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5090.3a

Existing Data Summary Report
for
Basewide Groundwater Operable Unit Remedial Investigation

Naval Submarine Base New London
Groton, Connecticut

Volume II – Drawings

Northern Division
Naval Facilities Engineering Command
Contract Number N62472-90-D-1298
Contract Task Order 0312

May 1999

TETRA TECH NUS, INC.

Rev. 1
May 1999

EXISTING DATA SUMMARY REPORT
FOR
BASEWIDE GROUNDWATER OPERABLE UNIT
REMEDIAL INVESTIGATION

NAVAL SUBMARINE BASE - NEW LONDON
GROTON, CONNECTICUT

COMPREHENSIVE LONG-TERM
ENVIRONMENTAL ACTION NAVY (CLEAN) CONTRACT

Submitted to:
Northern Division
Environmental Branch Code 18
Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop #82
Lester, Pennsylvania 19113-2090

Submitted by:
Tetra Tech NUS, Inc.
600 Clark Avenue, Suite 3
King of Prussia, Pennsylvania 19406-1433

CONTRACT NUMBER N62472-90-D-1298
CONTRACT TASK ORDER 0312

Volume II

MAY 1999

PREPARED BY:

COREY A. RICH, P.E.
PROJECT MANAGER
TETRA TECH NUS, INC.
PITTSBURGH, PENNSYLVANIA

APPROVED BY:

JOHN J. TREPANOWSKI, P.E.
PROGRAM MANAGER
TETRA TECH NUS, INC.
KING OF PRUSSIA, PENNSYLVANIA

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ACRONYMS, INITIALS AND ABBREVIATIONS

4,4'-DDT	1,1,1-Trichloro-2,2-bis(4-chlorophenyl)ethane
4,4'-DDD	1,1-Dichloro-2,2-bis(4-chlorophenyl)ethane
4,4'-DDE	1,1-Dichloro-2,2-bis(4-chlorophenyl)ethene
AS/SVE	Air Sparging/Soil Vapor Extraction
AWQC	Ambient Water Quality Criterion
B&R	Brown & Root
BEHP	Bis(2-Ethylhexyl) Phthalate
bgs	Below Ground Surface
BOD	Biochemical Oxygen Demand
BTEX	Benzene, Toluene, Ethylbenzene, and Xylenes
CBU	Central Batallion Unit
CERCLA	Comprehensive Response, Compensation and Liability Act
CFR	Code of Federal Register
CLEAN	Comprehensive Long-Term Environmental Action Navy
COC	Chemical of Concern
COD	Chemical Oxygen Demand
COPC	Chemical of Potential Concern
CPAH	Carcinogenic Polynuclear Aromatic Hydrocarbon
CRQL	Contract-Required Quantitation Limit
CTDEP	Connecticut Department of Environmental Protection
CTE	Central Tendency Exposure
CTO	Contract Task Order
DCA	Dichloroethane
DCE	Dichloroethene
DO	Dissolved Oxygen
DRMO	Defense Reutilization and Marketing Office
DRO	Diesel Range Organics
EDSR	Existing Data Summary Report
ESQD	Explosive Safety Quantity Distance
FFA	Federal Facilities Agreement
FFS	Focused Feasibility Study
FID	Flame Ionization Detector
FS	Feasibility Study
GPM	Gallons Per Minute
GRO	Gasoline Range Organics

HHRA	Human Health Risk Assessment
HNUS	Halliburton NUS Corporation
HQ	Hazard Quotient
HSWA	Hazardous and Solid Waste Amendment of 1984
IAS	Initial Assessment Study
IRP	Installation Restoration Program
ISI	Initial Site Inspection
MCL	Maximum Contaminant Level
msl	Mean Sea Level
NAD	North American Datum
NACIP	Navy Assessments and Control of Installation Pollutants
NAVFAC	Naval Facilities Engineering Command
NCP	National Contingency Plan
NEESA	Naval Energy and Environmental Support Activity
NESO	Naval Environmental Support Office
NEX	Naval Exchange
NIOSH	National Institute for Occupational Safety and Health
NOSRT	Navy's Oil Spill Response Team
NPAH	Noncarcinogenic Polynuclear Aromatic Hydrocarbon
NPL	National Priorities List
NSB-NLON	Naval Submarine Base - New London
OBDA	Overbank Disposal Area
OBDANE	Overbank Disposal Area Northeast
OCDD	Octachlorodibenzo-p-dioxin
OSWER	Office of Solid Waste and Emergency Response
OU	Operable Unit
PAHs	Polynuclear Aromatic Hydrocarbons
PCBs	Polychlorinated Biphenyls
PCE	Tetrachloroethene
ppm	parts per million
ppt	parts per thousand
RBC	Risk-Based Concentrations
RCRA	Resource Conservation and Recovery Act
RME	Reasonable Maximum Exposure
RI	Remedial Investigation
ROD	Record of Decision
RSR	Remediation Standard Regulations (Connecticut)

SARA	Superfund Amendments and Reauthorization Act
SASDA	Spend Acid Storage and Disposal Area
SCAPS	Site Characterization and Analysis Penetrometer System
SCS	Soil Conservation Service
SECWA	Southeastern Connecticut Water Authority
SI	Site Investigation
SOP	Standard Operating Procedure
SPLP	Synthetic Precipitation Leaching Procedure
SSL	Soil Screening Level
SVE	Soil Vapor Extraction
SVOCs	Semivolatile Organic Compounds
TAL	Target Analyte List
TCE	Trichloroethene
TCL	Target Compound List
TCLP	Toxicity Characteristic Leaching Procedure
TPH	Total Petroleum Hydrocarbons
TOC	Total Organic Carbon
TSCA	Toxic Substance Control act
TSS	Total Suspended Solids
TtNUS	Tetra Tech NUS, Inc.
UCL	Upper Confidence Limit
USCS	Unified Soil Classification System
USEPA	United States Environmental Protection Agency
USGS	United States Geologic Survey
UST	Underground Storage Tank
VOCs	Volatile Organic Compounds
WPCA	Water Pollution Control Authority (Ledyard)
WP/SAP	Work Plan/Sampling and Analysis Plan

NOTES:

1 SITE AND STUDY AREA LOCATIONS WERE TAKEN FROM THE FOLLOWING REPORTS:
- FEDERAL FACILITY AGREEMENT UNDER CERCLA 120, NAVAL SUBMARINE BASE, NEW LONDON, CONNECTICUT
- FINAL INITIAL ASSESSMENT STUDY (ENVIRODYNE, MARCH 1983)
- HYDROGEOLOGIC INVESTIGATION UNDERGROUND STORAGE TANKS OT-4, OT-7, OT-8, OT-9, AND 54-H (FUSS & O'NEILL, SEPTEMBER 1989)
- PHASE I REMEDIAL INVESTIGATION (ATLANTIC, AUGUST 1992)
- SITE CHARACTERIZATION REPORT FOR OT-10, BUILDING 325, AND BUILDING 89 (HNUS, APRIL 1995)
- DRAFT FINAL SUPPLEMENT TO INITIAL ASSESSMENT STUDY (NAVAL FACILITIES ENGINEERING SERVICE CENTER, APRIL 1995)
- REMOVAL SITE EVALUATION FOR QUAY WALL (HNUS, MAY 1995)

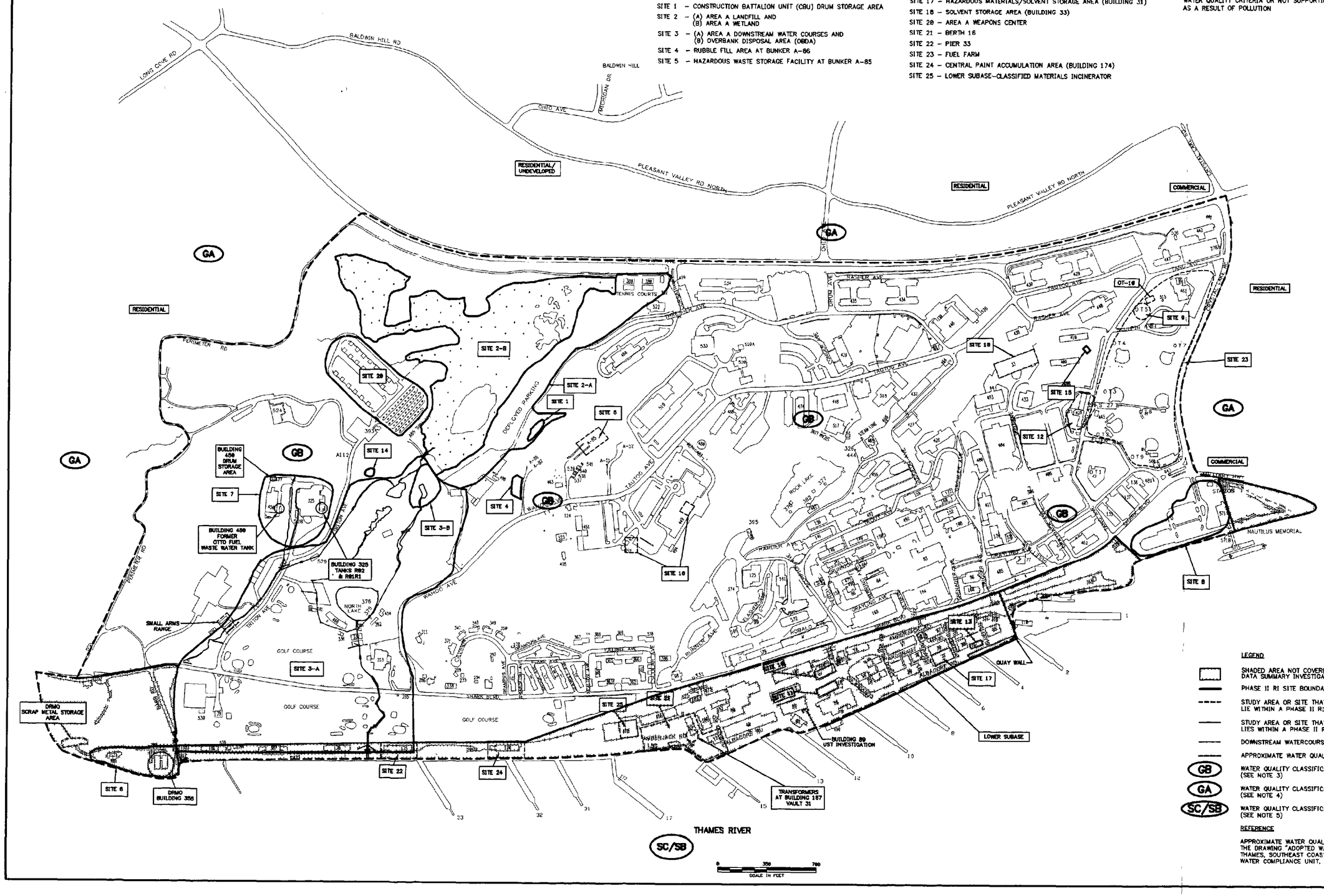
2 SITE AND STUDY AREA BOUNDRIES ARE APPROXIMATE.

SITE 1 - CONSTRUCTION BATTALION UNIT (CBU) DRUM STORAGE AREA
SITE 2 - (A) AREA A LANDFILL AND (B) AREA A WETLAND
SITE 3 - (A) AREA A DOWNSTREAM WATER COURSES AND (B) OVERBANK DISPOSAL AREA (OBDA)
SITE 4 - RUBBLE FILL AREA AT BUNKER A-86
SITE 5 - HAZARDOUS WASTE STORAGE FACILITY AT BUNKER A-85
SITE 6 - DEFENSE REUTILIZATION AND MARKETING OFFICE (DRMO)
SITE 7 - TORPEDO SHOPS
SITE 8 - GOSS COVE LANDFILL
SITE 9 - OILY WASTEWATER TANK (OT-5)
SITE 10 - LOWER SUBASE-FUEL STORAGE TANKS AND TANK 54-H
SITE 11 - LOWER SUBASE-POWER PLANT OIL TANKS
SITE 12 - BUILDING 428 GAS STATION TANKS
SITE 13 - LOWER SUBASE-BUILDING 79 WASTE OIL PIT
SITE 14 - OVERBANK DISPOSAL AREA NORTHEAST (OBDANE)
SITE 15 - SPENT ACID STORAGE AND DISPOSAL AREA (SASDA)
SITE 16 - HOSPITAL INCINERATORS
SITE 17 - HAZARDOUS MATERIALS/SOLVENT STORAGE AREA (BUILDING 31)
SITE 18 - SOLVENT STORAGE AREA (BUILDING 33)
SITE 20 - AREA A WEAPONS CENTER
SITE 21 - BERTH 16
SITE 22 - PIER 33
SITE 23 - FUEL FARM
SITE 24 - CENTRAL PAINT ACCUMULATION AREA (BUILDING 174)
SITE 25 - LOWER SUBASE-CLASSIFIED MATERIALS INCINERATOR

3 A GROUNDWATER QUALITY CLASSIFICATION GOAL OF GB/GA INDICATES THAT THE GROUNDWATER MAY NOT BE SUITABLE FOR DIRECT HUMAN CONSUMPTION WITHOUT TREATMENT AS A RESULT OF WASTE DISCHARGES, SPILLS, CHEMICAL LEAKS, OR LAND USE IMPACTS GB/GA WATERS MAY BE USEFUL FOR INDUSTRIAL PROCESS WATERS OR COOLING WATERS THE STATE'S GOAL IS TO RESTORE THE WATER TO DRINKING WATER QUALITY (GA)

4 A GROUNDWATER QUALITY CLASSIFICATION GOAL OF GA SIGNIFIES GROUNDWATERS PRESUMED SUITABLE FOR DIRECT HUMAN CONSUMPTION WITHOUT THE NEED FOR TREATMENT

5 A SURFACE WATER QUALITY CLASSIFICATION GOAL OF SC/SB DESIGNATES THE WATER FOR MARINE FISH, SHELLFISH, AND WILDLIFE HABITAT, CERTAIN AQUACULTURE OPERATIONS, RECREATIONAL USES, INDUSTRIAL AND OTHER LEGITIMATE USE, AND INDICATES THE WATERS PRESENTLY ARE NOT MEETING WATER QUALITY CRITERIA OR NOT SUPPORTING ONE OR MORE DESIGNATED USES AS A RESULT OF POLLUTION



LEGEND

- SHADED AREA NOT COVERED BY EXISTING DATA SUMMARY INVESTIGATION
- PHASE II RI SITE BOUNDARY
- STUDY AREA OR SITE THAT DOES NOT LIE WITHIN A PHASE II RI SITE BOUNDRY
- STUDY AREA OR SITE THAT LIES WITHIN A PHASE II RI SITE BOUNDRY
- DOWNSTREAM WATERCOURSE
- APPROXIMATE WATER QUALITY CLASSIFICATION GOAL BOUNDARY
- GB — WATER QUALITY CLASSIFICATION GOAL FOR GROUNDWATER (SEE NOTE 3)
- GA — WATER QUALITY CLASSIFICATION GOAL FOR GROUNDWATER (SEE NOTE 4)
- SC/SB — WATER QUALITY CLASSIFICATION GOAL FOR SURFACE WATER (SEE NOTE 5)

REFERENCE

APPROXIMATE WATER QUALITY GOAL FOR GROUNDWATER BOUNDARY FROM THE DRAWING "ADOPTED WATER QUALITY CLASSIFICATIONS FOR THE THAMES, SOUTHEAST COAST, PAWCATUCK RIVER BASINS, CTDEP, WATER COMPLIANCE UNIT, DECEMBER 1986, SHEET 1 OF 2"

ACAD:SSHGMB1.dgn 10/26/95 MF

Tetra Tech NUS, Inc. 661 ANDERSON DRIVE PITTSBURGH, PA. 15220

DSGN MF DR CHK
SUPV CAL 11/5/95 CH. ENG.
SUBMITTED BY: (TITLE) (DATE)
(FIRM MEMBER)
NORTHDIV Date: FPC: CDR: HQ: HQ:
OFFICER IN CHARGE APPROVED DATE

PREP BY DATE APPRVD

REV. DESCRIPTION

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NORTHERN DIVISION
NAVAL SUBMARINE BASE, NEW LONDON GROTON, CONNECTICUT

STUDY LOCATIONS, STUDY AREAS, SURROUNDING LAND USE AND CTDEP GROUNDWATER QUALITY CLASSIFICATION GOALS

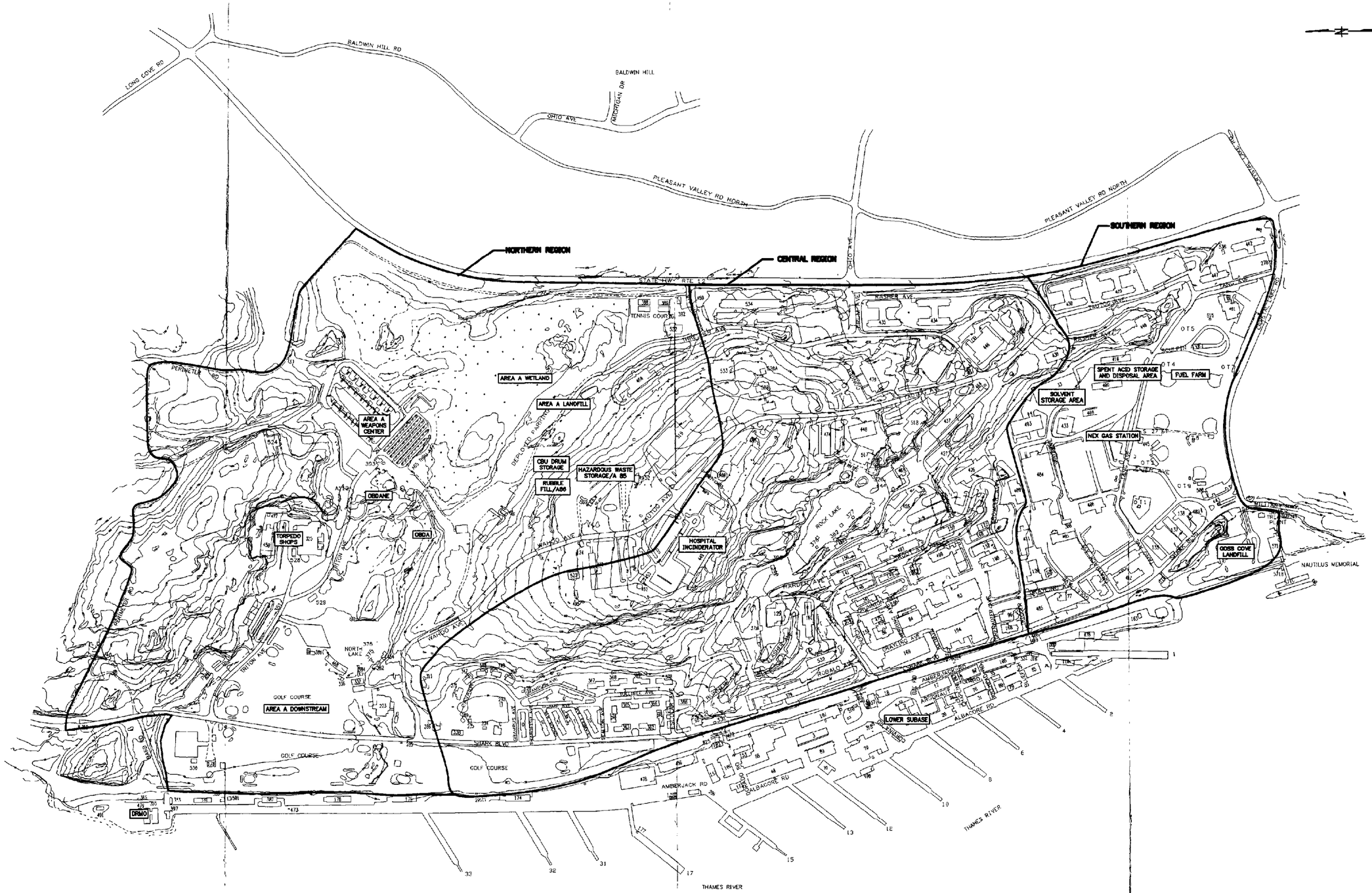
SEAL AREA

DATE APPROVED

NORTHDIV FOR COMMANDER, NAVFAC

SAT TO DATE
CODE I D NO 80091
SCALE
SPEC. NO. 84 -
CONSTRN CONTR NO N62472- -C-
NAVFAC DRAWING NO.
SHEET OF
SIZE D DIS SH NO 1

01639 11X



NOTES

1 TOPOGRAPHIC CONTOURS ARE FROM NSB-NLON ENGINEERING DEPARTMENT

LEGEND

REGION BOUNDARIES

REV.	DESCRIPTION	PREP BY	DATE	APPRV'D

Tetra Tech NUS, Inc. PITTSBURGH, PA 15238

DSGN DR MF CHK

SURV DA-2 11/15/96

SUBMITTED BY: CH. ENG.

(FIRM NUMBER) (TITLE) (DATE)

NORTHDIV

DR: ND:

PR: ND:

DR: ND:

OFFICER IN CHARGE

APPROVED DATE

DEPARTMENT OF THE NAVY

NAVAL SUBMARINE BASE, NEW LONDON

NAVAL FACILITIES ENGINEERING COMMAND

GROTON, CONNECTICUT

NORTHERN DIVISION

TOPOGRAPHIC SURFACE AND REGION BOUNDARIES LOCATION MAP

APPROVED DATE

NORTHDIV FOR COMMANDER, NAVFAC

SEAL AREA

SAT TO DATE

CODE ID NO 80091

SCALE

SPEC. NO 84 -

CONSTRN CONTR NO N62472- -C-

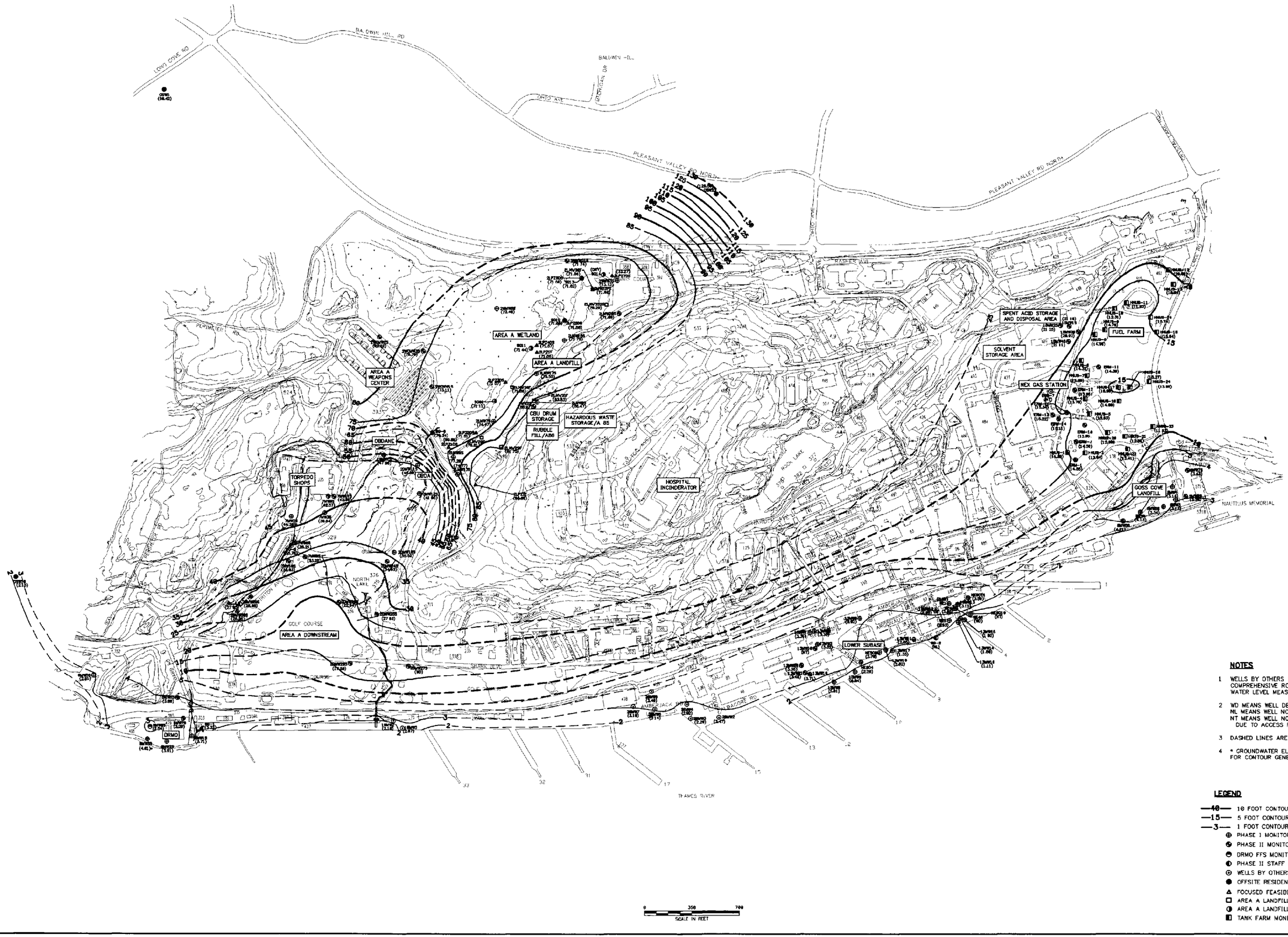
NAVFAC DRAWING NO

SHEET OF

SIZE D DIS SH NO 2

AC&D 95150M82.dwg 10/30/98 MF

01639126



NOTES

1. WELLS BY OTHERS ARE PART OF COMPREHENSIVE ROUNDS OF WATER LEVEL MEASUREMENTS
2. WD MEANS WELL DESTROYED OR DAMAGED
   NL MEANS WELL NOT LOCATED
   NT MEANS WELL NOT TESTED
   DUE TO ACCESS PROBLEMS
3. DASHED LINES ARE INFERRED CONTOURS
4. * GROUNDWATER ELEVATION WAS NOT USED FOR CONTOUR GENERATION

LEGEND

- —40— 10 FOOT CONTOUR INTERVAL
- —15— 5 FOOT CONTOUR INTERVAL
- —3— 1 FOOT CONTOUR INTERVAL
- PHASE I MONITORING WELL
- PHASE II MONITORING WELL
- DRMO FFS MONITORING WELL
- PHASE II STAFF GAUGE
- WELLS BY OTHERS
- OFFSITE RESIDENTIAL WELL
- FOCUSED FEASIBILITY STUDY PIEZOMETERS
- AREA A LANDFILL FFS MONITORING WELL
- AREA A LANDFILL FFS STAFF GAUGE
- TANK FARM MONITORING WELL

ACAD.9594GM63.dwg 11/02/98 MF

Tetra Tech NUS, Inc.
FOSTER PLAZA VIII
661 ANDERSON DRIVE
PITTSBURGH, PA 15220

DSGN | DR MF | CHK
SUPV Chd 11/5/98 | CH ENG
SUBMITTED BY (TERM MEMBER) (TITLE) (DATE)
NORTHDIV HD-
DM HD-
FPE DIR-
OFFICER IN CHARGE
APPROVED DATE

REV | DESCRIPTION | PREP BY | DATE | APPRVD

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NORTHERN DIVISION
NAVAL SUBMARINE BASE, NEW LONDON
GROTON, CONNECTICUT

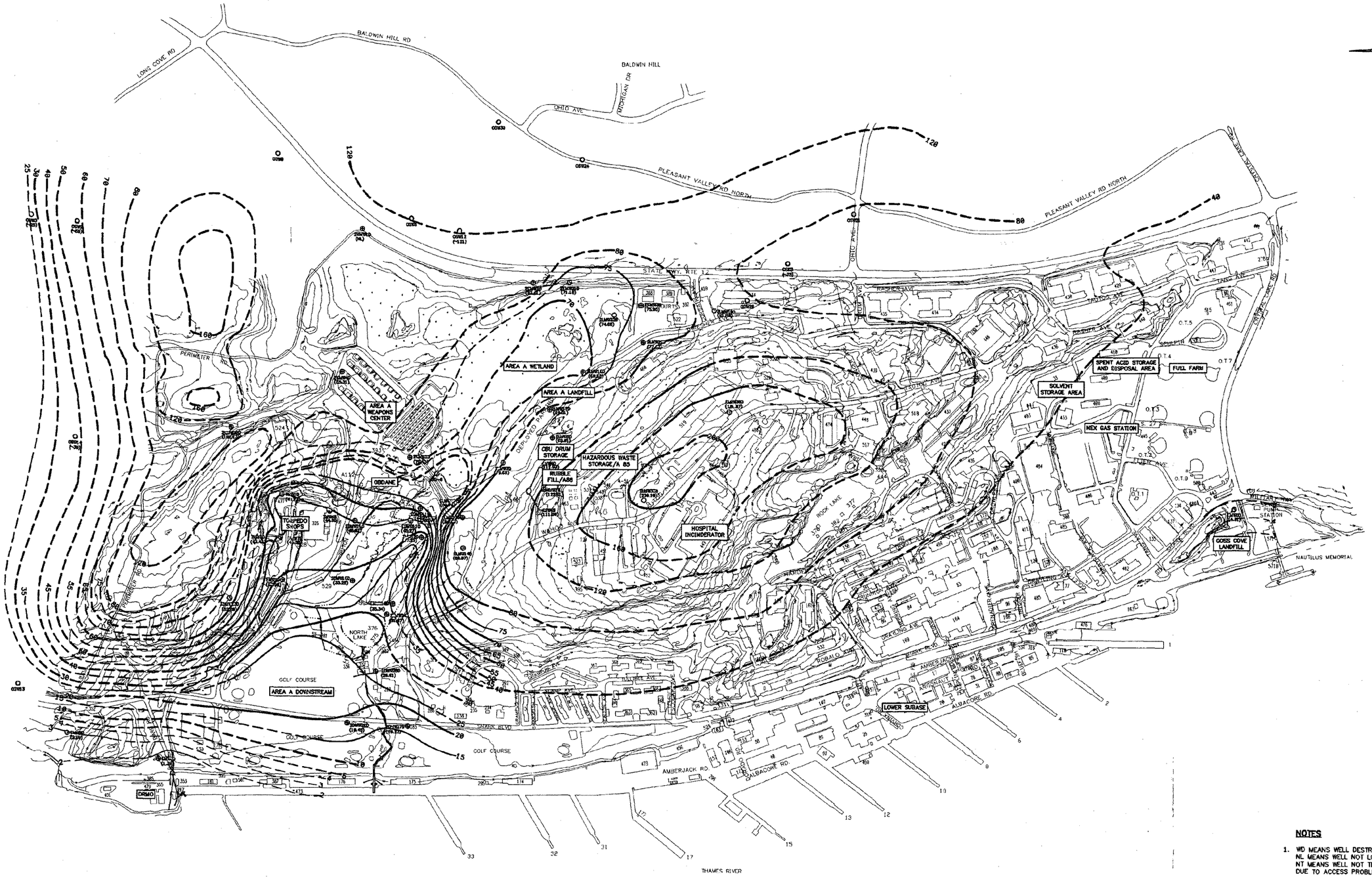
SHALLOW OVERBURDEN GROUNDWATER POTENTIOMETRIC SURFACE MAP, NOVEMBER 20, 1995

APPROVED | DATE | NORTHDIV FOR COMMANDER, NAVFAC

SEAL AREA

SAT TO | DATE
CODE I D NO 80091
SCALE
SPEC NO 04 -
CONSTRN CONTR NO N62472- -C-
NAVFAC DRAWING NO
SHEET | OF
SIZE D | DIS SH NO 3

0163113X



NOTES

1. WD MEANS WELL DESTROYED OR DAMAGED.
   NL MEANS WELL NOT LOCATED.
   NT MEANS WELL NOT TESTED
   DUE TO ACCESS PROBLEMS.
2. DASHED LINES ARE INFERRED CONTOURS.

LEGEND

- 10 ft CONTOUR INTERVAL
- 5 ft CONTOUR INTERVAL
- 1 ft CONTOUR INTERVAL
- PHASE I MONITORING WELL
- PHASE II MONITORING WELL
- OFFSITE RESIDENTIAL WELL
- FOCUSED FEASIBILITY STUDY MONITORING WELL

ACAD: 95945M5A.dwg 11/02/98 MF

Tetra Tech NUS, Inc.
PITTSBURGH, PA 15205
DSGN: DR: MF CHK:
SUPV: CH ENG:
SUBMITTED BY: (TITLE) (DATE)
NORTHDIV HD: DIR:
DIR: HD:
OFFICER IN CHARGE DATE
APPROVED

PREP BY DATE APPRVD

REV. DESCRIPTION

DEPARTMENT OF THE NAVY
NAVAL SUBMARINE BASE, NEW LONDON
NAVAL FACILITIES ENGINEERING COMMAND
GROTON, CONNECTICUT

NORTHERN DIVISION

BEDROCK GROUNDWATER POTENTIOMETRIC SURFACE MAP
NOVEMBER 20, 1995

APPROVED DATE NORTHDIV FOR COMMANDER, NAVFAC

SEAL AREA

SAT TO DATE

CODE I.D. NO. 80091
SCALE
SPEC. NO. 94 -
CONSTRN. CONTR. NO. N62472- -C-
NAVFAC DRAWING NO.

SHEET OF
SIZE D
DIS. SH. NO. 4

01639 14X

REV	DESCRIPTION	PREP BY	DATE	APPRVD

Tetra Tech NUS, Inc.

DESIGN: DRAWN: CHK: DR. D. PERRY CHK. OF ENG.

SUBMITTED BY: 11/5/98

NORTHVIEW

DEPARTMENT OF THE NAVY
NAVAL BASE
NSB-NLON

NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA
GROTON, CT

NORTHERN DIVISION

NORTHERN REGION - PRIMARY GROUNDWATER COPCs OVERBURDEN WELLS

NORTHDIV FOR COMMANDER, NAVFAC

APPROVED DATE

SEAL AREA

SAT TO DATE

CODE I.D. NO. 80091

SCALE: AS SHOWN

SPEC. NO.

CONSTR. CONTR. NO.

NAVFAC DRAWING NO.

SHEET _ OF _

SIZE: D DIS. SH. NO. DWG. 5

04-38-15K

Tetra Tech NUS, Inc.

DSGN: DR. D. PERRY CHK:
SUPV: CH ENG:
SUBMITTED BY: (FOR APPROVAL) COLLED
NORTHDIV
DIR
FPE
OFFICER IN CHARGE
APPROVED

REV	DESCRIPTION	PREP BY	DATE	APPRVD

NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA
GROTON, CT

NORTHERN DIVISION

NORTHERN REGION - PRIMARY GROUNDWATER COPCs BEDROCK WELLS

NORTHDIV FOR COMMANDER, NAVFAC

DEPARTMENT OF THE NAVY
NAVAL BASE
NSB-NLON

SEAL AREA

SAT TO DATE

CODE I.D. NO. 80091

SCALE: AS SHOWN

SPEC. NO.

CONSTR. CONTR. NO.

NAVFAC DRAWING NO.

SHEET OF

SIZE: D DIS. SH. NO. DWG. 6

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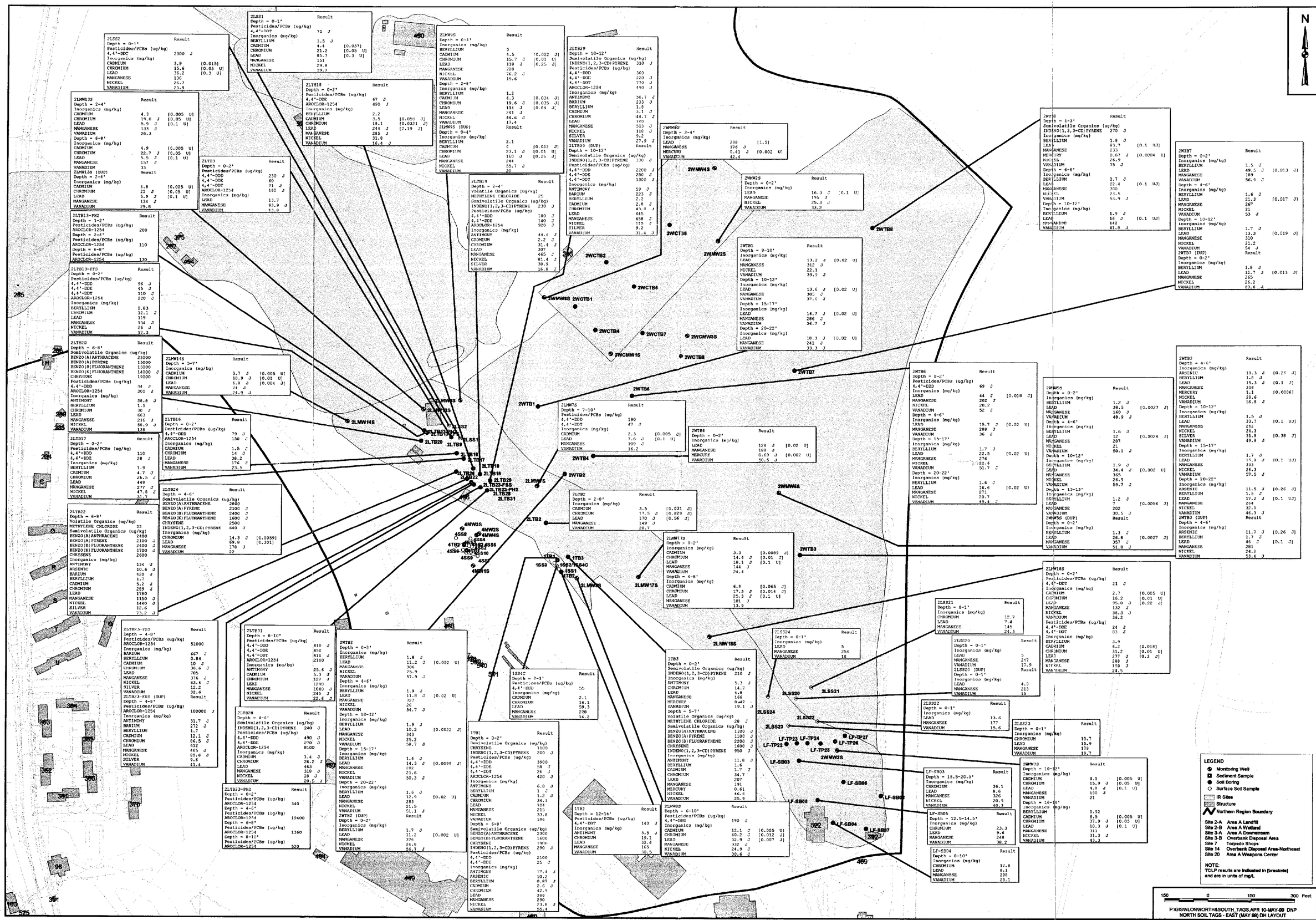
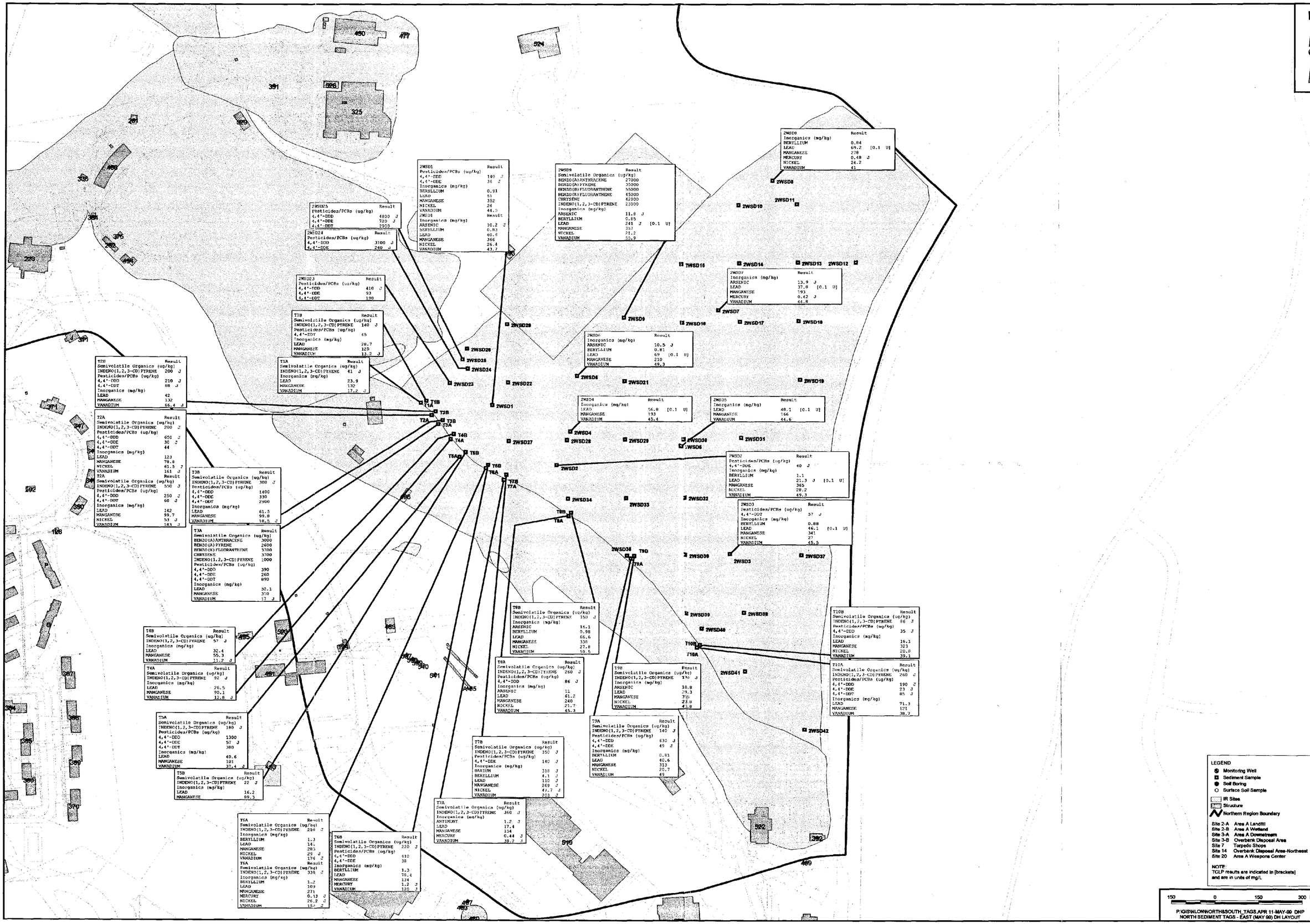

N
2LSS1 Result
Depth = 0-1'
Pesticides/PCBs (ug/kg)
4,4'-DDT 71 J
Inorganics (mg/kg)
BERYLLIUM 1.5 J
CADMIUM 4.4 [0.037]
CHROMIUM 21.2 [0.05 U]
LEAD 85.7 [0.3 U]
MANGANESE 151
NICKEL 29.8
VANADIUM 19.7
2LSS2 Result
Depth = 0-1'
Pesticides/PCBs (ug/kg)
4,4'-DDD 2300 J
Inorganics (mg/kg)
CADMIUM 3.9 (0.015)
CHROMIUM 15.6 [0.05 U]
LEAD 36.2 [0.3 U]
MANGANESE 136
NICKEL 26.7
VANADIUM 23.9
2LMW13S Result
Depth = 2-4'
Inorganics (mg/kg)
CADMIUM 4.3 [0.005 U]
CHROMIUM 19.8 J [0.05 U]
LEAD 5.9 [0.1 U]
MANGANESE 133 J
VANADIUM 28.3
Depth = 6-8'
Inorganics (mg/kg)
CADMIUM 4.9 [0.005 U]
CHROMIUM 22.7 J [0.05 U]
LEAD 5.5 J [0.1 U]
MANGANESE 157 J
VANADIUM 33
2LMW13S (DUP) Result
Depth = 2-4'
Inorganics (mg/kg)
CADMIUM 4.8 [0.005 U]
CHROMIUM 22 J [0.05 U]
LEAD 5.9 J [0.1 U]
MANGANESE 134 J
VANADIUM 29.8
2LTB13-PM2 Result
Depth = 1-2'
Pesticides/PCBs (ug/kg)
AROCLOR-1254 200
Depth = 2-4'
Pesticides/PCBs (ug/kg)
AROCLOR-1254 110
Depth = 6-8'
Pesticides/PCBs (ug/kg)
AROCLOR-1254 130
2LTB13-FES Result
Depth = 0-2'
Pesticides/PCBs (ug/kg)
4,4'-DDD 96 J
4,4'-DDE 45 J
4,4'-DDT 110 J
AROCLOR-1254 220 J
Inorganics (mg/kg)
BERYLLIUM 0.83
CHROMIUM 12.1 J
LEAD 119
MANGANESE 134 J
NICKEL 26 J
VANADIUM 17.3
2LTB23 Result
Depth = 6-8'
Semivolatile Organics (ug/kg)
BENZO(A)ANTHRACENE 23000
BENZO(A)PYRENE 15000
BENZO(B)FLUORANTHENE 15000
BENZO(K)FLUORANTHENE 14000 J
CHRYSENE 19000
Pesticides/PCBs (ug/kg)
4,4'-DDD 34 J
AROCLOR-1254 300 J
Inorganics (mg/kg)
ANTIMONY 58.8 J
BERYLLIUM 1.5
CHROMIUM 30 J
LEAD 663
MANGANESE 216 J
NICKEL 58.9 J
VANADIUM 138
2LTB17 Result
Depth = 0-2'
Pesticides/PCBs (ug/kg)
4,4'-DDD 110
4,4'-DDE 28 J
Inorganics (mg/kg)
BERYLLIUM 1.9
CADMIUM 4.7 J
CHROMIUM 26.5 J
LEAD 449
MANGANESE 277 J
NICKEL 47.8 J
VANADIUM 31.7
2LTB22 Result
Depth = 6-8'
Volatile Organics (ug/kg)
METHYLENE CHLORIDE 22
Semivolatile Organics (ug/kg)
BENZO(A)ANTHRACENE 2400
BENZO(A)PYRENE 2100
BENZO(B)FLUORANTHENE 2400 J
BENZO(K)FLUORANTHENE 1700 J
CHRYSENE 2600
Inorganics (mg/kg)
ANTIMONY 134 J
ARSENIC 10.6 J
BARIUM 420 J
BERYLLIUM 1.7
CADMIUM 5.2 J
CHROMIUM 289 J
LEAD 1780
MANGANESE 1150 J
NICKEL 3440 J
SILVER 12.6
VANADIUM 73.2 J
2LTB23-FES Result
Depth = 4-8'
Pesticides/PCBs (ug/kg)
AROCLOR-1254 51000
Inorganics (mg/kg)
BARIUM 667 J
BERYLLIUM 0.84
CADMIUM 10 J
CHROMIUM 36.6 J
LEAD 705
MANGANESE 376 J
NICKEL 63.4 J
SILVER 12.2
VANADIUM 32.6
2LTB23-FES (DUP) Result
Depth = 4-8'
Pesticides/PCBs (ug/kg)
AROCLOR-1254 100000 J
Inorganics (mg/kg)
ANTIMONY 31.7 J
BARIUM 272 J
BERYLLIUM 1.7
CADMIUM 12.1 J
CHROMIUM 86.5 J
LEAD 612
MANGANESE 465 J
NICKEL 89.6 J
SILVER 9.6
VANADIUM 41.4
2LTB18 Result
Depth = 0-2'
Pesticides/PCBs (ug/kg)
4,4'-DDE 67 J
AROCLOR-1254 490 J
Inorganics (mg/kg)
BERYLLIUM 2.2
CADMIUM 3.5 [0.058 J]
CHROMIUM 18.1 [0.0321 J]
LEAD 244 J [2.19 J]
MANGANESE 285 J
NICKEL 31.8
VANADIUM 16.4 J
2LTB9 Result
Depth = 0-2'
Pesticides/PCBs (ug/kg)
4,4'-DDD 230 J
4,4'-DDE 60
4,4'-DDT 71 J
AROCLOR-1254 160 J
Inorganics (mg/kg)
LEAD 13.7
MANGANESE 93.9 J
VANADIUM 13.8
2LMW9S Result
Depth = 0-4'
Inorganics (mg/kg)
BERYLLIUM 3
CADMIUM 4.5 [0.022 J]
CHROMIUM 15.7 J [0.01 U]
LEAD 118 J [0.25 J]
MANGANESE 228
NICKEL 76.2 J
VANADIUM 19.6
Depth = 2-8'
Inorganics (mg/kg)
BERYLLIUM 1.2
CADMIUM 4.3 [0.034 J]
CHROMIUM 19.6 J [0.035 J]
LEAD 111 J [0.84 J]
MANGANESE 241 J
NICKEL 44.6 J
VANADIUM 17.4
2LMW9S (DUP) Result
Depth = 0-4'
Inorganics (mg/kg)
BERYLLIUM 2.1
CADMIUM 6 [0.022 J]
CHROMIUM 23.1 J [0.01 U]
LEAD 160 J [0.25 J]
MANGANESE 244
NICKEL 55.7 J
VANADIUM 20
2LTB19 Result
Depth = 2-4'
Volatile Organics (ug/kg)
METHYLENE CHLORIDE 25
Semivolatile Organics (ug/kg)
INDENO(1,2,3-CD)PYRENE 230 J
Pesticides/PCBs (ug/kg)
4,4'-DDD 380 J
4,4'-DDE 140 J
AROCLOR-1254 920 J
Inorganics (mg/kg)
ANTIMONY 44.6 J
CADMIUM 2.2 J
CHROMIUM 31.4 J
LEAD 307
MANGANESE 465 J
NICKEL 81.4 J
SILVER 38.9
VANADIUM 16.8 J
2LTB29 Result
Depth = 10-12'
Semivolatile Organics (ug/kg)
INDENO(1,2,3-CD)PYRENE 330 J
Pesticides/PCBs (ug/kg)
4,4'-DDD 360
4,4'-DDE 220 J
4,4'-DDT 770 J
AROCLOR-1254 490 J
Inorganics (mg/kg)
ANTIMONY 36.7 J
BARIUM 233 J
BERYLLIUM 1.8
CADMIUM 3.1 J
CHROMIUM 44.7 J
LEAD 720
MANGANESE 503 J
NICKEL 118 J
SILVER 9.2
VANADIUM 27.9 J
2LTB29 (DUP) Result
Depth = 10-12'
Semivolatile Organics (ug/kg)
INDENO(1,2,3-CD)PYRENE 330 J
Pesticides/PCBs (ug/kg)
4,4'-DDD 2200 J
4,4'-DDE 280 J
4,4'-DDT 1300 J
Inorganics (mg/kg)
ANTIMONY 59 J
BARIUM 223 J
BERYLLIUM 2.2
CADMIUM 2.8 J
CHROMIUM 41.8 J
LEAD 645
MANGANESE 458 J
NICKEL 115 J
SILVER 9.2
VANADIUM 31.4 J
2WMW4S Result
Depth = 2-4'
Inorganics (mg/kg)
LEAD 288 [1.5]
MANGANESE 176 J
MERCURY 0.41 J [0.002 U]
VANADIUM 42.4
2WMW2S Result
Depth = 0-2'
Inorganics (mg/kg)
LEAD 16.3 J [0.1 U]
MANGANESE 195 J
NICKEL 25.3 J
VANADIUM 33.2
2WTB1 Result
Depth = 8-10'
Inorganics (mg/kg)
LEAD 13.2 J [0.02 U]
MANGANESE 312 J
NICKEL 22.1
VANADIUM 39.9 J
Depth = 10-12'
Inorganics (mg/kg)
LEAD 13.6 J [0.02 U]
MANGANESE 305 J
VANADIUM 37.6 J
Depth = 15-17'
Inorganics (mg/kg)
LEAD 14.7 J [0.02 U]
MANGANESE 286 J
VANADIUM 36.7 J
Depth = 20-22'
Inorganics (mg/kg)
LEAD 18.3 J [0.02 U]
MANGANESE 241 J
VANADIUM 33.3 J
2WTB8 Result
Depth = 1-3'
Semivolatile Organics (ug/kg)
INDENO(1,2,3-CD)PYRENE 270 J
Inorganics (mg/kg)
BERYLLIUM 1.8 J
LEAD 83.7 [0.1 UJ]
MANGANESE 233
MERCURY 0.67 J [0.0004 UJ]
NICKEL 26.9
VANADIUM 75 J
Depth = 6-8'
Inorganics (mg/kg)
BERYLLIUM 1.7 J
LEAD 22.4 [0.1 UJ]
MANGANESE 300
NICKEL 23.5
VANADIUM 53.9 J
Depth = 10-12'
Inorganics (mg/kg)
BERYLLIUM 1.9 J
LEAD 16 J [0.1 UJ]
MANGANESE 142
VANADIUM 41.8 J
2WTB7 Result
Depth = 0-2'
Inorganics (mg/kg)
BERYLLIUM 1.5 J
LEAD 49.5 J [0.013 J]
MANGANESE 189
VANADIUM 56.9 J
Depth = 4-6'
Inorganics (mg/kg)
BERYLLIUM 1.6 J
LEAD 21.3 [0.017 J]
MANGANESE 267
NICKEL 21
VANADIUM 53 J
Depth = 10-12'
Inorganics (mg/kg)
BERYLLIUM 1.7 J
LEAD 13.3 [0.019 J]
MANGANESE 310
NICKEL 21.2
VANADIUM 54 J
2WTB7 (DUP) Result
Depth = 0-2'
Inorganics (mg/kg)
BERYLLIUM 1.8 J
LEAD 12.7 J [0.013 J]
MANGANESE 265
NICKEL 26.2
VANADIUM 60.6 J
2LMW14S Result
Depth = 3-7'
Inorganics (mg/kg)
CADMIUM 3.7 J [0.005 U]
CHROMIUM 18.9 J [0.01 U]
LEAD 6.8 J [0.004 J]
MANGANESE 74 J
VANADIUM 24.9 J
2LTB16 Result
Depth = 0-2'
Pesticides/PCBs (ug/kg)
4,4'-DDD 79 J
AROCLOR-1254 150 J
Inorganics (mg/kg)
CADMIUM 1.5 J
CHROMIUM 14 J
LEAD 38.2
MANGANESE 176 J
VANADIUM 23.5
2LTB26 Result
Depth = 4-6'
Semivolatile Organics (ug/kg)
BENZO(A)ANTHRACENE 2800
BENZO(A)PYRENE 2100 J
BENZO(B)FLUORANTHENE 2400 J
BENZO(K)FLUORANTHENE 1600 J
CHRYSENE 2500
INDENO(1,2,3-CD)PYRENE 640 J
Inorganics (mg/kg)
CHROMIUM 14.3 J [0.0059]
LEAD 69.8 [0.301]
MANGANESE 178 J
VANADIUM 22
2LMW7S Result
Depth = 7-10'
Pesticides/PCBs (ug/kg)
4,4'-DDD 190
4,4'-DDT 47 J
Inorganics (mg/kg)
CADMIUM 2.3 [0.005 J]
LEAD 7.6 J [0.1 U]
MANGANESE 109 J
VANADIUM 16.2
2WTB4 Result
Depth = 0-2'
Inorganics (mg/kg)
LEAD 128 J [0.02 U]
MANGANESE 488 J
MERCURY 0.69 J [0.002 U]
VANADIUM 50.5 J
2WTB6 Result
Depth = 0-2'
Pesticides/PCBs (ug/kg)
4,4'-DDD 69 J
Inorganics (mg/kg)
LEAD 44 J [0.018 J]
MANGANESE 202 J
NICKEL 20.2
VANADIUM 52 J
Depth = 4-6'
Inorganics (mg/kg)
LEAD 15.7 J [0.02 U]
MANGANESE 288 J
VANADIUM 36 J
Depth = 15-17'
Inorganics (mg/kg)
BERYLLIUM 1.7 J
LEAD 22.5 [0.02 U]
MANGANESE 276
NICKEL 22.6
VANADIUM 51.7 J
Depth = 20-22'
Inorganics (mg/kg)
BERYLLIUM 1.6 J
LEAD 16.6 [0.02 U]
MANGANESE 271
NICKEL 20.7
VANADIUM 49.4 J
2WMW5S Result
Depth = 0-2'
Inorganics (mg/kg)
BERYLLIUM 1.2 J
LEAD 38.5 [0.0027 J]
MANGANESE 160 J
VANADIUM 48.9 J
Depth = 4-6'
Inorganics (mg/kg)
BERYLLIUM 1.6 J
LEAD 12 [0.0024 J]
MANGANESE 287
NICKEL 21
VANADIUM 50.1 J
Depth = 10-12'
Inorganics (mg/kg)
BERYLLIUM 1.9 J
LEAD 34.4 J [0.002 U]
MANGANESE 365
NICKEL 26.9
VANADIUM 59.7 J
Depth = 13-13'
Inorganics (mg/kg)
BERYLLIUM 1.2 J
LEAD 7 [0.0056 J]
MANGANESE 202
VANADIUM 30.5 J
2WMW5S (DUP) Result
Depth = 0-2'
Inorganics (mg/kg)
BERYLLIUM 1.3 J
LEAD 26.8 [0.0027 J]
MANGANESE 357 J
VANADIUM 51.8 J
2WTB3 Result
Depth = 4-6'
Inorganics (mg/kg)
ARSENIC 10.3 J [0.26 J]
BERYLLIUM 1.8 J
LEAD 15.3 J [0.1 J]
MANGANESE 316
MERCURY 1.1 [0.0006]
NICKEL 28.6
VANADIUM 56.8 J
Depth = 10-12'
Inorganics (mg/kg)
BERYLLIUM 1.5 J
LEAD 33.7 [0.1 UJ]
MANGANESE 262
NICKEL 24.3
VANADIUM 31.8 [0.38 J]
Depth = 15-17'
Inorganics (mg/kg)
BERYLLIUM 1.7 J
LEAD 15.8 J [0.1 UJ]
MANGANESE 333
NICKEL 26.3
VANADIUM 57.5 J
Depth = 20-22'
Inorganics (mg/kg)
ARSENIC 11.5 J [0.26 J]
BERYLLIUM 1.5 J
LEAD 17.2 J [0.1 UJ]
MANGANESE 261
NICKEL 32.1
VANADIUM 46.3 J
2WTB3 (DUP) Result
Depth = 4-6'
Inorganics (mg/kg)
ARSENIC 11.7 J [0.26 J]
BERYLLIUM 1.7 J
LEAD 46 J [0.1 J]
MANGANESE 281
NICKEL 24.2
VANADIUM 53.4 J
2LMW17S Result
Depth = 0-2'
Inorganics (mg/kg)
CADMIUM 3.3 [0.0089 J]
CHROMIUM 14.4 J [0.01 J]
LEAD 18.1 J [0.1 U]
MANGANESE 144 J
VANADIUM 24.4
Depth = 4-8'
Inorganics (mg/kg)
CADMIUM 6.9 [0.065 J]
CHROMIUM 17.3 J [0.014 J]
LEAD 25.3 J [0.1 U]
MANGANESE 101 J
VANADIUM 13.9
2LMW18S Result
Depth = 0-2'
Pesticides/PCBs (ug/kg)
4,4'-DDT 21 J
Inorganics (mg/kg)
CADMIUM 2.7 [0.005 U]
CHROMIUM 16.2 [0.01 U]
LEAD 95.8 J [0.22 J]
MANGANESE 132 J
NICKEL 35.3 J
VANADIUM 36.2
Pesticides/PCBs (ug/kg)
4,4'-DDE 24 J
4,4'-DDT 83 J
Inorganics (mg/kg)
BERYLLIUM 2.9
CADMIUM 6.2 [0.018]
CHROMIUM 31.2 [0.01 U]
LEAD 297 J [0.3 J]
MANGANESE 288 J
NICKEL 159 J
VANADIUM 24.5
2LSS21 Result
Depth = 0-1'
Inorganics (mg/kg)
CHROMIUM 12.7
LEAD 7.4
MANGANESE 145
VANADIUM 24.5
2LSS20 Result
Depth = 0-1'
Inorganics (mg/kg)
LEAD 5
MANGANESE 247
VANADIUM 17.9
2LSS20 (DUP) Result
Depth = 0-1'
Inorganics (mg/kg)
LEAD 4.9
MANGANESE 213
VANADIUM 15
2LSS22 Result
Depth = 0-1'
Inorganics (mg/kg)
LEAD 13.6
MANGANESE 177
VANADIUM 15.6
2LSS23 Result
Depth = 0-1'
Inorganics (mg/kg)
CHROMIUM 10.7
LEAD 15.9
MANGANESE 179
VANADIUM 19.7
2LSS24 Result
Depth = 0-1'
Inorganics (mg/kg)
LEAD 5
MANGANESE 254
VANADIUM 18
2WMW3S Result
Depth = 10-12'
Inorganics (mg/kg)
CADMIUM 4.1 [0.005 U]
CHROMIUM 15.9 J [0.05 U]
LEAD 4.8 J [0.1 U]
MANGANESE 150 J
VANADIUM 21
Depth = 16-18'
Inorganics (mg/kg)
BERYLLIUM 0.92
CADMIUM 8.5 [0.005 U]
CHROMIUM 37.9 J [0.05 U]
LEAD 10.3 J [0.1 U]
MANGANESE 311
NICKEL 31.3 J
VANADIUM 42.3
1SB4C Result
Depth = 0-1'
Pesticides/PCBs (ug/kg)
4,4'-DDD 55
Inorganics (mg/kg)
CADMIUM 2.1
CHROMIUM 16.1
LEAD 59.3
MANGANESE 278
VANADIUM 16.2
1TB3 Result
Depth = 0-2'
Semivolatile Organics (ug/kg)
CHRYSENE 1100
INDENO(1,2,3-CD)PYRENE 200 J
Pesticides/PCBs (ug/kg)
4,4'-DDD 3900
4,4'-DDE 58 J
4,4'-DDT 26 J
AROCLOR-1254 420 J
Inorganics (mg/kg)
ANTIMONY 6.8 J
BERYLLIUM 1 J
CADMIUM 1.2 J
CHROMIUM 34.1
LEAD 104
MANGANESE 215
NICKEL 33.8
VANADIUM 186
Depth = 6-8'
Semivolatile Organics (ug/kg)
BENZO(A)ANTHRACENE 2300
BENZO(B)FLUORANTHENE 1600
CHRYSENE 1900
INDENO(1,2,3-CD)PYRENE 290 J
Pesticides/PCBs (ug/kg)
4,4'-DDD 2100
4,4'-DDE 25 J
Inorganics (mg/kg)
ANTIMONY 17.4 J
ARSENIC 10.2
BERYLLIUM 0.87 J
CADMIUM 2.6 J
CHROMIUM 42.9
LEAD 366
MANGANESE 290
NICKEL 23.8 J
VANADIUM 55.4
1TB2 Result
Depth = 12-14'
Pesticides/PCBs (ug/kg)
4,4'-DDT 140 J
Inorganics (mg/kg)
ANTIMONY 5.5 J
CHROMIUM 19.1
LEAD 32.4
MANGANESE 165
VANADIUM 30.5
2LMW8S Result
Depth = 6-10'
Pesticides/PCBs (ug/kg)
4,4'-DDD 190 J
Inorganics (mg/kg)
CADMIUM 12.1 J [0.005 U]
CHROMIUM 40.2 J [0.012 J]
LEAD 32.9 J [0.007 J]
MANGANESE 332 J
NICKEL 24.9 J
VANADIUM 30.6 J
LF-SB03 Result
Depth = 18.5-20.5'
Inorganics (mg/kg)
CHROMIUM 36.1
LEAD 8.6
MANGANESE 326
NICKEL 20.9
VANADIUM 40.3
LF-SB05 Result
Depth = 12.5-14.5'
Inorganics (mg/kg)
CHROMIUM 23.3
LEAD 9.6
MANGANESE 248
VANADIUM 38.2
LF-SB04 Result
Depth = 8-10'
Inorganics (mg/kg)
CHROMIUM 17.8
LEAD 8.1
MANGANESE 298
VANADIUM 29.1
2WTB2 Result
Depth = 0-2'
Inorganics (mg/kg)
CADMIUM 3.5 [0.031 J]
CHROMIUM 17.5 J [0.029 J]
LEAD 170 J [0.56 J]
MANGANESE 149 J
VANADIUM 20.7
2WTB3 Result
Depth = 0-2'
Semivolatile Organics (ug/kg)
INDENO(1,2,3-CD)PYRENE 210 J
Inorganics (mg/kg)
ANTIMONY 5.3 J
CHROMIUM 14.7
LEAD 4.8
MANGANESE 166
MERCURY 0.47
VANADIUM 19.1 J
Depth = 5-7'
Volatile Organics (ug/kg)
METHYLENE CHLORIDE 28 J
Semivolatile Organics (ug/kg)
BENZO(A)ANTHRACENE 1100 J
BENZO(A)PYRENE 1100 J
BENZO(B)FLUORANTHENE 2200 J
CHRYSENE 1600 J
INDENO(1,2,3-CD)PYRENE 950 J
Inorganics (mg/kg)
ANTIMONY 11.6 J
BERYLLIUM 1.6
CADMIUM 1.7 J
CHROMIUM 34.7
LEAD 207
MANGANESE 191
MERCURY 0.61
NICKEL 46.6
VANADIUM 25.9
2LTB31 Result
Depth = 8-10'
Pesticides/PCBs (ug/kg)
4,4'-DDD 410 J
4,4'-DDE 450
4,4'-DDT 410 J
AROCLOR-1254 2100
Inorganics (mg/kg)
ANTIMONY 25.6 J
CADMIUM 5.3 J
CHROMIUM 127 J
LEAD 1290
MANGANESE 1040 J
NICKEL 245 J
VANADIUM 22.6 J
2LTB28 Result
Depth = 4-6'
Semivolatile Organics (ug/kg)
INDENO(1,2,3-CD)PYRENE 240 J
Pesticides/PCBs (ug/kg)
4,4'-DDD 490 J
4,4'-DDE 270 J
AROCLOR-1254 8100
Inorganics (mg/kg)
CADMIUM 1.4 J
CHROMIUM 26.2 J
LEAD 463
MANGANESE 318 J
NICKEL 28 J
VANADIUM 20.5 J
2LTB23-PM2 Result
Depth = 0-2'
Pesticides/PCBs (ug/kg)
AROCLOR-1254 340
Depth = 4-6'
Pesticides/PCBs (ug/kg)
AROCLOR-1254 19400
Depth = 6-8'
Pesticides/PCBs (ug/kg)
AROCLOR-1254 1360
Depth = 8-10'
Pesticides/PCBs (ug/kg)
AROCLOR-1254 520
2WTB2 Result
Depth = 0-2'
Inorganics (mg/kg)
BERYLLIUM 1.8 J
LEAD 11.2 J [0.002 U]
MANGANESE 306
NICKEL 25.9
VANADIUM 57.9 J
Depth = 4-6'
Inorganics (mg/kg)
BERYLLIUM 1.9 J
LEAD 11.8 J [0.02 U]
MANGANESE 327
NICKEL 26
VANADIUM 54.7 J
Depth = 10-12'
Inorganics (mg/kg)
BERYLLIUM 1.9 J
LEAD 10.2 [0.0022 J]
MANGANESE 343
NICKEL 25.2
VANADIUM 58.7 J
Depth = 15-17'
Inorganics (mg/kg)
BERYLLIUM 1.6 J
LEAD 14.3 J [0.0099 J]
MANGANESE 282
NICKEL 21.6
VANADIUM 50.3 J
Depth = 20-22'
Inorganics (mg/kg)
BERYLLIUM 1.6 J
LEAD 12.9 [0.02 U]
MANGANESE 283
NICKEL 21.5
VANADIUM 51.1 J
2WTB2 (DUP) Result
Depth = 0-2'
Inorganics (mg/kg)
BERYLLIUM 1.7 J
LEAD 11.2 [0.002 U]
MANGANESE 376
NICKEL 24.8
VANADIUM 56.7 J
LF-SB03
LF-SB05
LF-SB04
LF-SB06
LF-SB07
LF-SB08
LF-TP22
LF-TP23
LF-TP24
LF-TP25
LF-TP26
LF-TP27
2LMW13S
2LMW14S
2LMW9S
2LMW7S
2LMW8S
2LMW17S
2LMW18S
2WMW4S
2WMW2S
2WMW5S
2WMW3S
2WCTB1
2WCTB2
2WCTB4
2WCTB5
2WCTB6
2WCTB7
2WCTB8
2WCMW1S
2WCMW3S
2WTB1
2WTB2
2WTB3
2WTB4
2WTB6
2WTB7
2WTB8
1SB4C
1TB1
1TB2
1TB3
1SS1
1SS2
4MW1S
4MW2S
4MW3S
4MW4S
4SS1
4SS2
4SS3
4SS4
4SS5
4SS6
4SS7
4SS8
4SS9
4SS10
4TB2
4TB3
2LTB2
2LTB3
2LTB7
2LTB8
2LTB9
2LTB13-FES
2LTB16
2LTB17
2LTB18
2LTB19
2LTB20
2LTB21
2LTB22
2LTB23-FES
2LTB23-PM2
2LTB26
2LTB28
2LTB29
2LTB31
2LSS1
2LSS2
2LSS20
2LSS21
2LSS22
2LSS23
2LSS24
2LSS1
2LSS2
2LSS20
2LSS21
2LSS22
2LSS23
2LSS24
LEGEND
Monitoring Well
Sediment Sample
Soil Boring
Surface Soil Sample
IR Sites
Structure
Northern Region Boundary
Site 2-A Area A Landfill
Site 2-B Area A Wetland
Site 3-A Area A Downstream
Site 3-B Overbank Disposal Area
Site 7 Torpedo Shops
Site 14 Overbank Disposal Area-Northeast
Site 20 Area A Weapons Center
NOTE:
TCLP results are indicated in [brackets] and are in units of mg/L
150 0 150 300 Feet
P:\GIS\NLON\NORTH&SOUTH_TAGS.APR 10-MAY-99 DNP
NORTH SOIL TAGS - EAST (MAY 99) DH LAYOUT
Tetra Tech NUS, Inc.
DESIGN: DR. D. PERRY
SUPV: Dr. D. Perry 5/10/99 CH ENG
SUBMITTED BY
DRAWN BY
REVIEWED
PROJECT MGR.
PFE
OFFICER IN CHARGE
APPROVED
PREP BY DATE APPRVD
REV DESCRIPTION DATE
NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA
GROTON, CT
NORTHERN DIVISION
NORTHERN REGION - EASTERN SIDE
PRIMARY SOIL COPCs
NORTHERN FOR COMMANDER, NAVFAC
DEPARTMENT OF THE NAVY
NAVAL BASE
NASB-NLON
SEAL AREA
SAT TO DATE
CODE I.D. NO. 80091
SCALE: AS SHOWN
SPEC. NO.
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
SIZE D DIS-BN NO. DWG. 7A

0163917X



REV	DESCRIPTION	PREP BY	DATE	APPRVD

Tetra Tech NUS, Inc.
DESIGN:
SURV. BOOK:
DR: D. PERRY
CHK:
SUBMITTED: CH ENG.
DATE:
NORTHCOM
DIR.
PE:
OFFICER IN CHARGE
APPROVED
DATE

DEPARTMENT OF THE NAVY
NAVAL BASE
NSB-NLON

NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA
GROTON, CT

NORTHERN DIVISION

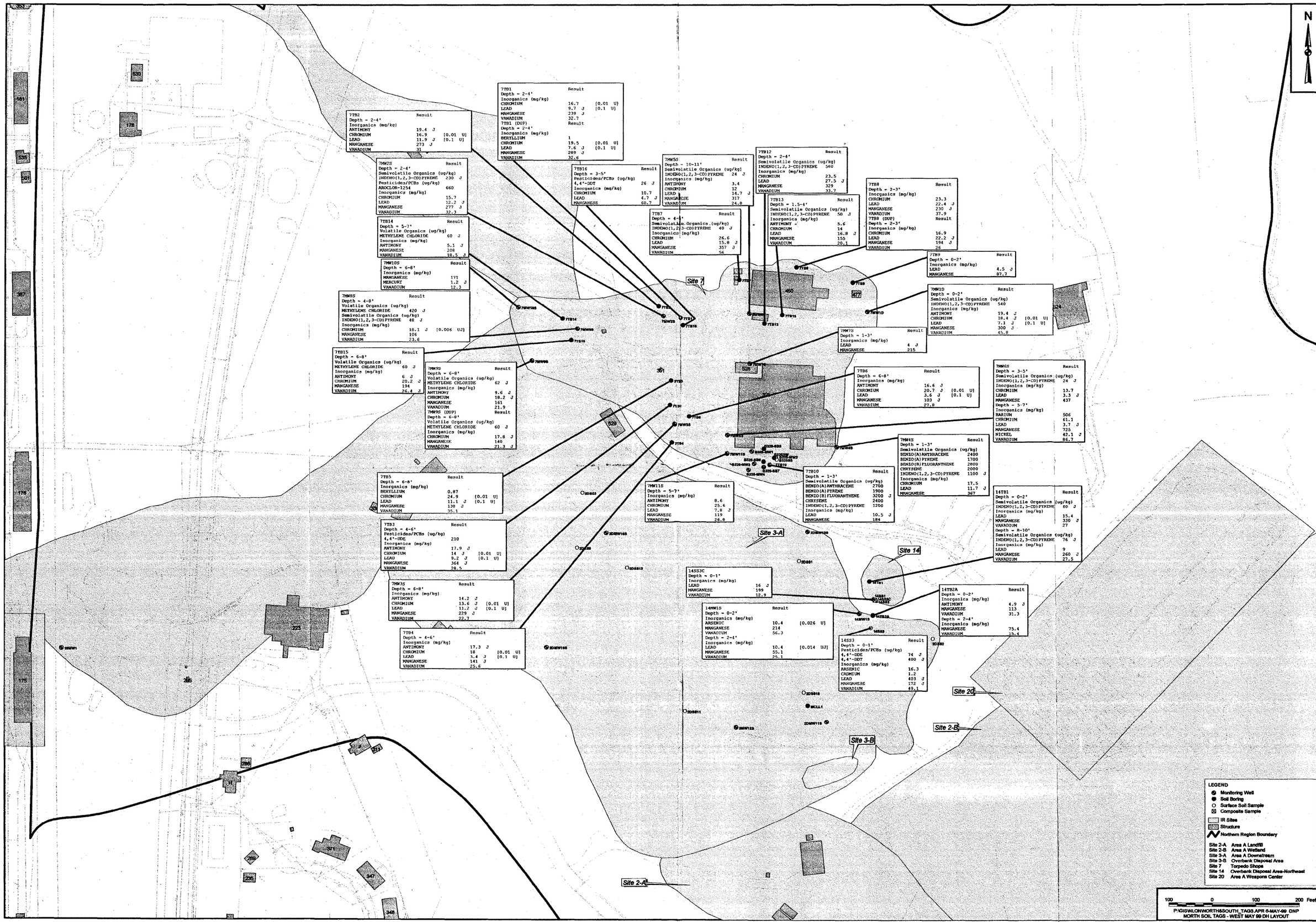
NORTHERN REGION - EASTERN SIDE
PRIMARY SEDIMENT COPCs

NORTHDIV FOR COMMANDER, NAVFAC

SEAL AREA

SAT TO DATE
CODE I.D. NO. 80091
SCALE AS SHOWN
SPEC. NO.
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
SIZE: D
DIS. SH. NO. DWG. 7B

0163918X



Tetra Tech NUS, Inc.

DESIGN: DR: CHK:
SURV: Doug A. Wil 5/11/99 CH ENG:
SUBMITTED BY: (PRINCIPAL) DATE:
NORTHDIV HD:
DIA HD:
PRE DRE:
OFFICER IN CHARGE DATE
APPROVED

REV	DESCRIPTION	PREP BY	DATE	APPRVD

DEPARTMENT OF THE NAVY
NAVAL BASE PHILADELPHIA

NORTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA

NORTHERN REGION - WESTERN SIDE PRIMARY SOIL COPCs

GROTON, CT

APPROVED DATE
NORTHDIV FOR COMMANDER, NAVFAC

SEAL AREA

BAT TO DATE
CODE I.D. NO. 60091
SCALE: AS SHOWN
SPEC. NO.
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
SIZE: D DIS. SH. NO. DWG. 8

01639 19X

REV	DESCRIPTION	PREP BY	DATE	APPR(VD)

TRI-SERVICE
AFI/NAVFAC
ANTI-TERRORISM/FORCE PROTECTION

DSN: DR. D. PERRY CHIEF ENGINEER
SUPV: CAR 11/5/98
SUBMITTED BY: TITLE: DATE:
NORTHDIV
FIELD DIV
SOUTHDIV
OFFICER IN CHARGE
APPROVED DATE

Ferro Tech-Mill, Inc.

NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA PA
GROTON CT

DEPARTMENT OF THE NAVY
NAVAL BASE
ISBN NLON

NORTHERN DIVISION

SOUTHERN REGION - PRIMARY GROUNDWATER COPCs OVERBURDEN WELLS

NORTH DIV FOR COMMANDER, NAVFAC

APPROVED DATE

SEAL AREA

SAT TO DATE

CODE I.D. NO. 80091

SCALE AS SHOWN

SPEC. NO.

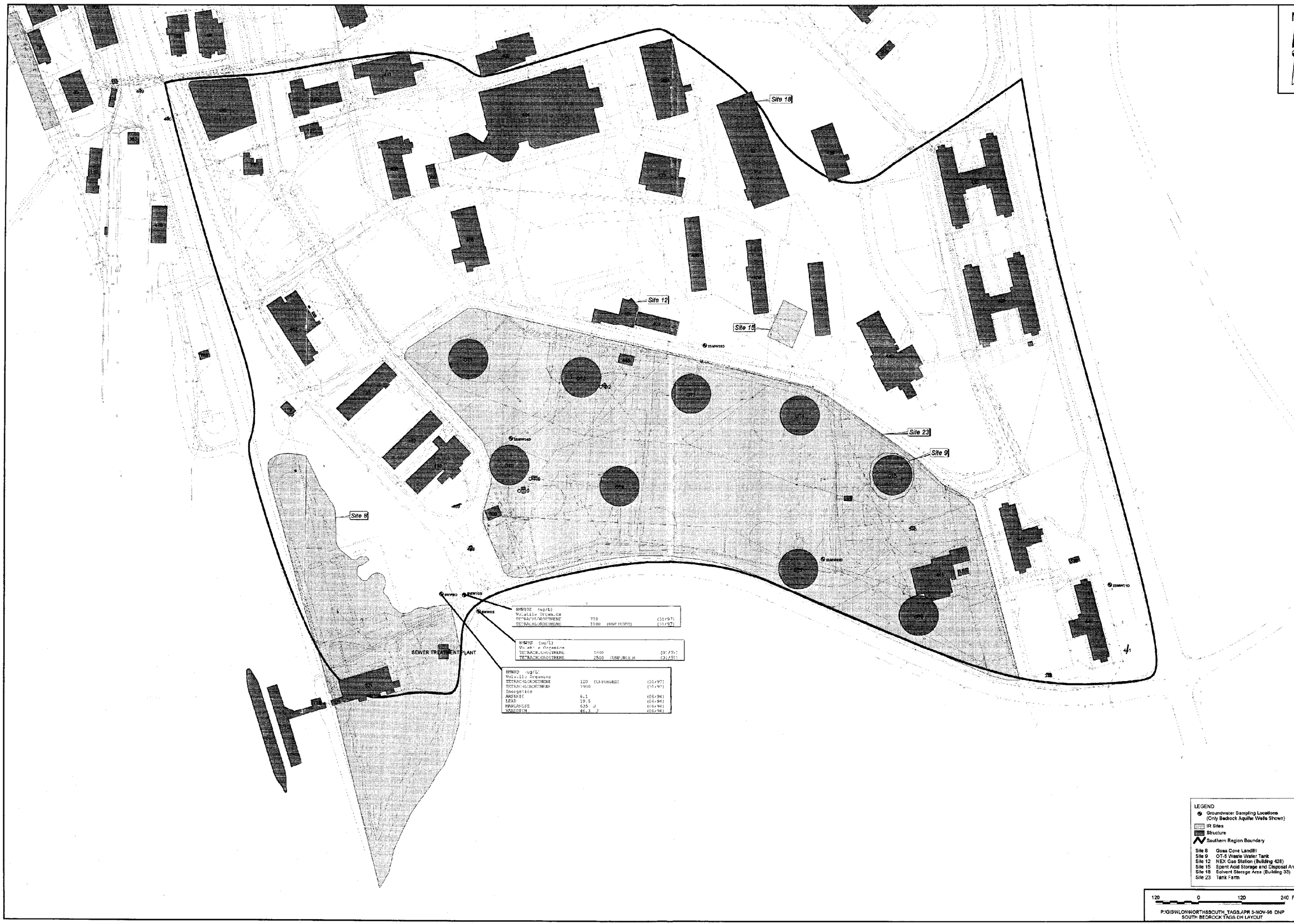
CONSTR CONTR NO.

NAVFAC DRAWING NO.

SHEET OF

SIZE D DIS. SH. NO. DWG. 9

01639208


Site 18
Site 12
Site 15
Site 23
Site 9
Site 8
SEWER TREATMENT PLANT
8MW10S (ug/L)
Volatile Organics
TETRACHLOROETHENE 770 (01/97)
TETRACHLOROETHENE 1100 (UNFILTERED) (01/97)
8MW9S (ug/L)
Volatile Organics
TETRACHLOROETHENE 1900 (01/97)
TETRACHLOROETHENE 2500 (UNFILTERED) (01/97)
8MW8D (ug/L)
Volatile Organics
TETRACHLOROETHENE 120 (UNFILTERED) (01/97)
TETRACHLOROETHENE 1900 (01/97)
Inorganics
ARSENIC 6.1 (06/94)
LEAD 19.5 (06/94)
MANGANESE 635 J (06/94)
VANADIUM 46.3 J (06/94)
LEGEND
Groundwater Sampling Locations (Only Bedrock Aquifer Wells Shown)
IR Sites
Structure
Southern Region Boundary
Site 8 Goss Cove Landfill
Site 9 OT-5 Waste Water Tank
Site 12 NEX Gas Station (Building 428)
Site 15 Spent Acid Storage and Disposal Area
Site 18 Solvent Storage Area (Building 33)
Site 23 Tank Farm
120 0 120 240 Feet
P:\GIS\NLON\NORTH&SOUTH_TAGS.APR 3-NOV-98 DNP
SOUTH BEDROCK TAGS DH LAYOUT
N
Terra Tech N.E.S., Inc.
DRN. D. PERRY
CHK.
DATE 11/5/98
NORTHDIV
CAA
TYPE
CHIEF
OFFICER IN CHARGE
APPROVED
DATE
NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA.
GROTON, CT
NORTHERN DIVISION
SOUTHERN REGION - PRIMARY GROUNDWATER COPCs
BEDROCK WELLS
NORTHDIV FOR COMMANDER NAVFAC
DEPARTMENT OF THE NAVY
NAVAL BASE
NSB-NLON
APPROVED
DATE
SEAL AREA
BAT TO
DATE
CODE I.D. NO. 80001
SCALE AS SHOWN
SPEC. NO.
CONSTR. CONTR. NO.
NAVFAC DRAWING NO.
SHEET OF
SIZE D
DWG. 10

01639 21X

REV	DESCRIPTION	PREP BY	DATE	APPRVD

Tetra Tech NUS, Inc.
AT CONTRACTING OFFICER'S REPRESENTATIVE
CHK: DR. D. PERRY
DESIGN: SURV: DRAWN BY: CH. BAKS
CONTRACT NO.
NORTHDIV
DIR:
PM:
PE:
OFFICER IN CHARGE
APPROVED
DATE

NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA
GROTON, CT

DEPARTMENT OF THE NAVY
NAVAL BASE
NEWPORT

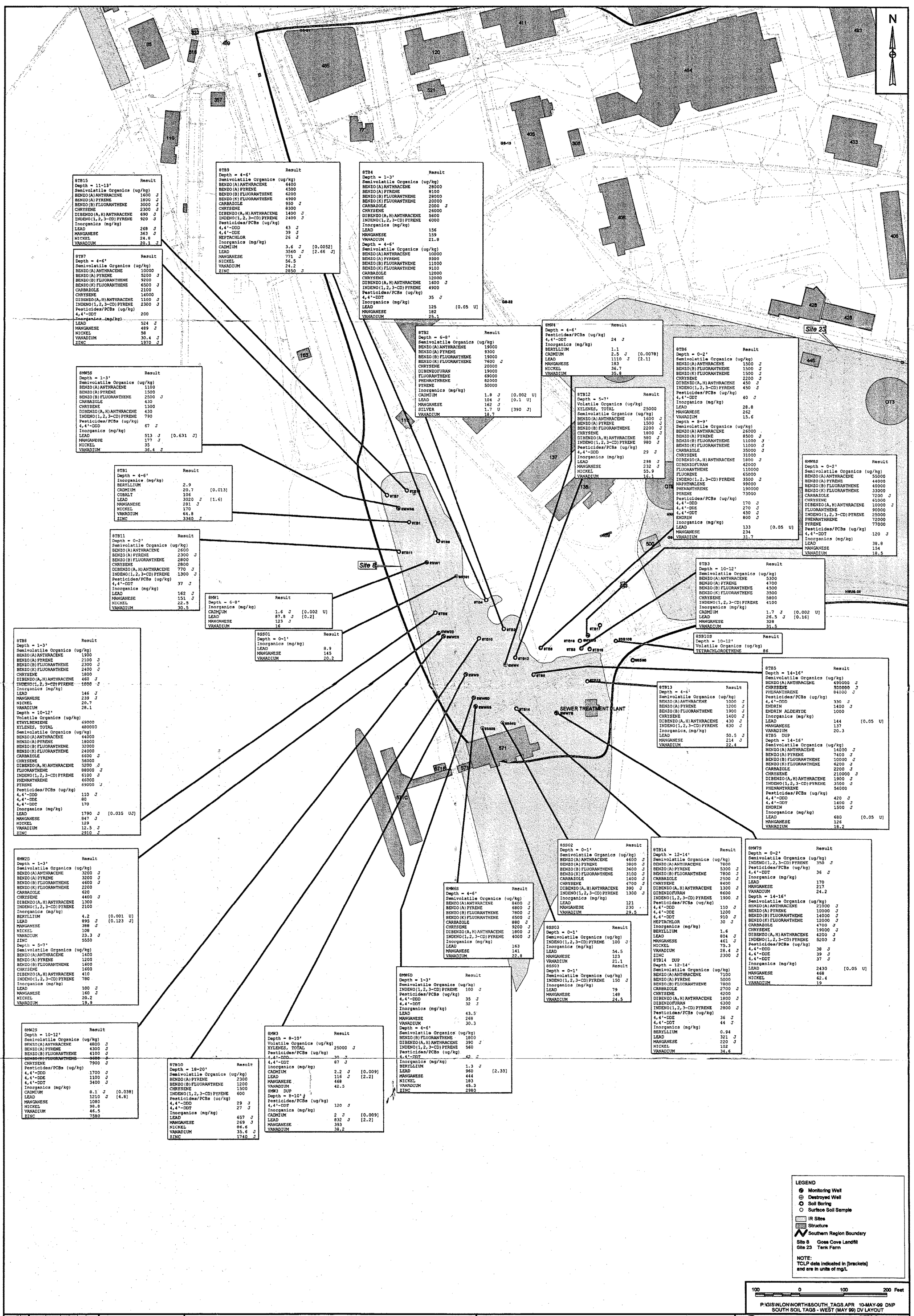
NORTHERN DIVISION

SOUTHERN REGION - EASTERN SIDE PRIMARY SOIL COPCs

NORTHDIV FOR COMMANDER, NAVFAC

SEAL AREA

BAT TO	DATE
CODE I.D. NO.	40001
SCALE AS SHOWN	
SPEC. NO.	
CONSTR. CONTR NO.	
NAVFAC DRAWING NO.	
SHEET	OF
SIZE D	DWG. 11



8TB15	Result	
Depth = 11-13'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	1600	J
BENZO(A)PYRENE	1800	J
BENZO(B)FLUORANTHENE	3000	J
CHRYSENE	2300	J
DIBENZO(A,H)ANTHRACENE	690	J
INDENO(1,2,3-CD)PYRENE	920	J
Inorganics (mg/kg)		
LEAD	268	J
MANGANESE	363	J
NICKEL	24.8	
VANADIUM	20.1	J

8TB7	Result	
Depth = 4-6'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	10000	
BENZO(A)PYRENE	5200	J
BENZO(B)FLUORANTHENE	9200	
BENZO(K)FLUORANTHENE	6500	J
CARBAZOLE	2100	
CHRYSENE	14000	
DIBENZO(A,H)ANTHRACENE	1100	J
INDENO(1,2,3-CD)PYRENE	2300	J
Pesticides/PCBs (ug/kg)		
4,4'-DDT	200	
Inorganics (mg/kg)		
LEAD	524	J
MANGANESE	489	J
NICKEL	58	
VANADIUM	30.4	J
ZINC	1970	J

8MW5S	Result		
Depth = 1-3'			
Semivolatile Organics (ug/kg)			
BENZO(A)ANTHRACENE	1100		
BENZO(A)PYRENE	1500		
BENZO(B)FLUORANTHENE	2500	J	
CARBAZOLE	430		
CHRYSENE	1300		
DIBENZO(A,H)ANTHRACENE	430		
INDENO(1,2,3-CD)PYRENE	790		
Pesticides/PCBs (ug/kg)			
4,4'-DDD	67	J	
Inorganics (mg/kg)			
LEAD	513	J	[0.631 J]
MANGANESE	177	J	
NICKEL	35		
VANADIUM	36.4	J	

8TB1	Result	
Depth = 4-6'		
Inorganics (mg/kg)		
BERYLLIUM	2.9	
CADMIUM	20.7	[0.013]
COBALT	106	
LEAD	3020	J [1.6]
MANGANESE	281	J
NICKEL	170	
VANADIUM	64.8	
ZINC	3360	J

8TB11	Result	
Depth = 0-2'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	2600	
BENZO(A)PYRENE	2300	J
BENZO(B)FLUORANTHENE	2800	
CHRYSENE	2800	
DIBENZO(A,H)ANTHRACENE	770	J
INDENO(1,2,3-CD)PYRENE	1300	J
Pesticides/PCBs (ug/kg)		
4,4'-DDT	37	J
Inorganics (mg/kg)		
LEAD	162	J
MANGANESE	151	J
NICKEL	22.5	
VANADIUM	30.5	

8TB8	Result	
Depth = 1-3'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	1900	
BENZO(A)PYRENE	2100	J
BENZO(B)FLUORANTHENE	2300	J
BENZO(K)FLUORANTHENE	2400	J
CHRYSENE	1800	
DIBENZO(A,H)ANTHRACENE	460	J
INDENO(1,2,3-CD)PYRENE	1000	J
Inorganics (mg/kg)		
LEAD	146	J
MANGANESE	239	J
NICKEL	20.7	
VANADIUM	28.1	
Depth = 10-12'		
Volatile Organics (ug/kg)		
ETHYLBENZENE	69000	
XYLENES, TOTAL	480000	
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	44000	
BENZO(A)PYRENE	18000	
BENZO(B)FLUORANTHENE	32000	
BENZO(K)FLUORANTHENE	24000	
CARBAZOLE	6600	J
CHRYSENE	56000	
DIBENZO(A,H)ANTHRACENE	5200	J
FLUORANTHENE	88000	J
INDENO(1,2,3-CD)PYRENE	6100	J
PHENANTHRENE	46000	
PYRENE	69000	J
Pesticides/PCBs (ug/kg)		
4,4'-DDD	110	J
4,4'-DDE	80	
4,4'-DDT	170	
Inorganics (mg/kg)		
LEAD	1790	J [0.035 UJ]
MANGANESE	847	J
NICKEL	129	
VANADIUM	12.5	J
ZINC	2910	J

8MW2D	Result	
Depth = 1-3'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	3200	J
BENZO(A)PYRENE	3200	J
BENZO(B)FLUORANTHENE	4600	J
BENZO(K)FLUORANTHENE	2200	
CARBAZOLE	620	
CHRYSENE	4400	J
DIBENZO(A,H)ANTHRACENE	1300	
INDENO(1,2,3-CD)PYRENE	2100	
Inorganics (mg/kg)		
BERYLLIUM	4.2	[0.001 U]
LEAD	895	J [0.123 J]
MANGANESE	388	J
NICKEL	108	
VANADIUM	23.3	J
ZINC	5550	
Depth = 5-7'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	1400	
BENZO(A)PYRENE	1200	
BENZO(B)FLUORANTHENE	1600	
CHRYSENE	1600	
DIBENZO(A,H)ANTHRACENE	410	
INDENO(1,2,3-CD)PYRENE	780	
Inorganics (mg/kg)		
LEAD	100	J
MANGANESE	160	J
NICKEL	20.2	
VANADIUM	19.9	

8MW2S	Result	
Depth = 10-12'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	4800	J
BENZO(A)PYRENE	4300	J
BENZO(B)FLUORANTHENE	4100	J
BENZO(K)FLUORANTHENE	3600	J
CHRYSENE	7900	J
Pesticides/PCBs (ug/kg)		
4,4'-DDD	1700	J
4,4'-DDE	1100	J
4,4'-DDT	3400	J
Inorganics (mg/kg)		
CADMIUM	8.1	J [0.038]
LEAD	1210	J [4.8]
MANGANESE	1080	
NICKEL	98.8	
VANADIUM	46.5	
ZINC	7580	

8TB10	Result	
Depth = 18-20'		
Semivolatile Organics (ug/kg)		
BENZO(A)PYRENE	2300	
BENZO(B)FLUORANTHENE	1200	
CHRYSENE	1500	
INDENO(1,2,3-CD)PYRENE	600	
Pesticides/PCBs (ug/kg)		
4,4'-DDD	29	J
4,4'-DDT	27	J
Inorganics (mg/kg)		
LEAD	657	J
MANGANESE	269	J
NICKEL	86.6	
VANADIUM	35.6	J
ZINC	1740	J

8TB9	Result	
Depth = 4-6'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	6400	
BENZO(A)PYRENE	4500	
BENZO(B)FLUORANTHENE	6200	
BENZO(K)FLUORANTHENE	4900	
CARBAZOLE	950	J
CHRYSENE	8300	
DIBENZO(A,H)ANTHRACENE	1400	J
INDENO(1,2,3-CD)PYRENE	2400	J
Pesticides/PCBs (ug/kg)		
4,4'-DDD	43	J
4,4'-DDE	39	J
HEPTACHLOR	26	J
Inorganics (mg/kg)		
CADMIUM	3.6	J [0.0052]
LEAD	3540	J [2.66 J]
MANGANESE	771	J
NICKEL	56.5	
VANADIUM	24.2	
ZINC	2850	J

8MW1	Result	
Depth = 6-8'		
Inorganics (mg/kg)		
CADMIUM	1.6	J [0.002 U]
LEAD	87.8	J [0.2]
MANGANESE	123	J
VANADIUM	16	

8SS01	Result
Depth = 0-1'	
Inorganics (mg/kg)	
LEAD	8.9
MANGANESE	145
VANADIUM	20.2

8TB4	Result	
Depth = 1-3'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	28000	
BENZO(A)PYRENE	8100	
BENZO(B)FLUORANTHENE	28000	
BENZO(K)FLUORANTHENE	20000	
CARBAZOLE	2000	J
CHRYSENE	26000	
DIBENZO(A,H)ANTHRACENE	5600	
INDENO(1,2,3-CD)PYRENE	6000	
Inorganics (mg/kg)		
LEAD	156	
MANGANESE	159	
VANADIUM	21.8	
Depth = 4-6'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	10000	
BENZO(A)PYRENE	9300	
BENZO(B)FLUORANTHENE	11000	
BENZO(K)FLUORANTHENE	9100	
CARBAZOLE	12000	
CHRYSENE	12000	
DIBENZO(A,H)ANTHRACENE	1600	J
INDENO(1,2,3-CD)PYRENE	4900	
Pesticides/PCBs (ug/kg)		
4,4'-DDT	35	J
Inorganics (mg/kg)		
LEAD	125	[0.05 U]
MANGANESE	182	
VANADIUM	25.1	

8TB2	Result	
Depth = 6-8'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	19000	
BENZO(A)PYRENE	9300	
BENZO(B)FLUORANTHENE	19000	
BENZO(K)FLUORANTHENE	7600	J
CHRYSENE	20000	
DIBENZOFURAN	19000	
FLUORANTHENE	69000	
PHENANTHRENE	82000	
PYRENE	50000	
Inorganics (mg/kg)		
CADMIUM	1.8	J [0.002 U]
LEAD	104	J [0.1 U]
MANGANESE	162	J
SILVER	1.7	U [390 J]
VANADIUM	18.7	

8MW4	Result	
Depth = 4-6'		
Pesticides/PCBs (ug/kg)		
4,4'-DDT	24	J
Inorganics (mg/kg)		
BERYLLIUM	1.1	
CADMIUM	2.5	J [0.0078]
LEAD	1110	J [2.1]
MANGANESE	183	
NICKEL	36.7	
VANADIUM	35.8	

8TB12	Result	
Depth = 5-7'		
Volatile Organics (ug/kg)		
XYLENES, TOTAL	25000	
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	1600	J
BENZO(A)PYRENE	1500	J
BENZO(B)FLUORANTHENE	2200	J
CHRYSENE	1800	J
DIBENZO(A,H)ANTHRACENE	580	J
INDENO(1,2,3-CD)PYRENE	980	J
Pesticides/PCBs (ug/kg)		
4,4'-DDD	29	J
Inorganics (mg/kg)		
LEAD	298	J
MANGANESE	232	J
NICKEL	55.9	
VANADIUM	16.1	

8TB6	Result	
Depth = 0-2'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	1500	J
BENZO(B)FLUORANTHENE	1500	J
BENZO(K)FLUORANTHENE	1500	J
CHRYSENE	2200	J
DIBENZO(A,H)ANTHRACENE	450	J
INDENO(1,2,3-CD)PYRENE	450	J
Pesticides/PCBs (ug/kg)		
4,4'-DDT	40	J
Inorganics (mg/kg)		
LEAD	28.8	
MANGANESE	262	
VANADIUM	15.6	
Depth = 8-9'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	26000	
BENZO(A)PYRENE	8500	J
BENZO(B)FLUORANTHENE	11000	J
BENZO(K)FLUORANTHENE	11000	J
CARBAZOLE	35000	J
CHRYSENE	31000	
DIBENZO(A,H)ANTHRACENE	1800	J
DIBENZOFURAN	42000	
FLUORANTHENE	110000	
FLUORENE	65000	
INDENO(1,2,3-CD)PYRENE	3500	J
NAPHTHALENE	99000	
PHENANTHRENE	190000	
PYRENE	73000	
Pesticides/PCBs (ug/kg)		
4,4'-DDD	170	J
4,4'-DDE	270	J
4,4'-DDT	450	J
ENDRIN	800	J
Inorganics (mg/kg)		
LEAD	133	[0.05 U]
MANGANESE	234	
VANADIUM	31.7	

8MW8S	Result	
Depth = 0-2'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	55000	
BENZO(A)PYRENE	44000	
BENZO(B)FLUORANTHENE	40000	
BENZO(K)FLUORANTHENE	33000	
CARBAZOLE	7200	J
CHRYSENE	61000	
DIBENZO(A,H)ANTHRACENE	10000	J
FLUORANTHENE	90000	
INDENO(1,2,3-CD)PYRENE	25000	
PHENANTHRENE	72000	
PYRENE	77000	
Pesticides/PCBs (ug/kg)		
4,4'-DDT	120	J
Inorganics (mg/kg)		
LEAD	38.8	
MANGANESE	154	
VANADIUM	18.5	

8TB3	Result	
Depth = 10-12'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	5300	
BENZO(A)PYRENE	4700	
BENZO(B)FLUORANTHENE	4500	
BENZO(K)FLUORANTHENE	3500	
CHRYSENE	5800	
INDENO(1,2,3-CD)PYRENE	4100	
Inorganics (mg/kg)		
CADMIUM	1.7	J [0.002 U]
LEAD	26.5	J [0.16]
MANGANESE	328	
VANADIUM	31.5	

8SB10S	Result
Depth = 10-12'	
Volatile Organics (ug/kg)	
TETRACHLOROETHENE	86

8TB13	Result	
Depth = 4-6'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	1000	J
BENZO(A)PYRENE	1200	J
BENZO(B)FLUORANTHENE	1900	J
CHRYSENE	1400	J
DIBENZO(A,H)ANTHRACENE	430	J
INDENO(1,2,3-CD)PYRENE	630	J
Inorganics (mg/kg)		
LEAD	50.5	J
MANGANESE	214	J
VANADIUM	22.4	

8TB5	Result	
Depth = 14-16'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	490000	J
CHRYSENE	500000	J
PHENANTHRENE	84000	J
Pesticides/PCBs (ug/kg)		
4,4'-DDD	330	J
ENDRIN	1400	J
ENDRIN ALDEHYDE	1000	
Inorganics (mg/kg)		
LEAD	144	[0.05 U]
MANGANESE	137	
VANADIUM	20.3	
8TB5 DUP		
Depth = 14-16'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	14000	J
BENZO(A)PYRENE	7400	J
BENZO(B)FLUORANTHENE	10000	J
BENZO(K)FLUORANTHENE	6200	J
CARBAZOLE	2200	J
CHRYSENE	210000	J
DIBENZO(A,H)ANTHRACENE	1900	J
INDENO(1,2,3-CD)PYRENE	3500	J
PHENANTHRENE	54000	
Pesticides/PCBs (ug/kg)		
4,4'-DDD	420	J
4,4'-DDT	1400	J
ENDRIN	1500	J
Inorganics (mg/kg)		
LEAD	680	[0.05 U]
MANGANESE	126	
VANADIUM	18.2	

8SS02	Result	
Depth = 0-1'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	4600	J
BENZO(A)PYRENE	3800	J
BENZO(B)FLUORANTHENE	3600	J
BENZO(K)FLUORANTHENE	3100	J
CARBAZOLE	1400	J
CHRYSENE	4700	J
DIBENZO(A,H)ANTHRACENE	390	J
INDENO(1,2,3-CD)PYRENE	1300	J
Inorganics (mg/kg)		
LEAD	121	
MANGANESE	230	
VANADIUM	29.5	

8MW6S	Result	
Depth = 4-6'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	8400	J
BENZO(A)PYRENE	6800	J
BENZO(B)FLUORANTHENE	7800	J
BENZO(K)FLUORANTHENE	6500	J
CARBAZOLE	880	J
CHRYSENE	9200	J
DIBENZO(A,H)ANTHRACENE	1800	J
INDENO(1,2,3-CD)PYRENE	4000	J
Inorganics (mg/kg)		
LEAD	163	
MANGANESE	141	
VANADIUM	22.8	

8SS03	Result	
Depth = 0-1'		
Semivolatile Organics (ug/kg)		
INDENO(1,2,3-CD)PYRENE	100	J
Inorganics (mg/kg)		
LEAD	54.5	
MANGANESE	123	
VANADIUM	21.1	

8SS03	Result	
Depth = 0-1'		
Semivolatile Organics (ug/kg)		
INDENO(1,2,3-CD)PYRENE	150	J
Inorganics (mg/kg)		
LEAD	79	
MANGANESE	148	
VANADIUM	24.5	

8MW6D	Result	
Depth = 1-3'		
Semivolatile Organics (ug/kg)		
INDENO(1,2,3-CD)PYRENE	100	J
Pesticides/PCBs (ug/kg)		
4,4'-DDD	35	J
4,4'-DDT	32	J
Inorganics (mg/kg)		
LEAD	43.5	
MANGANESE	268	
VANADIUM	30.3	
Depth = 4-6'		
Semivolatile Organics (ug/kg)		
BENZO(B)FLUORANTHENE	1800	
DIBENZO(A,H)ANTHRACENE	390	J
INDENO(1,2,3-CD)PYRENE	560	
Pesticides/PCBs (ug/kg)		
4,4'-DDT	42	J
Inorganics (mg/kg)		
BERYLLIUM	1.3	J
LEAD	960	[2.33]
MANGANESE	444	
NICKEL	183	
VANADIUM	45.3	
ZINC	2980	

8MW3	Result	
Depth = 8-10'		
Volatile Organics (ug/kg)		
XYLENES, TOTAL	25000	J
Pesticides/PCBs (ug/kg)		
4,4'-DDD	30	J
4,4'-DDT	87	J
Inorganics (mg/kg)		
CADMIUM	2.2	J [0.009]
LEAD	116	J [2.2]
MANGANESE	468	
VANADIUM	42.5	
8MW3 DUP		
Depth = 8-10'		
Pesticides/PCBs (ug/kg)		
4,4'-DDT	120	J
Inorganics (mg/kg)		
CADMIUM	2	J [0.009]
LEAD	832	J [2.2]
MANGANESE	393	
VANADIUM	38.2	

8TB14	Result	
Depth = 12-14'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	7800	
BENZO(A)PYRENE	5300	J
BENZO(B)FLUORANTHENE	7800	J
CARBAZOLE	2500	J
CHRYSENE	8400	
DIBENZO(A,H)ANTHRACENE	1300	J
DIBENZOFURAN	8600	
INDENO(1,2,3-CD)PYRENE	1900	J
Pesticides/PCBs (ug/kg)		
4,4'-DDD	110	J
4,4'-DDE	1200	
4,4'-DDT	910	J
HEPTACHLOR	30	J
Inorganics (mg/kg)		
BERYLLIUM	1.6	
LEAD	804	J
MANGANESE	461	J
NICKEL	75.3	
VANADIUM	28.4	J
ZINC	2300	J
8TB14 DUP		
Depth = 12-14'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	7100	
BENZO(A)PYRENE	5000	
BENZO(B)FLUORANTHENE	7800	
CARBAZOLE	2700	J
CHRYSENE	6200	
DIBENZO(A,H)ANTHRACENE	1800	J
DIBENZOFURAN	6300	
INDENO(1,2,3-CD)PYRENE	2800	J
Pesticides/PCBs (ug/kg)		
4,4'-DDE	36	J
4,4'-DDT	44	J
Inorganics (mg/kg)		
BERYLLIUM	0.94	
LEAD	321	J
MANGANESE	220	J
NICKEL	102	
VANADIUM	34.6	

8MW7S	Result	
Depth = 0-2'		
Semivolatile Organics (ug/kg)		
INDENO(1,2,3-CD)PYRENE	350	J
Pesticides/PCBs (ug/kg)		
4,4'-DDT	36	J
Inorganics (mg/kg)		
LEAD	170	
MANGANESE	217	
VANADIUM	24.2	
Depth = 14-16'		
Semivolatile Organics (ug/kg)		
BENZO(A)ANTHRACENE	21000	J
BENZO(A)PYRENE	10000	J
BENZO(B)FLUORANTHENE	14000	J
BENZO(K)FLUORANTHENE	12000	J
CARBAZOLE	4700	J
CHRYSENE	19000	J
DIBENZO(A,H)ANTHRACENE	4200	J
INDENO(1,2,3-CD)PYRENE	5200	J
Pesticides/PCBs (ug/kg)		
4,4'-DDD	38	J
4,4'-DDE	39	J
4,4'-DDT	37	J
Inorganics (mg/kg)		
LEAD	2430	[0.05 U]
MANGANESE	468	
NICKEL	62.4	
VANADIUM	19	

DEPARTMENT OF THE NAVY — NORTHERN DIVISION — NAVAL FACILITIES ENGINEERING COMMAND
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NORTHDIV HD:
DM: HD:
FPE: DR:
OFFICER IN CHARGE
APPROVED DATE

SIZE D DWG. 12 SHEET - OF - DIS. SH. NO.
NAVFAC DRAWING NO.
CONSTR. CONTR NO.
SPEC. NO.
SCALE: AS SHOWN
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