., age, general health, nutritional status, existing body burden and duration of exposure) influence the bioavailability of ingested lead, introducing a great deal of uncertainty into any estimate of risk.

Q.15 Manganese

Q.15.1 Non-carcinogenic Toxicity

Manganese is nutritionally required in humans for normal growth and health (EPA 2000) Humans exposed to approximately 0.8 mg manganese/kg/day in drinking water exhibited lethargy, mental disturbances (1/16 committed suicide), and other neurologic effects. The elderly appeared to be more sensitive than children. Oral treatment of laboratory rodents induced biochemical changes in the brain, but rodents did not exhibit the neurological signs exhibited by humans. Occupational exposure to high concentrations in air induced a generally typical spectrum of neurological effects, and increased incidence of pneumonia (ACGIH 1986).

EPA (2000) published an oral RfD for manganese of 0.024 mg/kg/day based on drinking water and an oral RfD of 0.14 mg/kg/day based on food. EPA (2000) presented a verified chronic inhalation RfC based on a LOAEL for impairment of neurobehavioral function in occupationally exposed humans. The inhalation RfC is equivalent to 1.43E-05 mg/kg/day, assuming humans inhale 20 m3 of air/day and weigh 70 kg. The CNS and respiratory tract are target organs of inhalation exposure to manganese.

Q.15.2 Carcinogenicity

EPA (2000) classifies manganese in cancer weight-of-evidence Group D (not classifiable as to carcinogenicity to humans).

Q.16 Mercury

Mercury occurs in three forms: elemental, organic, and inorganic. Although the toxicity of all forms is mediated by the mercury cation, the extent of absorption and pattern of distribution within the body, which determines the effects observed, depends on the form to which the organism is exposed (Goyer 1991). Bacterial activity in the environment converts inorganic mercury to methyl mercury (Berlin 1986). It is likely that either inorganic mercury or methyl mercury may be taken up by plants and enter the food chain, and this discussion will focus on inorganic and methyl mercury. Exposure to elemental mercury, which is more likely to occur in an occupational setting, is not discussed herein.

Q.16.1 Pharmacokinetics

The GI absorption of inorganic mercury salts is about 2 to 10 percent in humans, and slightly higher in experimental animals (Berlin 1986; Goyer 1991). Inorganic mercury in the blood is roughly equally divided between the plasma and erythrocytes. Distribution is preferentially to the kidney, with somewhat lower concentrations found in the liver, and even lower levels found in the skin, spleen, testes, and brain (Berlin 1986). Inorganic mercury is excreted principally through the feces and urine, with minor pathways including the secretions of exocrine glands and exhalation of elemental mercury vapor.

Methyl mercury is nearly completely (90 to 95 percent) absorbed from the GI tract (Berlin 1986). The concentration of methyl mercury in the erythrocytes is about 10 times that in the plasma. Methyl mercury leaves the blood slowly, showing particular affinity for the brain, particularly in primates. In rats, 1 percent of the body burden of methyl mercury is found in the brain, but in humans, 10 percent of the body burden is found in the brain. Somewhat lower levels are found in the liver and kidney. During pregnancy, methyl mercury accumulates in the fetal brain, often at levels higher than in the maternal brain. Most tissues except the brain transform methyl mercury to inorganic mercury. Excretion of methyl mercury is principally via the bile, with a half-life of 70 days in humans not suffering from toxicity. Following exposure to methyl mercury, some of the mercury in the bile exists as methyl mercury and some as the inorganic form. The inorganic form is largely passed in the feces, but methyl mercury is subject to enterohepatic recirculation. Another important excretory pathway for methyl mercury is lactation.

Q.16.2 Non-carcinogenic Toxicity

Target organs for inorganic or methyl mercury include the kidney, nervous system, fetus, and neonate. Acute oral exposure to high doses of inorganic mercury causes severe damage to the GI mucosa because of the corrosive nature of mercury salts, which may lead to bloody diarrhea, shock, circulatory collapse, and death (Berlin 1986; Goyer 1991). Acute sublethal poisoning induces severe kidney damage. Chronic exposure induces an autoimmune glomerular disease and renal tubular injury. Acute or chronic exposure to methyl mercury leads to neurologic dysfunction (Berlin 1986; Goyer 1991). The region of the nervous system affected is species-dependent. Methyl mercury poisoning in rats induces peripheral nerve damage and kidney effects. In humans, the sensory cortex appears to be the most sensitive. The brain of the fetus and the neonate may be unusually sensitive to methyl mercury; retarded neurologic development was observed in prenatally exposed children whose mothers showed no clinical signs of poisoning. EPA (2000) published an oral RfD of 1.00E-04 mg/kg/day for exposure to methyl mercury based on neurological effects in environmentally exposed humans. An intake of 3 ug/kg/day was the LOAEL corresponding to a blood level of 200 ng/mL, which was associated with CNS effects. An uncertainty factor of 10 was used to estimate an NOAEL from an LOAEL. An inhalation RfC of 0.0003 mg/kg/day (uncertainty factor of 30) has been established for inorganic mercury based on neurotoxic effects in humans. This translates into a chronic RfD of 8.60E-05 mg/kg/day (EPA 2000).

Q.16.3 Carcinogenicity

EPA (2000) classifies inorganic mercury in cancer weight-of-evidence Group D (not classifiable as to carcinogenicity to humans), based on no data regarding cancer in humans, and inadequate animal and supporting data. EPA (2000) has not yet evaluated the carcinogenicity of organic mercury.

Q.17 Nickel

Q.17.1 Non-carcinogenic Toxicity

In a subchronic gavage study with nickel chloride in water, clinical signs of toxicity in rats included lethargy, ataxia, irregular breathing, reduced body temperature, salivation, and discolored extremities (EPA 1996). Inhalation exposure was associated with asthma and pulmonary fibrosis in welders using nickel alloys (ACGIH 1986). Lung effects were observed in laboratory animals exposed by inhalation. EPA (2000) presented a verified RfD of 2.00E-02 for chronic oral exposure to nickel, based on an NOAEL for decreased organ and body weights in a two-year dietary study with nickel sulfate in rats and an uncertainty factor of 300. The CNS appears to be the target organ for the oral toxicity of nickel. The lung is clearly the target organ for inhalation exposure even though EPA (2000) has not published an RfC or Inhalation RfD for nickel.

Q.17.2 Carcinogenicity

Occupational exposure to nickel was associated with increased risk of nasal, laryngeal and lung cancer (ATSDR 1995). Inhalation exposure of rats to nickel subsulfide increased the incidence of lung tumors. EPA (2000) presents a cancer weight-of-evidence Group A classification (human carcinogen) for nickel refinery dust. No oral SF or inhalation unit risk was established for elemental nickel, therefore, carcinogenic exposures for nickel are not estimated at this site.

Q.18 Polyaromatic Hydrocarbons (Carcinogenic)

Q.18.1 Pharmacokinetics

Although quantitative absorption data for the PAHs were not located, benzo(a)pyrene was readily absorbed across the GI (Rees et al. 1971) and respiratory epithelia (Kotin et al. 1969; Vainich et al. 1976). The high lipophilicity of other compounds in this class suggests that other PAHs also would be readily absorbed across GI and respiratory epithelia.

Benzo(a)pyrene was distributed widely in the tissues of treated rats and mice, but primarily to tissues high in fat, such as adipose tissue and mammary gland (Kotin et al. 1969; Schlede et al. 1970a). Patterns of tissue distribution of other PAHs would be expected to be similar because of the high lipophilicity of the members of this class.

Studies of the metabolism of benzo(a)pyrene provide information relevant to other PAHs because of the structural similarities of all members of the class. Metabolism involves microsomal mixed function oxidase hydroxylation of one or more of the phenyl rings with the formation of phenols and dihydrodiols, probably via formation of arene oxide intermediates (EPA 1979a). The dihydrodiols may be further oxidized to diol epoxides, which, for certain members of the class, are known to be the ultimate carcinogens (LaVoie et al. 1982). Conjugation with glutathione or glucuronic acid, and reduction to tetrahydrotetrols are important detoxification pathways. Metabolism of naphthalene resulted in the formation of 1,2-naphthoquinone, which induced cataract formation and retinal damage in rats and rabbits.

Excretion of benzo(a)pyrene or dibenz(a,h)anthracene residues was reported to be rapid, although quantitative data were not located (EPA 1979b). Excretion occurred mainly via the feces, probably largely due to biliary secretion (Schlede et al. 1970a, 1970b). EPA (1980a) concluded that accumulation in the body tissues of PAHs from chronic low level exposure would be unlikely.

Q.18.2 Non-carcinogenic Toxicity

Oral noncancer toxicity data are available for acenaphthene, anthracene, dibenzofuran, fluoranthene, fluorene, 2-methylnaphthalene, naphthalene, and pyrene. EPA (1997, 2000a, 2000) has not established oral RfDs or inhalation RfCs for the carcinogenic PAHs including benz(a)anthracene, benzo(a)pyrene,

benzo(b)fluoranthene, benzo(k)fluoranthene, carbazole, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene.

Acenaphthene appears to be a mild hepatotoxicant, and possibly a nephrotoxicant, in rodents (EPA 2000). In a comprehensive 90-day toxicity study in mice, gavage treatment with 175 mg/kg/day was an NOAEL; liver weight changes accompanied by hepatocellular hypertrophy and elevated cholesterol levels occurred in mice treated with 350 or 700 mg/kg/day (EPA 1989a). Oral treatment of rats and mice for 32 days with 2000 mg/kg/day resulted in weight loss and mild liver and kidney lesions (Knobloch et al. 1969). EPA (2000) verified a chronic oral RfD for acenaphthene of 0.06 mg/kg/day based on an NOAEL for liver effects in a subchronic gavage study in mice and an uncertainty factor of 3000. An uncertainty factor of 3000 was used with factors of 10 each for inter- and intraspecies variation and to expand from subchronic to chronic exposure, and a factor of 3 to reflect gaps in the database, namely lack of adequate data in a second species and lack of developmental and reproductive data. Confidence in the database was low because of the data gaps. Confidence in the critical study was low because the effects were considered adaptive, rather than adverse, which implies that the RfD is extremely conservative. EPA (2000) has not published an RfC or Inhalation RfD for acenaphthene.

The toxic potency of anthracene appears to be very low. In a chronic study in rats, doses of 5 to 15 mg/rat (16 to 48 mg/kg/day) via the diet had no effect on longevity or gross or histopathologic appearance on unspecified tissues. Gavage treatment of mice with 1000 mg/kg/day for at least 90 days had no effects on a comprehensive range of toxicologic parameters. The NOAEL of 1000 mg/kg/day in mice and an uncertainty factor of 3000 (10 each for inter- and intraspecies variation, and 30 for the use of a subchronic study and an incomplete database) yielded a verified RfD for chronic oral exposure of 3.00E-1 mg/kg/day (EPA 2000). EPA (2000) has not published an RfC or Inhalation RfD for anthracene.

EPA (2000) presented a oral RfD of 4.00E-03 mg/kg/day for dibenzofuran (NCEA). The target organ dibenzofuran exposure is the kidney. EPA (2000) has not published an RfC or Inhalation RfD for dibenzofuran.

Fluoranthene appears to be toxic to the liver, kidney, and blood. In a comprehensive 13-week gavage study in mice, 125 mg/kg/day was an NOAEL and 250 mg/kg/day was an LOAEL (EPA 1988). The verified chronic oral RfD for fluoranthene is 4.00E-02 mg/kg/day, based on the NOAEL in a comprehensive 13-week gavage study of 125 mg/kg/day in mice and an uncertainty factor of 3000 (EPA 2000). The uncertainty factor of 3000 includes factors of 10 each for inter- and intraspecies variation, and a factor of 30 to expand from subchronic to chronic exposure and to reflect an incomplete database. The liver, kidney, and blood appear to be the target organs for the toxicity of fluoranthene. EPA (2000) has not published an RfC or Inhalation RfD for fluoranthene.

The critical effects of oral exposure to fluorene appear to be hemolytic anemia and CNS effects. In mice treated by gavage for 13 weeks, 125 mg/kg/day was an NOAEL and 250 mg/kg/day was an LOAEL (EPA 1989b). A verified chronic oral RfD for fluorene of 4.00E-02 mg/kg/day was based on the NOAEL of 125 mg/kg/day for hemolytic anemia in mice (EPA 2000). An uncertainty factor of 3000 was used with factors of 10 each for inter- and intraspecies variation and to expand from subchronic to chronic exposure, and a factor of 3 to reflect gaps in the database. The target organs of fluorene toxicity are the erythrocyte and the CNS. EPA (2000) has not published an RfC or Inhalation RfD for fluorene.

Newborn infants, children, and adults exposed to naphthalene by ingestion, inhalation, or possibly by skin contact developed hemolytic anemia with jaundice and, occasionally, renal disease (EPA 1980a). EPA (2000) established a oral RfD of 2.00E-02 mg/kg/day for naphthalene based on a NOAEL in an unpublished subchronic toxicity study using Fischer 344 rats. The effects of the study included mean terminal body weights in male Fischer 344 rats. EPA (2000) has published an Inhalation RfD of 9.00E-04 for naphthalene.

EPA (2000) presented a oral RfD of 2.00E-02 mg/kg/day for 2-methylnaphthalene (NCEA). The target organ for 2-methylnaphthalene exposure is weight loss. EPA (2000) has not published an RfC or Inhalation RfD for 2-methylnaphthalene.

Mild kidney lesions appear to be the critical effects of pyrene. In mice treated by gavage for 13 weeks, 75 mg/kg/day was an NOAEL and 125 mg/kg/day was an LOAEL (EPA 1989c). Even in mice treated with 250 mg/kg/day the lesions were considered minimal to mild. EPA (2000) verified a chronic oral RfD for pyrene of 3.00E-02 mg/kg/day based on the NOAEL in mice and an uncertainty factor of 3000 (10 each for inter- and intraspecies variation and to expand from subchronic to chronic exposure, and a factor of 3 to reflect gaps in the database). The kidney is the target organ for the toxicity of pyrene. EPA (2000) has not published an RfC or Inhalation RfD for pyrene.

Q.18.3 Carcinogenicity

The PAHs are ubiquitous, being released to the environment from anthropogenic as well as from natural sources (ATSDR 1987). Benzo(a)pyrene is the most extensively studied member of the class, inducing tumors in multiple tissues of virtually all laboratory species tested by all routes of exposure. Although epidemiology studies suggested that complex mixtures that contain PAHs (coal tar, soot's, coke oven emissions, cigarette smoke) are carcinogenic to humans, the carcinogenicity cannot be attributed to PAHs alone because of the presence of other potentially carcinogenic substances in these mixtures (ATSDR 1987). In addition, recent investigations showed that the PAH fraction of roofing tar, cigarette smoke, and coke oven emissions accounted for only 0.1 to 8 percent of the total mutagenic activity of the unfractionated complex mixture in Salmonella (Lewtas 1988). Aromatic amines, nitrogen heterocyclic compounds, highly oxygenated quinones, diones, and nitrooxygenated compounds, none of which would be expected to arise from in vivo metabolism of PAHs, probably accounted for the majority of the mutagenicity of coke oven emissions and

cigarette smoke. Furthermore, coal tar, which contains a mixture of many PAHs, has a long history of use in the clinical treatment of a variety of skin disorders in humans (ATSDR 1987).

Because of the lack of human cancer data, assignment of individual PAHs to EPA cancer weight-of-evidence groups was based largely on the results of animal studies with large doses of purified compound. Frequently, unnatural routes of exposure, including implants of the test chemical in beeswax and trioctanoin in the lungs of female Osborne-Mendel rats, intratracheal instillation, and subcutaneous or intraperitoneal injection, were used. Benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, benzo(k)fluoranthene, carbazole, chrysene, dibenz(a,h)anthracene, and indeno(1,2,3-cd)pyrene were classified in Group B2 (probable human carcinogens) (EPA 1997, 2000).

EPA (2000) verified a SF for oral exposure to benzo(a)pyrene of 7.3 per mg/kg/day, based on several dietary studies in mice and rats. Neither verified nor provisional quantitative risk estimates were available for the other PAHs in Group B2. EPA (1980a) promulgated an ambient water quality criterion for "total carcinogenic PAHs," based on an oral SF derived from a study with benzo(a)pyrene, as being sufficiently protective for the class. Largely because of this precedent, the quantitative risk estimates for the other carcinogenic PAHs were based on benzo(a)pyrene when quantitative estimates were needed.

Recent reevaluations of the carcinogenicity and mutagenicity of the Group B2 PAHs suggest that there are large differences between individual PAHs in cancer potency (Krewski et al., 1989). Based on the available cancer and mutagenicity data, and assuming that there is a constant relative potency between different carcinogens across different bioassay systems and that the PAHs under consideration have similar dose-response curves, Thorslund and Charnley (1988) derived relative potency values for several PAHs. A more recent Relative Potency Factor (RPF) scheme for the Group B2 PAHs was based only on the induction of lung epidermoid carcinomas in female Osborne-Mendel rats in the lung-implantation experiments (Clement International 1990).

Carcinogenic PAHs are related by chemical structure. All other carcinogenic PAHs except carbazole have SFs based on their potency relative to benzo(a)pyrene. These factors are published by EPA (Clement International 1990). The relative potency factors are as follows for the carcinogenic PAHs:

Constituent	Relative Potency Factor
Benzo(a)pyrene	1.0
Benz(a)anthracene	0.1
Benzo(b)fluoranthene	0.1
Benzo(k)fluoranthene	0.01
Chrysene	0.001
Dibenz(a,h)anthracene	1.0
Indeno(1,2,3-cd)pyrene)	0.1

Carbazole had an EPA (2000) listed oral SF of 2E-02 per mg/kg/day. The SF was based on a observations of liver tumors in mice.

EPA (2000) presented an inhalation SF of 3.1E-01 per mg/kg/day (NCEA) for benzo(a)pyrene. The other carcinogenic PAHs do not have established inhalation SFs and are not subjected to toxicity equivalency factors regarding inhalation criteria.

Listed below are individual PAH toxicological profiles, if available.

BENZO(B)FLUORANTHENE

Non-carcinogenic Toxicity

Little information is available on benzo(b)fluoranthene. However based on the similarities of chemical structures, most properties should be similar to benzo(a)pyrene.

Carcinogenicity

A Clement's RFP has been developed (Clement International, 1990) for benzo(b)fluoranthene which allows the estimation of Slope Factors (SFs) of 7.3E-01 and 6.1E-01 per mg/kg/day for the oral and inhalation routes respectively. The EPA (1997) has classified benzo(b)fluoranthene in cancer weight-of-evidence Group B2 (Probable Human Carcinogen, sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans) based on lung tumors in mice.

BENZO(K)FLUORANTHENE

Non-carcinogenic Toxicity

Little information is available on benzo(k)fluoranthene. However, based on the similarities of the chemical structures, most properties should be similar to benzo(a)pyrene.

Carcinogenicity

A Clement's RFP has been developed (Clement International, 1990) for benzo(k)fluoranthene which allows the estimation of 7.3E-02 and 6.1E-02 per mg/kg/day for the SF for the oral and inhalation route respectively. The EPA (2000) has classified benzo(k)fluoranthene in cancer weight-of-evidence Group B2 (Probable Human Carcinogen, sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans) based on lung tumors in mice.

CHRYSENE

Non-carcinogenic Toxicity

Chrysene is absorbed by the oral route of exposure. Absorption may also occur following dermal exposure. Data are not available to determine whether chrysene is absorbed via the lungs. Absorbed chrysene is distributed to several tissues, i.e. it was found in five tissues in a study reported in 1983. It is accumulated preferentially in the adipose and mammary tissue.
There is no information on other toxic effects of chrysene in human and laboratory animals following inhalation, oral and dermal exposures. (ATSDR 1987).

Carcinogenicity

A Clement's RFP has been developed for chrysene. This allows the estimation of SFs of 7.3E-03 and 6.1E-03 per mg/kg/day for the oral and inhalation routes respectively.
The EPA (2000) has classified chrysene in cancer weight-of-evidence Group B2 (Probable Human Carcinogen, sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans) based on tumors and malignant lymphoma in mice and chromosomal abnormalities in hamsters.

INDENO(1,2,3-CD)PYRENE

Non-carcinogenic Toxicity

Little information was found on the toxicity of indeno(1,2,3-cd)pyrene. Because of its structural similarity its properties should resemble benzo(a)pyrene.

Carcinogenicity

A Clement's RFP has been developed for indeno(1,2,3-cd)pyrene. This allows the estimation of SFs of 7.3E-01 and 6.1E-01 per mg/kg/day for the oral and inhalation routes respectively. The EPA (2000) has classified indeno(1,2,3-cd)pyrene in cancer weight-of-evidence Group B2 (Probable Human Carcinogen, sufficient evidence of carcinogenicity in animals with inadequate or lack of evidence in humans) based on tumors in mice following lung implants.

Q.19 Polychlorinated Biphenyls (Aroclor-1254)

Q.19.1 Non-carcinogenic Toxicity

Epidemiological studies of women in the United States associated oral PCB exposure with low birth weight or retarded musculoskeletal or neurobehavioral development of their infants (ATSDR 1992b). Oral studies in animals established the liver as the target organ in all species, and the thyroid as an additional target organ in the rat. Effects observed in monkeys included gastritis, anemia, chloracne-like dermatitis, and immunosuppression. Oral treatment of animals induced developmental effects, including retarded neurobehavioral and learning development in monkeys. EPA (2000) presented a chronic oral RfD of 2.00E-05 mg/kg/day for Arochlor-1254. Occupational exposure to PCBs was associated with upper respiratory tract and ocular irritation, loss of appetite, liver enlargement, increased serum concentrations of liver enzymes, skin irritation, rashes and chloracne, and, in heavily exposed female workers, decreased birth weight of their infants (ATSDR 1992b). Concurrent exposure to other chemicals confounded the interpretation of the occupational exposure studies. Laboratory animals exposed by inhalation to Aroclor-1254 vapors exhibited moderate liver degeneration, decreased body weight gain and slight renal tubular degeneration. EPA (2000) has not published an RfC or Inhalation RfD for PCBs. Target organs for PCBs include the skin, liver, fetus, and neonate.

Q.19.2 Carcinogenicity

EPA (2000) classifies the PCBs as EPA cancer weight-of-evidence Group B2 substances (probable human carcinogens), based on inadequate data in humans and sufficient data in animals. The human data consist of several epidemiologic occupational and accidental oral exposure studies with serious limitations, including poorly quantified concentrations of PCBs and durations of exposure, and probable exposures to other potential carcinogens. The animal data consist of several oral studies in rats and mice with various arochlors, kanechlors, or clophens (commercial PCB mixtures manufactured in the United States, Japan and Germany, respectively) that reported increased incidence of liver tumors in both species (EPA 2000). EPA (2000) presented a verified oral SF of 2.00E+00 per mg/kg/day for all PCBs based on liver tumors in a 1996 rat study. EPA (2000) published an inhalation SF of 2.00E+00 per mg/kg/day for all PCBs.

Q.20 Selenium

Q.20.1 Non-carcinogenic Toxicity

Selenium is a nutritionally essential trace element that is an integral part of the enzyme glutathione peroxidase and other proteins (Högberg and Alexander 1986). The National Research Council (1989) recommended dietary allowances (RDAs) for humans range from 10 to 75 mg/day. Chronic ingestion of 5 mg/day (0.071 mg/kg/day, assuming humans weigh 70 kg) induced selenosis in humans, characterized by abnormal hair and nail formation (Högberg and Alexander 1986). Effects in domestic grazing animals exposed to high levels of selenium included emaciation, lameness, and loss of hair and hooves. Occupational exposure to selenium fume or various selenium compounds was associated with intense ocular and respiratory tract irritation, chemical pneumonia, skin rashes, garlic odor to the breath, metallic taste in the mouth, and various socio-psychological effects (ACGIH 1986). EPA (2000) presented a verified

RfD of 5.00E-03 mg/kg/day for chronic oral exposure to selenourea, based on effects in humans exposed to selenium in high selenium areas. An uncertainty factor of 3 was used. The principal target organs for oral exposure to selenium are the skin, including the nails and hair, and, in animals, the hooves and joints. Targets for inhalation or dermal exposure include the skin and mucous membranes of the eyes and respiratory tract, and possibly the CNS. EPA (2000) has not published an RfC or Inhalation RfD for selenium.

Q.20.2 Carcinogenicity

An impressive body of data indicates that selenium exerts an anticarcinogenic effect (Högberg and Alexander 1986). In laboratory animals, selenium supplementation decreased the incidence of chemical-induced cancers. In humans, the incidence of lymphomas and cancers of the breast, digestive tract, and lung were lower in geographic areas with high soil selenium levels. Occupational data suggest that selenium may protect against lung cancer. Several animal tests with various deficiencies in design and conduct equivocally associated exposure to selenium with cancer induction. In a well controlled oral experiment, selenium sulfide was associated with an increase in the incidence of liver tumors in rats, and with liver and lung tumors in mice. On the basis of this study, EPA (2000) classified selenium sulfide a cancer weight-of-evidence Group B2 compound (probable human carcinogen), but declined to derive quantitative risk estimates. Selenium and other selenium compounds were classified in cancer weight-of-evidence Group D (not classifiable as to carcinogenicity to humans) (EPA 2000).

Q.21 Silver

Q.21.1 Pharmacokinetics

The GI absorption of ingested silver in animals was estimated at £10 percent; however, absorption of 18 percent was estimated for one human subject given silver acetate (Fowler and Nordberg 1986). Highest tissue levels are located in the liver; lower levels are located in the lungs, brain, spleen, bone marrow, muscle, and skin (Fowler and Nordberg 1986; Goyer 1991). Excretion is virtually entirely through the bile. The excretion kinetics appear to be species- and organ-dependent. In humans, the apparent half-lif for silver in the liver is approximately 50 days. Silver in skin also appeared to have a long half-life (not quantified).

Q.21.2 Non-carcinogenic Toxicity

Silver compounds have been used in dentistry, medicinally in the treatment of burns, as a local disinfectant, and as a drinking water disinfectant (Fowler and Nordberg 1986). The classical syndrome of toxicity, called argyria, is a blue-gray to nearly black discoloration of areas of the skin or the viscera resulting from deposition of microscopic granules of silver compounds in the affected tissues. Argyria results from occupational (inhalation), parenteral, or oral exposure. The EPA (2000) derived an RfD of 0.005 mg/kg/day for chronic oral exposure based on a 2 to 9 year human i.v. study, where a total i.v. dose of 1g metallic silver

(in the form of 4g silver arsphenamine) resulted in minimal observed effects (argyria) in patients. This total i.v. dose for metallic silver was converted into an oral dose (LOAEL) of 0.014 mg/kg/day. The chronic oral RfD was derived by dividing the LOAEL by an uncertainty factor of 3, which was applied to account for minimal effects in a subpopulation that has exhibited an increased propensity for the development of argyria.

Q.21.3 Carcinogenicity

The EPA (2000) classifies silver in cancer weight-of-evidence Group D (not classifiable as to carcinogenicity to humans). The human data consist of no evidence in the literature of cancer despite frequent medical use of silver compounds. The animal data are limited to studies of implanted silver foil or injected metallic silver that provided unconvincing indications of a carcinogenic response relevant to humans.

Q.22 Vanadium

Q.22.1 Non-carcinogenic Toxicity

In a chronic study, an unspecified number of rats were exposed to dietary levels of 10 or 100 ppm vanadium (about 17.9 or 179 ppm vanadium pentoxide) for 2.5 years. The results of this unpublished study were summarized by Stokinger et al. (1981). The criteria used to evaluate vanadium toxicity were growth rate, survival, and hair cystine content. The only significant change reported was a decrease in the amount of cystine in the hair of animals ingesting vanadium. EPA (1997) presented an oral RfD of 7.00E-03 mg/kg/day based on a NOAEL in a lifetime rat drinking water study. EPA (2000) has not published an RfC or Inhalation RfD for vanadium.

Q.22.2 Carcinogenicity

EPA (2000) classifies vanadium in cancer weight-of-evidence Group D (not classifiable as to carcinogenicity to humans).

Q.23 Zinc

Q.23.1 Pharmacokinetics

Zinc is a nutritionally required trace element. Estimates of the efficiency of GI absorption of zinc in animals range from <10 to 90 percent (Elinder 1986). Estimates in normal humans range from approximately 20 to 77 percent (Elinder 1986; Goyer 1991). The net absorption of zinc appears to be homeostatically controlled, but it is unclear whether GI absorption, intestinal secretion, or both are regulated. Distribution of absorbed zinc is primarily to the liver (Goyer 1991), with subsequent redistribution to bone, muscle, and kidney (Elinder 1986). Highest tissue concentrations are found in the prostate. Excretion appears to be principally through the feces, in part from biliary secretion, but the relative importance of fecal and urinary excretion is species-dependent. The half-life of zinc absorbed from the GI tracts of humans in normal zinc homeostasis is approximately 162 to 500 days.

Q.23.2 Non-carcinogenic Toxicity

Humans exposed to high concentrations of aerosols of zinc compounds may experience severe pulmonary damage and death (Elinder 1986). The usual occupational exposure is to freshly formed fumes of zinc, which can induce a reversible syndrome known as metal fume fever. Orally, zinc exhibits a low order of acute toxicity. Animals dosed with 100 times dietary requirement showed no evidence of toxicity (Goyer 1991). In humans, acute poisoning from foods or beverages prepared in galvanized containers is characterized by GI upset (Elinder 1986). Chronic oral toxicity in animals is associated with poor growth, GI inflammation, arthritis, lameness, and a microcytic, hypochromic anemia (Elinder 1986), possibly secondary to copper deficiency (Underwood 1977). EPA (2000) presented a verified RfD of 3.00E-01 mg/kg/day for chronic oral exposure to zinc, based on anemia in humans. EPA (2000) has not published an RfC or Inhalation RfD for zinc.

Q.23.3 Carcinogenicity

EPA (2000) classifies zinc in cancer weight-of-evidence Group D (not classifiable as to carcinogenicity to humans) based on inadequate evidence for carcinogenicity in humans and animals. The human data consist largely of occupational exposure studies not designed to detect a carcinogenic response, and of reports that prostatic zinc concentrations were lower in cancerous than in noncancerous tissue. The animal data consist of several dietary, drinking water, and zinc injection studies, none of which provided convincing data for a carcinogenic response.

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APPENDIX R-1

LABORATORY ANALYTICAL PROCEDURES, METHOD DETECTION LIMITS, AND HOLDING TIMES EVALUATION

APPENDIX R-1
LABORATORY ANALYTICAL PROCEDURES, METHOD DETECTION LIMITS AND HOLDING TIMES EVALUATION
OLD FIRE FIGHTING TRAINING AREA RI
NAVSTA NEWPORT, RHODE ISLAND

The OFFTA Site RI field investigations were conducted over a 10-year period (1991-2000) to evaluate organic and inorganic contamination. These investigations were reviewed to ensure that the samples collected over this time span were analyzed and validated in a consistent and appropriate manner. This review included laboratory analytical procedures, reporting detection limits, and holding times.

PHASE I

The Phase I organic and inorganic samples were analyzed by Weston Analytics in Lionville, Pennsylvania according to the EPA's Superfund Contract Laboratory Program (CLP) procedures (as reported in Section 4-3 of TRC Risk Assessment Technical Report (Volume II)).

The detection limits are assumed to be in compliance with the organic and inorganic CLP Scope of Work (SOW) as reported in the data validation summary provided in the TRC Risk Assessment Technical Report. Any reporting limits outside those required by the SOW would have been described in the data validation summary. This evaluation is limited to the review of this summary and hits only tables, which were the only data available for review.

The data validation was performed by Environmental Standards Inc. (ESI) of Valley Forge, Pennsylvania, according to the guidelines presented in Table R-1-1.

PHASE II

The Phase II soil and storm sewer samples were analyzed by Enseco, Inc. in Somerset, New Jersey and the groundwater and test pit samples were analyzed by Weston Analytics in Lionville, Pennsylvania. Organic and inorganic samples were analyzed according to the EPA's Superfund Contract Laboratory Program (CLP) procedures.

The detection limits are in compliance with the organic and inorganic CLP SOW as reported in the data validation summary provided in the Draft Final Volume I OFFTA Remedial Investigation Report. Any reporting limits outside those required by the SOW would have been described in the data validation

summary. This evaluation is limited to the review of this summary and the data tables, which were the data available for review.

The data validation of the samples was completed by Heartland Environmental Services, Inc. of St. Peters, Missouri according to the guidelines and protocol presented in Table R-1-1.

SOURCE REMOVAL EVALUATION

Source Removal Evaluation samples were analyzed by Katahdin Analytical Services in Westbrook, Maine. Organic and inorganic samples were analyzed according to the EPA's Superfund Contract Laboratory Program (CLP) procedures under Naval Facilities Engineering Service Center (NFESC) Quality Assurance/Quality Control criteria.

The detection limits are in compliance with the organic and inorganic CLP SOW as reported in the data validation memoranda provided by Brown and Root Environmental. Any reporting limits outside those required by the SOW would have been described in the data validation memoranda. This evaluation is limited to the review of the data validation memoranda and the data tables, which were the data available for review.

The data validation of the samples was completed by Brown and Root Environmental of Pittsburgh, Pennsylvania according to the guidelines and protocol presented in Table R-1-1.

PHASE III

Phase III organic and inorganic samples were analyzed by Ceimic Corporation in Narragansett, Rhode Island. Volatile samples were analyzed by SW846 EPA Method 8260B. Semivolatile and inorganic samples were analyzed according to the EPA's Superfund Contract Laboratory Program (CLP) procedures under Naval Facilities Engineering Service Center (NFESC) QA/QC criteria.

Polychlorinated dibenzodioxins and furans were analyzed by Triangle Laboratories in Durham, North Carolina. The analyses were conducted in accordance with Naval Facilities Engineering Service Center (NFESC) QA/QC criteria using EPA Method 1613A analytical and reporting protocols.

The detection limits are in compliance with the organic and inorganic CLP SOW as reported in the data validation memoranda provided by TtNUS. The reporting limits for the volatile samples analyzed by EPA SW846 were below the detection limits required by the organic CLP SOW. Any reporting limits outside those required by the SOW would have been described in the data validation memoranda. This

evaluation is limited to the review of the data validation memoranda and the data tables, which were the data available for review.

The data validation of the samples was completed by TtNUS (formerly Brown and Root Environmental) of Pittsburgh, Pennsylvania according to the guidelines and protocol presented in Table R-1-1.

SUMMARY

All of the organic data were analyzed either by the SW846 EPA Method 8260B or the most recently updated organic CLP SOW available at the time of analysis. All of the inorganic data were analyzed by the most recently updated inorganic CLP SOW available at the time of analysis. CLP and SW846 are considered equivalent methods therefore, the data can be considered comparable.

The data was validated by equivalent data validation guidelines that were the strictest quality control available at the time of analysis. Data validation is related to specific performance requirements established in the U.S. EPA CLP SOW for organic and inorganic sample analysis. Parameters reviewed in the validation of organic and inorganic data include sample holding times and reported detection limits. A review of the data validation summaries and memos from the Phase I, II, III, and Source Removal Evaluation data sets indicated that the holding times were within the required quality control limits.

The detection limits are in compliance with the organic and inorganic CLP SOW as reported in the data validation summaries and memoranda. Any reporting limits outside those required by the SOW would have been described in the data validation. The attached tables indicate the organic and inorganic reporting limits for the SOW corresponding to the data.

The polychlorinated dibenzodioxins and furans analyses were conducted in Phase III only.

TABLE R-1-1
SAMPLE ANALYSIS AND DATA VALIDATION
GUIDELINES AND PROTOCOLS
OLD FIRE FIGHTING TRAINING AREA
FINAL REMEDIATION INVESTIGATION REPORT
NAVSTA NEWPORT, NEWPORT RHODE ISLAND

Guidelines and Protocols	Publication Information	Phase I	Phase II	Source Removal Evaluation	Phase III
U.S. EPA Contract Laboratory Program					
Statement of Work, for Inorganic Analysis, Multi-Media, Multi-Concentration	ILM01.0 - July-87	+	+		
Statement of Work, for Inorganic Analysis, Multi-Media, Multi-Concentration	ILM04.0 - 1995			+	+
Statement of Work, for Organic Analysis, Multi-Media, Multi-Concentration	OLM01.0 - February-88	+	+		
Statement of Work, for Organic Analysis, Multi-Media, Multi-Concentration	OLM01.8 - August-91		+		
Statement of Work, for Organic Analysis, Multi-Media, Multi-Concentration	OLM03.1 - August-94			+	
Statement of Work, for Organic Analysis, Multi-Media, Multi-Concentration	OLM03.2				+
U.S. EPA Region I					
Laboratory Data Validation Functional Guidelines for Evaluation Organic Analyses	February-88	+	+		
Laboratory Data Validation Functional Guidelines for Evaluation Inorganic Analyses	June-88	+	+		
Volatile/Semivolatile Data Validation Functional Guidelines	December-96			+	+
Laboratory Data Validation Functional Guidelines for Evaluation Inorganic Analyses	February-89			+	+
National Functional Guidelines for Organic Data Review, Multi-Media, Multi-Concentration	February-94		+	+	+
U.S. Navy					
NEESA Level D requirements	June-88		+		
Navy Installation Restoration Laboratory Quality Assurance Guide.	February-96			+	+

APPENDIX R-2
GROUNDWATER DATA EVALUATION

APPENDIX R-2
GROUNDWATER DATA EVALUATION
OLD FIRE FIGHTING TRAINING AREA RI
NAVSTA NEWPORT, RHODE ISLAND

During the 10-year period (1991-2000) which the OFFTA Site RI field investigations were conducted various sampling methodologies were implemented during groundwater sample collection. A review of the groundwater collection, analysis, associated water quality parameters, and sample location was performed to ensure that the representativeness and comparability of the inorganic data from each investigation was considered when evaluating and comparing groundwater analytical data collected using different sampling methodologies. This evaluation of groundwater metals results was conducted by reviewing: (1) sampling technique (bailers vs. low-flow sampling); (2) type of analysis (total metals vs. dissolved/field-filtered metals); (3) associated turbidity data; and (4) sample location, for each of the three groundwater sampling events (Phase I, Phase II, and the Source Removal Evaluation (SRE) sampling event). An evaluation of the resulting impact on the groundwater data and the data use is presented below.

A review of the groundwater sampling records shows that two sampling methods were used during the Phase I RI, Phase II RI, and the SRE groundwater sampling events. During the Phase I and Phase II RI groundwater investigations bailers were used to collect the samples. In the SRE, groundwater samples were collected from all wells sampled using the EPA Region I low flow/stress sampling protocol. In addition four of the wells were also sampled using bailers. The Phase I and Phase II RI groundwater samples collected with a bailer had turbidity levels ranging from 200 to 1,000 NTUs. These values for turbidity are high for groundwater samples and it is believed that the high turbidity is associated with silt and clay sized particles drawn into the monitoring well during sampling with a bailer. By contrast the low-flow groundwater samples collected during the SRE had turbidity values typically below 20 NTUs.

Groundwater samples were collected from four monitoring wells (MW-06R, MW-09R, MW-101, and MW-102) during the SRE groundwater sampling event using both the bailer and the low flow/stress methods. Bailer samples were collected after the low flow/stress samples were collected. The bailer samples were field filtered using a 0.45-micron flow-through filter, preserved and shipped to an off-site laboratory for metals analysis. Table R-2-1 presents aluminum, arsenic, beryllium, manganese, and lead data for unfiltered and filtered bailer samples and low-flow/stress samples from two monitoring wells MW-06R and MW-09R. The data from monitoring wells MW-101 and MW-102 are not presented because these wells were installed after the Phase I and II RIs were completed.

Aluminum, arsenic, beryllium, manganese, and lead were selected for evaluation. Aluminum was selected because it has a very low solubility in groundwater with a neutral pH. Elevated levels of aluminum are associated with suspended solids in the groundwater sample. Arsenic, beryllium, manganese, and lead were selected because they are potential analytes of concern in the surface and subsurface soils at the site.

A review of Table R-2-1 indicates that there is a significantly lower aluminum concentration in the low flow/stress and filtered bailer samples when compared to the Phase II RI samples. The presence of aluminum in the parts per million (ppm) range in groundwater with a pH near 7.0, is attributed to suspended solids in the unfiltered groundwater samples. Aluminum is rarely detected at concentrations greater than a few tenths or hundredths of a milligram per liter unless the groundwater has a very low pH (Hem, 1992).

Significantly lower arsenic concentrations were observed for the filtered bailer and the low stress/flow samples. This is believed to be due to the reduced suspended solids associated with the low stress/flow sampling method and the filtering of suspended solids from the bailer sample.

Beryllium concentrations decreased from a high of 9.3 ug/L in the unfiltered sample to non detect. The decrease in beryllium concentrations is believed to be due to the lower suspended solids associated with the low stress/flow sampling method and the filtering of suspended solids from the bailer sample.

In general the concentrations of manganese in the low stress/flow method and the filtered bailer samples were lower. One exception is for the filtered bailer sample from monitoring well MW-06R where the manganese concentration in 1997 is similar to the concentration in the unfiltered bailer sample collected in 1994.

Lead concentrations decreased from a high of 612 ug/L to non detect. The decrease in lead concentrations is believed to be due to the decrease in suspended solids associated with the low stress/flow sampling method and the filtering of suspended solids from the bailer sample. This interpretation is further supported by the low solubility of lead (Hem, 1992).

SUMMARY

In summary, the 1994 groundwater data collected using bailers indicates a higher concentration of metals compared to data generated using the low stress/flow sampling method and filtered bailer sample. This difference in metal concentration is associated with the level of suspended solids in the sample. The suspended solids are indicated by the very high concentration of aluminum in the samples with the higher

turbidity (200 to 1,000 NTUs). Based on this comparison it is believed that the 1997 low stress/flow sampling results are more representative of the concentration of metals in the groundwater at the site.

TABLE R-2-1

SELECTED METAL ANALYTICAL RESULTS FOR UNFILTERED BAILER, FILTERED BAILER AND LOW FLOW/STRESS METHOD GROUNDWATER SAMPLES OLD FIRE FIGHTING TRAINING AREA RI NAVSTA NEWPORT, RHODE ISLAND

Well No.	MW-06R						MW-09R					
Sample Date	1/6/1994		7/11/1997		7/11/1997		1/6/1994		7/9/1997		7/9/1997	
Sampling Method	Unfiltered bailer		Filtered bailer		Low flow/ stress		Unfiltered bailer		Filtered bailer		Low flow/ stress	
Aluminum (ug/L)	82,500	J	14 5	U	958	J	193,000	J	19.3	U	163	U
Arsenic (ug/L)	16 5		1 8	U	1.8	U	130		1 8	U	1 8	U
Beryllium (ug/L)	2.6	B	0 14	U	0.14	U	9 3		0 14	U	0 14	U
Manganese (ug/L)	2,950	J	2,760	J	216	J	18,200	J	660	J	832	
Lead (ug/L)	59	J	1 4	UJ	1.4	UJ	612	J	1 4	UJ	1 4	UJ

U - Not detected
UJ- Detection limit approximate
J - Quantitation approximate
EB/TB -- Equipment/trip Blank contamination