N00129.AR.000668
NSB NEW LONDON
5090.3a

Lower Subase Remedial Investigation

for

Naval Submarine Base New London

Groton, Connecticut

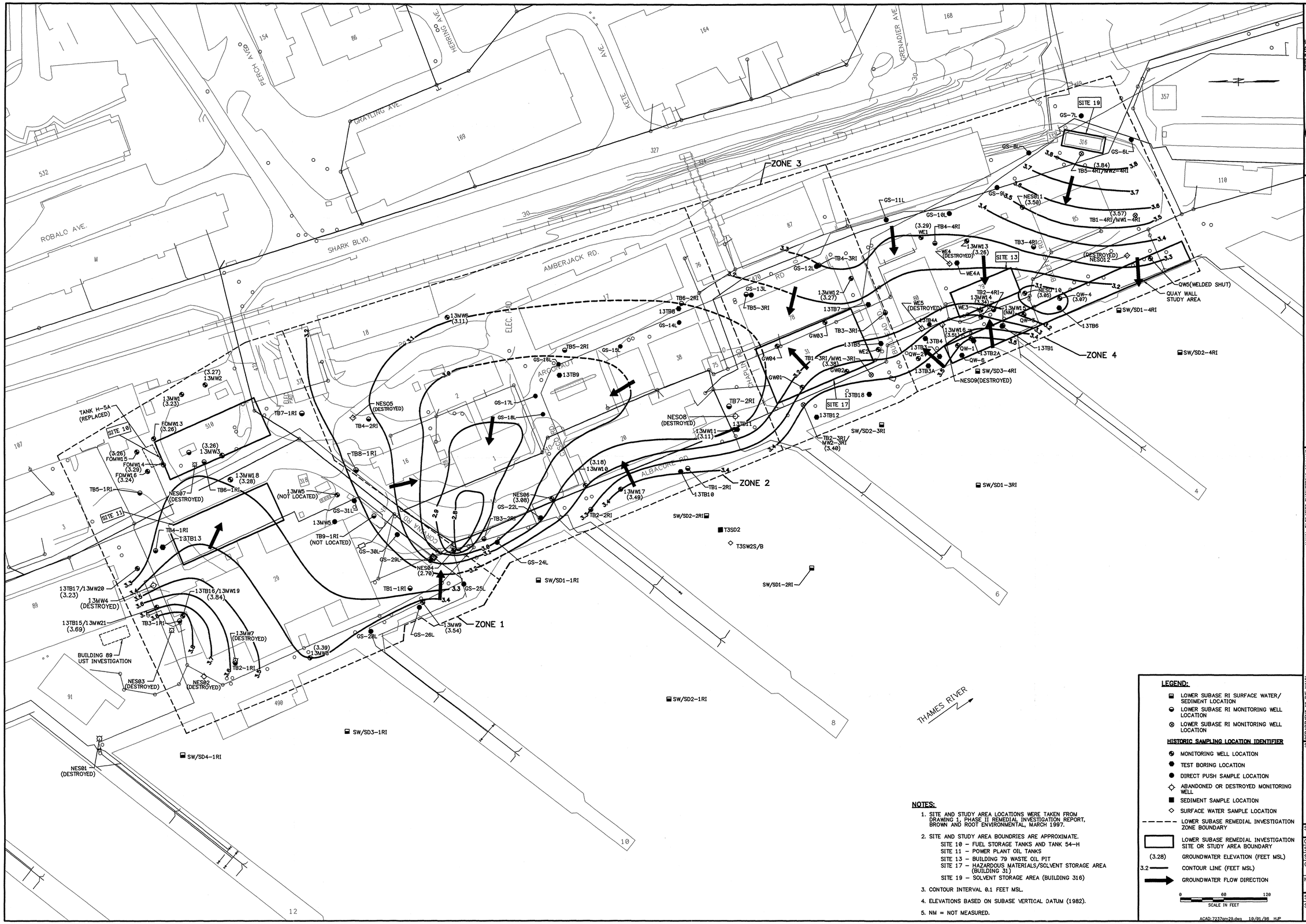
Volume III - Drawings and Appendices A-G

Northern Division Naval Facilities Engineering Command

Contract Number N62472-90-D-1298

Contract Task Order 0260

October 1998



NOTES:

1. SITE AND STUDY AREA LOCATIONS WERE TAKEN FROM DRAWING 1, PHASE II REMEDIAL INVESTIGATION REPORT, BROWN AND ROOT ENVIRONMENTAL, MARCH 1997.
2. SITE AND STUDY AREA BOUNDRIES ARE APPROXIMATE.
   - SITE 10 – FUEL STORAGE TANKS AND TANK 54–H
   - SITE 11 – POWER PLANT OIL TANKS
   - SITE 13 – BUILDING 79 WASTE OIL PIT
   - SITE 17 – HAZARDOUS MATERIALS/SOLVENT STORAGE AREA (BUILDING 31)
   - SITE 19 – SOLVENT STORAGE AREA (BUILDING 316)
3. CONTOUR INTERVAL 0.1 FEET MSL.
4. ELEVATIONS BASED ON SUBASE VERTICAL DATUM (1982).
5. NM = NOT MEASURED.

LEGEND:

- LOWER SUBASE RI SURFACE WATER/ SEDIMENT LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION

HISTORIC SAMPLING LOCATION IDENTIFIER

- MONITORING WELL LOCATION
- TEST BORING LOCATION
- DIRECT PUSH SAMPLE LOCATION
- ABANDONED OR DESTROYED MONITORING WELL
- SEDIMENT SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- LOWER SUBASE REMEDIAL INVESTIGATION ZONE BOUNDARY
- LOWER SUBASE REMEDIAL INVESTIGATION SITE OR STUDY AREA BOUNDARY
- (3.28) GROUNDWATER ELEVATION (FEET MSL)
- 3.2 CONTOUR LINE (FEET MSL)
- GROUNDWATER FLOW DIRECTION

0 60 120 SCALE IN FEET

ACAD: 7237qm29.dwg 10/01/98 HJP

Brown & Root Environmental
695 ANDERSON DRIVE
PITTSBURGH, PA 15220

DSGN: | DR: | CHK:
SUPV: Leo Gadzik (for) CH. ENG:
SUBMITTED BY: (TRM MEMBER) (TITLE) (DATE)

NORTHDIV | NO: | HQ: | DIR:
ON: | FPE: | OFFICER IN CHARGE | APPROVED | DATE

REV.	DESCRIPTION	PREP BY	DATE	APPRVD

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA.
GROTON, CT
NAVAL BASE
NAVAL SUBMARINE BASE, NEW LONDON

NORTHERN DIVISION

POTENTIOMETRIC SURFACE MAP

HIGH TIDE – OCTOBER 27, 1997
ZONES 1–4

NORTHDIV FOR COMMANDER, NAVFAC

DATE | APPROVED

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. DWG. 1

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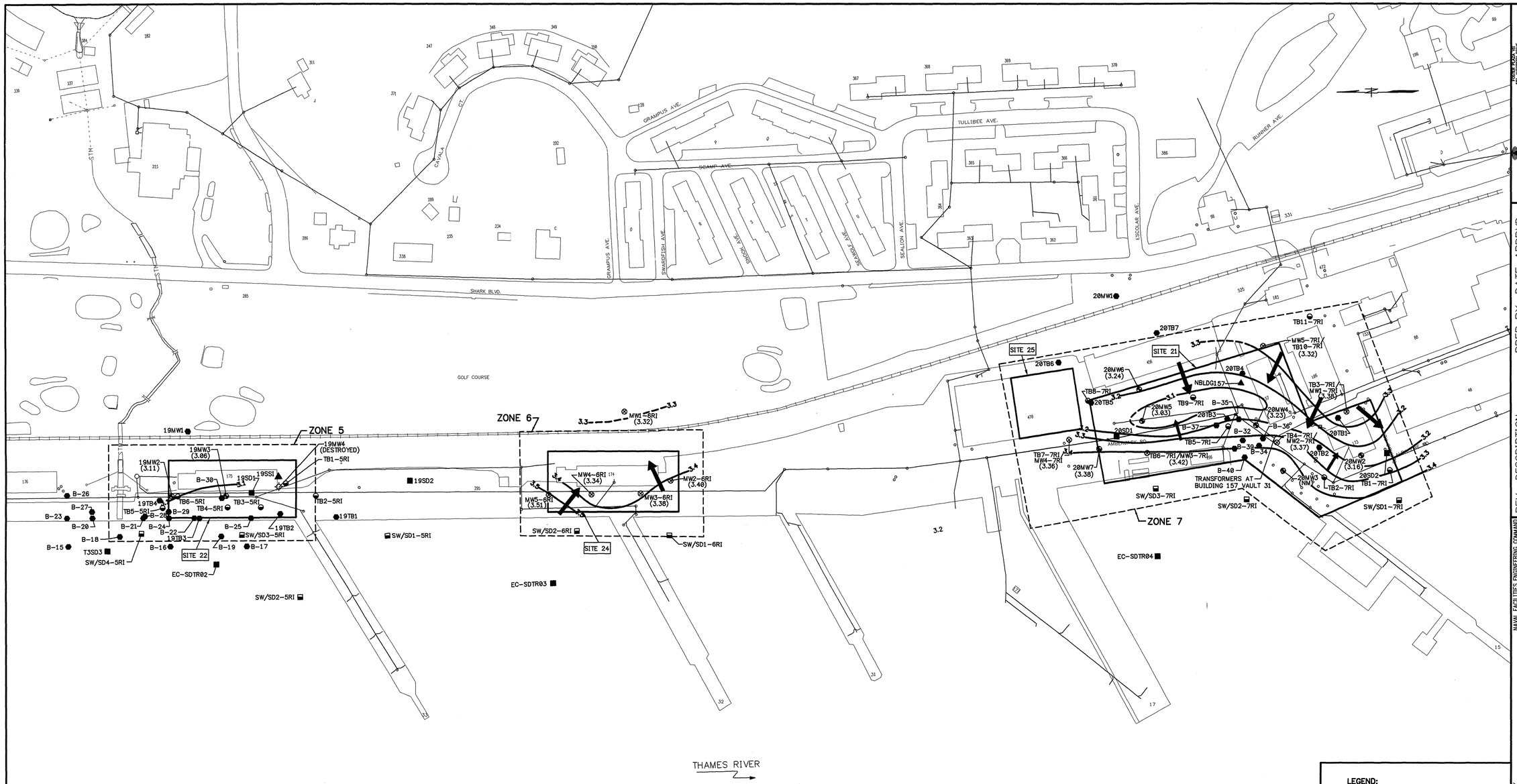

NOTES:

1. SITE AND STUDY AREA LOCATIONS WERE TAKEN FROM DRAWING 1, PHASE II REMEDIAL INVESTIGATION REPORT, BROWN AND ROOT ENVIRONMENTAL, MARCH 1997.
2. SITE AND STUDY AREA BOUNDRIES ARE APPROXIMATE.
   - SITE 21 – BERTH 16
   - SITE 22 – PIER 33
   - SITE 24 – CENTRAL PAINT ACCUMULATION AREA (BUILDING 174)
   - SITE 25 – CLASSIFIED MATERIALS INCINERATOR
3. CONTOUR INTERVAL 0.05 FEET MSL.
4. ELEVATION BASED ON SUBASE VERTICAL DATUM (1982).
5. NM = NOT MEASURED.

LEGEND:

- LOWER SUBASE RI SURFACE WATER/ SEDIMENT LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION

HISTORIC SAMPLING LOCATION IDENTIFIER

- MONITORING WELL LOCATION
- TEST BORING LOCATION
- DIRECT PUSH SAMPLE LOCATION
- ABANDONED OR DESTROYED MONITORING WELL
- SEDIMENT SAMPLE LOCATION
- SURFACE SOIL SAMPLE LOCATION
- LOWER SUBASE REMEDIAL INVESTIGATION ZONE BOUNDARY
- LOWER SUBASE REMEDIAL INVESTIGATION SITE OR STUDY AREA BOUNDARY
- (3.16) GROUNDWATER ELEVATION (FEET MSL)
- 3.2 CONTOUR LINED (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

0 100 200
SCALE IN FEET

ACAD:7237am30.dwg 10/01/98 HJP

DSGN:	Brown & Root Environmental
SUPV:	DR:
SUBMITTED BY:	(FIRM MEMBER)
NORTHDIV	CHK:
CM:	HD:
PPE:	DIR:
OFFICER IN CHARGE	
APPROVED	

FOSTER WHEELER 661 ANDERSON DRIVE PITTSBURGH, PA 15220

CH ENG: (TITLE) (DATE)

REV. DESCRIPTION PREP BY DATE APPRVD

DEPARTMENT OF THE NAVY
NAVAL BASE
NAVAL SUBMARINE BASE, NEW LONDON

NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA.
GROTON, CT

NORTHERN DIVISION

POTENTIOMETRIC SURFACE MAP
HIGH TIDE – OCTOBER 27, 1997
ZONES 5–7

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. DWG. 2

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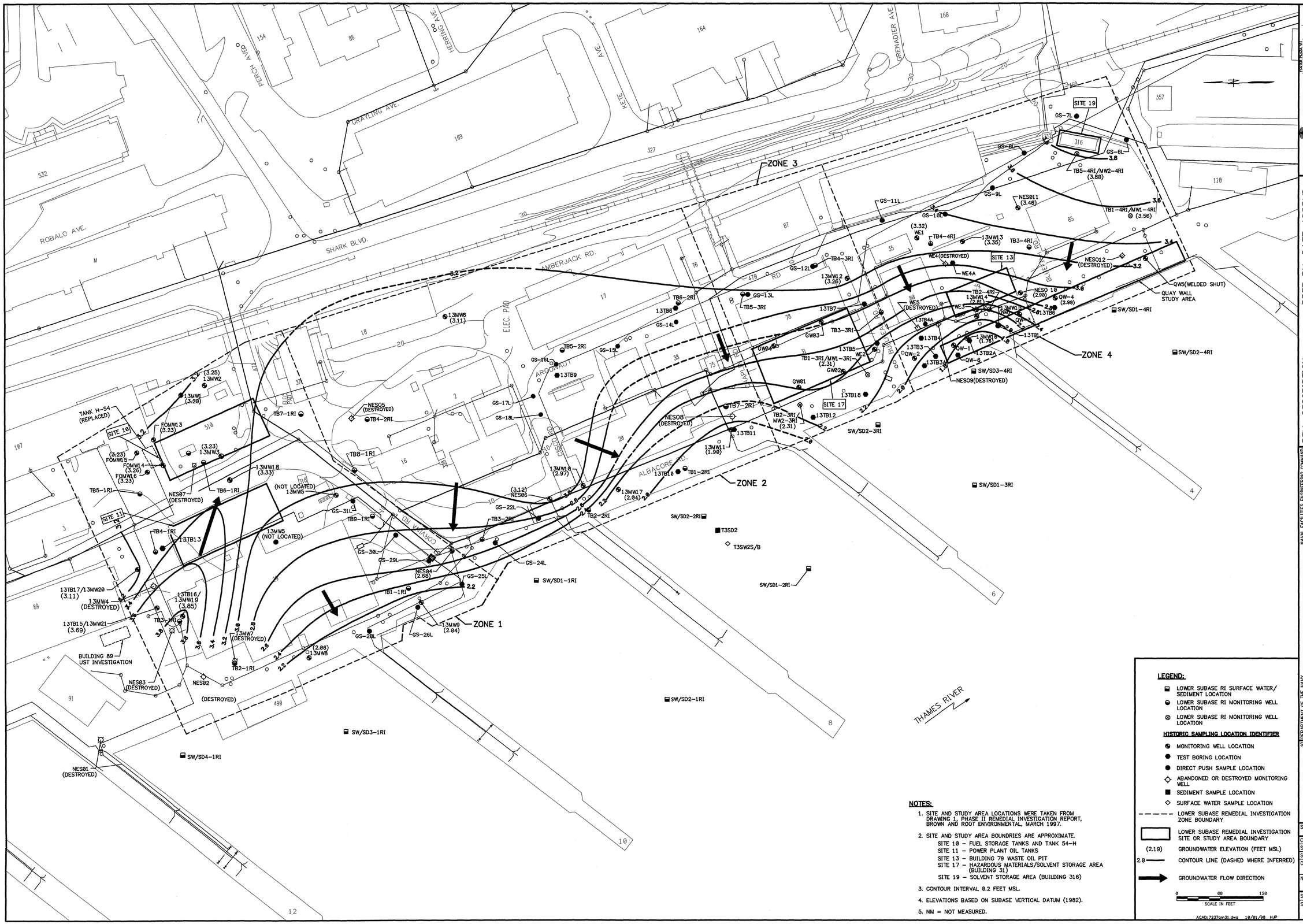

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   - SITE 10 – FUEL STORAGE TANKS AND TANK 54–H
   - SITE 11 – POWER PLANT OIL TANKS
   - SITE 13 – BUILDING 79 WASTE OIL PIT
   - SITE 17 – HAZARDOUS MATERIALS/SOLVENT STORAGE AREA (BUILDING 31)
   - SITE 19 – SOLVENT STORAGE AREA (BUILDING 316)
3. CONTOUR INTERVAL 0.2 FEET MSL.
4. ELEVATIONS BASED ON SUBASE VERTICAL DATUM (1982).
5. NM = NOT MEASURED.

LEGEND:

- LOWER SUBASE RI SURFACE WATER/ SEDIMENT LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION

HISTORIC SAMPLING LOCATION IDENTIFIER

- MONITORING WELL LOCATION
- TEST BORING LOCATION
- DIRECT PUSH SAMPLE LOCATION
- ABANDONED OR DESTROYED MONITORING WELL
- SEDIMENT SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- LOWER SUBASE REMEDIAL INVESTIGATION ZONE BOUNDARY
- LOWER SUBASE REMEDIAL INVESTIGATION SITE OR STUDY AREA BOUNDARY
- (2.19) GROUNDWATER ELEVATION (FEET MSL)
- 2.0 CONTOUR LINE (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

0 60 120
SCALE IN FEET

ACAD: 7237gm31.dwg 10/01/98 HJP

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA.
NAVAL BASE
NAVAL SUBMARINE BASE, NEW LONDON
GROTON, CT

NORTHERN DIVISION

POTENTIOMETRIC SURFACE MAP

LOW TIDE – OCTOBER 27, 1997
ZONES 1–4

NORTHDIV FOR COMMANDER, NAVFAC

APPROVED | DATE

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. DWG. 3

PREP BY DATE APPRVD

REV. DESCRIPTION

OFFICER IN CHARGE

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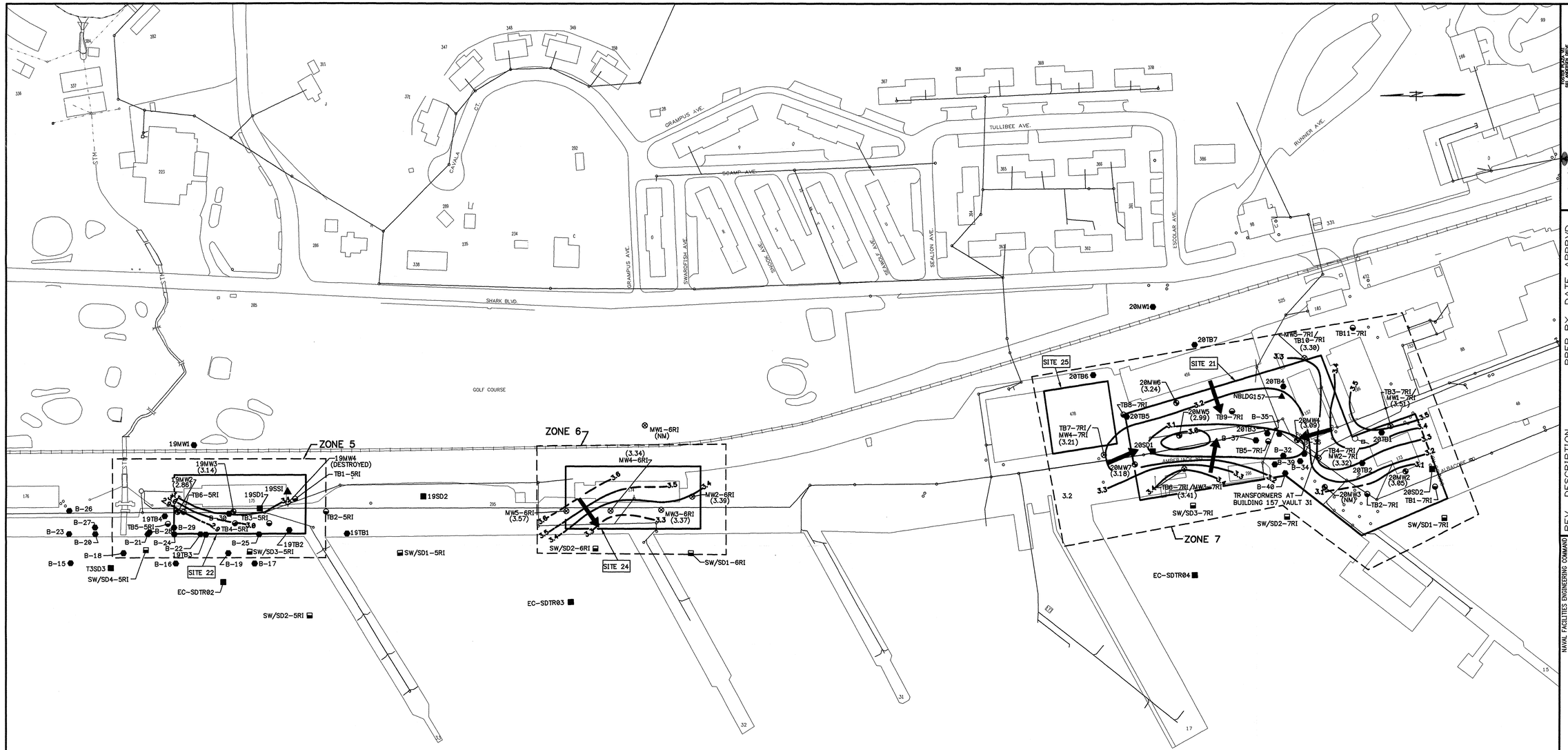

NOTES:

1. SITE AND STUDY AREA LOCATIONS WERE TAKEN FROM DRAWING 1, PHASE II REMEDIAL INVESTIGATION REPORT, BROWN AND ROOT ENVIRONMENTAL, MARCH 1997.
2. SITE AND STUDY AREA BOUNDRIES ARE APPROXIMATE.
   - SITE 21 – BERTH 16
   - SITE 22 – PIER 33
   - SITE 24 – CENTRAL PAINT ACCUMULATION AREA (BUILDING 174)
   - SITE 25 – CLASSIFIED MATERIALS INCINERATOR
3. CONTOUR INTERVAL 0.1 FEET MSL.
4. ELEVATION BASED ON SUBASE VERTICAL DATUM (1982).
5. NM = NOT MEASURED.

LEGEND:

- LOWER SUBASE RI SURFACE WATER/ SEDIMENT LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION

HISTORIC SAMPLING LOCATION IDENTIFIER

- MONITORING WELL LOCATION
- TEST BORING LOCATION
- DIRECT PUSH SAMPLE LOCATION
- ABANDONED OR DESTROYED MONITORING WELL
- SEDIMENT SAMPLE LOCATION
- SURFACE SOIL SAMPLE LOCATION
- LOWER SUBASE REMEDIAL INVESTIGATION ZONE BOUNDARY
- LOWER SUBASE REMEDIAL INVESTIGATION SITE OR STUDY AREA BOUNDARY
- (3.29) GROUNDWATER ELEVATION (FEET MSL)
- 3.2 CONTOUR LINED (DASHED WHERE INFERRED)
- GROUNDWATER FLOW DIRECTION

0 100 200
SCALE IN FEET

ACAD:7237am32.dwg 10/01/98 HJP

Brown & Root Environmental
FOSTER PLAZA VII
661 ANDERSON DR.
PITTSBURGH PA 15220

DESIGN: Mary C. Yule, Ltr CHK:
DRN: CHK:
SUPV: CH. ENG:
SUBMITTED BY: (TITLE) (DATE)
(TRINA MEMBER)

NORTHDIV HD:
DM: HD:
TPC: DIR:

OFFICER IN CHARGE
APPROVED DATE

REV.	DESCRIPTION	PREP BY	DATE	APPRVD

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
NAVAL BASE
NAVAL SUBMARINE BASE, NEW LONDON
PHILADELPHIA, PA.
GROTON, CT

NORTHERN DIVISION

POTENTIOMETRIC SURFACE MAP
LOW TIDE – OCTOBER 27, 1997
ZONES 5-7

APPROVED DATE
FOR COMMANDER, NAVFAC
NORTHDIV

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. DWG. 4

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ZONE 3
ZONE 4
ZONE 2
ZONE 1
SITE 19
SITE 13
SITE 17
SITE 10
SITE 11
TANK H-5A (REPLACED)
BUILDING 89 UST INVESTIGATION
THAMES RIVER
ROBALO AVE.
SHARK BLVD.
GRAYLING AVE.
AMBERJACK RD.
ALBACORE RD.
CORVINA RD.
BLUEFISH RD.
BONEFISH RD.
ELEC. PAD
QUAY WALL STUDY AREA
SW/SD1-4RI
SW/SD2-4RI
SW/SD3-4RI
SW/SD1-3RI
SW/SD2-3RI
SW/SD2-2RI
SW/SD1-2RI
SW/SD1-1RI
SW/SD2-1RI
SW/SD3-1RI
SW/SD4-1RI
T3SD2
T3SW2S/B
NES01 (DESTROYED)
NES02 (DESTROYED)
NES03 (DESTROYED)
NES04
NES05 (DESTROYED)
NES06
NES07 (DESTROYED)
NES08 (DESTROYED)
NES09(DESTROYED)
NES010
NES011
NES012 (DESTROYED)
13MW1
13MW2
13MW3
13MW4 (DESTROYED)
13MW5 (NOT LOCATED)
13MW6
13MW7 (DESTROYED)
13MW8
13MW9
13MW10
13MW11
13MW12
13MW13
13MW14
13MW15
13MW16
13MW17
13MW18
13TB1
13TB2
13TB2A
13TB3
13TB3A
13TB4
13TB4A
13TB5
13TB6
13TB7
13TB8
13TB9
13TB10
13TB11
13TB12
13TB13
13TB15/13MW21
13TB16/13MW19
13TB17/13MW20
13TB18
GW01
GW02
GW03
GW04
QW-1
QW-2
QW-3
QW-4
QW-6
QW5(WELDED SHUT)
WE1
WE2
WE3
WE4
WE4A
WE5 (DESTROYED)
TB1-1RI
TB1-2RI
TB1-3RI/MW1-3RI
TB1-4RI/MW1-4RI
TB2-1RI
TB2-2RI
TB2-3RI/MW2-3RI
TB2-4RI
TB3-1RI
TB3-2RI
TB3-3RI
TB3-4RI
TB4-1RI
TB4-2RI
TB4-3RI
TB4-4RI
TB5-1RI
TB5-2RI
TB5-3RI
TB5-4RI/MW2-4RI
TB6-1RI
TB6-2RI
TB7-1RI
TB7-2RI
TB8-1RI
TB9-1RI
GS-7L
GS-8L
GS-9L
GS-10L
GS-11L
GS-12L
GS-13L
GS-14L
GS-15L
GS-16L
GS-17L
GS-18L
GS-20L
GS-21L
GS-22L
GS-24L
GS-25L
GS-26L
GS-28L
GS-29L
GS-30L
GS-31L
FOMW13
FOMW14
FOMW15
FOMW16
A
A'
B
B'
C
C'
D
D'
E
E'

NOTES:

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   SITE 19 – SOLVENT STORAGE AREA (BUILDING 316)

LEGEND:

- LOWER SUBASE RI SURFACE WATER/ SEDIMENT LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION

HISTORIC SAMPLING LOCATION IDENTIFIER

- MONITORING WELL LOCATION
- TEST BORING LOCATION
- DIRECT PUSH SAMPLE LOCATION
- ABANDONED OR DESTROYED MONITORING WELL
- SEDIMENT SAMPLE LOCATION
- SURFACE WATER SAMPLE LOCATION
- LOWER SUBASE REMEDIAL INVESTIGATION ZONE BOUNDARY
- LOWER SUBASE REMEDIAL INVESTIGATION SITE OR STUDY AREA BOUNDARY
- CROSS SECTION

0 60 120
SCALE IN FEET

ACAD:K:\CADD\7237\7237CM18.DWG 03/03/98 DT

Brown & Root Environmental
ABOVE FOOD INC.
PITTSBURGH, PA. 15220

DSGN: _____ (DATE)
DRFT: _____
CHK: _____
CH. ENG: _____
SUPV: Chad C. Mace
SUBMITTED BY: 412.395
(FIRM MEMBER) (TITLE) (DATE)

NORTHDIV
HD: _____
HD: _____
PPEC: _____
DIR: _____
OFFICER IN CHARGE
APPROVED DATE

REV.	DESCRIPTION	PREP BY	DATE	APPRVD

DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA.
GROTON, CT
NAVAL BASE
NAVAL SUBMARINE BASE, NEW LONDON

NORTHERN DIVISION
CROSS-SECTION LOCATION MAP
ZONES 1-4

NORTHDIV FOR COMMANDER, NAVFAC
DATE
APPROVED
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. DWG. 5

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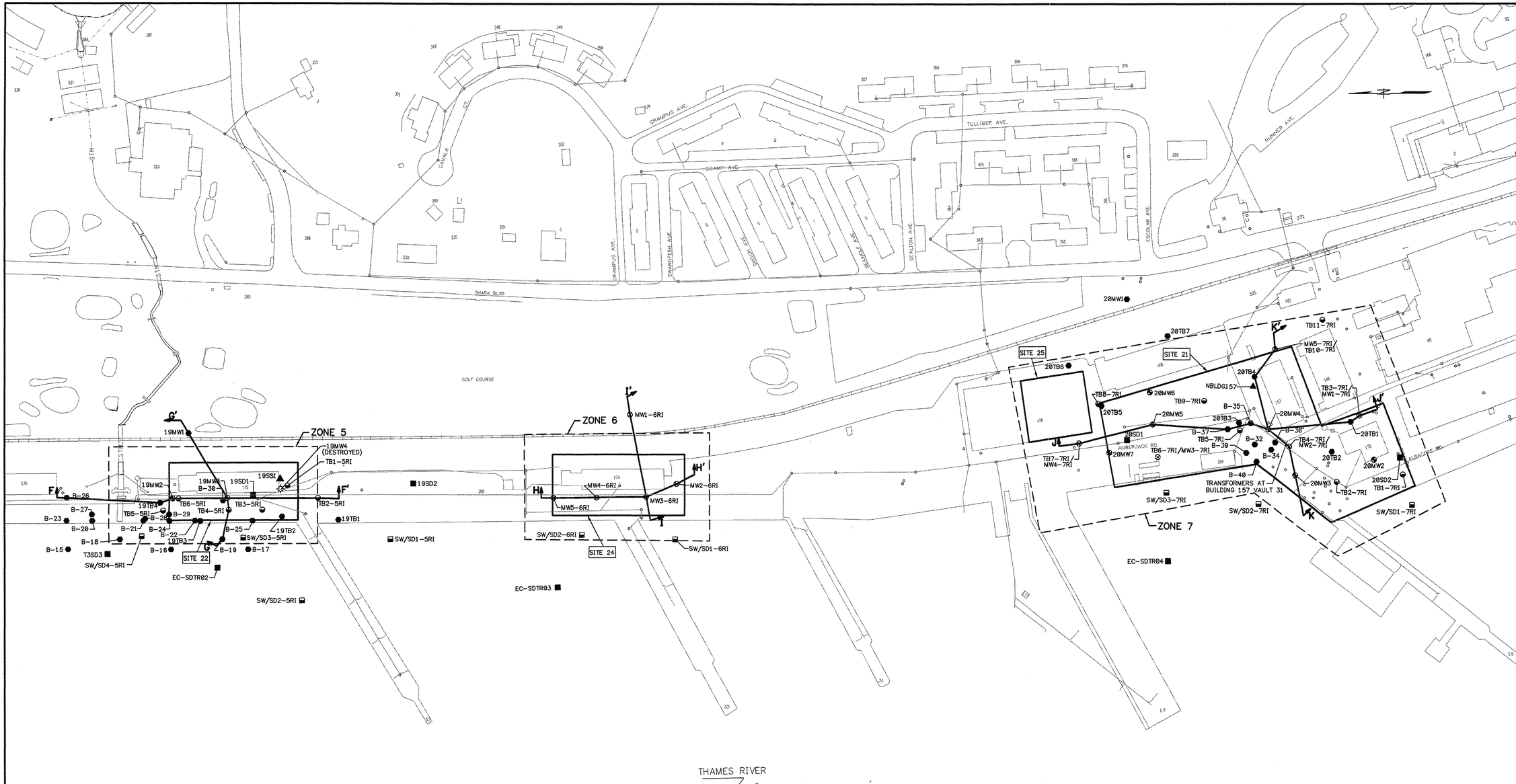

NOTES:

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   - SITE 25 – CLASSIFIED MATERIALS INCINERATOR

LEGEND:

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- LOWER SUBASE RI MONITORING WELL LOCATION
- LOWER SUBASE RI MONITORING WELL LOCATION

HISTORIC SAMPLING LOCATION IDENTIFIER

- MONITORING WELL LOCATION
- TEST BORING LOCATION
- DIRECT PUSH SAMPLE LOCATION
- ABANDONED OR DESTROYED MONITORING WELL
- SEDIMENT SAMPLE LOCATION
- SURFACE SOIL SAMPLE LOCATION
- LOWER SUBASE REMEDIAL INVESTIGATION ZONE BOUNDARY
- LOWER SUBASE REMEDIAL INVESTIGATION SITE OR STUDY AREA BOUNDARY
- A A' CROSS SECTION

0 100 200
SCALE IN FEET

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DEPARTMENT OF THE NAVY
NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA.
GROTON, CT
NAVAL BASE
NAVAL SUBMARINE BASE, NEW LONDON

NORTHERN DIVISION

CROSS-SECTION LOCATION MAP
ZONES 5-7

NORTHDIV FOR COMMANDER, NAVFAC

DSGN: Brown & Root Environmental
DR:
CH ENG:
SUPV: Bruce Rice
SUBMITTED BY: 4/8/98
(FIRM MEMBER)
(TITLE)
(DATE)
NORTHDIV
DM:
FPE:
HD:
DIR:
OFFICER IN CHARGE
APPROVED
DATE

REV. DESCRIPTION PREP BY DATE APPRVD

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. DWG. 6

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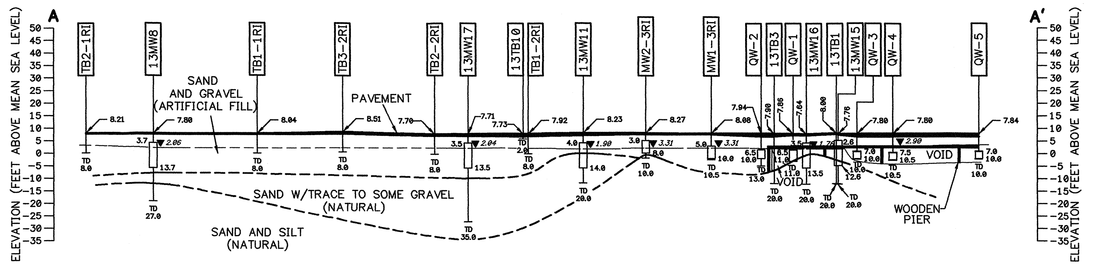
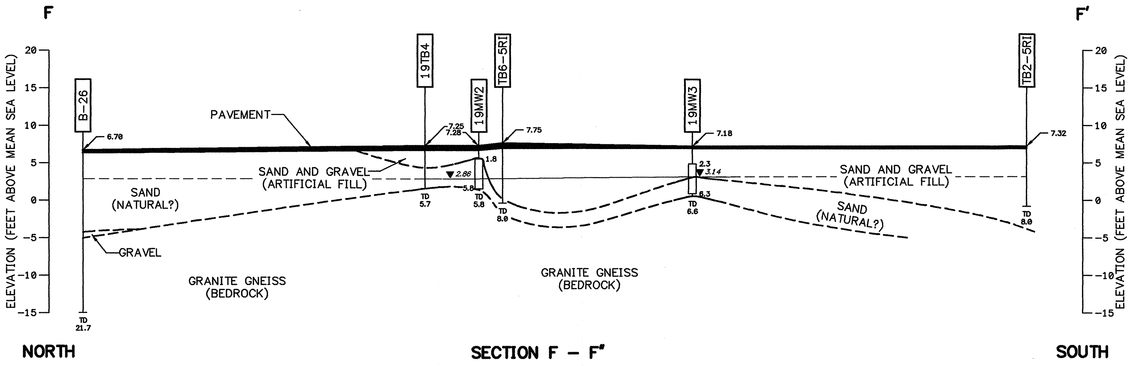
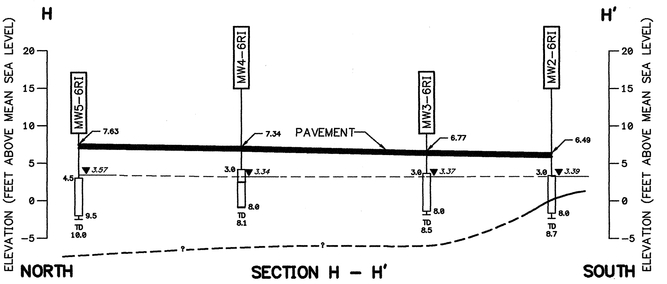
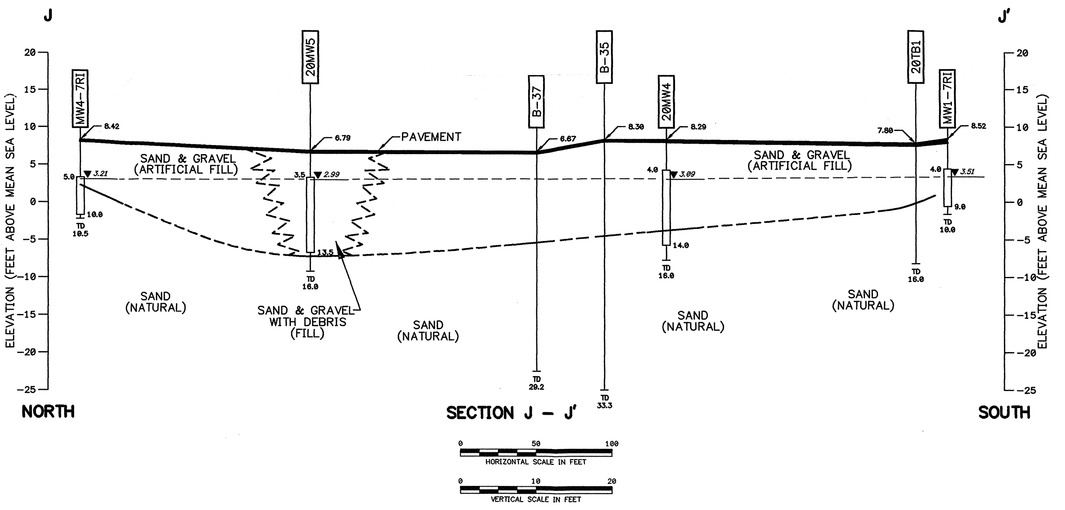








LEGEND

MONITORING WELL OR BORING NUMBER

GROUND SURFACE ELEVATION (FT MSL)

GROUND SURFACE

GROUNDWATER ELEVATION (FT MSL) (DASHED WHERE INFERRED)

LITHOLOGIC CONTACT (DASHED WHERE INFERRED)

TOP OF MONITORED INTERVAL (FT BGS)

BOTTOM OF MONITORED INTERVAL (FT BGS)

TOTAL DEPTH OF WELL OR BORING (FT BGS)

NOTES

1.) ELEVATION BASED ON SUBASE VERTICAL DATUM (1982)
2.) POTENTIOMETRIC SURFACE FOR LOW TIDE OCTOBER 27, 1997
3.) FOR CROSS SECTION A–A', WOODEN PIER SUPPORT LOCATIONS WERE ESTIMATED
4.) SEE DRAWINGS 5 AND 6 FOR CROSS SECTION LOCATIONS

SAT TO	DATE
CODE I.D. NO.	80091
SCALE :	
SPEC. NO. 04 –	
CONSTRN. CONTR. NO.	N62472– –C–
NAVFAC DRAWING NO.	
SHEET	OF
SIZE: D	DWG. 7

SEAL AREA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

NORTHERN DIVISION

NAVAL BASE — PHILADELPHIA, PA.

NAVAL SUBMARINE BASE, NEW LONDON — GROTON, CT

GENERALIZED GEOLOGIC CROSS SECTIONS
A–A', F–F', H–H', & J–J'
LOWER SUBASE RI

APPROVED — DATE — NORTHDIV FOR COMMANDER, NAVFAC

REV.	DESCRIPTION	PREP BY	DATE	APPRVD

Brown & Root Environmental — FORTEX PLAZA VII, 661 ANDERSON DRIVE, PITTSBURGH, PA 15220

DSGN: DR: MF CHK:

SUPV: Cory C. Rice 10/7/98 CH ENG:

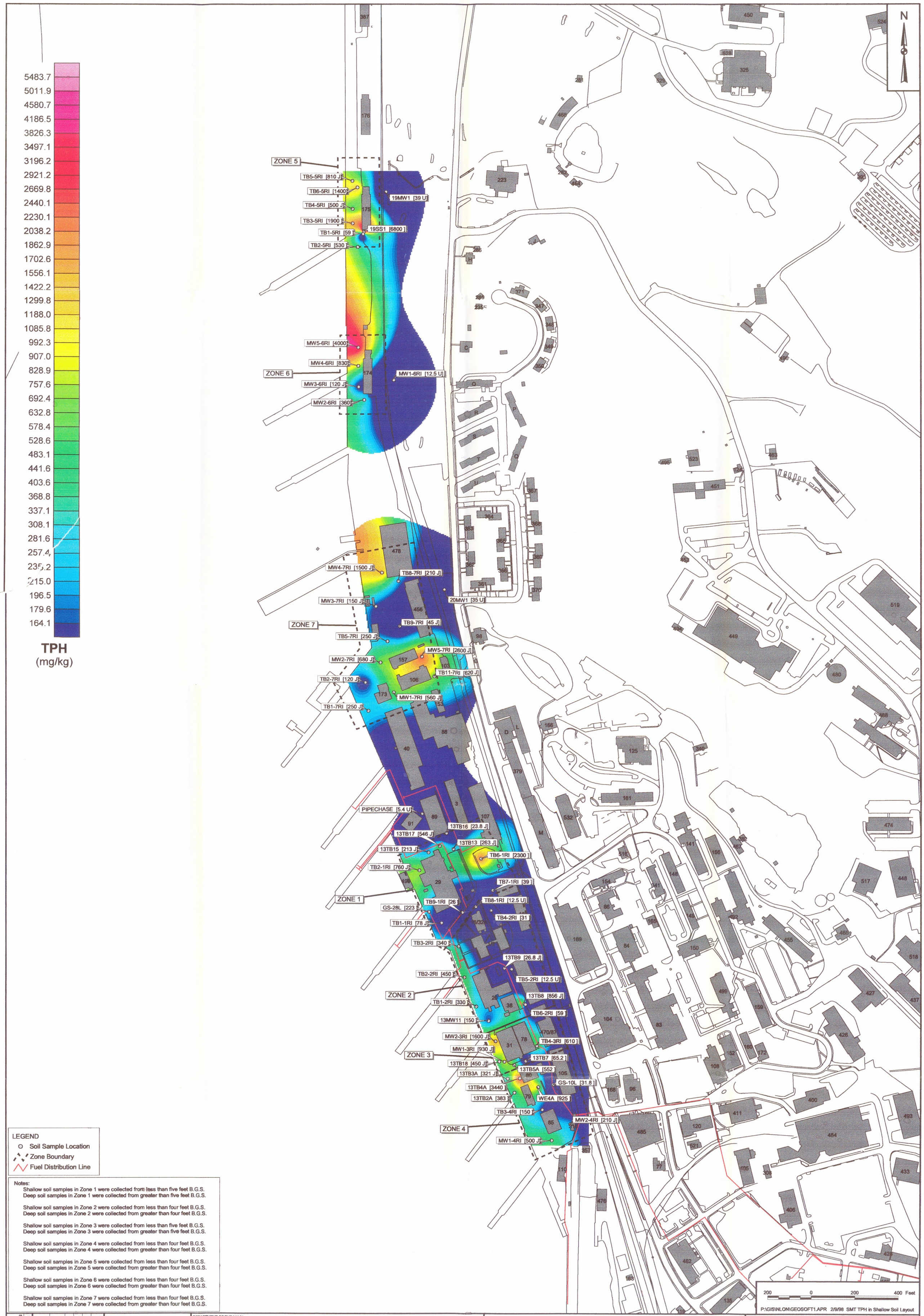
SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)

NORTHDIV HD: DM: HD: FPE: DIR:

OFFICER IN CHARGE

APPROVED DATE

ACAD:7237ag11.dwg 10/01/98 HJP



LEGEND

- Soil Sample Location
- Zone Boundary
- Fuel Distribution Line

Notes:

Shallow soil samples in Zone 1 were collected from less than five feet B.G.S.
Deep soil samples in Zone 1 were collected from greater than five feet B.G.S.

Shallow soil samples in Zone 2 were collected from less than four feet B.G.S.
Deep soil samples in Zone 2 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 3 were collected from less than five feet B.G.S.
Deep soil samples in Zone 3 were collected from greater than five feet B.G.S.

Shallow soil samples in Zone 4 were collected from less than four feet B.G.S.
Deep soil samples in Zone 4 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 5 were collected from less than four feet B.G.S.
Deep soil samples in Zone 5 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 6 were collected from less than four feet B.G.S.
Deep soil samples in Zone 6 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 7 were collected from less than four feet B.G.S.
Deep soil samples in Zone 7 were collected from greater than four feet B.G.S.

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NORTHERN DIVISION
NAVAL BASE — PHILADELPHIA, PA

DISTRIBUTION OF TPH CONTAMINATION IN SHALLOW SOIL LOWER SUBASE RI NSB-NLON, GROTON, CONNECTICUT

APPROVED — DATE — NORTHDIV FOR COMMANDER NAVFAC

REV	DESCRIPTION	PREP BY	DATE	APPRVD

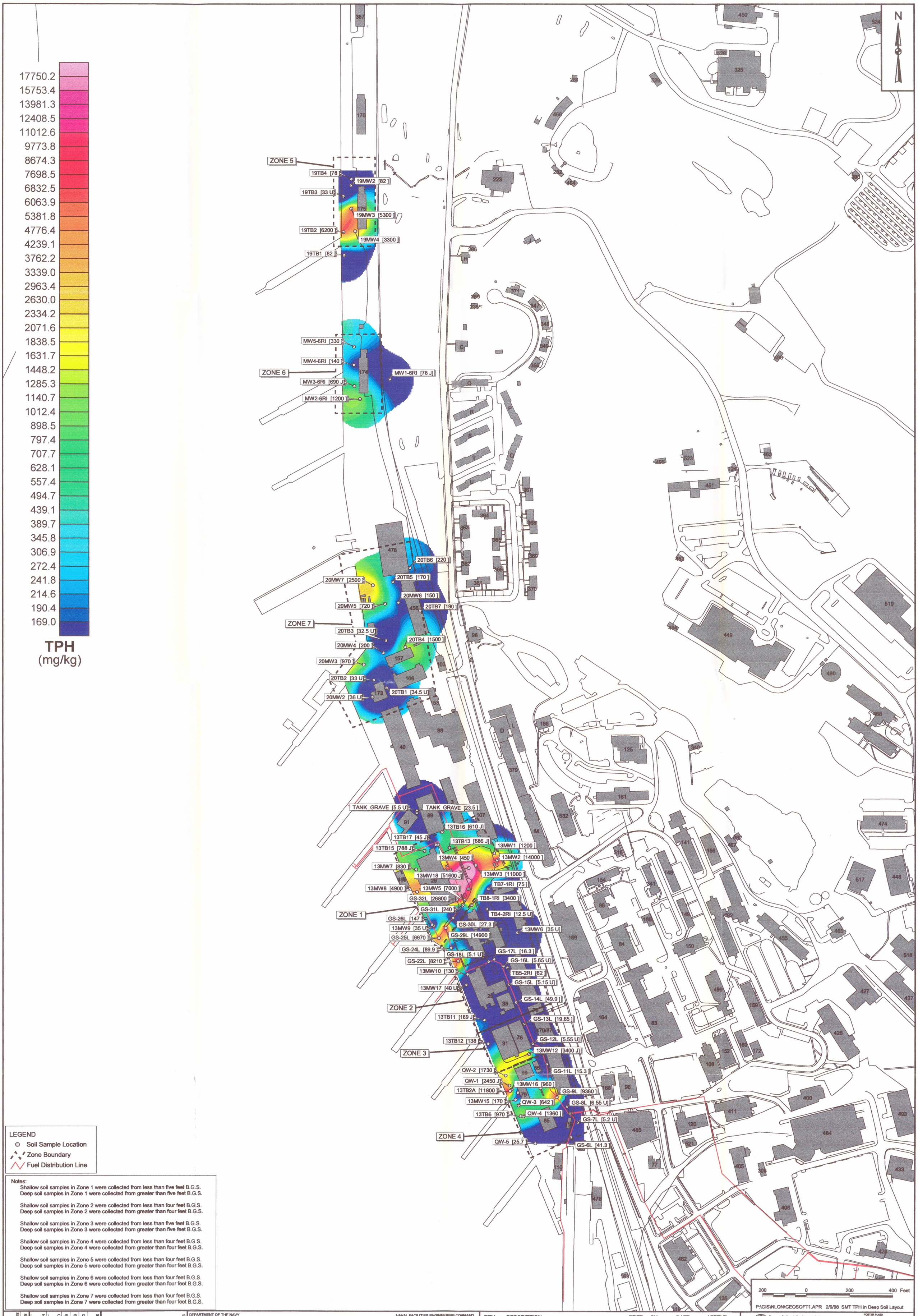
Brown & Root Environmental — FOSTER PLAZA 661 ANDERSEN DRIVE PITTSBURGH, PA 15220

DSGN: DR: CHK:
SUPV: Corey A. Rich 4/15/98 CH ENG:
SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)
NORTHDIV HD:
DM: HD:
FPE: DIR:
OFFICER IN CHARGE
APPROVED DATE

SEAL AREA

SIZE: D — SHEET - OF - — DIS. SH. NO. DRAWING 8

NAVFAC DRAWING NO.
CONSTR. CONTR. NO.
SPEC. NO.
SCALE: AS SHOWN
CODE I.D. NO. 80091
SAT TO DATE



LEGEND

- Soil Sample Location
- Zone Boundary
- Fuel Distribution Line

Notes:

Shallow soil samples in Zone 1 were collected from less than five feet B.G.S.
Deep soil samples in Zone 1 were collected from greater than five feet B.G.S.

Shallow soil samples in Zone 2 were collected from less than four feet B.G.S.
Deep soil samples in Zone 2 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 3 were collected from less than five feet B.G.S.
Deep soil samples in Zone 3 were collected from greater than five feet B.G.S.

Shallow soil samples in Zone 4 were collected from less than four feet B.G.S.
Deep soil samples in Zone 4 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 5 were collected from less than four feet B.G.S.
Deep soil samples in Zone 5 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 6 were collected from less than four feet B.G.S.
Deep soil samples in Zone 6 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 7 were collected from less than four feet B.G.S.
Deep soil samples in Zone 7 were collected from greater than four feet B.G.S.

SIZE: D
DRAWING 9
DIS. SH. NO.
SHEET - OF -
NAVFAC DRAWING NO.
CONSTR. CONTR. NO.
SPEC. NO.
SCALE: AS SHOWN
CODE I.D. NO. 80091
SAT TO
DATE
SEAL AREA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NORTHERN DIVISION
NAVAL BASE — PHILADELPHIA, PA

DISTRIBUTION OF TPH CONTAMINATION IN DEEP SOIL
LOWER SUBASE RI
NSB-NLON, GROTON, CONNECTICUT

APPROVED — DATE — NORTHDIV FOR COMMANDER NAVFAC

REV	DESCRIPTION	PREP BY	DATE	APPRVD

Brown & Root Environmental — FOSTER PLAZA 681 ANDERSEN DRIVE PITTSBURGH, PA 15220

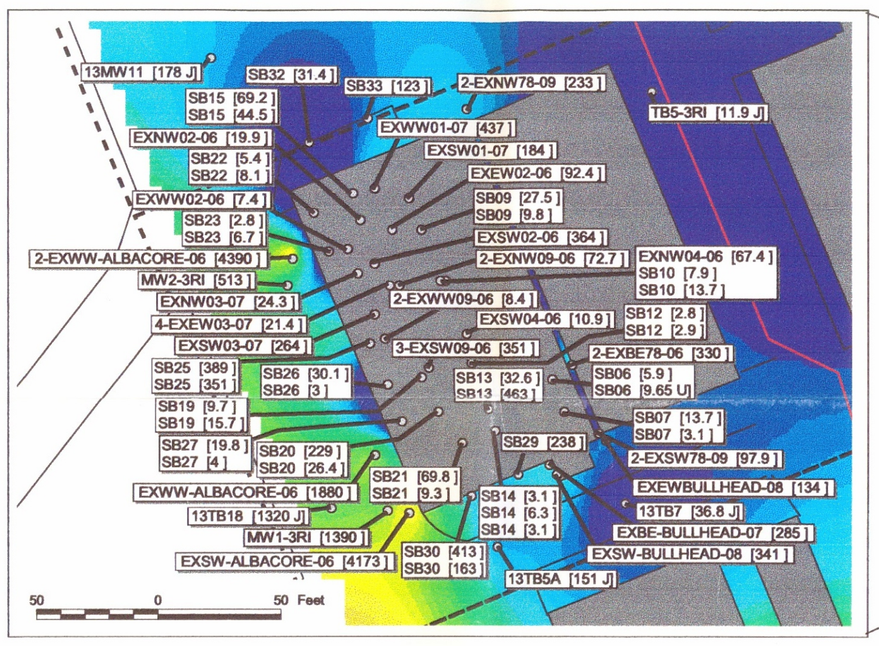
DSGN: DR: CHK:
SUPV: Corey A. Rink 4/15/98 CH ENG:
SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)
NORTHDIV HD:
DM: HD:
FPE: DIR:
OFFICER IN CHARGE
APPROVED DATE

96465.6
80881.7
67815.3
56859.8
47674.2
39972.5
33514.9
28100.6
23561.0
19754.7
16563.4
13887.6
11644.1
9763.0
8185.8
6863.4
5754.6
4824.9
4045.5
3391.9
2844.0
2384.5
1999.3
1676.3
1405.5
1178.5
988.1
828.5
694.6
582.4
488.3
409.4
343.3
287.8
241.3
202.3
169.7
142.2
119.3
100.0

Lead
(mg/kg)

N

ZONE 5
19TB4 [5.2 U]
19TB4 [15.75 U]
19MW2 [6.6 S]
TB6-5RI [9.6]
19TB3 [1.7 J]
19MW1 [15.6]
19MW3 [13.3 S]
19MW4 [12.5]
19SS1 [48.4]
19TB2 [6.1 S]
TB1-5RI [91.2]
19TB1 [13.7]
MW5-6RI [3.1]
MW4-6RI [4.8]
ZONE 6
MW1-6RI [18]
MW3-6RI [12.4 J]
MW2-6RI [9.3]
20TB6 [476]
20TB5 [220 J]
20MW7 [6.3 J]
20MW1 [14]
20MW6 [189000 J]
MW3-7RI [1.8]
20TB7 [47.7]
20MW5 [128 J]
ZONE 7
TB9-7RI [434 J]
20TB3 [66.1]
20TB4 [726]
20MW4 [20.4 J]
MW5-7RI [1750]
20MW3 [60.7 J]
20TB2 [33.6 J]
TB11-7RI [197 J]
20MW2 [65.1 J]
20TB1 [35.5]
PIPECHASE [7.7]
13TB16 [24.2]
13TB17 [62.5]
13TB13 [26.7]
13TB15 [112]
TB6-1RI [58.5]
TB2-1RI [98.8]
ZONE 1
TB1-1RI [34.3]
13TB9 [150]
13TB8 [149]
ZONE 2
ZONE 3
13TB3A [8240 J]
13TB4A [280 J]
WE4A [10600 J]
13TB2A [1880 J]
TB3-4RI [237]
MW2-4RI [57.1]
ZONE 4
MW1-4RI [444]



200 0 200 400 Feet

P:\GIS\NLON\GEOSOFT1.APR 2/9/98 SMT Lead in Shallow Soil Layout

Notes:

Shallow soil samples in Zone 1 were collected from less than five feet B.G.S.
Deep soil samples in Zone 1 were collected from greater than five feet B.G.S.

Shallow soil samples in Zone 2 were collected from less than four feet B.G.S.
Deep soil samples in Zone 2 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 3 were collected from less than five feet B.G.S.
Deep soil samples in Zone 3 were collected from greater than five feet B.G.S.

Shallow soil samples in Zone 4 were collected from less than four feet B.G.S.
Deep soil samples in Zone 4 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 5 were collected from less than four feet B.G.S.
Deep soil samples in Zone 5 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 6 were collected from less than four feet B.G.S.
Deep soil samples in Zone 6 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 7 were collected from less than four feet B.G.S.
Deep soil samples in Zone 7 were collected from greater than four feet B.G.S.

LEGEND
- Soil Sample Location
- Zone Boundary
- Fuel Distribution Line

SIZE: D | SHEET - | DIS SH. NO. - | OF - | DRAWING 10

NAVFAC DRAWING NO.
CONSTR. CONTR. NO.
SPEC. NO.
SCALE: AS SHOWN
CODE I.D. NO. 80091
SAT TO
DATE
SEAL AREA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NORTHERN DIVISION
NAVAL BASE — PHILADELPHIA, PA

DISTRIBUTION OF LEAD CONTAMINATION IN SHALLOW SOIL LOWER SUBASE RI NSB-NLON, GROTON, CONNECTICUT

APPROVED — DATE — NORTHDIV FOR COMMANDER NAVFAC

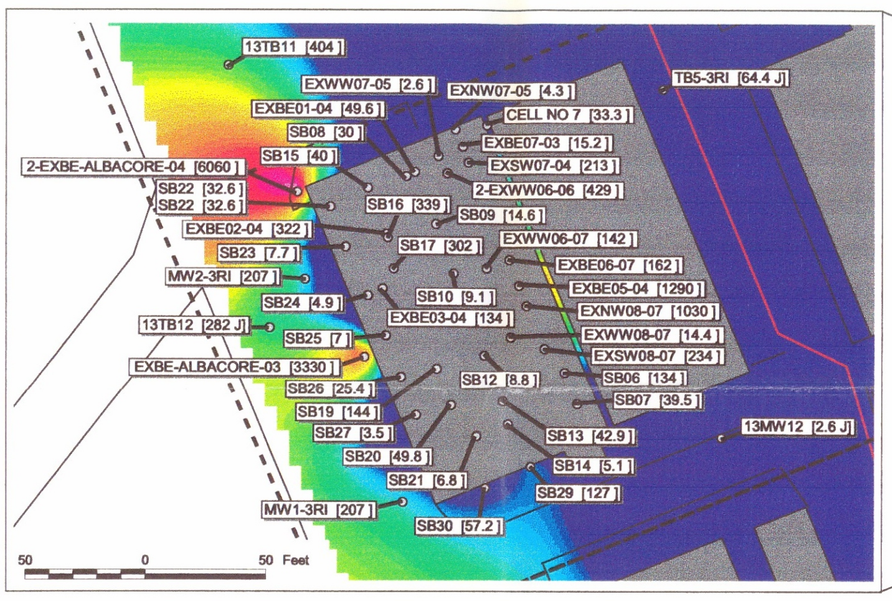
REV	DESCRIPTION	PREP BY	DATE	APPRVD

Brown & Root Environmental — FOSTER PLAZA 681 ANDERSEN DRIVE PITTSBURGH, PA 15220

DSGN: DR: CHK:
SUPV: Tony A Reid 4/15/98 CH ENG:
SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)
NORTHDIV HD:
DM: HD:
FPE: DIR:
OFFICER IN CHARGE
APPROVED DATE

Lead (mg/kg)
5418.0
4890.8
4415.0
3985.4
3597.6
3247.5
2931.5
2646.3
2388.8
2156.4
1946.6
1757.2
1586.2
1431.8
1292.5
1166.8
1053.2
950.7
858.2
774.7
699.3
631.3
569.9
514.4
464.4
419.2
378.4
341.6
308.3
278.3
251.3
226.8
204.7
184.8
166.8
150.6
135.9
122.7
110.8
100.0

ZONE 5
19TB4 [12.3]
19MW2 [6.4 S]
19TB3 [1.9 S]
TB6-5RI [7.6]
19MW3 [14.6]
19MW4 [4.4 S]
19TB2 [2.7 S]
TB1-5RI [3.6]
19TB1 [1.3 S]
MW5-6RI [3.7]
MW4-6RI [2]
ZONE 6
MW1-6RI [8.5]
MW3-6RI [2.2 U]
MW2-6RI [7.1]
20TB6 [24.4]
20TB5 [31.8 J]
20MW7 [6.2 J]
20MW5 [1040 J]
20MW6 [1540]
MW3-7RI [2]
20TB7 [129]
ZONE 7
TB9-7RI [2580 J]
20TB3 [16.6]
20TB4 [9770]
20MW4 [12 J]
MW5-7RI [13300]
20MW3 [38.3 J]
TB11-7RI [44.9 J]
20TB2 [20.7 S]
20MW2 [2.3 J]
20TB1 [6.1]
13TB16 [87]
13TB17 [3.4]
13MW4 [383 J]
13MW1 [4.2 J]
13TB15 [6.4]
13TB13 [3.6]
13MW2 [22.8 J]
13MW7 [3.8 J]
13MW18 [2.6]
13MW3 [3 J]
13MW8 [15.3 J]
13MW5 [17.6 J]
TB4-2RI [5.2]
ZONE 1
13MW9 [23.3 J]
13MW6 [2 J]
13MW10 [7.6 J]
TB5-2RI [2.1]
13MW17 [5.4 J]
TB6-2RI [14.6]
ZONE 2
ZONE 3
13MW16 [41.3]
QW-1 [1470]
13MW13 [50.2 J]
13MW14 [76.2]
13MW15 [34.4]
TB3-4RI [214]
13TB6 [98.9 J]
MW2-4RI [1.1 U]
ZONE 4
MW1-4RI [1.35 U]



Notes:

Shallow soil samples in Zone 1 were collected from less than five feet B.G.S.
Deep soil samples in Zone 1 were collected from greater than five feet B.G.S.

Shallow soil samples in Zone 2 were collected from less than four feet B.G.S.
Deep soil samples in Zone 2 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 3 were collected from less than five feet B.G.S.
Deep soil samples in Zone 3 were collected from greater than five feet B.G.S.

Shallow soil samples in Zone 4 were collected from less than four feet B.G.S.
Deep soil samples in Zone 4 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 5 were collected from less than four feet B.G.S.
Deep soil samples in Zone 5 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 6 were collected from less than four feet B.G.S.
Deep soil samples in Zone 6 were collected from greater than four feet B.G.S.

Shallow soil samples in Zone 7 were collected from less than four feet B.G.S.
Deep soil samples in Zone 7 were collected from greater than four feet B.G.S.

LEGEND
- Soil Sample Location
- Zone Boundary
- Fuel Distribution Line

200 0 200 400 Feet

P:\GIS\NLON\GEOSOFT1.APR 2/9/98 SMT Lead in Deep Soil Layout

SIZE: D | DRAWING 11 | DIS. SH. NO. | SHEET – OF –

NAVFAC DRAWING NO.
CONSTR. CONTR. NO.
SPEC. NO.
SCALE: AS SHOWN
CODE I.D. NO. 80091
SAT TO DATE
SEAL AREA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NORTHERN DIVISION
NAVAL BASE — PHILADELPHIA, PA

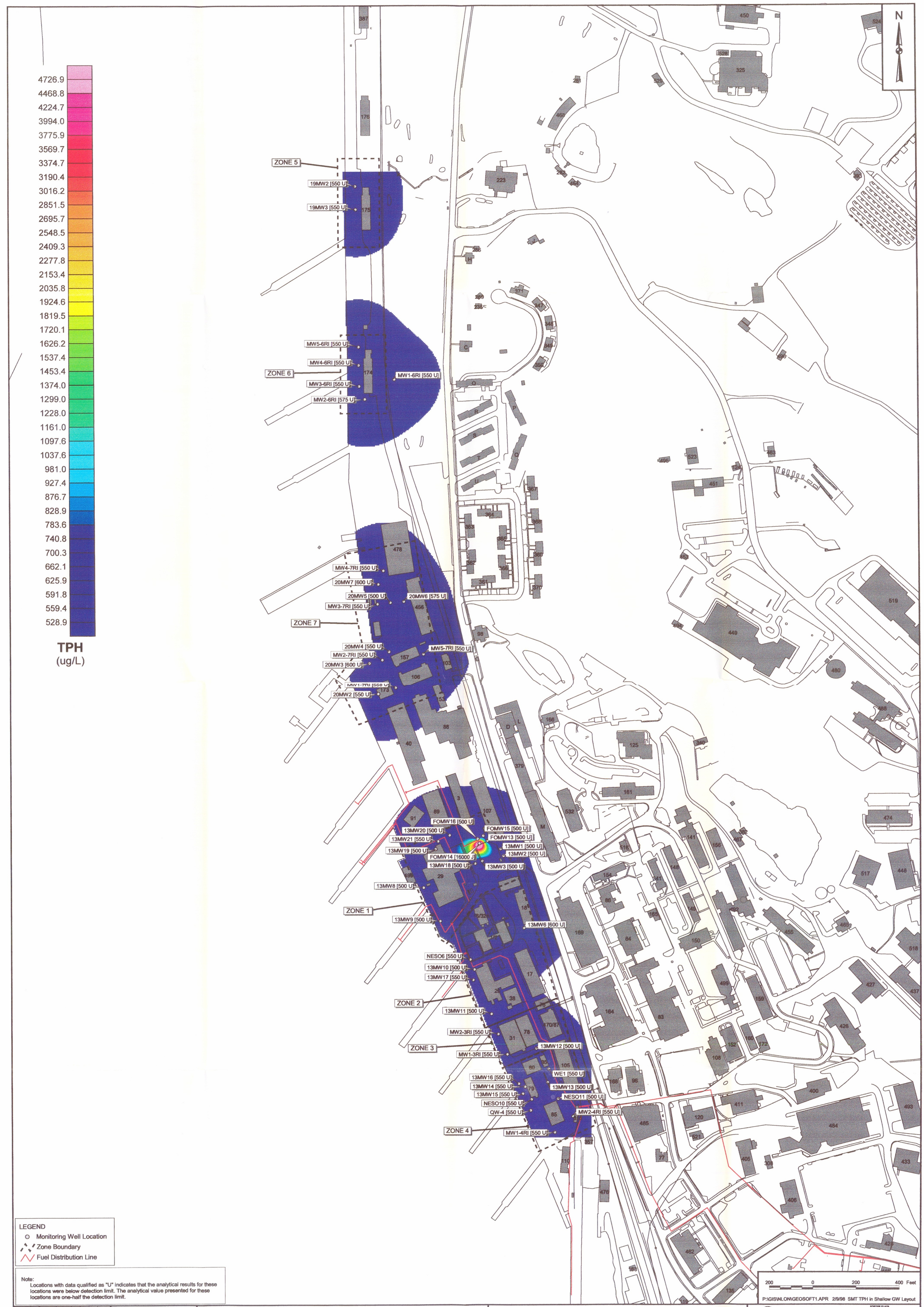
DISTRIBUTION OF LEAD CONTAMINATION IN DEEP SOIL
LOWER SUBASE RI
NSB-NLON, GROTON, CONNECTICUT

APPROVED DATE NORTHDIV FOR COMMANDER NAVFAC

REV	DESCRIPTION	PREP BY	DATE	APPRVD

Brown & Root Environmental — FOSTER PLAZA, 681 ANDERSEN DRIVE, PITTSBURGH, PA 15220

DSGN: DR: CHK:
SUPV: Corey A Reid 4/15/98 CH ENG:
SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)
NORTHDIV HD:
DM: HD:
FPE: DIR:
OFFICER IN CHARGE
APPROVED DATE



LEGEND

- Monitoring Well Location
- Zone Boundary
- Fuel Distribution Line

Note:
Locations with data qualified as "U" indicates that the analytical results for these locations were below detection limit. The analytical value presented for these locations are one-half the detection limit.

SIZE: D | SHEET - OF - | DIS. SH. NO. | DRAWING 12

NAVFAC DRAWING NO.

CONSTR. CONTR. NO.

SPEC. NO.

SCALE: AS SHOWN

CODE I.D. NO. 80091

SAT TO DATE

SEAL AREA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

NORTHERN DIVISION

NAVAL BASE — PHILADELPHIA, PA

DISTRIBUTION OF TPH IN SHALLOW GROUNDWATER
LOWER SUBASE RI
NSB-NLON, GROTON, CONNECTICUT

APPROVED DATE NORTHDIV FOR COMMANDER NAVFAC

REV	DESCRIPTION	PREP BY	DATE	APPRVD

Brown & Root Environmental — FOSTER PLAZA 661 ANDERSEN DRIVE PITTSBURGH, PA 15220

DSGN: DR: CHK:

SUPV: Corey C Rice 4/15/98 CH ENG:

SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)

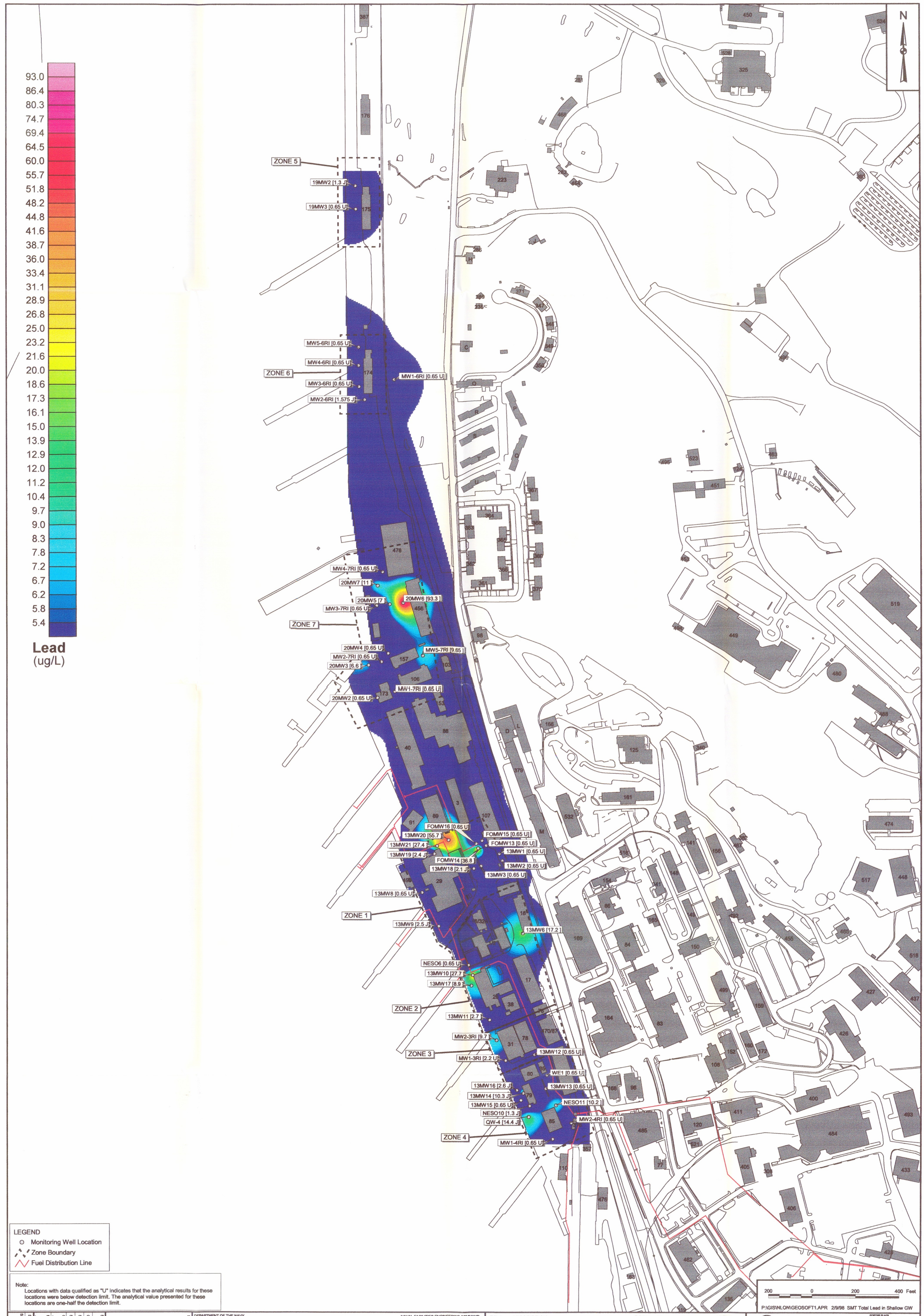
NORTHDIV HD:

DM: HD:

FPE: DIR:

OFFICER IN CHARGE

APPROVED DATE



LEGEND

- Monitoring Well Location
- Zone Boundary
- Fuel Distribution Line

Note:
Locations with data qualified as "U" indicates that the analytical results for these locations were below detection limit. The analytical value presented for these locations are one-half the detection limit.

SIZE: D | DRAWING 13 | DIS. SH. NO. | SHEET - OF - | NAVFAC DRAWING NO. | CONSTR. CONTR. NO. | SPEC. NO. | SCALE: AS SHOWN | CODE I.D. NO. 80091 | SAT TO | DATE | SEAL AREA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND
NORTHERN DIVISION
NAVAL BASE — PHILADELPHIA, PA

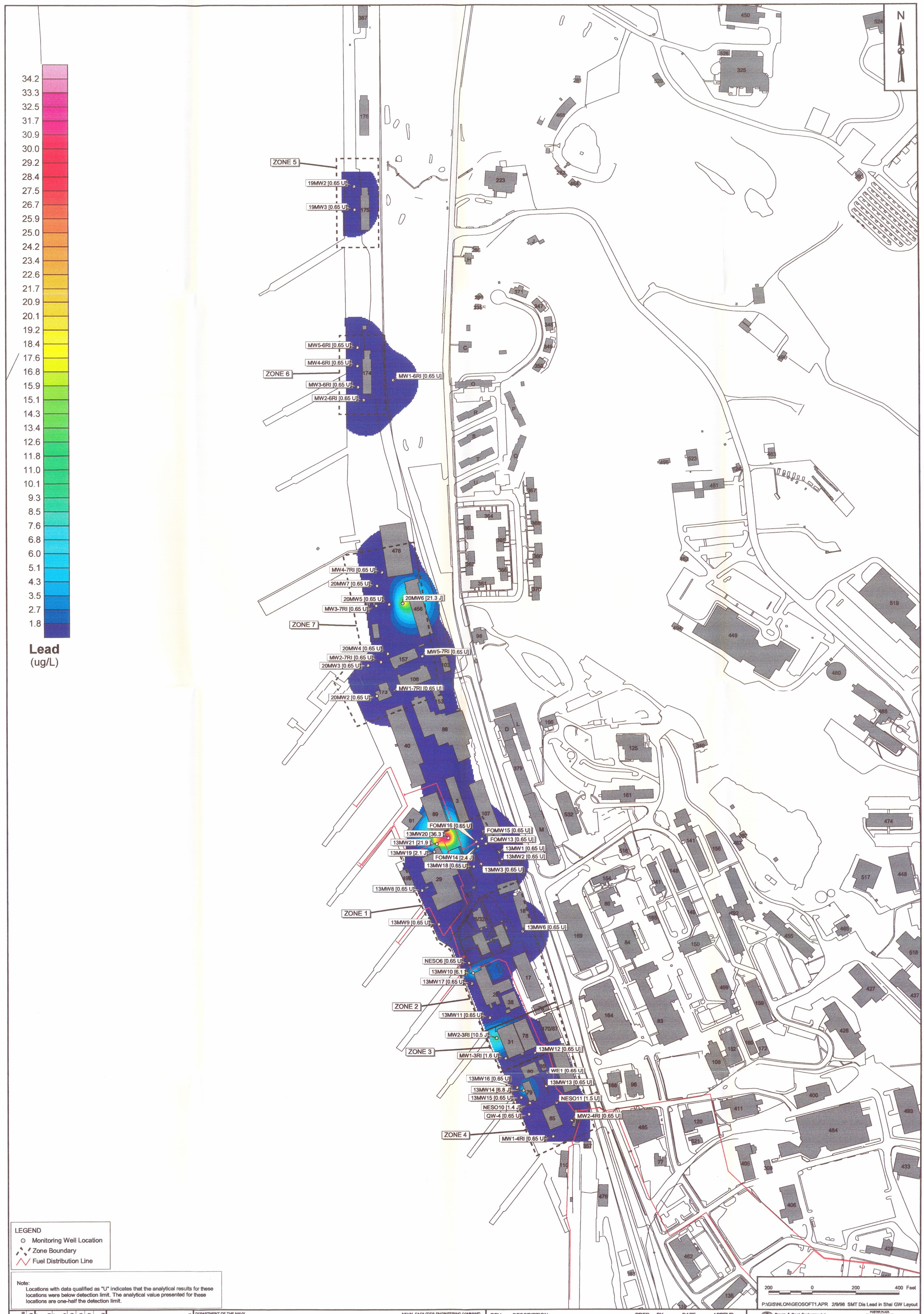
DISTRIBUTION OF TOTAL LEAD IN SHALLOW GROUNDWATER LOWER SUBASE RI NSB-NLON, GROTON, CONNECTICUT

APPROVED — DATE — NORTHDIV FOR COMMANDER NAVFAC

REV	DESCRIPTION	PREP BY	DATE	APPRVD

Brown & Root Environmental — FOSTER PLAZA 661 ANDERSEN DRIVE PITTSBURGH, PA 15220

DSGN: DR: CHK:
SUPV: Corey A Reid 4/15/98 CH ENG:
SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)
NORTHDIV HD:
DM: HD:
FPE: DIR:
OFFICER IN CHARGE
APPROVED DATE



LEGEND

- Monitoring Well Location
- Zone Boundary
- Fuel Distribution Line

Note:
Locations with data qualified as "U" indicates that the analytical results for these locations were below detection limit. The analytical value presented for these locations are one-half the detection limit.

P:\GIS\NLON\GEOSOFT1.APR 2/9/98 SMT Dis Lead in Shal GW Layout

SIZE: D | SHEET 1 OF 1 | DIS. SH. NO. DRAWING 14

NAVFAC DRAWING NO.

CONSTR. CONTR. NO.

SPEC. NO.

SCALE: AS SHOWN

CODE I.D. NO. 80091

SAT TO

DATE

SEAL AREA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

NORTHERN DIVISION

NAVAL BASE — PHILADELPHIA, PA

DISTRIBUTION OF DISSOLVED LEAD IN SHALLOW GROUNDWATER
LOWER SUBASE RI
NSB-NLON, GROTON, CONNECTICUT

APPROVED — DATE — NORTHDIV FOR COMMANDER NAVFAC

REV	DESCRIPTION	PREP BY	DATE	APPRVD

Brown & Root Environmental — FOSTER PLAZA 661 ANDERSEN DRIVE PITTSBURGH, PA 15220

DSGN: DR: CHK:

SUPV: Corey A. Rich 4/15/98 CH ENG:

SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)

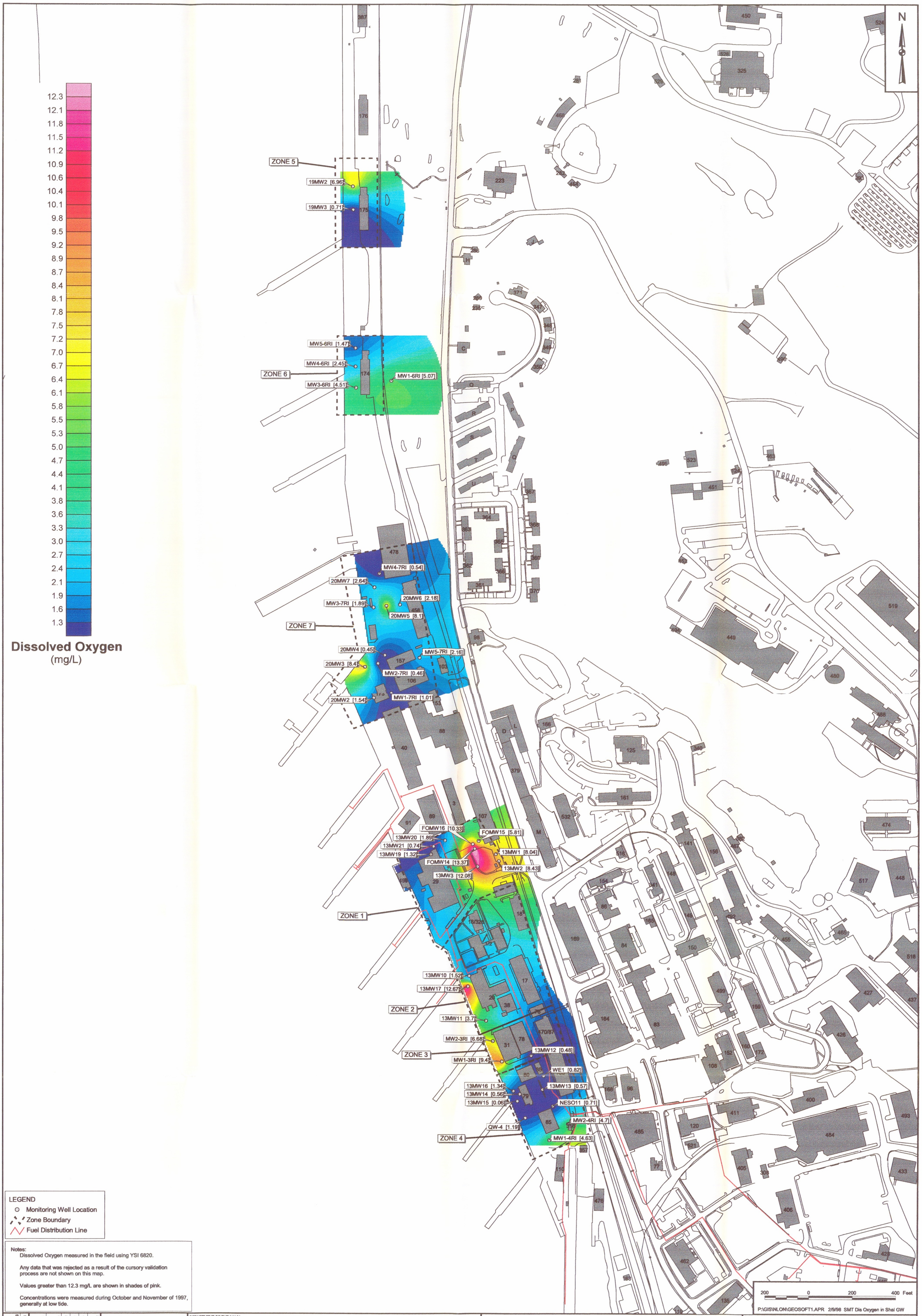
NORTHDIV HD:

DM: HD:

FPE: DIR:

OFFICER IN CHARGE

APPROVED DATE



LEGEND

- Monitoring Well Location
- Zone Boundary
- Fuel Distribution Line

Notes:

Dissolved Oxygen measured in the field using YSI 6820.

Any data that was rejected as a result of the cursory validation process are not shown on this map.

Values greater than 12.3 mg/L are shown in shades of pink.

Concentrations were measured during October and November of 1997, generally at low tide.

SIZE: D | SHEET - OF - | DRAWING 15 | DIS. SH. NO.

NAVFAC DRAWING NO.

CONSTR. CONTR. NO.

SPEC. NO.

SCALE: AS SHOWN

CODE I.D. NO. 80091

SAT TO

DATE

SEAL AREA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

NORTHERN DIVISION

NAVAL BASE — PHILADELPHIA, PA

DISTRIBUTION OF DISSOLVED OXYGEN IN SHALLOW GROUNDWATER LOWER SUBASE RI NSB-NLON, GROTON, CONNECTICUT

APPROVED — DATE — NORTHDIV FOR COMMANDER NAVFAC

REV	DESCRIPTION	PREP BY	DATE	APPRVD

Brown & Root Environmental — FOSTER PLAZA 661 ANDERSEN DRIVE PITTSBURGH, PA. 15220

DSGN: DR: CHK:

SUPV: Corey A. Reid 4/15/98 CH ENG:

SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)

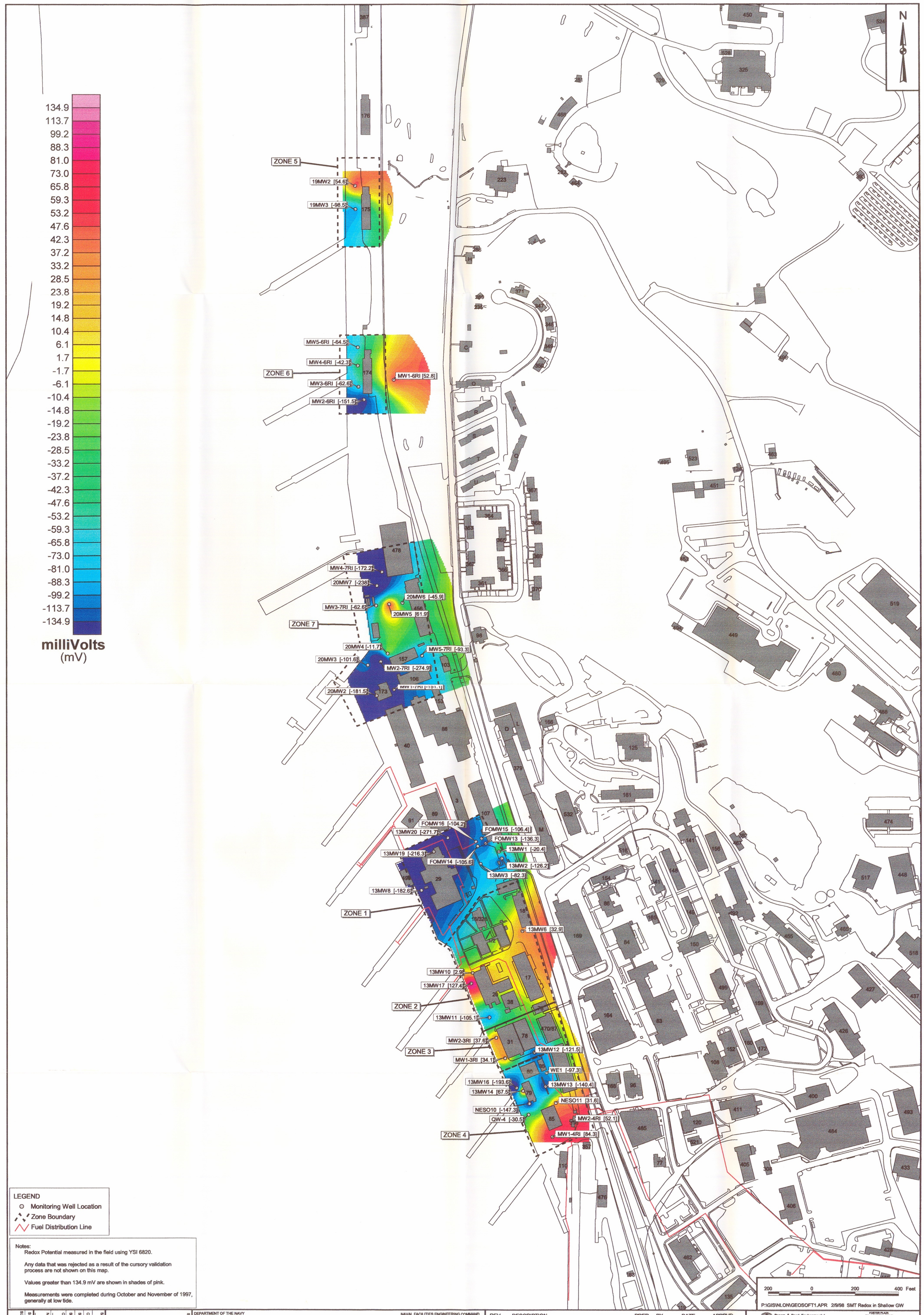
NORTHDIV HD:

DIV: HD:

FPE: DIR:

OFFICER IN CHARGE

APPROVED DATE



LEGEND

- Monitoring Well Location
- Zone Boundary
- Fuel Distribution Line

Notes:

Redox Potential measured in the field using YSI 6820.

Any data that was rejected as a result of the cursory validation process are not shown on this map.

Values greater than 134.9 mV are shown in shades of pink.

Measurements were completed during October and November of 1997, generally at low tide.

SIZE: D | DRAWING 16 | DIS. SH. NO. | SHEET - OF -

NAVFAC DRAWING NO.

SPEC. NO.

CONSTR. CONTR. NO.

SCALE: AS SHOWN

CODE I.D. NO. 80091

SAT TO | DATE

SEAL AREA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

NORTHERN DIVISION

NAVAL BASE — PHILADELPHIA, PA

DISTRIBUTION OF REDOX POTENTIAL IN SHALLOW GROUNDWATER LOWER SUBASE RI NSB-NLON, GROTON, CONNECTICUT

APPROVED — DATE — NORTHDIV FOR COMMANDER,NAVFAC

REV	DESCRIPTION	PREP BY	DATE	APPRVD

Brown & Root Environmental — FOSTER PLAZA, 661 ANDERSEN DRIVE, PITTSBURGH, PA 15220

DSGN: DR: CHK:

SUPV: Amy A Read 4/15/98 CH ENG:

SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)

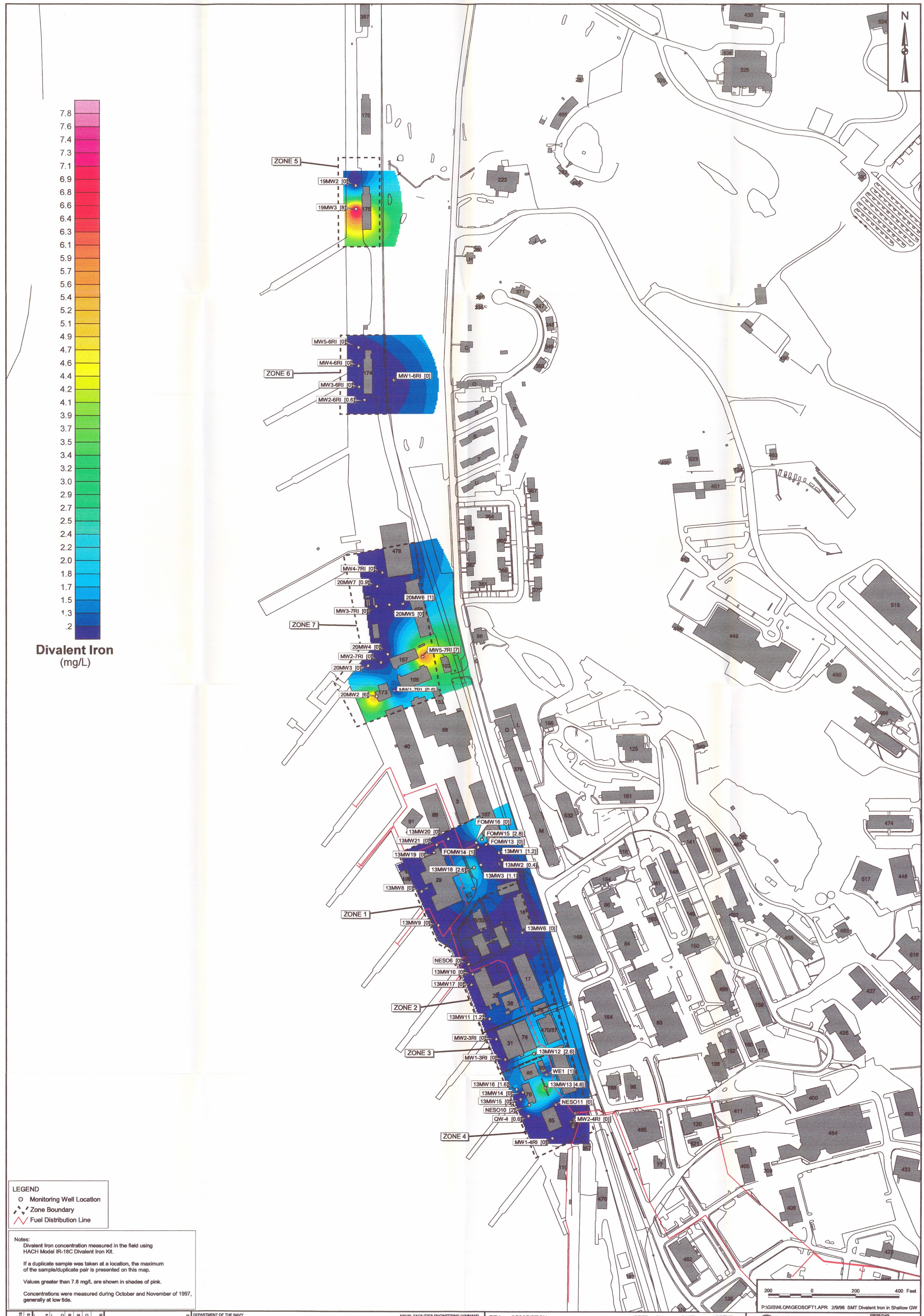
NORTHDIV HD:

DM: HD:

FPE: DIR:

OFFICER IN CHARGE

APPROVED DATE



LEGEND

- Monitoring Well Location
- Zone Boundary
- Fuel Distribution Line

Notes:

Divalent Iron concentration measured in the field using HACH Model IR-18C Divalent Iron Kit.

If a duplicate sample was taken at a location, the maximum of the sample/duplicate pair is presented on this map.

Values greater than 7.8 mg/L are shown in shades of pink.

Concentrations were measured during October and November of 1997, generally at low tide.

SIZE: D
SHEET - OF -
DIS. SH. NO.
DRAWING 17

NAVFAC DRAWING NO.

CONSTR. CONTR. NO.

SPEC. NO.

SCALE: AS SHOWN

CODE I.D. NO. 80091

SAT TO DATE

SEAL AREA

DEPARTMENT OF THE NAVY
NAVAL BASE

NORTHERN DIVISION

NAVAL FACILITIES ENGINEERING COMMAND
PHILADELPHIA, PA

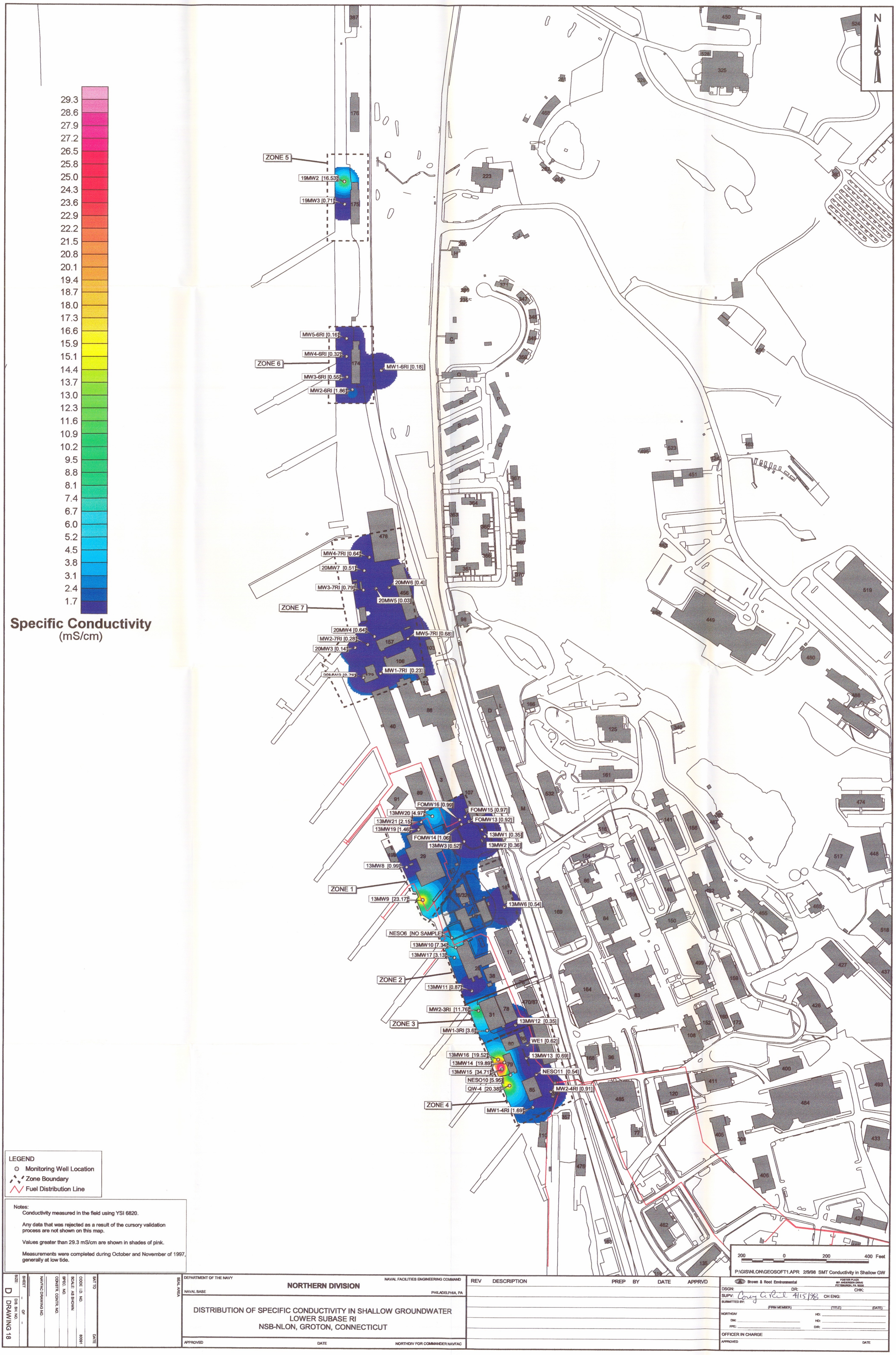
DISTRIBUTION OF DIVALENT IRON IN SHALLOW GROUNDWATER
LOWER SUBASE RI
NSB-NLON, GROTON, CONNECTICUT

APPROVED DATE NORTHDIV FOR COMMANDER NAVFAC

REV	DESCRIPTION	PREP BY	DATE	APPRVD

Brown & Root Environmental
FOSTER PLAZA
691 ANDERSEN DRIVE
PITTSBURGH, PA. 15220

DSGN: DR: CHK:
SUPV: Corey A Ruud 4/15/98 CH ENG:
SUBMITTED BY:
(FIRM MEMBER) (TITLE) (DATE)
NORTHDIV HD:
DM: HD:
FPE: DIR:
OFFICER IN CHARGE
APPROVED DATE



LEGEND

- Monitoring Well Location
- Zone Boundary
- Fuel Distribution Line

Notes:

Conductivity measured in the field using YSI 6820.

Any data that was rejected as a result of the cursory validation process are not shown on this map.

Values greater than 29.3 mS/cm are shown in shades of pink.

Measurements were completed during October and November of 1997, generally at low tide.

SIZE: D | SHEET - OF - | DIS. SH. NO. | DRAWING 18

NAVFAC DRAWING NO.

CONSTR. CONTR. NO.

SPEC. NO.

SCALE: AS SHOWN

CODE I.D. NO. 80091

SAT TO DATE

SEAL AREA

DEPARTMENT OF THE NAVY — NAVAL FACILITIES ENGINEERING COMMAND

NORTHERN DIVISION

NAVAL BASE — PHILADELPHIA, PA

DISTRIBUTION OF SPECIFIC CONDUCTIVITY IN SHALLOW GROUNDWATER LOWER SUBASE RI NSB-NLON, GROTON, CONNECTICUT

APPROVED — DATE — NORTHDIV FOR COMMANDER NAVFAC

REV	DESCRIPTION	PREP BY	DATE	APPRVD

Brown & Root Environmental — FOSTER PLAZA 681 ANDERSEN DRIVE PITTSBURGH, PA. 15220

DSGN: DR: CHK:

SUPV: Corey A Reid 4/15/98 CH ENG:

SUBMITTED BY: (FIRM MEMBER) (TITLE) (DATE)

NORTHDIV HD:

DM: HD:

FPE: DIR:

OFFICER IN CHARGE

APPROVED DATE

APPENDIX A

BORING LOGS/MONITORING WELL CONSTRUCTION DIAGRAMS

A.1

ZONE 1

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB1-1RI
DATE: 4-26-97
GEOLOGIST: D. Schneckenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sample-BZ headspace Reading**	Duplicate
	0.0											
S1			2.0/4.0				8" asphalt			—	-	
						tan	8" - 3.5' fill - fine	SW		—	1574	
0935							to medium sand, some			>2000	>2000	
							gravel, odor			—	—	
S2	5.0		4.0/4.0			tan	4'-6' tan fill - fine to	SW		12.1	-	
							medium sand, some gravel			57.1	>2000	
						black	6'-8' fill - fine to			—	-	
0950							medium sand, some			310	>2000	
							gravel - oily odor					
	10.0						& black stain					
							hit something hard at					
							3.5', no concrete in					
							sample tube - use concrete bit					
							total depth 8'					
							saturation 6'					
						0935	sample shallow at 1.5-3.5					
						0950	Sample deep at					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No ✓ Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' Intervals
BORING NUMBER: TB2-1RI
DATE: 9-26-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Borehole**	Driller BZ**
	0.0		3.9/3.5			black	3" asphalt			—		
						tan	3"-3.5', fgrd-fine to medium sand, some gravel			11.5		
1430										—		
										27.6	500	
	5.0		1.5/4.0			tan	4-8' fgrd-fine to medium sand, some gravel			—	—	
										—	30	
1445										—	—	
										—	792	
	10.0											
					1430		sample shallow at 2-3.5'					
					1445		sample deep at 7-7.5'					
							estimated at 7.8'					
							total depth 8.0'					
							hit concrete at 7.5 feet - use concrete bit					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm):

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)

BORING NUMBER: TB3-1RI
DATE: 9-24-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ**	Borehole**	Driller BZ**
	0.0		2.0/4.0				4" concrete			—			
						tank	backfill - fine to medium	SW		5.6			
1100						white	sand with white			—			
							gravel			13.5	11.7		
	5.0		1.0/4.0				fill - same as above	SW		—			
1115										—			
										17.6			
										44.4	89.0		
	10.0												
1200							Collect deep @ 5'-8'	(Saturated)					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No ✓ Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: geoprobe (4' intervals
BORING NUMBER: TB4-IRI
DATE: 9-25-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ (headspace)	Borehole**	Driller BZ**
	0.0												
S-1			1.5/4.0				3" asphalt			0	-		
						tan	4"-4' fill - fine to	SW		0	-		
0810							medium sand, some			0	-		
							gravel			0	0		
S-2	5.0		2.5/4.0				1" of topsoil (3"-4")			0	-		
						tan	5'-8' fill - fine to	SW		5.1	0		
0820							medium sand, some			4.8	0		
							gravel			2.0	0.4		
S-3			4.0/4.0			tan	8'-11' fill - fine to	SW		-	-		
	10.0						medium sand, some			-	2.0		
0830							gravel			-	-		
							11-12' gravel - saturated	SW		74.3	25		
	15.0						total depth 12'						
							saturation 10.5						
						0810	collect shallow at 2'-4						
						0830	collect deep at 9-10.5'						
							oily odor at saturation						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm):

Converted to Well: Yes ____ No ✓ Well I.D. #:

BORING LOG

Page 1 of 1

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)

BORING NUMBER: TB5-1RI
DATE: 9-24-97
GEOLOGIST: D. Schmeltzenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Borehole**	Driller BZ**
	0.0											
S-1			3.5/4.0				8" organic rich topsoil			0		
						tan	8"-4' fill - fine to medium sand, +silt layer at 5'	SW		0	1.4	
0910										0		
										0		
S-2	5.0		3.5/4.0				1" silt layer at 5'	SW		0	2.8	
						tan	fill - fine to medium			0		
							sand 4-5 feet			0		
0915										0	2.2	
S-3			7.0/4.0			tan	fill - fine to medium	SW		0.8		
	10.0						sand, some gravel			0.6	7.7	
										0.6		
										45.6	85.6	
0925												
							to depth 12'					
	15.0						saturation 11.5'					
							oily odor at saturation					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks: _____

Converted to Well: ___ Yes _____ No ✓ Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TP6-1RI
DATE: 9-24-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ headspace	Borehole**	Driller BZ**
	0.0												
S-1			about 2/4.0				6" asphalt			–			
					tan/	gray	6"-4' fill (tube destroyed)	SW		–			
1955							fine to medium sand, some			–			
							gravel			–	3.8		
S-2	5.0		3.5/4.0		tan/	gray	4-8' fill - fine to	SW		0.3			
2005							medium sand, some			0			
							gravel			0.2			
										0			
S-3			4.0/4.0			tan	8'-12 fill - fine to	SW		0			
2015	10.0						medium sand, some			0.3	15.2		
							gravel			0.7	16.7		
										24.7	at 11.5		31.2
										101.1	at 12.0		228
													↑ headspace
	15.0						No PID readings from 0-4'						
							tube length because tube was melted &						
							difficult to remove. 1 reading taken from						
							soil for headspace						
							to depth 12 feet						
							saturated at 11.5 feet						
							oily odor at saturated area						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm):

Converted to Well: Yes ____ No ✓ Well I.D. #:

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB7-1RI
DATE: 9-26-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ headspace	[redacted]	BZ
	0.0												
S-1			2.5/4.0				3" asphalt			—			C
							6" concrete			72000	72000		C
1240						tan	9"-4' fill - fine to	SW		—			O
							medium sand, some			884	962		O
S-2	5.0		2.0/4.0				gravel			—	—		
						tan	5-8' fill - fine to			44.1	565		
							medium sand, some			—	—		
1245							gravel			44	192		
S-3			2.0/4.0			tan	9-12' fill - fine to			—	—		
1255	10.0						medium sand, some			—	226		
							gravel			—	—		
										—	670		
S-4			2.5/4.0			tan	13-14.5 fill - fine to medium			—	—		
1300							sand, some gravel			—	403		
	15					gray	14.5-16 fill - gravel			—	—		
							total depth 16'			—	18.9		
							saturation 14.5'						
						1240	sample ~~deep~~ shallow at 2'-4'						
						1300	sample deep at 13-14'						
							select duplicate at deep location						
							008						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm):

Converted to Well: Yes ____ No ✓ Well I.D. #:

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' Intervals)
BORING NUMBER: TB8-1RI
DATE: 9-26-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ in cad, pipe	Borehole**	Driller BZ**
	0.0												
S-1			2.0/3.0			blk	8" asphalt			—	—		
							8" concrete			—	—		
1530						tan	fill - fine to medium	SW		—	—		
							sand with some			—	1015		
S-2	5.0		1.5/4.0				gravel			—	—		
						tan	5.0-8.0 fill - fine			—	247		
							to medium sand with			—	—		
1540							some gravel			—	658		
S-3			1.5/4.0			tan	8-12' fill - fine to			—	—		
	10.0						medium sand with			—	283		
							some gravel, oily odor,			—	—		
1545							black stain at bottom 6"			—	841		
							total depth 12'						
							Saturated at 11.5'						
	15.0					1530	sample shallow at 2'-4'						
						1545	sample deep at 10-11'						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm):

Converted to Well: Yes ____ No ✓ Well I.D. #:

BORING LOG

Page 1 of 1

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB9-1RI
DATE: 9-26-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ Headspace	Borehole**	Driller BZ**
	0.0												
S-1			2.5/4.0			tan	0-4', fill-fine to			—	—		
							medium sand, some	SW		48	222		
1025							gravel			—	—		
										190	111		
S-2	5.0					tan	4-9', fill-fine to	SW		—	—		
							medium sand, some			69.4			
1030			2.5/4.0				gravel			48	—		
										91.8	1004		
	10.0												
							total depth 9'						
							saturation at 7.0'						
						1025	sample shallow at 2-4'						
						1030	sample deep at 5.5-6.5'						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: ___ Yes _____ No ✓ Well I.D. #: _____

A.2

ZONE 2

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: geoprobe (4' intervals)
BORING NUMBER: TB1-2RI
DATE: 8-22-97
GEOLOGIST: D. Schantenberg
DRILLER: William

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	2.0												
S-1			1.0/4.0				4" asphalt		8" concrete bit				
							8" concrete			0			
						Tan	1'-4' tan sandy fill,	SW		0			
							fine to medium		1520 3'-4'	0			
S-2	5.0		1.0/6.0				4-7' tan sandy fill						
						Tan	fine to medium, some	SW	1525 5-7	0			
							gravel			0			
	10.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm):

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4 Intervals)
BORING NUMBER: TB2-2RI
DATE: 9-22-97
GEOLOGIST: D. Schnaubelberg
DRILLER: William

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	2.0												
S-1			2.5/4.0				7" asphalt		225 pm begin	0			
						tan	7" - 4' tan sandy	SW	drilling	0			
							silt, fine to medium,		sample shallow	0			
							some gravel		at 1435	0			
S-2	5.0		2.0/4.0				4'-5.5' tan sandy	SW		0			
							silt, fine to medium,			69.5			
							some gravel		sample deep at 1440	11.3			
							5.5-6.5' saturated	SW	6.5' hit something				
							medium sand, black		hard				
	10.0						staining, oil odor						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: ____

Converted to Well: Yes ____ No X Well I.D. #: ____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: 310 Prestige (4' intervals)
BORING NUMBER: TB3-2RI
DATE: 9-22-97
GEOLOGIST: D. Schwartzberg
DRILLER: Williams

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0												
S-1			3.0/4.0			black	0-9" fill & asphalt		2:00 sample	0			
						tan	9"-4.0' tan, sandy		TB3-2RI	0			
							fill, fine to medium,	SW	shallow (2-4')	0			
							some gravel			0			
	5.0		2.0/4.0				4'-5' tan sandy			0			
S-2							fill, fine to medium	SW	2:05 sample	0			
							sprinkled, some gravel		deep (6-8')	0			
										0			
	10.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks: _____

Converted to Well: Yes ____ No X Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB4-2RI
DATE: 9-23-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ headspace	Borehole**	Driller BZ**
	0.0												
S-1			2.0/4.0			Brown	4" topsoil			0			
1600						Tan	4"-4' silty, sandy	OL		0	0		
							clay, some gravel			0			
							rootlets			0	0		
S-2	5.0		2.5/4.0			Tan	4'-7 silty, sandy	OL		0			
							clay, some gravel,			0	0		
1605							rootlets			0			
						tan	7'-8' fill-sandy-	SW		0	0		
			3.0/4.0				fine to medium, some			0			
1610	10.0						gravel			0	0		
										0			
							collect shallow at 1600		2-4 feet	0	0		
			4.0/4.0				collect middle at 1605			0			
1800							collect deep at 1610		sample 10-12 ft	0	0		
	15.0						saturated at 15.5 feet			0			
						tan	8-12 fill, fine to	SW		0	0		
							medium sand, some						
							gravel						
							to depth 12 ft						
	20						no saturated soil						
						tan	12-16 fill, fine to	SW					
							medium sand, some						
							gravel						
							Sample deep 14'-15.5'	@	1800				

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm):

Converted to Well: Yes ___ No ✓ Well I.D. #:

BORING LOG

Page 1 of 1

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB5-2RI
DATE: 9-23-97
GEOLOGIST: ~~William~~ D. Schaefer
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0												
S-1 @ 0845			3.0/4.0				2" asphalt			0			
							10" concrete			0			
						gray	1'-12' fill, fine to medium sand, some gravel	SM		0			
										0			
S-2	5.0		4.0/4.0							0			
										0			
										0			
										0			
S-3 @ 0950	10.0		4.0/4.0							0			
										0			
										0			

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks: _____

Converted to Well: Yes _____ No _____ Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: GeoProbe (4' intervals)
BORING NUMBER: TB6-2RT
DATE: 9-12-97
GEOLOGIST: D. Schnackenberg
DRILLER: William

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0												
S1			4.0/4.0				4" asphalt			0			
							8" concrete			0			
					1	tan	fill, fine to medium	SW		0			
							sand, some gravel			0			
S-2	5.0		3/4.0				at 2' there is a 1" seam			0			
							of black fine to medium			0			
							sand			0			
						tan	5-8 fill, fine to	SW		0			
S-3			4.0/4.0				medium, little gravel			0			
	10.0					tan	8-12 fill, fine to	SW		0			
							medium sand, some			0			
							gravel			0			

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks: _____

Converted to Well: Yes ____ No X Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB7-2R1
DATE: 9-22-97
GEOLOGIST: D. Schnackenberg
DRILLER: Williams

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0												
S-1			3.0/4.0		black		6" asphalt			0			
					white		6"-12" white sandy	SW					
					tan		fill, fine to medium, some gravel	SW					
										↓			
S-2	5.0		4.5/4.0				1'-3' tan sandy fill,	SW		0			
							fine to medium, some gravel (gravel white)						
							5-8' tan sandy fill,						
							fine to medium, some gravel saturated at			↓			
	10.0						7.0 feet						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No X Well I.D. #: _____

A.3

ZONE 3

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75
BORING NUMBER: TB1-3RI
DATE: 9-27-97
GEOLOGIST: T. Evans
DRILLER: J. Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	Head Space
S-1	0.5	11	1.0/			OK Brn	Asphalt 0-0.2'							
@ 1517	2.0	12/7	/1.5			to Brn	Fgr Sand Some Fine Gravel	SW	Fill	~~20.8~~ 85.9	0.0	2.1	~~2.1~~ 0.3	143
★ S-2 @		5/5	1.0/			Brn	F-Mgr Sand Some Fine Gravel	SW	Fill	70.1				147
1520	4.0	4/8	2.0			↓				60.3				
★★ S-3 @		4/8	1.2/			↓	Mgr Sand Some Fine Gravel	SW	Damp Fill	27.4	0.0			133.
1527	6.0	12/12	2.0			Red Brn	↓			7.6				
S-4 @		4/9	1.3/	6.5 ▽ @1545		DK Brn	Fgr Sand Tr-Some Fine Gravel	SW						
1530	8.0	10/12	/2.0			Red Brn	M-Cgr Sand	SW	wet					
S-5 @		4/5	0.1/			Brn	M-Cgr Sand & Gravel	SW	Saturated					
1539	10.0	4/4	2.0			↓	↓	GW	Poor Recovery ↓					
				TD 10.5										
							Set well screen 5-10							
							#0 Sand 3.5-10.5							
							#00 Sand 2.0-3.5							

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm):

Remarks: 3" SS, 4 1/4" ID Augers
★ LS3 SB001 0201 (2-4) TCL SVOC TPH TAL Metals, SPLP Lead
★★ LS3 SB001 0301 (5-6) TCL SVOC, TAL Metals

Converted to Well: Yes ✓ No ____ Well I.D. #: MW1-3RI

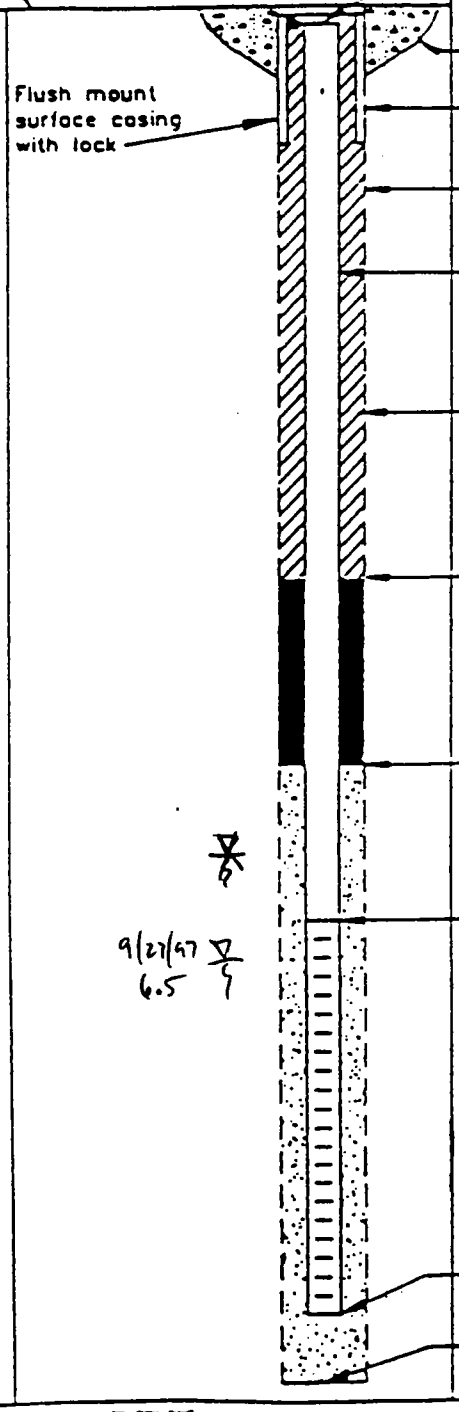
BORING NO.: TB1/MW1-3RI

MONITORING WELL SHEET

PROJECT NSBNLCN
PROJECT NO. 7327
ELEVATION 5.69' msl (NGVD 58)
FIELD GEOLOGIST T. Evans

LOCATION Zone 3
BORING TB1/MW1-3RI
DATE 9-27-97

DRILLER J Leonhardt
DRILLING METHOD Maxim Tech HSA
DEVELOPMENT METHOD Centrifugal Pump



ELEVATION TOP OF RISER: 5.26' msl
TYPE OF SURFACE SEAL: Concrete
TYPE OF PROTECTIVE CASING: Steel
I.D. OF PROTECTIVE CASING: 8"
DIAMETER OF HOLE: 8"
TYPE OF RISER PIPE: Schedule 40 PVC
RISER PIPE I.D.: 2"
TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout
DEPTH/ELEVATION TOP OF #00 SAND: 2.0, 3.69
DEPTH/ELEVATION TOP OF #0 SAND: 3.5, 2.19
DEPTH/ELEVATION TOP OF SCREEN: 5.0, 0.69
TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE x LENGTH: 0.010" x 5'
DEPTH/ELEVATION BOTTOM OF SCREEN: 10.0, -4.31
DEPTH/ELEVATION BOTTOM OF SAND: 10.5, -4.81
DEPTH/ELEVATION BOTTOM OF HOLE: 10.5, -4.81
BACKFILL MATERIAL BELOW SAND: NA

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB-NLON	SITE/LOCATION	LOWER SUBASE
PROJECT NUMBER:	7237	WELL ID.:	MW1-3RI
WEATHER:	P cloudy 60°F	DATE:	9/30/97
STATIC WATER LEVEL:	4.81' TPVC	PERSONNEL:	TE & VR
TOTAL WELL DEPTH:	9.73' TPVC	WELL TYPE:	(PVC), [S.S.], or
ONE CASING VOLUME:	0.80 gal		OTHER
START TIME:	0755	MEASURING DEVICE:	Heron Dipper-T
END TIME:	0857	ADJUSTMENT FACTOR:	

[ ] DOMESTIC WELL, [✓] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: 1 3/4" ϕ x 4' PVC ~~Bailer~~ Surge Block
2" centrifugal pump

Approximate Volume	Time	Color	pH	Cond. mS/cm	Turbidity NTU	DO	Temp. °C	Salinity	WL
0	0755	Brown	6.13	3.40	>999	6.83	20.7	0.17	5.2
5	0801	Brown	6.16	5.64	7999	5.75	21.9	0.29	6.1
10	0806	Brown opaque	6.84	5.31	387	5.76	~~19.3~~ 22.3	0.29	6.2
15	0810	Brown opaque	6.99	5.64	-10	6.09	22.3	0.27	5.9
20	0814	Brown opaque	7.06	5.54	41	5.84	22.4	0.32	
25	0826	Brown opaque	7.28	6.02	163	5.85	22.3	0.29	5.78
Surge 30	0832	Brown							4.61 6.78
35	0836	Brown opaque	7.23	5.18	908	5.96	22.4	0.24	7.03
40	0840	Brown opaque	7.10	4.97	551	5.73	22.6	0.23	7.56 1.49
Surge 45	0850	Brown	7.22	4.81	7999	~~22.2~~ 5.70	22.2	0.22	6.98
50	0853	Brown opaque	7.15	4.71	520	6.02	22.3	0.22	6.83
55	0855	Light Brown opaque	6.98	4.48	-10	5.86	22.6	0.22	6.79
60	0857	clear	7.04	4.38	-10	5.67	22.6	0.22	7.15

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: 1 Borehole volume: 12.8 gal
Total purge volume 60 gallons final WL - 4.22'

SIGNATURE(s): [signature]

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Marin Tech
DRILLING RIG: CME 75
BORING NUMBER: TB2-3RI
DATE: 9-28-97
GEOLOGIST: T. Evans
DRILLER: V. Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
S-1 @ 0850	0.5	7 / 12	1.1 / 1.5			Brn	Asphalt - 4"						
	2.0	7 / 6			M Dense		Gravelly Sand (Fgr)	SW	Dry FILL	0.0			
S-2 @ 0910	4.0	6 / 6	1.2 / 2.0		M Dense					0.0			
		6 / 9											
S-3 @ 0920	6.0	7 / 17	1.2 / 2.0		M Dense	Brn to Grn - Brn			wet @ bottom	0.0			
		7 / 8											
				TD 6'									
							Rip teeth off cutter head @ 5.5'						
							Stop drilling due to concern of sanitary sewer line						
							See Logsheet TB2-3RIB						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: 3"SS, 4¼" ID Auger
No soil samples collected

Drilling Area Background (ppm): 0.0

Converted to Well: Yes ____ No X Well I.D. #: ____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75
BORING NUMBER: TB2-3RIA
DATE: 9-29-97
GEOLOGIST: T. Evans
DRILLER: J. Leon Landt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	Headspace
S-1 @ 1710	0.5 / 2.0	15 / 6 / 7	1.1 / 2.0			Brn	Asphalt / Fgr Sand Tr Gravel	SP	Dry Fill	1				10.?
* S-2 @ 1712	3.5 / 4.0		1.0 / 1.5			↓	↓							5.2
S-3 @ 1740	6.0								Water rising out of auger - may have hit H_2O line					
									1800 PWD @ site - call pipe shop					
									1840 pipe shop @ hole will shut down line					
							10/1/97 More location ~ 6' South & 1' west							
							See log sheet TB2-3RIB							

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: 3" SS, 4¼" ID Augers

* LS3 SB002 0201 (2-3.5) + SBFD-010

Drilling Area Background (ppm):

Converted to Well: Yes ✓ No ✓ Well I.D. #:

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75
BORING NUMBER: TB2-3RIB
DATE: 10/1/97
GEOLOGIST: T. Evans
DRILLER: V. Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	
	0.0													
							Auger to 4'							
	2.0						(see Log TB2-3R1A							
							for litho)							
	4.0													
* S-4 @		14/7	0.9/		M Dense	Brn	Mgr Sand & Fine Gravel	SW/	Dry Fill	0				2.0
0821	6.0	10/12	/2.0					GW						
S-5 @		8/9	1.3/		M Dense				Fill	0				1.0
0825	8.0	8/9	/2.0			Red Brn	Tr Brick		Saturated @ 7.5'					
S-6 @		1/3	2.0/			Olive	Fgr Sandy Silt	OL	Natural	158				
0833	10.0	2/1	/2.0			brn	Tr Fine Gravel & Charcoal							
				To 10'										
							Auger to 8'							
							2" PVC 0.010 Slot - 3'-8'							
							#0 sand 2 - 8.5							
							#00 sand 1 - 2							

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: 3" SS, 4 1/4" ID Augers
** LS3SB002 0401 (5'-6')

Drilling Area Background (ppm): 0.1

Converted to Well: Yes ✓ No ____ Well I.D. #: MW2-3RI

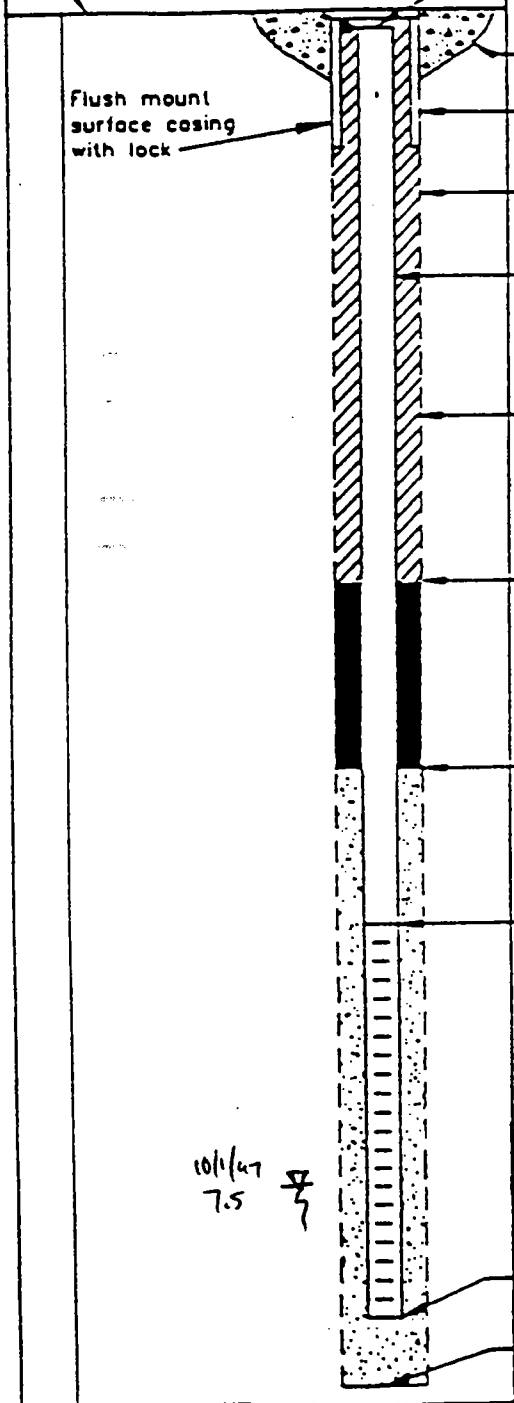
BORING NO.: TB2/MW2-3RI

MONITORING WELL SHEET

PROJECT NSB-NLON
PROJECT NO. 7327
ELEVATION 5.88' msl (NGVD 88)
FIELD GEOLOGIST T. Evans

LOCATION Zone 3
BORING TB2/MW2-3RI
DATE 10/1/97

DRILLER J. Leonhardt
DRILLING METHOD Maxim Tech HSA
DEVELOPMENT METHOD 2" Submersible pump



ELEVATION TOP OF RISER: 5.39' msl
TYPE OF SURFACE SEAL: Concrete
TYPE OF PROTECTIVE CASING: Steel
I.D. OF PROTECTIVE CASING: 8"
DIAMETER OF HOLE: 8"
TYPE OF RISER PIPE: Schedule 40 PVC
RISER PIPE I.D.: 2"
TYPE OF BACKFILL/SEAL: Cement / Bentonite Grout
DEPTH/ELEVATION TOP OF #00 SAND: 1.0 , 4.88
DEPTH/ELEVATION TOP OF #0 SAND: 2.0 , 3.88
DEPTH/ELEVATION TOP OF SCREEN: 3.0 , 2.88
TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE x LENGTH: 0.010" x 5'
DEPTH/ELEVATION BOTTOM OF SCREEN: 8.0 , -2.12
DEPTH/ELEVATION BOTTOM OF SAND: 8.5 , -2.62
DEPTH/ELEVATION BOTTOM OF HOLE: 10.0 , -4.12
BACKFILL MATERIAL BELOW SAND: Natural

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB NLON	SITE/LOCATION	Zone 3
PROJECT NUMBER:	7327	WELL ID.:	MW2-3RI
WEATHER:	Clear cold (35°F)	DATE:	10/2/97
STATIC WATER LEVEL:	6.19' TPVC	PERSONNEL:	TE + VR
TOTAL WELL DEPTH:	8.02' TPVC	WELL TYPE:	[PVC] [S.S.], or OTHER
ONE CASING VOLUME:	0.30 gal		
START TIME:	0735	MEASURING DEVICE:	Heron Dipper T
END TIME:	0844	ADJUSTMENT FACTOR:	

[ ] DOMESTIC WELL, [✓] MONITORING WELL, [ ] OTHER

METHOD & REMARKS 2" Grundfos pump (submersible)

	Approximate Volume	Time	Color	pH (S.U.)	Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (Celcius)	Salinity (%)	WL
Surge pump @ 0746										
	0	0746	Brown							
	7.5 gal	0759	tan clear	6.01	8.35	346	3.76	18.9	.45	*
	12.5 gal	0808	tan clear	6.32	9.90	155	4.29	19.6	.55	
stop @ 0815	22.5 gal	0813	clear	6.46	10.30	5	4.17	19.7	.57	
start @ 0822	32.5	0826	clear	6.44	10.6	26	3.99	20.7	.59	
	37.5	0829	clear	6.05	10.4	-10	3.89	20.1	.58	
stop @ 0837	47.5	0833	clear	6.04	10.3	0	3.85	20.5	.58	
start @ 0838	62.5	0844	clear	6.40	10.9	0	4.44	19.7	0.61	

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: Bail initial 2½ gal. @ 0735

* m-scope battery dead

SIGNATURE(s): [signature]

PAGE 1 OF 1

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (6' intervals)
BORING NUMBER: TB3-3RI
DATE: 9-23-97
GEOLOGIST: D. Schnacherberg
DRILLER: B. Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0		2.5/4.0			Tan	low plasticity, organic	OL		0			
							silty clay with			0			
							small percentage of sand			0			
										0			
	5.0		2.0/4.0				6" same as above	OL		0			
							beneath via fill-sand			0			
							fine to medium grained,	SW		0			
							small gravel			0			
							7-8 feet bgs						
	10.0												

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): ____

Remarks: ____

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: ~~TB5-2RI~~ TB4-3RI
DATE: 9-23-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sample BZ Headspace	Borehole**	Driller BZ**
	0.0												
S-1			2.5/3.0				4" asphalt		refusal at 3'	0			
						tan	4"-3' fill, fine to	SW	concrete	0			
							medium sand, some			0			
							gravel						
S-2	5.0		1.5/4.0				3-4' concrete			0			
						tan	4'-8' fill, fine to			0			
							medium sand, some			0			
							gravel		sample 6.5-7.5'	0			
									saturated at				
	10.0								8'				

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No ✓ Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB5-3RI
DATE: 9-25-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ (adjacent Borehole)**	Driller BZ**
	0.0		1.0/4.0				3" asphalt			-	-	
						Tan	3"-3.5' fill - fine to SW medium sand			-	-	
										-	-	
							3.5-5.0 concrete			0.2	-	
	5.0						5.0-5.5 fill - fine to medium sand					
	10.0											
							1115 sample shallow at		2'-3.5'			
							Sample deep at		5-5.5			
							saturated at 5.0					
							Total depth 5.5					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm):

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

A.4

ZONE 4

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: MaxiumTech
DRILLING RIG: CME 75
BORING NUMBER: TB1-4RI
DATE: 9-26-97
GEOLOGIST: T. Evans
DRILLER: J. Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
* S-1 @ 1404	0.5	15					Asphalt 0-0.15'						
S-1 @ 1404	2.0	31/17	0.4/1.5			DK Gray	Sandy Fine Gravel	GW	Dry FILL	0.4			
S-2 @ 1405		9/10	1.4/2.0	2.0		Tan	Fgr Sand	SP		0.0			
S-2 @ 1411	4.0	7/9				↓	↓	↓	Damp wet @ 4.0'	~~2.0~~			
* S-3 @ 1411		7/5	1.0/2.0			Tan to	↓	↓		0.0			
* 1415	6.0	6/9		5.5		DK Brn	↓ Tr Fine Gravel	SW	wet @ 5.9'	~~0.0~~			
S-4 @ 1419	8.0	1/3 6/6	1.2/2.0			↓	Fgr Sand Tr Fine Gravel	↓	Saturated	0.0			
~~S-5 @~~									Auger to 10.0'				
	10.0												
				TD=10.0'									
							10 slot screen 4.5-9.5						
							#0 Sand 3.5-10.0						
							#00 Sand 2.5-3.5						

Headspace: 3.2, 2.0, ~~2.0~~, 1.0, —

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0.0

Remarks: 3 1/4" ID Auger
* LS4SB0010101 - TPH, SVOC, TAL Metals SPLP Lead (0.5-2')
** LS4SB~~0001~~0010301 - SVOC, TAL METALS, SPLP Lead (5-6)

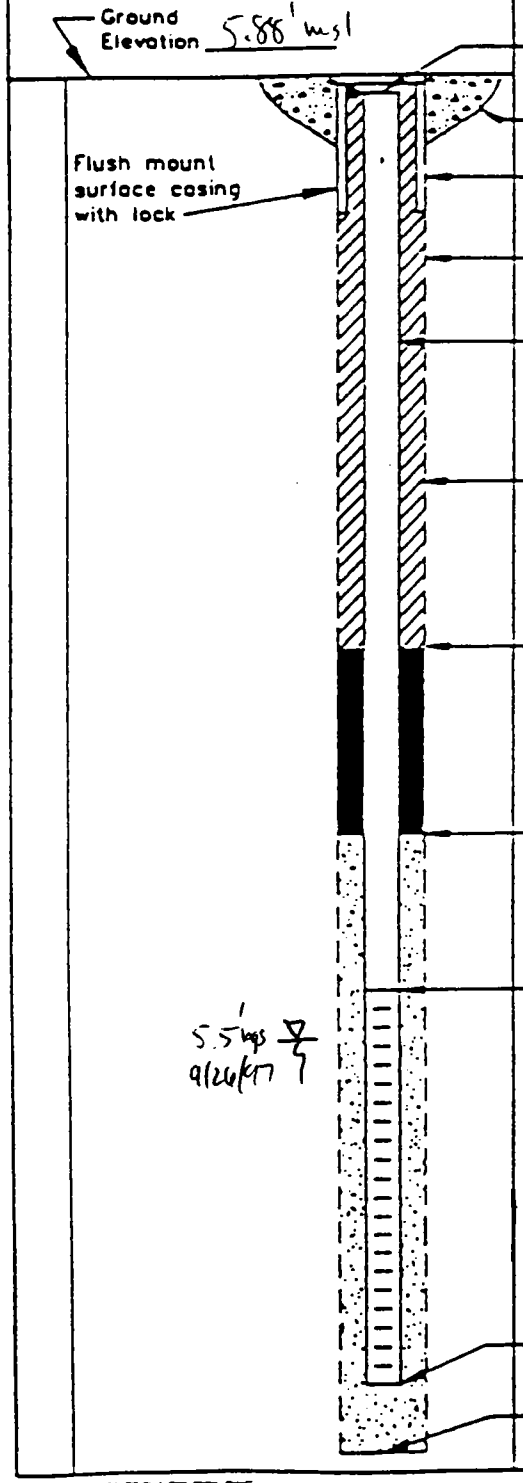
Converted to Well: Yes ✓ No ____ Well I.D. #: MW1-4RI

BORING NO.: TB1/MW1-4RI

MONITORING WELL SHEET

PROJECT: NSB NLON
PROJECT NO.: 7327
ELEVATION: 5.88' msl (NGVD 88)
FIELD GEOLOGIST: T. Evans
LOCATION: Zone 4
BORING: TB1/MW1-4RI
DATE: 9-26-97

DRILLER: J. Leonhardt
DRILLING METHOD: Maxim tech HSA
DEVELOPMENT METHOD: Centrifugal Pump



ELEVATION TOP OF RISER: 5.56' msl
TYPE OF SURFACE SEAL: Concrete
TYPE OF PROTECTIVE CASING: Steel
I.D. OF PROTECTIVE CASING: 8"
DIAMETER OF HOLE: 8"
TYPE OF RISER PIPE: Schedule 40 PVC
RISER PIPE I.D.: 2"
TYPE OF BACKFILL/SEAL: Bentonite/Cement Grout
DEPTH/ELEVATION TOP OF #00 SAND: 2.5 / 3.38
DEPTH/ELEVATION TOP OF #0 SAND: 3.5 / 2.38
DEPTH/ELEVATION TOP OF SCREEN: 4.5 / 1.38
TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE x LENGTH: 0.010" X 5'
DEPTH/ELEVATION BOTTOM OF SCREEN: 9.5 / -3.62
DEPTH/ELEVATION BOTTOM OF SAND: 10.0 / -4.12
DEPTH/ELEVATION BOTTOM OF HOLE: 10.0 / -4.12
BACKFILL MATERIAL BELOW SAND: NA

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB-NLON	SITE/LOCATION	LOWER SUBASE
PROJECT NUMBER:	7237	WELL ID.:	TB1-4RI/MW1-4RI
WEATHER:	Partly cloudy 60°F	DATE:	093097
STATIC WATER LEVEL:	4.69' TPVC	PERSONNEL:	JR TE
TOTAL WELL DEPTH:	9.37' TPVC	WELL TYPE:	(PVC), [S.S.], or OTHER
ONE CASING VOLUME:	0.76 gallons		
START TIME:	0950	MEASURING DEVICE:	Heron Dipper II
END TIME:	1100	ADJUSTMENT FACTOR:	

[ ] DOMESTIC WELL, [✓] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: 1 3/4" x 4' PVC Surge Block
2" Centrifugal Pump

	Approximate Volume	Time	Color	pH	Cond. mS/cm	Turbidity NTU	DO	Temp. °C	Salinity	WL
	0	0950	Brown	6.87	4.36	7999	5.51	23.9	0.20	5.46
	5	0952	Brown	6.90	2.09	7999	6.11	23.0	0.10	5.53
	10	0954	Brown light opaque	7.02	2.13	167	6.31	23.1	.09	5.56
surge (20)	15	0957	Brown opaque	6.94	2.14	123	6.31	22.8	.09	5.59
	25	1013	Light Brown opaque	7.25	1.91	169	5.78	23.1	.09	4.68 5.18
surge (35)	30	1018	Clear	7.21	1.90	17	5.89	23.5	.09	5.20
	40	1034	light Brown opaque	7.24	1.90	97	5.24	23.1	.09	4.66 5.31
	45	1039	Clear	7.30	1.89	18	5.88	24.5	.09	4.87
surge (5 min) & break	50	1045	light Brown	7.06	2.08	668	5.28	22.8	.09	4.65 5.13
	55	1050	Clear	7.16	~~2.0~~ 1.91	38	5.88	24.6	.08	4.92
	60	1055	Clear	6.94	1.87	32	5.82	23.3	.08	5.34
	65	1100	Clear	6.94	1.89	29	5.93	23.1	.09	5.71

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: Prior to surging pump has been shut off for 10 min then 5 gallons is purged rapidly, then pump is slowed down 1 gallon/min
Final WL - 4.73 total 65 gallons purged

SIGNATURE(s): [signature]

PAGE 1 OF 1

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB2-4RI
DATE: 092697
GEOLOGIST: JRedden
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ (Headspace)	Borehole**	Driller BZ**
	0.0'												
S-1			3/4				6"-8" Asphalt			—	—		
						Tan	1'-3' Backfill fine	SW		141.6	—		
1355							to medium sand & Gravel			—	—		
										106.6	1355		
S-2	5.0		2.9/4.0			Tan	4'-8' fill - fine to	SW		—	—		
							medium sand, some			—	1360		
1400							gravel			—	1400		
	10.0												
	1												
							saturated at 8.0						
							total depth 8.0						
						1355	sample shallow at 2-4'						
						1400	Sample ~~shallow~~ at 6.5-7.0 deep						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks: _____

Converted to Well: Yes _____ No ✓ Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' interval)
BORING NUMBER: TB3-4RI
DATE: 9-23-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sample BZ**	Borehole BZ**	Driller BZ**
	0.0		2.5/4.0				4" asphalt			0			
						tan	4'-4' fill - fine to			0	0		
1710							medium sandy gone	SW		0			
							gravel			0	0		
	5.0		3.0/4.0			tan	4'-8' fill - fine to	SW		6			
1715							medium sand, some			0	0		
							gravel, damp at 8'			6			
										0	0		
			4.0/4.0			gray	8'-12' fill - fine to	SW		0			
	10.0						medium sand, some			0	0		
							gravel, saturated			6			
							at 9'			0	0		
							sample shallow at 1710		2-4 ft				
	15.0						take middle tube at 1715						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm):

Remarks:

Converted to Well: Yes ____ No ____ Well I.D. #: ____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB4-4RT
DATE: 9-23-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0		3.9/4.0				4" asphalt			0			
						tan	4"-8' fill - fine to			0	0		
1635							medium sand, some	SW		0			
							gravel			0	6		
	5.0		1.5/4.0							0			
1640										0	0		
										0			
										0	0		
	10.0												
							Saturated at 7.5 feet						
							sample shallow & duplicate 002						
							at 2-4' at 1635						
							sample deep at 6-7' at 1640						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No ✓ Well I.D. #: _____

BORING LOG

Page 1 of 1

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75

BORING NUMBER: TB5-4RI
DATE: 9/26/97
GEOLOGIST: T. Evans
DRILLER: J. Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	(Head Space)
	0.0													
	1.0						Asphalt 0-0.25' Concrete 0.25-1.0'							
* S-1 @ 1300		10/12	1.9/			Black to	~~Asphalt~~ Pencil Pitch		Fill	0.0	0.0		0.0	2.1
	3.0	15/20	2.0	3.0'		Tan	Mgr Sand Tr Fine Gravel	SP	Dry					
** S-2 @ 1305		8/10	1.4/	4.5		Brn	Gravelly Sand	SW/GW	Fill	0.5				1.3
	5.0	7/8	2.0			Tan	Fgr Sand	SP						
** S-3 @ 1310		4/4	1.5/	7		Gray Tan	Silty Fgr Sand	SP		0.0				1.1
	7.0	5/6	2.0						Saturated @ ~6.5					
S-4 @ 1315		2/3	2.0/							0.0				—
	9.0	4/4	2.0											
	10.0			TD 10'										
							10 Slot screen 4.5-9.5							
							#10 Sand 3.5-10.0							
							#00 Sand 2.5-3.5							

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0.0

Remarks: 3" SS 4¼" ID Augers PG
* LS4SB005010' - TPH, SVOC, SPLP ~~metals~~ TAL Metals (1-3')
** LS4SB005030' - SVOC, SPLP Pb, TAL Metals (5-7')

Converted to Well: Yes ✓ No ____ Well I.D. #: MW2-4RI

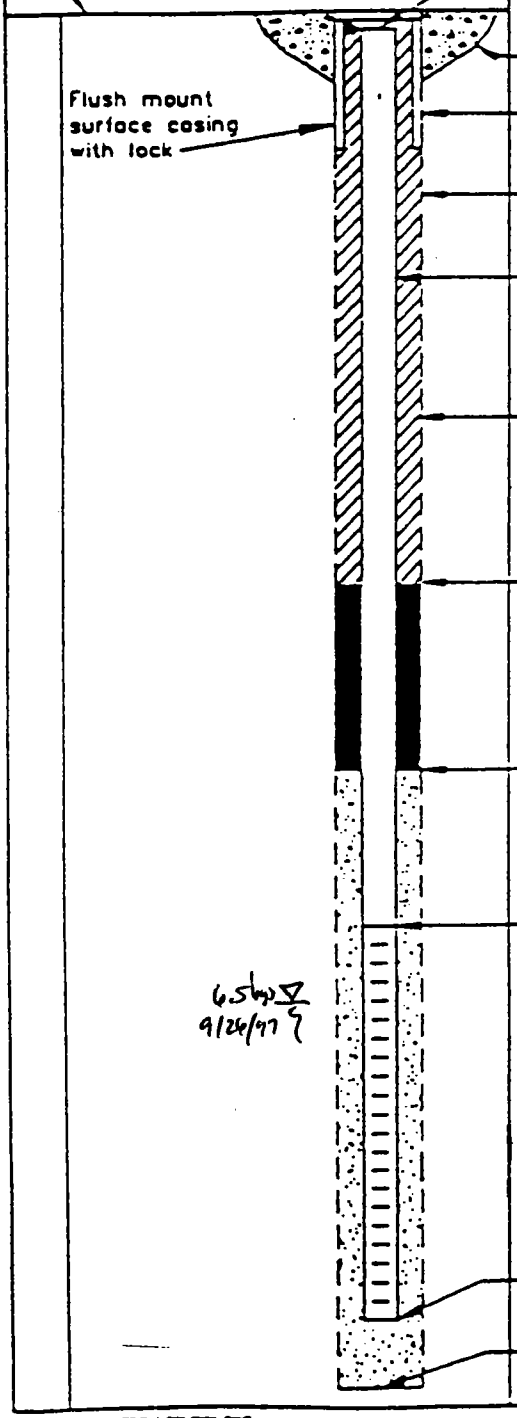
BORING NO.: TB5 / MW2-4RI

MONITORING WELL SHEET

PROJECT NSB NLON
PROJECT NO. 7327
ELEVATION 6.46' msl (NAVD88)
FIELD GEOLOGIST T. Evans

LOCATION Zone 4
BORING TB5 / MW2-4RI
DATE 9-26-97

DRILLER J. Leonhardt
DRILLING METHOD Maxim Tech HSA
DEVELOPMENT METHOD Centrifugal Pump



ELEVATION TOP OF RISER: 6.46' msl
TYPE OF SURFACE SEAL: Concrete
TYPE OF PROTECTIVE CASING: Steel
I.D. OF PROTECTIVE CASING: 8"
DIAMETER OF HOLE: 8"
TYPE OF RISER PIPE: Schedule 40 PVC
RISER PIPE I.D.: 2"
TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout
DEPTH/ELEVATION TOP OF #00 SAND: 2.5 , 4.46
DEPTH/ELEVATION TOP OF #0 SAND: 3.5 , 3.46
DEPTH/ELEVATION TOP OF SCREEN: 4.5 , 2.46
TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE x LENGTH: 0.010" X 5'
DEPTH/ELEVATION BOTTOM OF SCREEN: 9.5 , -2.54
DEPTH/ELEVATION BOTTOM OF SAND: 10.0 / -3.04
DEPTH/ELEVATION BOTTOM OF HOLE: 10.0 / -3.04
BACKFILL MATERIAL BELOW SAND: NA

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB-NLON	SITE/LOCATION	LOWER SUBASE
PROJECT NUMBER:	7237	WELL ID.:	~~TBS-4RI~~ MW2-4RI
WEATHER:	Cloudy light drizzle	DATE:	093097
STATIC WATER LEVEL:	5.36	PERSONNEL:	JR TE
TOTAL WELL DEPTH:	9.50	WELL TYPE:	(PVC), [S.S.], or
ONE CASING VOLUME:	0,67 gallons		OTHER
START TIME:	1112	MEASURING DEVICE:	Heron dipper
END TIME:	1219	ADJUSTMENT FACTOR:	

[ ] DOMESTIC WELL, [✓] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: 1 3/4" PVC - Surge Block
2" Centrifugal pump

	Approximate Volume	Time	Color	pH	Cond. mS/cm	Turbidity NTU	DO	Temp. °C	Salinity ‰	
										WL
	0	1112	Brown	7.18	1.97	7999	6.62	23.4	.06	
	5	1118	Light Brown	7.37	0.98	760	6.12	23.4	.04	8.40
	~~10~~	1124	tan	7.53	0.99	104	5.38	23.4	.04	8.3
surge	15	~~1130~~ 1145	tan	7.75	1.01	7999	5.82	23.1	.04	5.28 8.6
	20	1149	tan clear	7.50	1.09**	93	5.78	22.8	.05	7.6
surge	25	1207	tan opague	7.98	.846	959	5.68	23.0	.03	5.37 8.27
	30	1213	Clear	7.53	.871	43	5.67	23.6	.04	8.2
	35	1219	Clear	7.42	1.13	18	5.61	23.9	.05	7.79

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: Final WL = 6.09' TPVC

SIGNATURE(s): Thomas L

A.5

ZONE 5

BORING LOG

Page 1 of 1

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' interval)
BORING NUMBER: TB1-5RI
DATE: 9-24-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	~~Sample BZ~~ Headspace	Borehole**	Driller BZ**
	0.0												
S-1			4.0/4.0			tan	fill - fine to medium			0	3.6		
							sand, some gravel	SW		0	8.0		
1415							0-4'			0	—		
										8.7	37		
S-2	5.0		4.0/4.0				4-8 same as			41.6			
							above	SW		125.5	1203		
										50.5			
1420										18.4	85.7		
	10.0												
							saturated at 7.0						
							total 8.0						
							odor at saturation area						
							sample shallow at 2-4 at 1415						
							sample deep at 5-7 at 1420						
							collect duplicate from shallow zone (4 bottles)						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm):

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB2-SR1
DATE: 9-24-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0												
S-1			3.0/4.0			tan	3" asphalt			—	—		
							3"-4' fill - fine to	SW		7.5	4.1		
1440							medium sand, some			7.6	—		
							gravel			9.1	4.2		
S-2	5.0		2.5/4.0			tan	4'-8' fill - fine to			2.9	—		
							medium sand, some			2.3	4.4		
1450							gravel			2.2	—		
										1.9	3.5		
	10.0						saturated at 6.5						
						1450	sample deep 5'-6'						
						1440	sample shallow 2'-4'						
							total depth 8'						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No ✓ Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB 3-5RI
DATE: 9-24-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Boswort

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID FID Reading (ppm): Sample	Sampler BZ** / Headspace	Borehole**	Driller BZ**
	0.0												
S-1			2.5/4.0				3" asphalt			0	—		
							4" soil (fill)			0	4.5		
							2" concrete			0	—		
					Tan		9"-4' fill - fine to	SW		0	5.4		
S-2	5.0						medium sand, some						
							gravel						
	10.0												
							total depth 5.5' - not saturated, hit concrete						
							saturation						
							Sample shallow						
							Sample deep						
							had to stop at 5.5' - could not get						
							through concrete						
							See next sheet						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks: _____

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe
BORING NUMBER: TB3-5RI
DATE: 9-24-97
GEOLOGIST: D. Schmeckenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ / Headspace	Borehole**	Driller BZ**
	0.0												
S-1			3%4.0				3" asphalt			0	—		
						tan	3"-4' fill - fine to	SW		0	1.7		
1645							medium sand, some			0	—		
							gravel			0	2.4		
S-2	5.0		2.0/2.5			tan	4'-6.5' fill - fine to			12	—	2.1	
							medium sand, some			32.8	—		
1650							gravel.			57.5	296		
	10.0						total depth 6.5						
							saturated 6.0						
							collect shallow at 2-4						
					1645		collect duplicate 004 at 2-4 (2 bottles)						
					1650		collect deep 5.0-6.0						
							oily odor & appearance						
							at saturation						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks: _____

Converted to Well: Yes _____ No ✓ Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe 4' intervals

BORING NUMBER: TB4-SRI
DATE: 092597
GEOLOGIST: J Kidder
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	~~Sampler BZ~~ Headspace	Borehole**	Driller BZ**
	0.0'												
	~~0.0'~~		3/4				6" Asphalt		1				
						tan	0.5-4.0 Backfill		2		2.7		
							fine to medium		3				
	4.0'								4		5.3		
	4.0'		3/4										
							tan-Brown Fine				2.0		
							to medium sand						
							Backfill saturated @						
	8.0'						7.0' total depth 8.0'				2.6		

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm):

Converted to Well: Yes ____ No ✓ Well I.D. #:

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe 4' intervals
BORING NUMBER: TB5-5RI
DATE: 092597
GEOLOGIST: Jeff Redden
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	MATERIAL DESCRIPTION: Color	MATERIAL DESCRIPTION: Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	PID/FID Reading (ppm): Sample BZ (headspace)	PID/FID Reading (ppm): Borehole**	PID/FID Reading (ppm): Driller BZ**
	0.0'		3/4				6" Asphalt 3' Recovery						
							light Brown tan Fine to				30		
							medium sand (Backfill)						
	4.0'										0.0		
			2/4				tan Fine - medium						
							grade sand 6' refusal				20		
							saturated at 5.5'						
8.0'													

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm):

Remarks:

Converted to Well: Yes ____ No ✓ Well I.D. #: ____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: GeoProbe (4' intervals)
BORING NUMBER: TB6-5RI
DATE: 9-24-97
GEOLOGIST: D. Schmuckenbara
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampling Headspace	Borehole**	Driller BZ**
	0.0												
S-1			3.9/4.0				6" asphalt			0			
					tan		~~0-4'~~ 6"-4' fill - fine	SW		0	0		
0820							to medium sand, some			0			
							gravel			0	0		
S-2	5.0		1.0/4.0		tan		4'-8' fill - fine	SW		0			
							to medium sand, some			0	0		
0825							gravel			0			
										0	0		
	10.0												
							total depth 8'						
							saturated at 7'						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No ✓ Well I.D. #: _____

A.6

ZONE 6

BORING LOG

Page 1 of 2

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75
BORING NUMBER: TB MW1-6R1
DATE: 9-30-97
GEOLOGIST: T. Evans
DRILLER: V Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	Head space
	0.0													
3"SS S-1 @		5/9	1.2/		M Dense	Brn to	TOPSOIL / 5"	OL						
1330	2.0	7/8	/2.0			Tan	Gravelly Sand Fgr	SW	Dry Fill	0				4.7
* S-2 @		7/16	1.3/		V Dense		Gravel & Fgr Sand	SW/GW		0				8.9
1336	4.0	25/72	/2.0				Avg Ø 3/4" Max Ø 3"							
S-3 @		19/20	1.2/		V Dense	Tan White			Dry Fill	0				18.6
1345	6.0	30/36	/2.0											
** S-4 @		27/30	1.6/		V Dense					0				60+
1349	8.0	34/24	/2.0				Tr Rocks			7.8				
S-5 @		10/19	1.4/		V Dense	Yellow Tan	F-Mgr Sand	SP	Dry	0				3.2
1402	10.0	27/24	2.0			White	Sandy Gravel	GW						
S-6 @		32/45	1.5/		V Dense					0				0
1416	12.0	35/55	2.0			Brn	Gravelly Sand (Mgr)	SW	Moist @ 11.6'					
S-7 @		27/45	1.1/		V Dense	Gray + Brn			Dry	0				0
1439	14.0	47/24	2.0											
S-8 @		50/5" 30	0.5/		V Dense	White + Tan	Gravel & Sand	SW/GW	Dry	0				0
1454	16.0	46/50	2.0											
S-9 @ 1502	17.0	110	5"/5"		V Dense	Tan Brn	& Fgr Sand Tr Fine Gravel	SW	Dry	0				0
	18.0													
2"SS S-10 @		17/27	1.3/		V Dense	Gray + Tan	Fgr Sand & Fine Gravel	SW/GW	Dry	0				0
1525	20.0	22/24	/2.0											
S-11 @		6/12	1.4/		M Dense	Tan	~~Mgr Sand &~~	SW	Moist	0				0
1534	22.0	15/12	/2.0			Brn	Gravelly Mgr Sand (Fine)							
S-12 @		5/7	1.3/		M Dense	Brn	F-Cgr Sand Tr VFine Gravel	SW	Moist	0				4.9
1547	24.0	8/9	/2.0											
S-13		9/10	1.1/20		M Dense	Tan	Fgr Sand Some VFine Gravel	SW		0				

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: 3"SS, 4¼" ID Auger (2"SS 18'-36')

Drilling Area Background (ppm): 0.0

Converted to Well: Yes ✓ No _____ Well I.D. #: MW1-6R1

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75

BORING NUMBER: ~~TE MW1~~ TB1-6 RI
DATE: 9/30/97
GEOLOGIST: TEvans
DRILLER: J Leon Hardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	Head space
	25.0													
@ 1555	26.0	10 / 12				~~Gray~~								
S-14 @		8 / 12	1.4 / 2.0		M Dense	Tan +	F-Cgr ~~F-C~~ Sand + VFine gr Gravel	SW/GW		0				0
1405	28.0	12 / 14		27.2 @ 1634		Gray			Tip wet					
S-15 @		7 / 8	1.4 / 2.0		M Dense	Tan	M-Cgr Sand	SP	saturated	0				
1413	30.0	7 / 8				Brn								
S-16 @		5 / 7	1.6 / 2.0							0				
1422	32.0	12 / 15												
S-~~18~~ @	17	23 / 24	1.1 / 2.0											
1643	34.0	27 / 45			V Dense	Brn	Fgr Sand & Fine Gravel	SW						
S-19 @	18	5 / 7												
1654	36.0	21 / 100/0'	~~2.0~~ 1.5	~~TD 35.5~~ ~~TD 36.0~~										
					TD	36'	Cave-in to 35.5'							
							0.010 screen ~~25.0-35.0~~		25'-35'					
							#0 sand ~~26.0-35.5~~		23.4-35.5'					
							#00 sand		21.4-23.4					
							Grout seal							

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks:

Drilling Area Background (ppm):

Converted to Well: Yes ____ No ____ Well I.D. #: ____

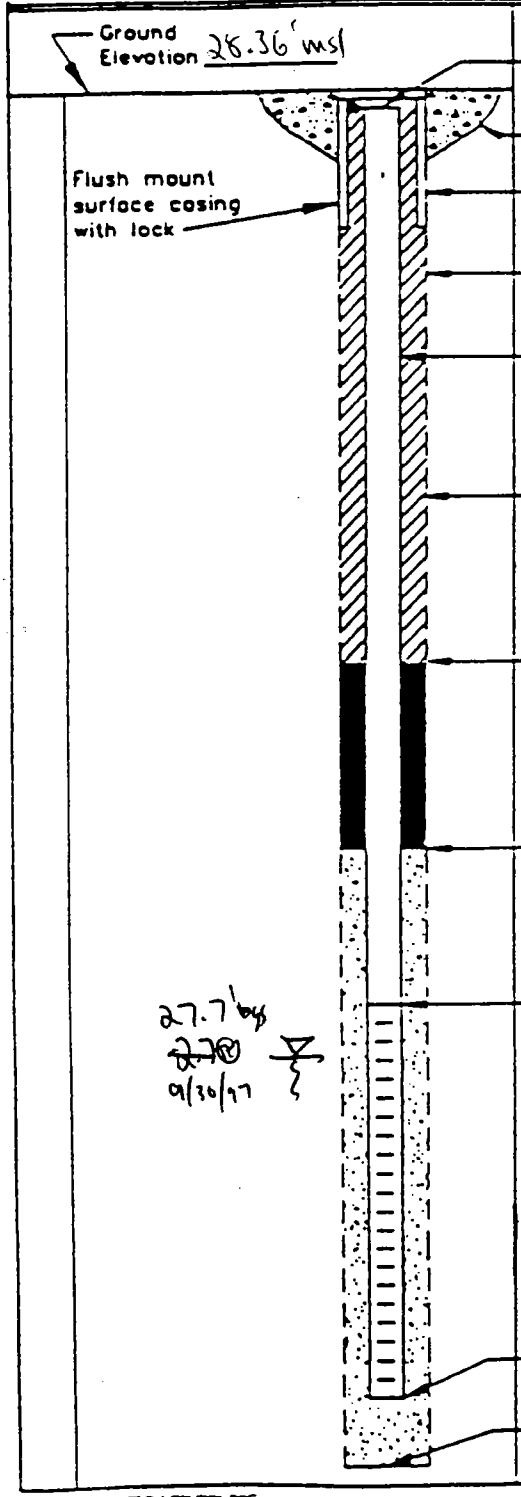
BORING NO.: TB1 / MW1-
& RI

MONITORING WELL SHEET

PROJECT: NSB NLON
PROJECT NO.: 7327
ELEVATION: 28.36' msl (NGVD88)
FIELD GEOLOGIST: T. Evans

LOCATION: Zone 6
BORING: TB1/MW-6RI
DATE: 9/30/97

DRILLER: J. Leonhardt
DRILLING METHOD: Maxim Tech HSA
DEVELOPMENT METHOD: Submersible pump



ELEVATION TOP OF RISER: 27.99' msl

TYPE OF SURFACE SEAL: Concrete

TYPE OF PROTECTIVE CASING: Steel

I.D. OF PROTECTIVE CASING: 8"

DIAMETER OF HOLE: 8"

TYPE OF RISER PIPE: Schedule 40 PVC

RISER PIPE I.D.: 2"

TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout

DEPTH/ELEVATION TOP OF #00 SAND: 21.4, 6.59

DEPTH/ELEVATION TOP OF #0 SAND: 23.4, 4.59

DEPTH/ELEVATION TOP OF SCREEN: 25.0, 2.99

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE x LENGTH: 0.010" X 5'

DEPTH/ELEVATION BOTTOM OF SCREEN: 35.0, -7.01

DEPTH/ELEVATION BOTTOM OF SAND: 35.5, -7.51

DEPTH/ELEVATION BOTTOM OF HOLE: 36.0, -8.01

BACKFILL MATERIAL BELOW SAND: Natural

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB NLON	SITE/LOCATION	Zone 6
PROJECT NUMBER:	7327	WELL ID.:	MW1-6RI
WEATHER:	Clear 45-50°F	DATE:	10/2/97
STATIC WATER LEVEL:	27.41' TPVC	PERSONNEL:	TE + JR
TOTAL WELL DEPTH:	34.58' TPVC	WELL TYPE:	(PVC), [S.S.], or
ONE CASING VOLUME:	1.17 gal		OTHER
START TIME:	0945	MEASURING DEVICE:	Heron Dipper T
END TIME:	1047	ADJUSTMENT FACTOR:	

[ ] DOMESTIC WELL, [T] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: 2" Grundfos sub pump

Approximate Volume	Time	Color	pH (S.U.)	Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (Celcius)	Salinity (%)	WL
0	0954	Brown							
15 gal	0959	Brown	5.77	.248	>999	5.15	11.7	.00	27.64
30	1005	clear	5.92	.198	0	5.40	11.4	.00	27.5
40 (½ gal)	1020	clear	5.85	.185	42	6.21	12.1	.00	27.5
45	1022	clear	5.84	.181	0	6.14	11.9	.00	
50	1025	clear	5.76	.180	0	6.14	11.9	.00	27.49
60	1043	clear	5.94	.176	86	5.85	12.2	.00	27.5
70	1046	clear	5.86	.172	0	5.74	12.4	.00	27.4
72.5	1047	End	development						

pump @ 1005 started @ 1015

pump @ 1025 Stuck @ 1038

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: 0945 Bail Initial 5 gal

1 Borehole volume = 18.7 gal

SIGNATURE(s):

BORING LOG

Page 1 of ___

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75

BORING NUMBER: TB2 - 6RI
DATE: 9-24-97
GEOLOGIST: T. Evans
DRILLER: J. Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	Head
	0.0													
S-1 @	0.5	11	1.3/2.0			DGray	Asphalt 0-0.30' Sand Some Gravel	SW	Dry	0	0	0.8	0	7.
1055	2.0	14/12				Brn	Gravelly Sand (cobble 3" max)	SW	sample # LS6SB0020201					
* S-2 @		8/8	1.2/2.0						@ ~~4-6~~ 2-4'	7.1				6.
1105	4.0	7/8				DGray			Wet @ 3.8'					
* S-3 @	5.0		1.4/2.0	▽					Saturated	1.1				12.
1115	6.0						Some Asphalt	SW/GW						
S-4 @		8/14	1.4/2.0			Brn	F-M Sand Some Gravel Frag	SW	sample # 03 LS6SB0020401	2.1	0.0	0.0	0.0	7.
1127	8.0	11/~~8~~7							@ ~~1127~~ ~~6-8~~ ~~5-6~~ 5-6'					
			TD =	8.7										
	10.0													

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: 3" SS
4¼" ID HSA

Drilling Area Background (ppm): 0.0

Converted to Well: Yes ✓ No ___ Well I.D. #: MW2 - 6RI

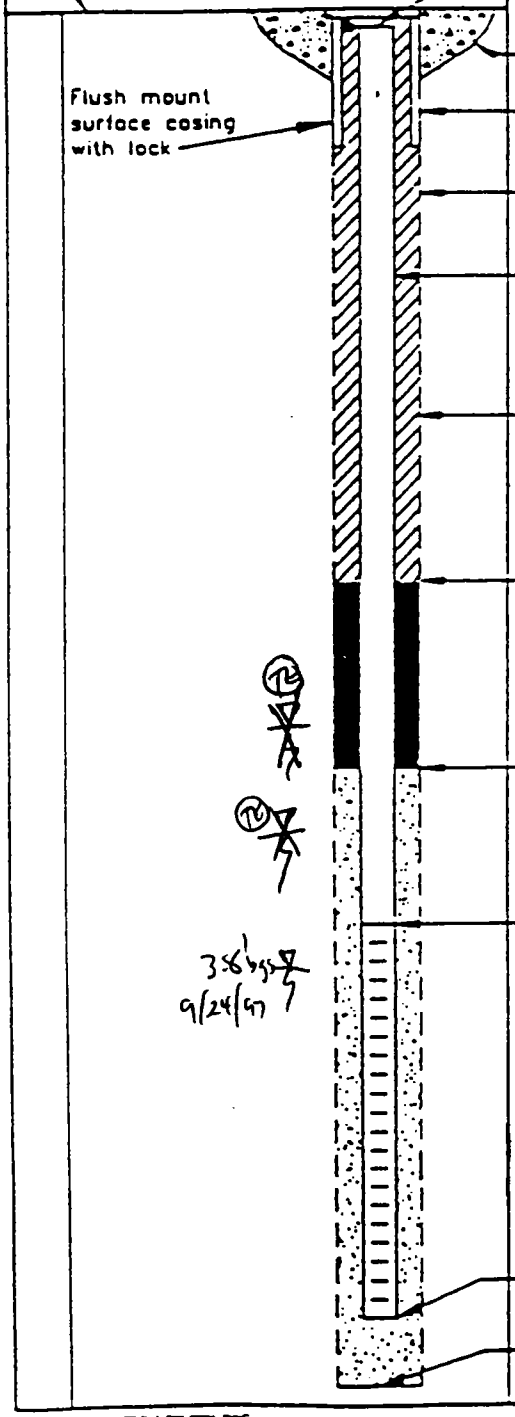
BORING NO.: TB2 / MW2-6RI

MONITORING WELL SHEET

PROJECT NSB NLON
PROJECT NO. 7327
ELEVATION 4.10' msl (NGVD 88)
FIELD GEOLOGIST T. Evans

LOCATION Zone 6
BORING TB2-1 MW2-6RI
DATE 9-24-97

DRILLER J. Leenhardt
DRILLING METHOD Maxim Tech HSA
DEVELOPMENT METHOD Centrifugal Pump



ELEVATION TOP OF RISER: 3.63' msl

TYPE OF SURFACE SEAL: Concrete

TYPE OF PROTECTIVE CASING: ~~8"~~ Steel

I.D. OF PROTECTIVE CASING: 8"

DIAMETER OF HOLE: 8"

TYPE OF RISER PIPE: Schedule 40 PVC

RISER PIPE I.D.: 2"

TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout

DEPTH/ELEVATION TOP OF #00 SAND: ~~2.0~~ 1.0 / 2.63

DEPTH/ELEVATION TOP OF #0 SAND: ~~3.0~~ 2.0 / 1.63

DEPTH/ELEVATION TOP OF SCREEN: 3.0 / 0.63

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE x LENGTH: 0.010" X 5'

DEPTH/ELEVATION BOTTOM OF SCREEN: 8.0 / -4.37

DEPTH/ELEVATION BOTTOM OF SAND: 8.7 / -5.07

DEPTH/ELEVATION BOTTOM OF HOLE: 8.7 / -5.07

BACKFILL MATERIAL BELOW SAND: NA

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB-NLON	SITE/LOCATION	LOWER SUBASE
PROJECT NUMBER:	7237	WELL ID.:	MW2-6RI
WEATHER:	overcast	DATE:	9/29/97
STATIC WATER LEVEL:	2.88' TPVC	PERSONNEL:	
TOTAL WELL DEPTH:	7.96' TPVC	WELL TYPE:	(PVC), [S.S.], or OTHER
ONE CASING VOLUME:	0.83 gal		
START TIME:	1441	MEASURING DEVICE:	Heron Dipper-T
END TIME:	(TE) ~~1623~~ 1623	ADJUSTMENT FACTOR:	

[ ] DOMESTIC WELL, [✓] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: 2" centrifugal pump 3/4" Ø black PE
HORIBA U-10 water meter

	Approximate Volume	Time	Color	pH	Cond. mS/cm	Turbidity NTU	DO mg/L	Temp. °C	Salinity %	WL
	0	1441	Brown opaque	7.65	.334	>999	7.08	22.8	.01	
	5 gal	1443	Brown opaque	7.76	.257	>999	7.38	21.4	.00	4.84
Rate ↓	10 gal	1446	tan clear	7.57	.247	358	5.51	21.4	.00	—
Rate ↓	15 gal	1448	tan clear	7.57	.246	224	6.13	21.3	.00	3.6[illegible]
	20 gal	1454	brown opaque	7.77	.246	>999	7.01	21.9	.00	3.71
	25 gal	1457	tan clear	7.66	.245	337	5.73	21.6	.00	3.44
	30 gal	(TE) ~~#~~ 1500	clear	7.78	.246	30	6.76	21.4	.00	3.3
	35 gal	1513	brown	7.88	.247	>999	6.84	21.2	.00	3.43
Rate ↑	40 gal	1515	brown	7.71	.255	>999	6.51	21.2	.00	3.68
	45 gal	1519	brown	7.76	.241	856	6.93	21.5	0.0	3.51
	50 gal	1527	Clear tan tint	7.85	.257	347	7.34	21.1	0.0	3.73
	55 gal	1530	Clear tan	7.69	.250	969	6.57	21.1	0.0	3.74
Rate ↑	60 gal	1542		7.77	.252	>999	6.30	21.2	0.0	4.58
	75 ~~65~~ gal	1546		7.74	.243	>999	6.51	21.0	0.0	

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: 1 Borehole volume = 13.3 gal

Stop @ 1500 Stop @ 1519 Stop @ 1530
Start @ 1509 (WL=2.94) Start @ 1526 (WL=2.94) Start @ 1541 (WL=2.95

Rate ↓	80 gal	1555	Clear/tan	7.86	.237	323	6.79	21.9	0.0	3.43
	85 gal	1615	Clear	7.87	.256	37	7.02	21.2	0.0	3.46
	90 gal	1618	tan clear	7.87	.248	196	6.39	21.2	0.0	3.4[illegible]
Rate ↑ ↓	105 gal	1623	tan clear	7.87	.240	127	7.08	20.9	0.0	3.80

SIGNATURE(s): [signature]

PAGE 1 OF 1

Stop @ 1555
Start @ 1610 (WL=2.94)

BORING LOG

Page 1 of ___

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75

BORING NUMBER: TB3-6RI
DATE: 9-25-97
GEOLOGIST: T. Evans
DRILLER:

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	Head space
S-1 @ 1032	0.5 / 2.0	17 / 20 / 34	0.9/1.5	~~[illegible]~~		Gray to Brn	Asphalt ~~0 - 0.25~~ ~~Concrete @ 0.25 - 0.50~~ 0.5' F-Msr Sand Tr Fine Gravel	SW	Dry Fill	0				0.0
* S-2 @ 1036	4.0	9 / 9 / 8 / 6	1.2/2.0			Brn	M-Cgr Sand Tr-Some Gravel	SW/GW	Fill Saturated Fill	0				0.5
** S-3 @ 1042	6.0	7 / 8 / 7 / 6	0.9/2.0						@ ~~3.8~~ 3.6'	0				0.8
S-4 @ 1050	8.0	12 / 8 / 6 / 5	0.6/2.0							0				—
				TD 8.5										

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: 3" SS
4¼" ID Augers

★ LS6SB0030201 - TCL VOC, (0.5-2) TCL SVOC, TAL Metals, SPLP Metals, TPH

★★ LS6SB0030301 - (5-6) - Same as above for analysis

Drilling Area Background (ppm): 0.0

Converted to Well: Yes ✓ No ___ Well I.D. #: MW3-6RI

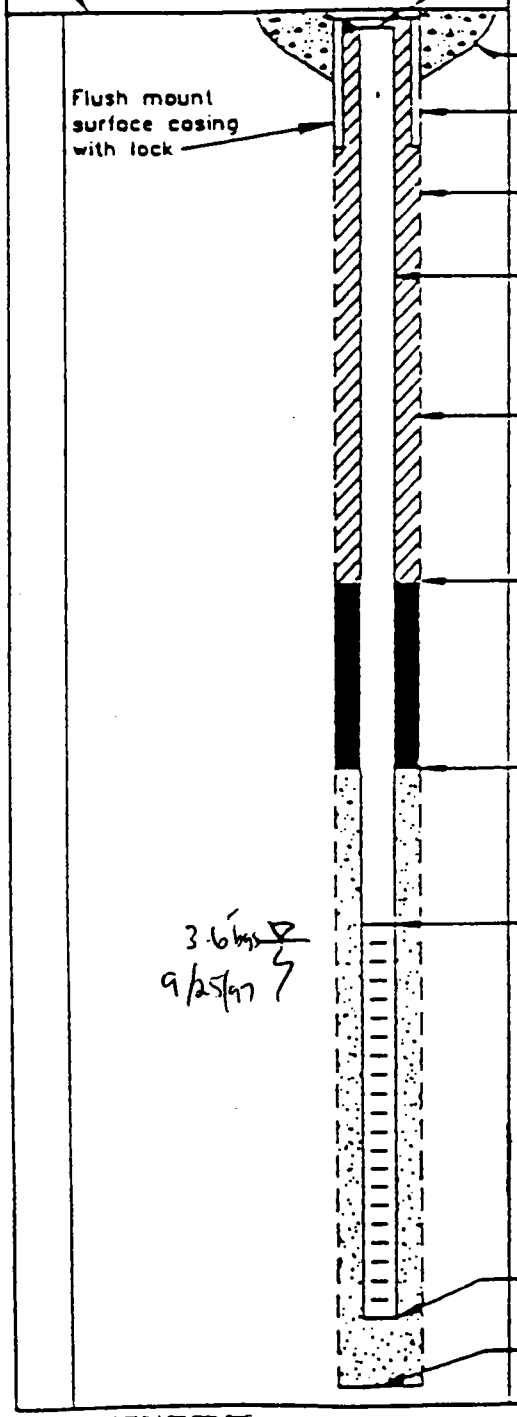
BORING NO.: TB3/MW3-6RI

MONITORING WELL SHEET

PROJECT NSB NLoN
PROJECT NO. 7327
ELEVATION 4.38' msl (NGVD88)
FIELD GEOLOGIST T. Evans

LOCATION Zone 6
BORING TB3/MW3-6RI
DATE 9/25/97

DRILLER J. Leonhardt
DRILLING METHOD Maxim Tech HSA
DEVELOPMENT METHOD Centrifugal Pump



ELEVATION TOP OF RISER: 3.92' msl
TYPE OF SURFACE SEAL: Concrete
TYPE OF PROTECTIVE CASING: Steel
I.D. OF PROTECTIVE CASING: 8"
DIAMETER OF HOLE: 8"
TYPE OF RISER PIPE: Schedule 40 PVC
RISER PIPE I.D.: 2"
TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout
DEPTH/ELEVATION TOP OF #00 SAND: 1.0 / 3.38
DEPTH/ELEVATION TOP OF #0 SAND: 2.0 / 2.38
DEPTH/ELEVATION TOP OF SCREEN: 3.0 / 1.38
TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE x LENGTH: 0.010" x 5'
DEPTH/ELEVATION BOTTOM OF SCREEN: 8.0 / -3.62
DEPTH/ELEVATION BOTTOM OF SAND: 8.5 / -4.12
DEPTH/ELEVATION BOTTOM OF HOLE: 8.5 / -4.12
BACKFILL MATERIAL BELOW SAND: N A

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB Nlon	SITE/LOCATION	Zone 6
PROJECT NUMBER:	7327	WELL ID.:	MW3-6RI
WEATHER:	p cloudy 55°F	DATE:	10/1/97
STATIC WATER LEVEL:	3.26' TPVC	PERSONNEL:	TE + JR
TOTAL WELL DEPTH:	7.84' TPVC	WELL TYPE:	(PVC) [S.S.], or
ONE CASING VOLUME:	0.75 gal		OTHER
START TIME:	1402	MEASURING DEVICE:	Heron Dipper T
END TIME:	1501	ADJUSTMENT FACTOR:	

[ ] DOMESTIC WELL, [✓] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: 2" centrifugal pump
1 3/4" Ø surge block

	Approximate Volume	Time	Color	pH (S.U.)	Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (Celcius)	Salinity (%)	WL
Surge										
	0 gal	1402	Yellow Brown	6.86	.364	>999	7.06	18.6	.01	
	15 gal	1406	tan clear	6.92	.469	647	5.76	19.8	.01	5.2
Surge	20 gal	1408	cloudy	6.97	.459	122	6.05	19.9	.01	5.0 / 3.32 -
	35 gal	1421	tan clear	7.04	.416	289	6.18	19.8	.01	5.2
Surge	40 gal	1423	clear	7.04	.400	18	6.24	19.9	.01	5.1 / 3.33
	50 gal	1441	clear tan tint	7.28	.406	70	5.89	19.7	.01	4.2
Surge	55 gal	1445	clear	7.21	.397	17	6.13	20.2	.01	4.0 / 3.33
	65 gal	1501	clear	7.17	.377	40	6.10	19.6	.01	4.0

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: 1 Borehole volume: 11.95 gal
After each surge, pump 10 gallons @ ~2½-3gpm, then reduce to ~1-1½ gpm

SIGNATURE(s): [signature]

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75
BORING NUMBER: TB4-6RI
DATE: 9-24-97
GEOLOGIST: T. Evans
DRILLER: J. Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm) Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0												Head Space
S-1 @ 1538	0.5 / 2.0	55 / 36 17	1.4 / 1.5			Dk Gray to Brn	Asphalt 0-0.50'			0	0	0	0 4.2
S-2 @ 1545	4.0	20 / 14 8 / 11	1.2 / 2.0				Gravel & Sand F-Cgr → max 3" ø	Gry / SW	Dry Fill	0			0.0
S-3 @ 1548	6.0	12 / 11 7 / 5	1.3 / 2.0				M-Cgr Sand Some Gravel Avg ø = 1"		Saturated @ ~5'	0			0.0
S-4 @ 1558	8.0	8 / 11 5 / 5	1.0 / 2.0	TD = 8.1						0			0.0

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0.0

Remarks: 3" SS
4¼" ID Augers
★ LS16SB0104 0101 - TCL VOC, TCL SVOC, TAL Metals, TPH, SPLP Metals
★★ LS16SB0104 0301 - TCL VOC, TCL SVOC, TAL Metals, TPH, SPLP Metals + MS/MSD

Converted to Well: Yes ✓ No ____ Well I.D. #: MW4-6RI

5-6

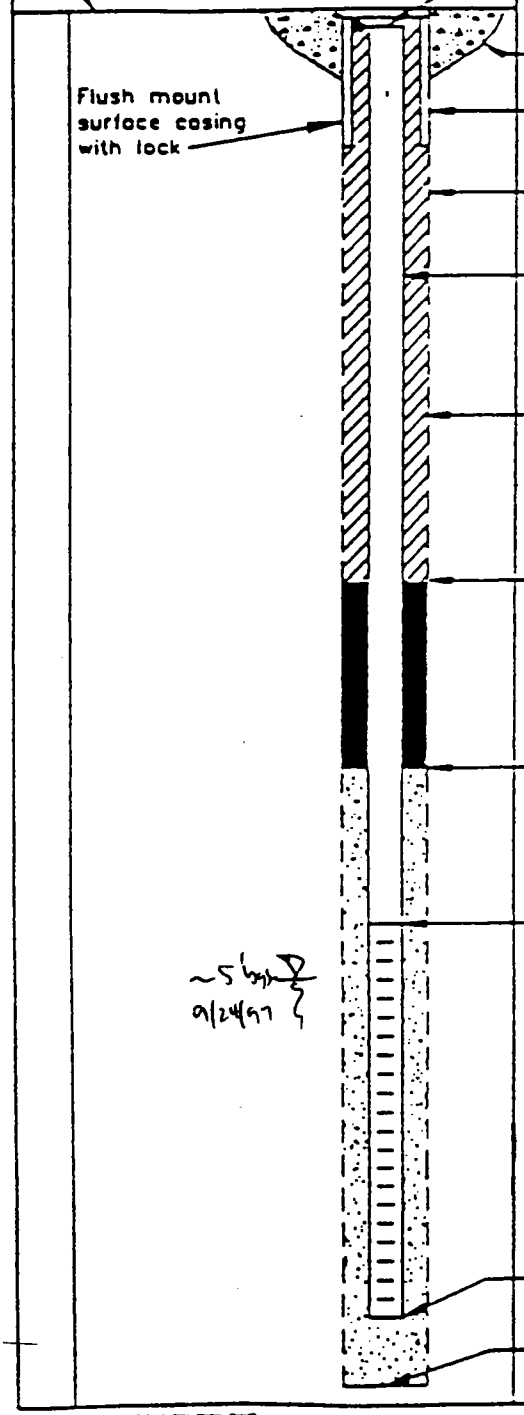
BORING NO.: TB4/MW4-6RI

MONITORING WELL SHEET

PROJECT NSB - NLON
PROJECT NO. 7327
ELEVATION 4.95' msl (NGVD88)
FIELD GEOLOGIST T. Evans

LOCATION Zone 6
BORING TB4/MW4-6RI
DATE 9/24/97

DRILLER J. Leon Leonhardt
DRILLING METHOD Maxim Tech HSA
DEVELOPMENT METHOD Centrifugal Pump



ELEVATION TOP OF RISER: 4.51' msl
TYPE OF SURFACE SEAL: Concrete
TYPE OF PROTECTIVE CASING: Steel
I.D. OF PROTECTIVE CASING: 8"
DIAMETER OF HOLE: 8"
TYPE OF RISER PIPE: Schedule 40 PVC
RISER PIPE I.D.: 2"
TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout
DEPTH/ELEVATION TOP OF #00 SAND: 1.0, 3.95
DEPTH/ELEVATION TOP OF #0 SAND: 2.0, 2.95
DEPTH/ELEVATION TOP OF SCREEN: 3.0, 1.95
TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE x LENGTH: 0.010" x 5'
DEPTH/ELEVATION BOTTOM OF SCREEN: 8.0, -3.05
DEPTH/ELEVATION BOTTOM OF SAND: 8.1, -3.15
DEPTH/ELEVATION BOTTOM OF HOLE: 8.1, -3.15
BACKFILL MATERIAL BELOW SAND: —

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSBNLON	SITE/LOCATION	Zone 6
PROJECT NUMBER:	7327	WELL ID.:	MW4-6RI
WEATHER:	Clear 55°F	DATE:	10/1/97
STATIC WATER LEVEL:	3.89' TPVC	PERSONNEL:	TE + JR
TOTAL WELL DEPTH:	7.89' TPVC	WELL TYPE:	[PVC], [S.S.], or OTHER
ONE CASING VOLUME:	0.65 gal		
START TIME:	~~420~~ 1122	MEASURING DEVICE:	Heron Dipper-T
END TIME:	1219	ADJUSTMENT FACTOR:	

[ ] DOMESTIC WELL, [✓] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: 1 3/4" Ø surge block HORIBA U-10 water meter
2" centrifugal pump

	Approximate Volume	Time	Color	pH (S.U.)	Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (Celcius)	Salinity (%)	WL
Surge										
	0	1122	yellow brown	6.39	.610	>999	6.68	18.3	.02	
	5 gal	1127	light brown clear	6.52	.262	717	6.21	20.1	.01	4.2
	10 gal	1131	tan clear	6.83	.263	341	5.73	19.9	.01	4.6
Surge	15 gal	1134	clear	6.87	.264	50	5.50	19.9	.01	4.7 3.8
	25 gal	1140	clear	7.00	.266	272	5.96	19.6	.01	4.7
Surge	35 gal	1145	clear	6.96	.264	8	6.05	19.7	.01	4.74 3.77
	45 gal	1159	tan	7.00	.268	682	6.29	19.9	.01	4.79
Surge	55 gal	1203	clear	6.97	.263	7	6.29	19.7	.01	4.80 3.86
	75 gal	1219	clear	7.03	.258	3	6.72	19.4	.01	5.56
	Final	WL =	3.87'	TPVC						

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: 1 Bore hole volume 10.4 gal
Pump @ initial high rate, then lower rate after ~1 min

SIGNATURE(s): [signature]

PAGE 1 OF 1

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75
BORING NUMBER: TBS - 6RI
DATE: 9-24-97
GEOLOGIST: T. Evans
DRILLER: J. Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	Head Space
	0.0													
* S-1	0.5	49				gray	Asphalt 0-25', 50		Fill	0	0	0	0	4.5
@ 1422	2.0	30/17	1.0/1.5			brn	Sandy Gravel (cobbles 8" Ø max)	GW	Dry					
S-2 @		11/7	0.8/2.0				Gravelly Sand	SW	Dry	0				2.5
1430	4.0	7/8												
* S-3 @		10/9	1.3/2.0	4.7 ▽						0				1.5
1435	6.0	8/8							Saturated @ ~5.5'					
S-4 @		5/4	1.5/2.0			Brn	M-Cgr Sand TR Gravel	SP		0				0.5
1440	8.0	3/4												
				TD=8.1'										

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0.0

Remarks: 3" SS
4¼" ID Augers
* LS6SB005 0102 - VOC, SVOC, TPH, Metals (0.5-2')
** LS6SB005 0306 - VOC, SVOC, TPH Metals (5-6')

Converted to Well: Yes ✓ No _____ Well I.D. #: MW 5-6RI

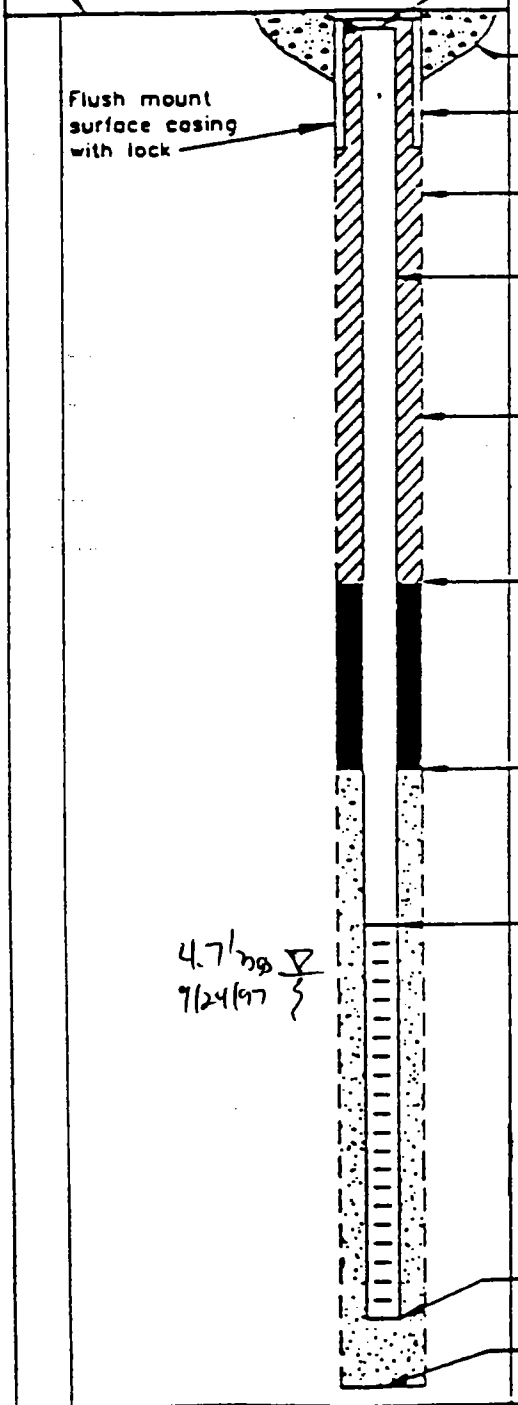
BORING NO.: TB5/MW5-6RI

MONITORING WELL SHEET

PROJECT NSB NLON
PROJECT NO. 7327
ELEVATION 5.24' msl (NGVD 88)
FIELD GEOLOGIST T. Evans

LOCATION Zone 6
BORING TB5/MW5-6RI
DATE 9/24/97

DRILLER J. Leonhardt
DRILLING METHOD Maxim Tech HSA
DEVELOPMENT METHOD Centrifugal Pump



ELEVATION TOP OF RISER: 4.83' msl
TYPE OF SURFACE SEAL: Concrete
TYPE OF PROTECTIVE CASING: Steel
I.D. OF PROTECTIVE CASING: 8"
DIAMETER OF HOLE: 8"
TYPE OF RISER PIPE: Schedule 40 PVC
RISER PIPE I.D.: 2"
TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout
DEPTH/ELEVATION TOP OF #00 SAND: 1.0, 4.24
DEPTH/ELEVATION TOP OF #0 SAND: 2.0, 3.24
DEPTH/ELEVATION TOP OF SCREEN: 3.0, 2.24
TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE x LENGTH: 0.010" x 5'
DEPTH/ELEVATION BOTTOM OF SCREEN: 8.0, -2.76
DEPTH/ELEVATION BOTTOM OF SAND: 8.1, -2.86
DEPTH/ELEVATION BOTTOM OF HOLE: 8.1, -2.86
BACKFILL MATERIAL BELOW SAND: ---

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB-NLON	SITE/LOCATION	LOWER SUBASE
PROJECT NUMBER:	7237	WELL ID.:	MW5-6RI
WEATHER:	40-45°F	DATE:	9-27-97
STATIC WATER LEVEL:	4.06	PERSONNEL:	D. Schnackenberg
TOTAL WELL DEPTH:	7.54	WELL TYPE:	(PVC) [S.S.], or
ONE CASING VOLUME:	0.6 gallons		OTHER
START TIME:		MEASURING DEVICE:	water level indicator
END TIME:		ADJUSTMENT FACTOR:	

[ ] DOMESTIC WELL, [X] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: Total volume purged 31.5 gallons

Approximate Volume	Time	Color	pH	Cond. mS/cm	Turbidity NTU	DO	Temp. °C	Salinity
1st bailer	1025	light tan opaque	7.29	0.223	>999	1.86	20.1	0.00
4.5 gallons	1030	light tan opaque	6.98	0.158	>999	1.58	20.4	0.00
9.0 gallons	~~1035~~ 1045	light tan opaque	7.17	0.156	391	5.94	21.4	0.00
13.5 gallons	~~1105~~ 1055	light opaque	7.20	0.152	82	5.77	21.1	0.00
18.0 gallons	1105	clear	7.08	0.151	14	5.45	21.3	0.00
22.5 gallons	1110	clear	7.08	0.152	0	5.83	21.2	0.00
27 gallons	1116	clear	6.99	0.151	0	5.63	21.2	0.00
31.5 gallons	1123	clear	7.09	0.153	0	5.75	21.3	0.00

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: Begin using pump at 4.5 gallons

SIGNATURE(s): David Schnackenberg

A.7

ZONE 7

BORING LOG

Page 1 of 1

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TBL-7RI
DATE: 9-26-97
GEOLOGIST: D. Schnoor, K. Imberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ headspace Borehole**	Driller BZ**
	0.0											
S-1			4.0/4.0				3" asphalt			0	—	
						tan	3"-8' fill - fine to	SW		1.9	2.8	
0815							medium sand, some			0	—	
							gravel			0	3.8	
S-2	5.0		2.0/4.0							—	—	
										17.7	16.3	
0825										—	—	
										7.4	11.8	
	10.0											
					0815		collect MS/MSD at shallow					
							total depth 8'					
							saturation 7'					
					0815		collect shallow at 2-4					
					0825		collect deep at 5.5-6					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No X Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe

BORING NUMBER: TB2-TR1
DATE: 9-25-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Borehole**	Driller BZ**
	0.0											
S-1			2.5/40			Tan	3" asphalt			0	—	
							fill - fine to medium			0	5.6	
1540	—						sand, some gravel	SW		0	—	
	1545									0	7.3	
S-2	4.0		2.9/40			Tan	fill - fine to medium			0	—	
							sand, some gravel	SW		0	—	
										0	7.3	
1550										0	—	
							8' total depth					
	10.0						saturated at 6.5					
					1550		sample deep 5.5-6.0					
					1545		sample shallow at 2-4'					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: _____

Drilling Area Background (ppm): _____

Converted to Well: Yes _____ No X Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75
BORING NUMBER: TB3-7RI
DATE: 9-27-97
GEOLOGIST: T. Evans
DRILLER: V Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	Head space
	0.0													
S-1	0.5	35					Asphalt 0-0.5'							
@ 1339	2.0	36/42	1.1/1.5		V Dense	Brn	Fgr Sand Tr-Some Gravel	SP	Dry Fill	0.0	0.0		0.0	21.
* S-2 @		14/16	1.4/		V Dense	Brn	↓	↓	Dry Fill	21.7				21.8
1345	4.0	43/47	/2.0			Tan	↓ + Tr Silt	↓		8.6				
** S-3 @		17/27	1.5/		M Dense	Tan	Fgr Sand Tr Fine Gravel	SP	Fill	19.8			2.0	45
1351	6.0	14/12	/2.0						wet @ bottom	24.0				
S-4 @		2/3	1.8/	6.7 ▽ @ 1410	Loose	Gray	F-Cgr Sand	SW	Saturated Fill	1.0	0.0			
1354	8.0	2/3	20				↓							
S-5 @		7/7	1.0/		M Dense			SW	Fill	87	0.0		0.0	
1415	10.0	7/7	/2.0				↓			63				
				TD 10.0			Auger to 9.5'							
							well screen 4'-9'							
							#0 Sand 2.5-9.5'							
							#00 Sand 1.5-2.5'							

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0.0

Remarks: 3" SS 4 1/4" ID Augers
* LS-75B0030201 (2-4) - TPH, TCL SVOC @ 1345
** LS-75B0030301 (5-6) SVOC @ 1351 (wet)

Converted to Well: Yes ✓ No ____ Well I.D. #: MW1-7RI

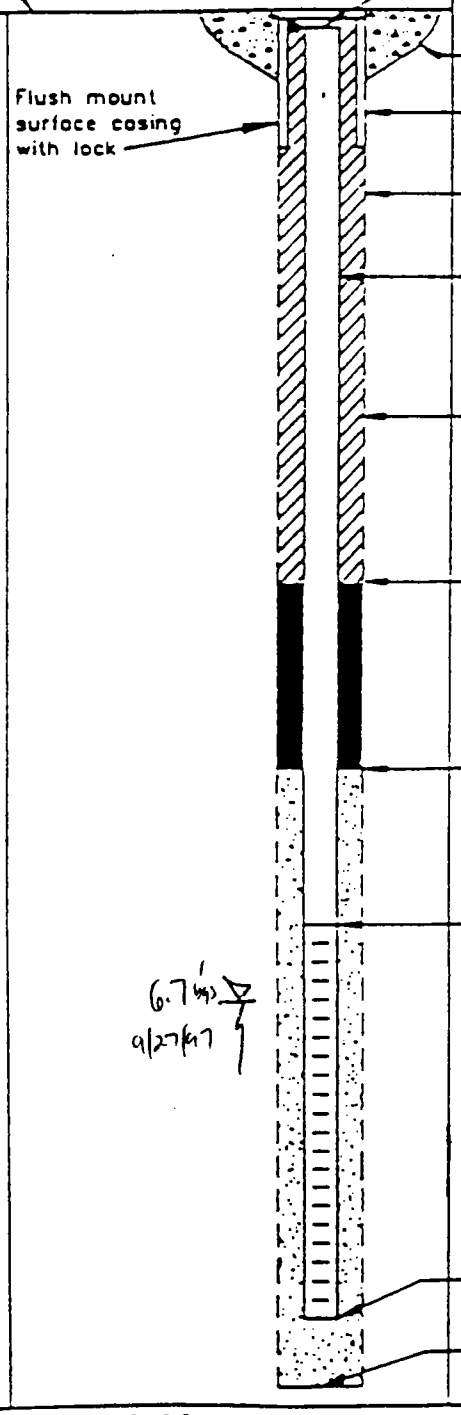
BORING NO.: TB3/MW1-TR1

MONITORING WELL SHEET

PROJECT NSB NCON
PROJECT NO. 7327
ELEVATION 6.13 msl (NGVD88)
FIELD GEOLOGIST T. Evans

LOCATION Zone 7
BORING TB3/MW1-TR1
DATE 9-27-97

DRILLER J Leonhardt
DRILLING METHOD Maxim Tech HSA
DEVELOPMENT METHOD Centrifugal Pump



ELEVATION TOP OF RISER: 5.72' msl
TYPE OF SURFACE SEAL: Concrete
TYPE OF PROTECTIVE CASING: Steel
I.D. OF PROTECTIVE CASING: 8"
DIAMETER OF HOLE: 8"
TYPE OF RISER PIPE: Schedule 40 PVC
RISER PIPE I.D.: 2"
TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout
DEPTH/ELEVATION TOP OF #00 SAND: 1.5, 4.63
DEPTH/ELEVATION TOP OF #0 SAND: 2.5, 3.63
DEPTH/ELEVATION TOP OF SCREEN: 4.0, 2.13
TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE x LENGTH: 0.010" x 5'
DEPTH/ELEVATION BOTTOM OF SCREEN: 9.0, -2.87
DEPTH/ELEVATION BOTTOM OF SAND: 9.5, -3.37
DEPTH/ELEVATION BOTTOM OF HOLE: 10.0, -3.87
BACKFILL MATERIAL BELOW SAND: Natural

WELL DEVELOPMENT SHEET

PROJECT SITE NAME: NSB NLON
PROJECT NUMBER: 7327
WEATHER: p cloudy 60°=
STATIC WATER LEVEL: 5.37' TPVC
TOTAL WELL DEPTH: 9.29' TPVC
ONE CASING VOLUME: 0.64 gal
START TIME: 1608
END TIME: 1731

SITE/LOCATION: Zone 7
WELL ID.: MW1-7RS
DATE: 10/1/97
PERSONNEL: TE JR
WELL TYPE: [PVC] [S.S.], or OTHER
MEASURING DEVICE: Heron Dipper-T
ADJUSTMENT FACTOR:

[ ] DOMESTIC WELL, [✓] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: 2" Centrifugal Pump HORIBA U-10
1 3/4" Ø Surge Block water meter

	Approximate Volume	Time	Color	pH (S.U.)	Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (Celcius)	Salinity (%)	WL
Surge										
	0	1608	Tan	7.27	.30	7999	5.01	27.9	.01	
	10 gal	1621	tan Clear	7.67	.153	602	5.59	26.0	.00	7.91
Surge	15	1626	Tan Clear	7.66	.147	395	5.38	26.0	.00	8.16 5.50
	20	1645	tan Clear	7.56	.150	512	5.19	25.8	.00	9.01
Surge 30	25	1650	tan Clear	7.44	.155	328	5.58	24.7	.00	9.06 5.58
Surge	35	1710	tan Clear	7.90	.158	178	5.67	23.3	.00	9.03 5.57
	40 gal	1725	tan Clear	7.78	.163	87	5.41	25.6	.00	
	45 gal	1731	Clear	7.86	.163	48	5.17	27.0	0.00	8.90

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: Odor to H_2O purged 45 gal total

SIGNATURE(s): [signature]

PAGE 1 OF 1

BORING LOG

Page 1 of 1

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75

BORING NUMBER: TB84-7RI
DATE: 9-27-97
GEOLOGIST: T. Evans
DRILLER: V. Leon Hanft

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
S-1	0.5	7			M Dense	Brn	Asphalt 0-0.2' Gravelly Sand	SW/GW	Dry Fill 542	4468	20		20
@0850	2.0	15/4	1.0/1.5			↓	↓	↓					
S-2		5/7	1.1/		M Dense	Brn	F-Mgr Sand Some Fine Gravel	SW	Fill	800			
@0830	4.0	9/10	2.0			↓	↓	↓					
S-3		5/6	0.3/		V Loose	Brn	F-Mgr Sand Tr Fine Gravel	SW	Fill	1730	14	829	15
0903	6.0	1/2	'2				Tr Asphalt						
S-4 @	4	2/2	1.0/2.0	6.0 ▽	Loose	Brn	Mgr Sand	SP	Wet Fill	732			
0907	8.0	4/6											
S-5 @	5	14/8	0.4/		Loose	Gray	M-Cgr Sand	SP		1746	30		
0921	10.0	4/4	2.0										
				TD 10'									
							10-slot screen 4.5-9.5						
							#0 sand 3.5 - ~~10.0~~	9.8					
							#00 sand 2.5 - 3.5						

Head Space

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 20.0

Remarks: 3" SS, 4¼" ID Augers * * Near steam line W/escaping steam - high background

Converted to Well: Yes ✓ No _____ Well I.D. #: MW2-7RI

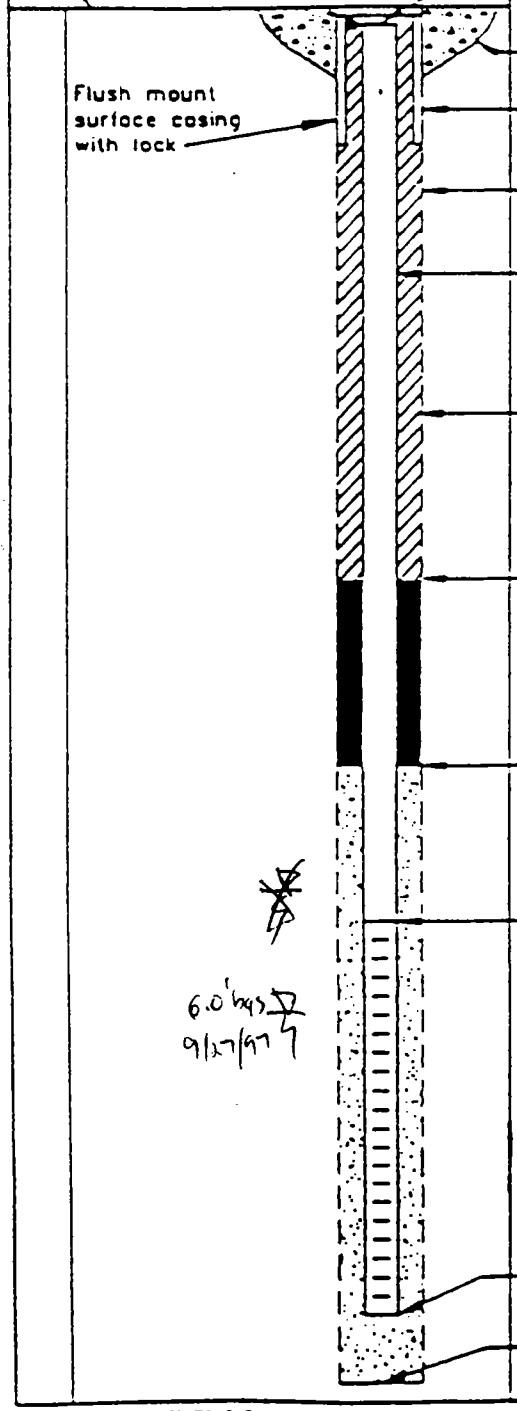
BORING NO.: TB4/MW2-7RI

MONITORING WELL SHEET

PROJECT NSB NLEN
PROJECT NO. 7327
ELEVATION 5.81' msl (NGVD88)
FIELD GEOLOGIST T Evans

LOCATION Zone 7
BORING TB4/MW2-7RI
DATE 9-27-97

DRILLER J. Leonhardt
DRILLING METHOD Maxim Tech HSA
DEVELOPMENT METHOD Centrifugal Pump



ELEVATION TOP OF RISER: 5.43' msl
TYPE OF SURFACE SEAL: Concrete
TYPE OF PROTECTIVE CASING: Steel
I.D. OF PROTECTIVE CASING: 8"
DIAMETER OF HOLE: 8"
TYPE OF RISER PIPE: Schedule 40 PVC
RISER PIPE I.D.: 2"
TYPE OF BACKFILL/SEAL: Cement / Bentonite Grout
DEPTH/ELEVATION TOP OF #00 SAND: 2.5 / 3.31
DEPTH/ELEVATION TOP OF #0 SAND: 3.5 / 2.31
DEPTH/ELEVATION TOP OF SCREEN: 4.5 / 1.31
TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE x LENGTH: 0.010" x 5'
DEPTH/ELEVATION BOTTOM OF SCREEN: 9.5 / -3.69
DEPTH/ELEVATION BOTTOM OF SAND: 9.8 / -3.99
DEPTH/ELEVATION BOTTOM OF HOLE: 10.0 / -4.19
BACKFILL MATERIAL BELOW SAND: Natural

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB-NLON	**SITE/LOCATION**	LOWER SUBASE
PROJECT NUMBER:	7237	**WELL ID.:**	MW 2-7RI
WEATHER:	overcast, drizzle 60's	**DATE:**	9-29-97
STATIC WATER LEVEL:	4.37' TPVC	**PERSONNEL:**	TE + JR
TOTAL WELL DEPTH:	9.50' TPVC	**WELL TYPE:**	(PVC), [S.S.], or OTHER
ONE CASING VOLUME:	0.84 gal		
START TIME:	0930	**MEASURING DEVICE:**	Heron Dipper-T
END TIME:	1029	**ADJUSTMENT FACTOR:**	None

[ ] DOMESTIC WELL, [X] MONITORING WELL, [ ] OTHER

METHOD & REMARKS 2" centrifugal pump; HORIBA water Quality meter model U-10

Approximate Volume	Time	Color	pH	Cond. mS/cm	Turbidity NTU	DO mg/L	Temp. °C	Salinity	WL TPVC
0	0930	Brown	8.10	.204	>999	5.76	26.7	0.00	-
5 gal	0935	Gray Brown	8.00	.239	>999	3.44	50.0	0.00	6.4
10 gal	0937	Gray brown cloudy	8.10	.223	924	3.02	52.7	0.00	6.11
15 gal	0940	cloudy Gray	8.19	.233	342	3.84	46.5	0.00	5.96
20gal	0944	tan	8.17	.226	32	3.58	52.0	0.00	5.2
25gal	0947	Lt tan	8.13	.234	138	3.56	52.0	0.00	5.2
30 gal	0950	clear	8.11	.237	-10	3.62	52.1	0.00	5.1
35 gal	0954	clear	* Try to	re-cal	HORIBA	turbidity			5.25
40 gal	0957	clear	8.21	.241	-10	3.34	50.9	0.00	5.1
45 gal	1010	clear	7.65	.235	-10	3.56	50.0	0.00	5.1
50 gal	1020	clear	7.96	.242	0	3.29	50.7	0.00	5.2
55 gal	1028	clear	7.98	.271	-10	3.67	49.7	0.00	5.1
	1029	End	development						

Rate ↓

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: 1 Borehole Volume: 13.4 gal

* water warm due to proximity to steam line

Stop @ 0957 Stop @ 1011 Stop 1021

Start @ 1006 (WL 4.36') Start @ 1017 Start 1025 (WL = 4.35')

SIGNATURE(s): [signature]

BORING LOG

Page 1 of 1

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' Intervals)
BORING NUMBER: TB5-TR1
DATE: 9-26-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sample BZ in adjacent Borehole**	Driller BZ**
	0.0											
S1			1.0/4.0				3" asphalt			—	—	
						tan	Fill - fine to medium	SW		9.7	11.2	
0850							sand, some gravel			—	—	
							3" - 4'			5.1	10.1	
S2	5.0						5' - 8' fill - fine to			—	—	
							medium sand, some			6.7	14.9	
0855							gravel			—	—	
										5.6	8.2	
	10.0											
							total depth					
							saturated at					
					0850		collect shallow at 2-4'					
					0855		collect deep at 5.5-6'					

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm):

Remarks:

Converted to Well: Yes ____ No X Well I.D. #: ____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75
BORING NUMBER: TB6-TRI
DATE: 9/27/97
GEOLOGIST: T. Evans
DRILLER: J. Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**
	0.0												
S-1	0.5	12	1.3				Asphalt 0-0.2"						
@ 1026	2.0	14 / 18	/ 1.5		Dense	Brn	F Gr Sand Tr Fine Gravel	SW	Dry Fill	24.3	0.0		
* S-2 @		9 / 10	1.6 /		M Dense	Tan				437	6.5		0.5
1024	4.0	8 / 8	/ 2.0	4.3 ▽ @1045 ▽									
* S-3 @			0.8 /			Tan			Wet	3.1	0.0		
1037	6.0		/ 2.0			↓							
S-4 @			0.4 /			Tan			Saturated @ 6'	89	0.0	265	0.0
1039	8.0		/ 2.0			to Gray	↓	↓					
				TD 8.5									
							Set well screen 3-8						
							#0 Sand 2 - 8.5						
							#00 Sand 1 - 2						

Headspace

225
220
92.5
—

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 0.0

Remarks: 3" SS, 4¼" ID Augers
(2-4) * LS7SB0060201 - TPH SVOC TAL Metals SPLP Pb + SBFB-009
(5-6) ** LS7SB0060301 - SVOC, TAL Metals, SPLP Pb

Converted to Well: Yes ✓ No ____ Well I.D. #: MW3-TRI

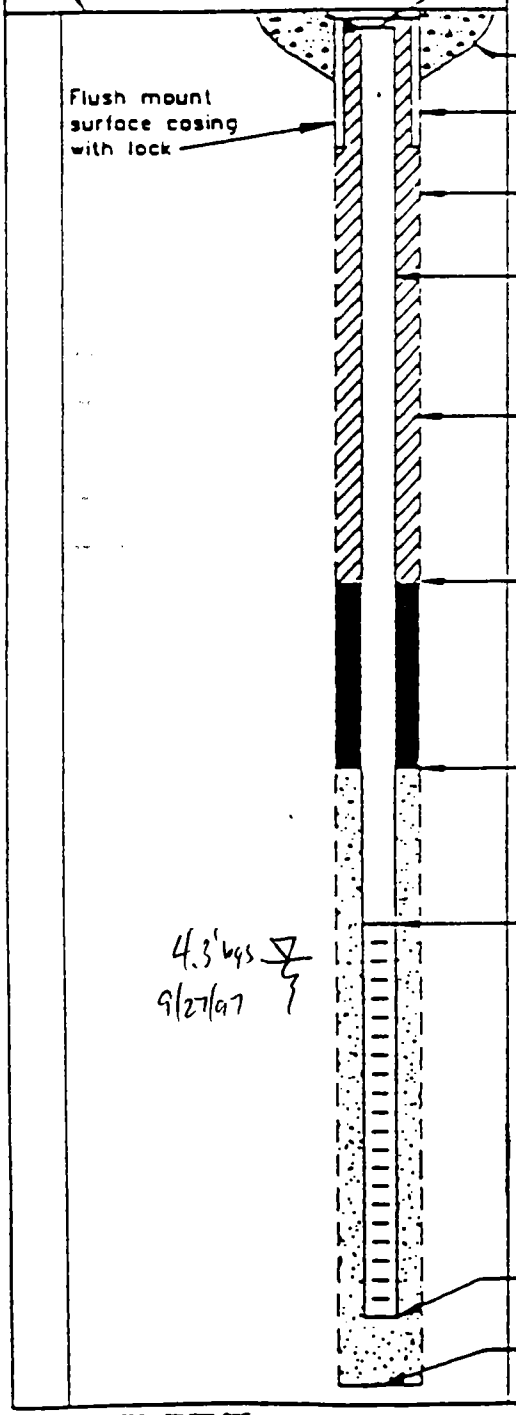
BORING NO.: TB6/MW3-7R-5

MONITORING WELL SHEET

PROJECT: NSB NLON
PROJECT NO.: 7327
ELEVATION: 4.67' msl (NGVD88)
FIELD GEOLOGIST: T. Evans

LOCATION: Zone 7
BORING: TB6/MW3-7R-5
DATE: 9/27/97

DRILLER: J. Leonhardt
DRILLING METHOD: Maxim Tech HSA
DEVELOPMENT METHOD: Centrifugal Pump



ELEVATION TOP OF RISER: 4.27' msl
TYPE OF SURFACE SEAL: Concrete
TYPE OF PROTECTIVE CASING: Steel
I.D. OF PROTECTIVE CASING: 8"
DIAMETER OF HOLE: 8"
TYPE OF RISER PIPE: Schedule 40 PVC
RISER PIPE I.D.: 2"
TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout
DEPTH/ELEVATION TOP OF #00 SAND: 1.0, 3.67
DEPTH/ELEVATION TOP OF #0 SAND: 2.0, 2.67
DEPTH/ELEVATION TOP OF SCREEN: 3.0, 1.67
TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE x LENGTH: 0.010" x 5'
DEPTH/ELEVATION BOTTOM OF SCREEN: 8.0, -3.33
DEPTH/ELEVATION BOTTOM OF SAND: 8.5, -3.83
DEPTH/ELEVATION BOTTOM OF HOLE: 8.5, -3.83
BACKFILL MATERIAL BELOW SAND:

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB-NLON	SITE/LOCATION	LOWER SUBASE
PROJECT NUMBER:	7237	WELL ID.:	MW3-7R1
WEATHER:	overcast drizzle 60°F	DATE:	9/29/97
STATIC WATER LEVEL:	3.28' TPVC	PERSONNEL:	TE + JR
TOTAL WELL DEPTH:	8.29' TPVC	WELL TYPE:	(PVC), [S.S.], or OTHER
ONE CASING VOLUME:	0.82 gal		
START TIME:	1050	MEASURING DEVICE:	Heron Dipper-T
END TIME:	1149	ADJUSTMENT FACTOR:	—

[ ] DOMESTIC WELL, [✓] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: 2" centrifugal pump (3/4" ø Black PE tubing) Horiba U-10 water meter

Approximate Volume	Time	Color	pH	Cond. mS/cm	Turbidity NTU	DO mg/L	Temp. °C	Salinity	WL
0	1050	Brown Opaque	7.27	.444	>999	4.90	32.9	.01	—
5 gal	1053	Brn Cloudy	7.50	.601	>999	6.14	24.6	.02	3.8
10 gal	1056	Brn Cloudy	7.23	.640	841	5.69	24.0	.02	3.7
15 gal	1059	white/cloudy	6.93	.662	116	5.12	23.8	.02	3.7
20 gal	1101	lt. tan Cloudy	7.10	.678	341	5.19	23.8	.02	3.6
25 gal	1104	clear	7.18	.698	-10	5.96	23.7	.03	NM
30 gal	1116	clear	7.31	.708	-10	5.99	23.1	.04	4.1
35 gal	1118	clear	7.37	.770	-10	6.59	23.1	.03	3.8
40 gal	1120	clear	7.25	.711	-10	6.37	23.1	.03	4.1
45 gal	1131	clear	7.45	.714	-10	5.73	22.9	.04	4.[illegible]
50 gal	1133	clear	7.25	.713	-10	5.91	23.0	.04	4.1[illegible]
55 gal	1147	clear	7.29	.714	-10	5.17	22.9	.03	3.98
60 gal	1149	clear	7.32	.714	-10	6.23	23.0	.04	4.1[illegible]

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

1149 End development

ADDITIONAL COMMENTS: 1 Borehole volume: 13.1 gal * Petroodor in H_2O

Stop @ 1104 Stop @ 1120 Stop @ 1133

Start @ 1114 (WL=3.33') Start @ 1130 (WL 3.32') Start @ 1145 (WL=3.32)

SIGNATURE(s): [signature]

PAGE 1 OF __

BORING LOG

Page ___ of ___

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75

BORING NUMBER: TB7-7R1
DATE: 9/25/97
GEOLOGIST: T. Evans
DRILLER: J. Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	Head space
S-1	0.5	9					Asphalt 0-0.25'			0				0.5
* @ 0824	2.0	35/32	1.5/1.5			Brn	F-Cgr Sand & Fine Gravel	GW/SW	Dry Tr wood Asphalt Fill					
S-2 @		32/56	1.5/2.0			↓	F-Cgr Sandy Gravel Avg @ 0.5" Max 3"	GW	Dry Fill	0				0.1
0834	4.0	54/40				↓								
S-3 @		20/18	1.2/2.0			Brn	Fine Gravelly Sand F-Cgr	SW		0				0.3
** 0841	6.0	16/12				Gray			Damp @ 5.8'					
S-4 @		10/11	1.1/2.0	6.7		↓	Mgr Sand Tr-Gravel	SP/GP	Saturated	0				0.7
0846	8.0	7/5				↓	Some Pebbles							
S-5 @		2/2	1.0/2.0			↓	M-Cgr Sand Tr Gravel	SW	↓	0				
0903	10.0	3/3				↓			↓					
				TD 10.5										
							0.010" x 5' screen 5-10							
							#0 Sand 3-10.5							
							#00 sand 1.5-3							

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Remarks: 3" SS
4 1/4" ID Augers
* LS7SB0070101 TCL SVOC, TPH + SBFD-005
** LS7SB0070301 TCL SVOC (5-6')

Drilling Area Background (ppm): 0.0

Converted to Well: Yes ✓ No ___ Well I.D. #: MW4-7R1

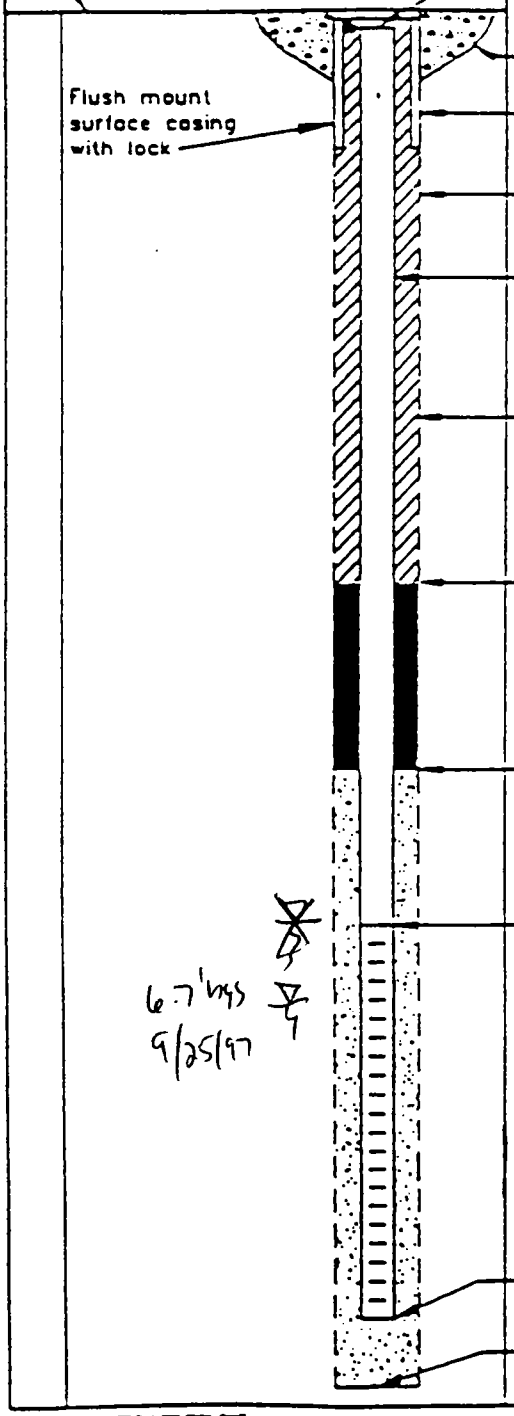
BORING NO.: TB7/MW4 7RI

MONITORING WELL SHEET

PROJECT: BSB NCON
PROJECT NO.: 7327
ELEVATION: 6.03' msl (NGVD 88)
FIELD GEOLOGIST: T. Evans

LOCATION: Zone 7
BORING: TB7/MW4-7RI
DATE: 9-25-97

DRILLER: J. Leonhardt
DRILLING METHOD: Max. in Tech HSA
DEVELOPMENT METHOD: Centrifugal Pump



ELEVATION TOP OF RISER: 5.67' msl

TYPE OF SURFACE SEAL: Concrete

TYPE OF PROTECTIVE CASING: Steel

I.D. OF PROTECTIVE CASING: 8"

DIAMETER OF HOLE: 8"

TYPE OF RISER PIPE: Schedule 40 PVC

RISER PIPE I.D.: 2"

TYPE OF BACKFILL/SEAL: Cement/Bentonite Grout

DEPTH/ELEVATION TOP OF #00 SAND: 1.5, 4.53

DEPTH/ELEVATION TOP OF #0 SAND: 3.0, 3.03

DEPTH/ELEVATION TOP OF SCREEN: 5.0, 1.03

TYPE OF SCREEN: Schedule 40 PVC

SLOT SIZE x LENGTH: 0.010" X 5'

DEPTH/ELEVATION BOTTOM OF SCREEN: 10.0, -3.97

DEPTH/ELEVATION BOTTOM OF SAND: 10.5, -4.47

DEPTH/ELEVATION BOTTOM OF HOLE: 10.5, -4.47

BACKFILL MATERIAL BELOW SAND:

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB-NLON	SITE/LOCATION	LOWER SUBASE
PROJECT NUMBER:	7237	WELL ID.:	~~FB7-7RI~~ MW4-7R
WEATHER:	40-45°F	DATE:	9-27-97
STATIC WATER LEVEL:	5.11	PERSONNEL:	D.S. Knackenberg
TOTAL WELL DEPTH:	9.98	WELL TYPE:	(PVC), [S.S.], or
ONE CASING VOLUME:	0.5 gallons		OTHER
START TIME:	0910	MEASURING DEVICE:	Water level indicator
END TIME:		ADJUSTMENT FACTOR:	

[ ] DOMESTIC WELL, [X] MONITORING WELL, [ ] OTHER

METHOD & REMARKS

Approximate Volume	Time	Color	pH	Cond. mS/cm	Turbidity NTU	DO	Temp. °C	Salinity
1st bailer	9:10	opaque brown	6.73	0.505	>999	0.73	19.8	0.02
4.5 gallons	9:15	opaque brown	6.84	0.511	>999	0.54	20.4	0.02
9.0 gallons	9:30	Opaque brown	7.20	0.516	>999	5.22	21.9	0.02
13.5 gallons	9:40	Opaque brown	7.24	0.530	303	5.57	22.2	0.02
18.0 gallons	9:45	tan tint	7.28	0.541	9	5.44	21.4	0.02
22.5 gallons	0955	tan tint	7.23	0.547	9	5.85	21.6	0.02
27 gallons	1010	tan tint	7.21	0.537	1	5.43	22.0	0.02

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS: At 9.0 gallons, sample taken through pump - aerated and heated by pump

SIGNATURE(s): David J. Schnackenberg

WELL DEVELOPMENT SHEET

PROJECT SITE NAME:	NSB-NLON	SITE/LOCATION	LOWER SUBASE
PROJECT NUMBER:	7237	WELL ID.:	MW4-7RF
WEATHER:	overcast 65°F	DATE:	9/29/97
STATIC WATER LEVEL:	4.92' TPVC	PERSONNEL:	TE + VR
TOTAL WELL DEPTH:	9.89' TPVC	WELL TYPE:	(PVC), [S.S.], or OTHER
ONE CASING VOLUME:	0.81 gal		
START TIME:	1327	MEASURING DEVICE:	Heron Dipper-T
END TIME:	1430	ADJUSTMENT FACTOR:	

[ ] DOMESTIC WELL, [✓] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: 2" centrifugal pump 3/4" Black PE tubing
HORIBA U-10 water meter

Approximate Volume	Time	Color	pH	Cond. mS/cm	Turbidity NTU	DO mg/L	* Temp. °C	Salinity %	WL
0	1327	clear w/ tan tint	6.81	.641	-10	5.41	21.7	0.03	-
5 gal	1332	↓	7.27	.542	-10	5.86	23.2	0.02	7.8
10 gal	1337	↓	7.37	.530	-10	5.74	24.1	0.02	7.9
15 gal	1343	clear	7.03	.524	2	5.63	24.0	0.02	7.9
20 gal	1354	clear	7.07	.546	20	5.70	24.0	0.02	7.9
25 gal	1400	clear	7.44	.551	14	6.80	24.3	0.02	7.9
30 gal	1413	clear	7.39	.546	18	6.55	23.4	0.02	8.3
35 gal	1418	clear	7.42	.540	5	5.62	24.2	0.02	8.0
40 gal	1429	clear	7.17	.542	19	6.20	24.0	0.02	7.9

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

** Re-Development after grout installation

ADDITIONAL COMMENTS: 1 Borehole Volume: 12.97 gal

* Temp may be high to heat of pump

Stop @ 1343 Stop @ 1400 Stop @ 1418

Start @ 1350 (WL=5.14') Start @ 1409 Start @ 1424 (WL=5.25

SIGNATURE(s):

PAGE__OF__

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TBS-7RT
DATE: 4-25-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ** (Headspace)	Borehole**	Driller BZ**
	0.0												
S-1			3.5/4.0				3" asphalt			0	—		
						tan	3"-4' fill - fine to	SW		0	1.5		
1020							medium sand, brick at			0	—		
							3.5 feet			0.5	3.4		
S-2	5.0		2.5/4.0			tan	4'-8' fill fine to			0	—		
							medium sand, some	SW		0	1.2		
1030							gravel			0	—		
										0	1.9		
	10.0												
						1020	sample shallow at 2'-4'						
						1030	sample deep at 7-8'						
							total depth 8'						
							estimated at 8'						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks: _____

Converted to Well: Yes ____ No X Well I.D. #: _____

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB9-7RI
DATE: 9-25-97
GEOLOGIST: D. Schnackenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sample BZ, Headspace	Borehole**	Driller BZ**
	0.0												
S-1			4.0/4.0				3" asphalt			0	–		
						Tan	3" – 3'6" fill - fine to medium sand, some gravel	SW		0	5.7		
0940										0	–		
										0	10.7		
S-2	5.0		4.0/4.0			Tan	3'6" – 4.0" dark brown to medium plasticity clay	CL		1.3	–		
										0.3	10.3		
							4' – 5.5' fill - see above	SW		2.7	–		
0945							5.5 – 6' – clay, see above	CL		0.4	10		
							6' – 6' - fill	SW					
	10.0												
							total depth 8.0'						
							saturated at 6.5'						
					0940		collect shallow S MS/MSD						
					0945		collect deep at 5 – 6'						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks: _____

Converted to Well: Yes ____ No X Well I.D. #: _____

BORING LOG

Page 1 of 1

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim Tech
DRILLING RIG: CME 75
BORING NUMBER: TB10-7RI
DATE: 9-26-97
GEOLOGIST: T. Evans
DRILLER: J. Leonhardt

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS*	Remarks	PID/FID Reading (ppm): Sample	Sampler BZ	Borehole**	Driller BZ**	Headspace
S-1	0.5	31	1.3		DK	Brn	Asphalt 0-							
@ 0844	2.0	52/40	1.5	2.0		to Brn	M-Cgr sand & Fine Gravel	SW/GW	Dry Fill	1.3				2.2
* S-2 @		14/12	1.4		DK	Brn	↓	↓	↓	0.9				2.3
0851	4.0	21/15	2.0			to Brn	↓ Tr Glass	↓	Damp ½" layer red later?					
** S-3 @		8/8	1.4			Brn to	M-Cgr sand & Fine Gravel	SW/GW		1.2				1.7
0857	6.0	4/4	2.0	5.4	BK	+ WH	Fibrous Brick @ 5.3		Odor					
S-4 @		5/3	1.2/2.0	6.5			Coal tar + ??		Saturated	1.1				3.
0900	8.0	1/3		7.2			Marker @ 7.2							
S-5 @		3/1	0.8/2.0			DK Gry	M-Cgr sand + Gravel Tr wood	SW/GW	"viscous" coal					
0908	10.0	1/2				RK Gray	M-Cgr sand + Gravel Tr Glass + wood	↓	Odor	1.1		1.8		2.0
				TD=10.0'			Fabric							
							2" x 0.010" screen 4.5-9.5							
							#0 Sand 3.5 - 10.0							
							#00 Sand 2.5 - 3.5							

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): 1.1

Remarks: 3" SS, 4¼" ID Augers 2-4'
* LS7SB01002001 (0-1') TCL SVOC, TAL Metals, TPH SPLP Pb (+FD-007)
** LS7SB01003001 (5-6') TCL SVOC TAL Metals, SPLP Pb

Converted to Well: Yes ✓ No ____ Well I.D. #: MWS-7RI

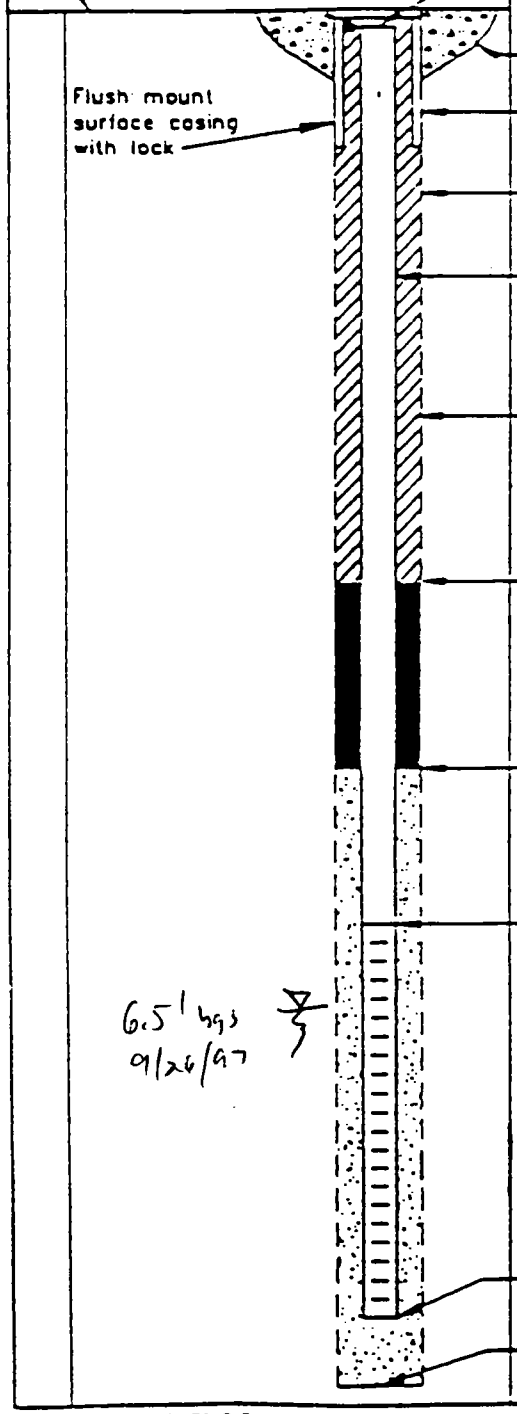
BORING NO.: TB10/MW5-7RI

MONITORING WELL SHEET

PROJECT NSB NLON
PROJECT NO. 7327
ELEVATION 6.94' msl (NGVD 88)
FIELD GEOLOGIST T Evans

LOCATION Zone 7
BORING TB10 / MW5-7RI
DATE

DRILLER J. Leonhardt
DRILLING METHOD Maxi m Tech HSA
DEVELOPMENT METHOD Centrifugal & Submersible Pump



ELEVATION TOP OF RISER: 6.48' msl
TYPE OF SURFACE SEAL: Concrete
TYPE OF PROTECTIVE CASING: Steel
I.D. OF PROTECTIVE CASING: 8"
DIAMETER OF HOLE: 8"
TYPE OF RISER PIPE: Schedule 40 PVC
RISER PIPE I.D.: 2"
TYPE OF BACKFILL/SEAL: Cement / Bentonite Grout
DEPTH/ELEVATION TOP OF #00 SAND: 2.5 , 4.44
DEPTH/ELEVATION TOP OF #0 SAND: 3.5 , 3.44
DEPTH/ELEVATION TOP OF SCREEN: 4.5 , 2.44
TYPE OF SCREEN: Schedule 40 PVC
SLOT SIZE x LENGTH: 0.010" x 5'
DEPTH/ELEVATION BOTTOM OF SCREEN: 9.5 , -2.56
DEPTH/ELEVATION BOTTOM OF SAND: 10.0 / -3.06
DEPTH/ELEVATION BOTTOM OF HOLE: 10.0 / -3.06
BACKFILL MATERIAL BELOW SAND: ---

WELL DEVELOPMENT SHEET

PROJECT SITE NAME: NSB- NLON
PROJECT NUMBER: 7327
WEATHER: pCloudy 55°
STATIC WATER LEVEL: 5.87
TOTAL WELL DEPTH: 9.76
ONE CASING VOLUME: 0.62
START TIME:
END TIME:

SITE/LOCATION: Zone 7
WELL ID.: MW 5-7RI
DATE: 10/1/97
PERSONNEL: TE JR
WELL TYPE: [PVC], [S.S.], or OTHER
MEASURING DEVICE: Heron Dipper
ADJUSTMENT FACTOR:

[ ] DOMESTIC WELL, [✓] MONITORING WELL, [ ] OTHER

METHOD & REMARKS: 2" centrifugal Pump Horiba U-10
1 3/4" Surge Block

Approximate Volume	Time	Color	pH (S.U.)	Cond. (mS/cm)	Turbidity (NTU)	DO (mg/L)	Temp. (Celcius)	Salinity (%)	WC
surge									
0	1803	Black	6.99	.536	7999	5.03	19.2	.02	7.7
5(1807) 10	1814	gray opaque	6.61	.769	148	5.29	22.7	.03	8.65 8.78
15	1619	gray opaque	6.69	.94	48	5.56	23.0	.04	827
surge 1829 pump on (20 - WL - 9.01) 25	1843		6.70	.701	45	5.48	23.0	.03	5.89 9.41
1848 pump on 30	1900	gray clear	6.84	.657	735		23.5	.03	5.90 7.5
75	1934	gray clear	6.56	.813	34	1.26	19.7	.02	7.56
Switch to	2" Grundfos submersible pump								

NOTE: All measurements to nearest 0.01 foot measured from top of well riser pipe unless otherwise noted.

ADDITIONAL COMMENTS:

SIGNATURE(s): [signature]

PAGE__OF__

BORING LOG

PROJECT NAME: NSB-NLON
PROJECT NUMBER: 7237
DRILLING COMPANY: Maxim
DRILLING RIG: Geoprobe (4' intervals)
BORING NUMBER: TB11-7RT
DATE: 9-25-97
GEOLOGIST: D. Schmuckenberg
DRILLER: William Bosworth

Sample No. and Type or RQD	Depth (Ft.) or Run No.	Blows / 6" or RQD (%)	Sample Recovery / Sample Length	Lithology Change (Depth/Ft.) or Screened Interval	MATERIAL DESCRIPTION: Soil Density/ Consistency or Rock Hardness	Color	Material Classification	USCS *	Remarks	PID/FID Reading (ppm): Sample	Sample-to-headspace	Borehole**	Driller BZ**
	12.0												
	S-1		20/40				3" asphalt			—	—		
						tan	3"-4' fill - fine to	SW		13	21.2		
0905							medium sand, some			9.2	—		
							gravel			9.0	—		
	S-2	5.0		1.5/4.0		tan	4'-8' fill - fine to			—	—		
							medium sand, some	SW		—	8.6		
0910							gravel			—	—		
										—	13.1		
	10.0						total depth 8'						
							Auger refusal at 7.5						
					0905		collect shallow at 2'-4'						
					0910		collect deep at 6'-7'						

* When rock coring, enter rock brokeness.

** Include monitor reading in 6 foot intervals @ borehole. Increase reading frequency if elevated reponse read.

Drilling Area Background (ppm): [ ]

Remarks: _____

Converted to Well: Yes _____ No X Well I.D. #: _____

APPENDIX B

SAMPLE LOG SHEETS

B.1

SOIL

B.1.1

ZONE 1

MULTIPLE SAMPLE LOG SHEET

[ ] SURFACE SOIL [ ] SEDIMENT
[ ] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

PROJECT NAME: NSB-NLON
PROJECT NO.: 7237
SITE: Zone 1

SAMPLE No.	SAMPLE LOCATION	DATE	TIME	DEPTH (Ft.)	SAMPLE METHOD	(G) Grab (C) Composite	CONCENTRATION (L)LOW (H)IGH	TOTAL No. OF CONTAINERS	ANALYSES: TCL VOC 2 OZ. JAR	TCL SVOC 4 OZ. JAR	TAL METALS 4 OZ. JAR	SPLP METALS 4 OZ. JAR	SPLP LEAD 2 OZ JAR	TPH 4 OZ. JAR		SOIL DESCRIPTION	COC NO.
LS1SB0050101	TB5-1RI	9/24/97	0910	2-4	DPT	G	L	1		1						F-Mgr Sand	3
LS1SB0050301	↓	↓	0925	10-12	DPT	G	L	1		1						F-Mgr Sand Some Gravel	3
LS1SB0060101	TB6-1RI	9/24/97	0955	2-4	DPT	G	L	3		1	1			1		F-Mgr Sand Some Gravel	3
LS1SB0060301	↓	↓	1015	9-10	DPT	G	L	1		1						F-Mgr Sand Some Gravel	3
LS1SB0030101	TB3-1RI	9/24/97	1100	2-4	DPT	G	L	1		1						F Mgr Sand Some Gravel	3
LS1SB0030201	↓	↓	1800	5-8	DPT	G	L	1		1						F-Mgr Sand Some Gravel (Saturated)	3
LS1SB0070101	TB7-1RI	9/24/97	1240	2-4	DPT	G	L	1		1						F-Mgr Sand Some Gravel	5
LS1SB0070401	↓	↓	1300	~~5-6~~ 13-14	DPT	G	L	1		1						F-Mgr Sand Some Gravel	5
LS1SB0040101	TB4-1RI	9/23/97	0810	2-4	DPT	G	L	1		1						F-Mgr Sand Some Gravel	4
LS1SB0040301	TB4-1RI	↓	0830	9-10.5	DPT	G	L	1		1						F-Mgr Sand Some Gravel	4
LS1SB0010101	TB1-1RI	9/24/97	0935	1.5-3.5	DPT	G	L	4		1	1		1	1		F-Mgr Sand Some Gravel	5
LS1SB0010201	↓	↓	0950	5-6	DPT	G	L	1		1						F-Mgr Sand Some Gravel	5
LS1SB0090101	TB9-1RI	9/24/97	1025	2-4	DPT	G	L	1		1						↓	5
LS1SB0090201	↓	↓	1030	5.5-6.5	DPT	G	L	1		1						↓	5
LS1SB0020101	TB2-1RI	9/24/97	1430	2-3.5	DPT	G	L	4		1	1		1	1		↓	~~5~~

REMARKS: DPT = Direct Push

LABORATORY: Katahdin Analytical Westbrook, ME

SIGNATURES:

MULTIPLE SAMPLE LOG SHEET

[ ] SURFACE SOIL
[✓] SUBSURFACE SOIL
[ ] OTHER

[ ] SEDIMENT
[ ] LAGOON / POND

PROJECT NAME: NSB-NLON
PROJECT NO.: 7237
SITE: Zone 1

SAMPLE No.	SAMPLE LOCATION	DATE	TIME	DEPTH (Ft.)	SAMPLE METHOD	(G) Grab (C) Composite	CONCENTRATION (L)LOW (H)HIGH	TOTAL No. OF CONTAINERS	ANALYSES: TCL VOC 2 OZ. JAR	TCL SVOC 4 OZ. JAR	TAL METALS 4 OZ. JAR	SPLP METALS 4 OZ. JAR	SPLP LEAD 2 OZ JAR	TPH 4 OZ. JAR		SOIL DESCRIPTION	COC NO.
LS1SB0020201	TB2-1RI	9/26/97	1445	7-7.5	DPT	G	L	1		1						F- Mgr Sand Some Gravel	5
LS1SB0080101	TB8-1RI	↓	1530	2-4	↓	↓	↓	1		1						↓	5
LS1SB0080301	↓	↓	1545	10-11	↓	↓	↓	1		1						↓ ~~Black~~	5
SBFD-008	TB7-1RI	9/26/97	0000	13-14 ~~5.5-6~~	↓	↓	↓	1		1						Same as LS1SB0070401	5
				GVD 4-6 98													

REMARKS:

LABORATORY:

SIGNATURES:

B.1.2

ZONE 2

MULTIPLE SAMPLE LOG SHEET

[ ] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

PROJECT NAME: NSB-NLON
PROJECT NO.: 7237
SITE: Zone 2

SAMPLE No.	SAMPLE LOCATION	DATE	TIME	DEPTH (Ft.)	SAMPLE METHOD	(G) Grab (C) Composite	CONCENTRATION (L)LOW (H)IGH	TOTAL No. OF CONTAINERS	ANALYSES: TCL VOC 2 OZ. JAR	TCL SVOC 4 OZ. JAR	TAL METALS 4 OZ. JAR	SPLP METALS 4 OZ. JAR	SPLP LEAD 2 OZ JAR	TPH 4 OZ. JAR		SOIL DESCRIPTION	COC NO.
LS2SB0030101	TB3-2RI	9/22/97	1400	2-4	DPT	G	L	2		1				1		F-Mgr Sand Some Gravel	1
LS2SB0030201	↓		1405	6-8	DPT	G	L	1		1						↓	1
LS2SB0020101	TB2-2RI		1435	2-4	DPT	G	L	2		1				1			1
LS2SB0020201	↓		1440	5-6	DPT	G	L	1		1						↓	1
LS2SB0010101	TB1-2RI		1520	3-4	DPT	G	L	2		1				1			1
LS2SB0010201	↓		1525	5-7	DPT	G	L	1		1						↓	1
LS2SB0070101	TB7-2RI		1555	2-4	DPT	G	L	1		1						↓	1
LS2SB0070201	↓		1600	6-7	DPT	G	L	1		1						↓	1
LS2SB0060101	TB6-2RI		1655	2-4	DPT	G	L	1		1						↓	1
LS2SB0060301	↓	↓	1700	8-11	DPT	G	L	3		1	1		1			↓	1
LS2SB0050101	TB5-2RI	9/23/97	0845	2-4	DPT	G	L	1		1						↓	1
LS2SB0050301	↓		0850	8-11	DPT	G	L	9 (3)(4)		3	3		3	(MS/MSD)		↓	1
LS2SB0040101	TB4-2RI		1600	2-4	DPT	G	L	1		1						~~Silty/Sandy Clay Some Gravel~~ (2) ~~Silty/Sandy Clay Some Gravel~~	2a
LS2SB0040401	↓	↓	1800	14-15.5	DPT	G	L	2		1	1					(4) ~~Fill~~ F-Mgr Sand Some Gravel	2
SBFD-001	TB6-2RI	9/22/97	0000	8-11	DPT	G	L	3		1	1		1			Same as LS2SB0060301	1

REMARKS: DPT = Direct Push Technology

LABORATORY: Katahdin Analytical Westbrook, ME

SIGNATURES: [signature]

B.1.3

ZONE 3

MULTIPLE SAMPLE LOG SHEET

[ ] SURFACE SOIL [ ] SEDIMENT
[✓] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

PROJECT NAME: NSB-NLON
PROJECT NO.: 7237
SITE: Zone 3

SAMPLE No.	SAMPLE LOCATION	DATE	TIME	DEPTH (Ft.)	SAMPLE METHOD	(G) Grab (C) Composite	CONCENTRATION (L)OW (H)IGH	TOTAL No. OF CONTAINERS	ANALYSES: TCL VOC 2 OZ. JAR	TCL SVOC 4 OZ. JAR	TAL METALS 4 OZ. JAR	SPLP METALS 4 OZ. JAR	SPLP LEAD 2 OZ JAR	TPH 4 OZ. JAR		SOIL DESCRIPTION	COC NO.
LS35B0040101	TB4-3RI	9/23/97	1105	2-3	DPT	G	L	2		1				1		F-Mgr Sand Some Gravel	2
LS35B0040201	↓	↓	LS35 1120	6.5-7.5	DPT	G	L	1		1						↓	2
LS35B0030101	TB3-3RI	|	1115	2-4	DPT	G	L	1		1						Silty Clay Tr Sand	2
LS35B0030201	↓	↓	1120	4-7	DPT	G	L	1		1						F-Mgr Sand Some Gravel	2
LS35B0050101	TB5-3RI	9/25/97	1115	2-3.5	DPT	G	L	2		1	1					F-Mgr Sand	4
LS35B0050201	↓	↓	1215	5-5.5	DPT	G	L	3		1	1		1			↓	4
LS35B0010201	TB1-3RI	9/27/97	1520	2-4	3"SS	G	L	4		1	1		1	1		F-Mgr Sand Some Gravel	6
LS35B0010301	↓	↓	1527	5-6	3"SS	G	L	2		1	1					Mgr Sand Some Gravel	6
LS35B0020201	TB2-3RI	9/29/97	1312 1315	2-3.5	3"SS	G	L	4		1	1		1	1		Fgr Sand Tr Gravel	7
LS35B0020401	↓	10/1/97	0821	5-6	3"SS	G	L	3		1	1		1			Mgr Sand & Fgr Gravel	7
SBFD-010	Field Duplicate	9/29/97	0000	2-3.5	3"SS	G	L	4		1	1		1	1		Same as "LS35B0020201"	7

REMARKS: DPT= Direct Push Technology
3"SS = 3" split-spoon

LABORATORY: Katahdin Analytical Westbrook, ME

SIGNATURES:

B.1.4

ZONE 4

MULTIPLE SAMPLE LOG SHEET

[ ] SURFACE SOIL [ ] SEDIMENT
[✓] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

PROJECT NAME: NSB-NLON
PROJECT NO.: 7237
SITE: Zone 4

SAMPLE No.	SAMPLE LOCATION	DATE	TIME	DEPTH (Ft.)	SAMPLE METHOD	(G) Grab (C) Composite	CONCENTRATION (L)LOW (H)IGH	TOTAL No. OF CONTAINERS	ANALYSES: TCL VOC 2 OZ. JAR	TCL SVOC 4 OZ. JAR	TAL METALS 4 OZ. JAR	SPLP METALS 4 OZ. JAR	SPLP LEAD 2 OZ JAR	TPH 4 OZ. JAR	SOIL DESCRIPTION	COC NO.
LS4SB0040101	TB4-4RI	9/23/97	1635	2-4	DPT	G	L	1		1					F-Mgr Sand Some Gravel	2
LS4SB0040201	↓	↓	1640	6-7	DPT	G	L	1		1					↓	2
SBFD-002	TB4-4RI	9/23/97	0000	2-4	DPT	G	L	1		1					Same as "LS4SB0040101"	2
LS4SB0030101	TB3-4RI	|	1710	2-4	DPT	G	L	4		1	1		1	1	F-Mgr Sand Some Gravel	2
LS4SB0030201	↓	↓	1715	7-8	DPT	G	L	3		1	1		1		↓	2
LS4SB0050101	TB5-4RI	9/24/97	1300	1-3	3"SS	G	L	4		1	1		1	1	Mgr Sand Tr Fine Gravel	5
LS4SB0050301	↓	↓	1310	5-7	3"SS	G	L	3		1	1		1		Silty Fgr Sand (saturated @ 6.5')	5
LS4SB0020101	TB2-4RI	9/24/97	1355	2-4	DPT	G	L	1		1					F-Mgr Sand Some Gravel	5
LS4SB0020201	↓	↓	1400	6.5-7	DPT	G	L	1		1					↓	5
LS4SB0010101	TB1-4RI	|	1409	0.5-2	~~DPT~~ 3"SS	G	L	4		1	1		1	1	Sandy Fgr Gravel	5
LS4SB0010301	↓	↓	1415	5-6	~~DPT~~ 3"SS	G	L	3		1	1		1		Fgr Sand Tr Gravel	5

REMARKS: DPT = Direct Push Technology
3"SS = 3" Split Spoon

LABORATORY: Katahdin Analytical
Westbrook, ME

SIGNATURES:

B.1.5

ZONE 5

MULTIPLE SAMPLE LOG SHEET

[ ] SURFACE SOIL
[ ] SUBSURFACE SOIL
[ ] OTHER _____
[ ] SEDIMENT
[ ] LAGOON / POND

PROJECT NAME: NSB-NLON
PROJECT NO.: 7237
SITE: Zone 5

SAMPLE No.	SAMPLE LOCATION	DATE	TIME	DEPTH (Ft.)	SAMPLE METHOD	(G) Grab (C) Composite	CONCENTRATION (L)LOW (H)HIGH	TOTAL No. OF CONTAINERS	ANALYSES: TCL VOC 2 OZ. JAR	TCL SVOC 4 OZ. JAR	TAL METALS 4 OZ. JAR	SPLP METALS 4 OZ. JAR	SPLP LEAD 2 OZ JAR	TPH 4 OZ. JAR		SOIL DESCRIPTION	COC NO.
LS5SB0060101	TB6-SRI	9/24/97	0820	2-4	DPT	G	L	4		1	1		1	1		F-Mgr Sand Some Gravel	3
LS5SB0060201	↓	↓	0825	5.5-6.5	DPT	G	L	3		1	1		1			↓	3
LS5SB0010101	TB1-SRI	9/24/97	1415	2-4	DPT	G	L	4		1	1		1	1		↓	3
LS5SB0010201	↓	↓	1420	5-7	DPT	G	L	3		1	1		1			↓	3
SBFD-003	TB1-SRI	9/24/97	0000	2-4	DPT	G	L	4		1	1		1	1		Same as "LS5SB0010101"	3
LS5SB0020101	TB2-SRI	↓	1440	2-4	DPT	G	L	2		1						F-Mgr Sand Some Gravel	3
LS5SB0020201	↓	↓	1450	5-6	DPT	G	L	1		1				1		↓	3
LS5SB0030101	TB3-SRI	9/24/97	1645	2-4	DPT	G	L	2		1				1		↓	3
LS5SB0030201	↓	↓	1650	5-6	DPT	G	L	1		1						↓	3
SBFD-004	TB3-SRI	9/24/97	0000	2-4	DPT	G	L	2		1				1		Same as "LS5SB0030101"	3
LS5SB0040101	TB4-SRI	9/25/97	1415	1-3	DPT	G	L	2		1				1		F-Mgr Sand	4
LS5SB0040201	↓	↓	1425	5-7	DPT	G	L	1		1						↓	4
SBFD-006	TB4-SRI	9/25/97	0000	1-3	DPT	G	L	2		1				1		Same as "LS5SB0040101"	4
LS5SB0050101	TB5-SRI	↓	1505	1-3	DPT	G	L	2		1				1		F-Mgr Sand	4
LS5SB0050201	↓	↓	1510	4-5.5	DPT	G	L	1		1						↓	4

REMARKS: DPT = Direct Push Technology

LABORATORY: Katahdin Analytical Westbrook ME

SIGNATURES:

B.1.6

ZONE 6

MULTIPLE SAMPLE LOG SHEET

[ ] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

PROJECT NAME: NSB-NLON
PROJECT NO.: 7237
SITE: Zone B

SAMPLE No.	SAMPLE LOCATION	DATE	TIME	DEPTH (Ft.)	SAMPLE METHOD	(G) Grab (C) Composite	CONCENTRATION (L)OW (H)IGH	TOTAL No. OF CONTAINERS	ANALYSES: TCL VOC 2 OZ. JAR	TCL SVOC 4 OZ. JAR	TAL METALS 4 OZ. JAR	SPLP METALS 4 OZ. JAR	SPLP LEAD 2 OZ JAR	TPH 4 OZ. JAR		SOIL DESCRIPTION	COC NO.
LS6SB00202O1	TB2-6R1	9/24/97	1105	2-4	3"SS	G	L	4	1	1	1			1		Brown Gravelly Sand (Fill)	3
LS6SB00203O1	TB2-6R1	9/24/97	1115	5-6	3"SS	G	L	4	1	1	1			1		Brown Gravelly Sand (Fill Saturated)	3
LS6SB00502O1	TB5-6R1	9/24/97	1422	0.5-2	3"SS	G	L	4	1	1	1			1		Gray to Brown Sandy Gravel (Fill)	3
LS6SB00503O1	TB5-6R1	9/24/97	1435	5-6	3"SS	G	L	4	1	1	1			1		Gravelly Sand (Fill Saturated)	3
LS6SB00401O1	TB4-6R1	9/24/97	1538	0.5-1.5	3"SS	G	L	5	1	1	1	1		1		Gray to Brown Gravel & Sand (Fill)	3
LS6SB00403O1	TB4-6R1	9/24/97	1548	5-6	3"SS	G	L	15	3	3	3	3		3	(MS/MSD)	Brown Sand Some Gravel (Fill Saturated)	3
LS6SB00302O1	TB3-6R1	9/25/97	1036	0.5-2	3"SS	G	L	5	1	1	1	1		1		Brown Sand Tr-some Gravel	4
LS6SB00303O1	↓	9/25/97	1042	5-6	3"SS	G	L	5	1	1	1	1		1		Brown Sand Tr Gravel	4
LS6SB00102O1	TB1-6R1	9/30/97	1336	2-4	3"SS	G	L	15	3	3	3	3		3	(MS/MSD)	Gravel & Fgr Sand	7
LS6SB00104O1	↓	↓	1349	6-8	3"SS	G	L	5	1	1	1	1		1		↓	7

REMARKS: 3"SS = 3" Split Spoon

LABORATORY: Katahdin Analytical Portland ME

SIGNATURES: Thad SS

B.1.7

ZONE 7

MULTIPLE SAMPLE LOG SHEET

[ ] SURFACE SOIL
[X] SUBSURFACE SOIL
[ ] OTHER _____

[ ] SEDIMENT
[ ] LAGOON / POND

PROJECT NAME: NSB-NLON
PROJECT NO.: 7237
SITE: ~~Zone 3~~ Zone 7

SAMPLE No.	SAMPLE LOCATION	DATE	TIME	DEPTH (Ft.)	SAMPLE METHOD	(G) Grab (C) Composite	CONCENTRATION (L)LOW (H)HIGH	TOTAL No. OF CONTAINERS	ANALYSES: TCL VOC 2 OZ. JAR	TCL SVOC 4 OZ. JAR	TAL METALS 4 OZ. JAR	SPLP METALS 4 OZ. JAR	SPLP LEAD 2 OZ JAR	TPH 4 OZ. JAR		SOIL DESCRIPTION	COC NO.
~~LS7SB~~																	
LS7SB0070101	TB7-7RI	9/25/97	0824	0.5-2	3"SS	G	L	2		1				1		Brown F-Cgr Sand & Fine Gravel (Fill)	4
LS7SB0070301	↓	↓	0841	5-6	3"SS	G	L	1 ~~2~~		1						Fine Gravelly Sand Damp (Fill)	4
SBFD-005	TB7-7RI	9/25/97	0000	0.5-2	3"SS	G	L	2		1				1		Field Duplicate of LS7SB0070101	4
LS7SB0110101	TB11-7RI	↓	0905	2-4	DPT	G	L	3		1	1			1		F-Mgr Sand Some Gravel (Fill)	4
LS7SB0110201	↓	↓	0910	6-7	DPT	G	L	2		1	1					↓	4
LS7SB0090101	TB9-7RI	↓	0940	2-4	DPT	G	L	9		3	3			3	(MS/MSD)	F-Mgr Sand Some Gravel	4
LS7SB0090201	↓	↓	0945	5-6	DPT	G	L	2		1	1					F-Mgr Sand Some Gravel/Clay	4
LS7SB0080101	TB8-7RI	9/25/97	1020	2-4	DPT	G	L	2		1				1		F-Mgr Sand Some Gravel	4
LS7SB0080201	↓	↓	1030	7-8	DPT	G	L	1		1						↓	4
LS7SB0020101	TB2-7RI	9/25/97	1545	2-4	DPT	G	L	2		1				1		↓	4
LS7SB0020201	↓	↓	1550	5.5-6	DPT	G	L	1		1						↓	4
LS7SB0010101	TB1-7RI	9/26/97	0815	2-4	DPT	G	L	6		3				3	(MS/MSD)	F-Mgr Sand Some Gravel	5
LS7SB0010201	↓	↓	0825	5.5-6	DPT	G	L	1		1						↓	5
LS7SB0100201	TB10-7RI	9/26/97	0851	2-4	3"SS	G	L	4		1	1		1	1		M-Cgr Sand & Fine Gravel Tr Glass	5

REMARKS: 3"SS = 3" ~~split~~ Split Spoon
DPT = Direct Push Technology

LABORATORY: Katahdin Analytical Portland ME

SIGNATURES: [signature]

MULTIPLE SAMPLE LOG SHEET

[ ] SURFACE SOIL [ ] SEDIMENT
[X] SUBSURFACE SOIL [ ] LAGOON / POND
[ ] OTHER _____

PROJECT NAME: NSB-NLON
PROJECT NO.: 7237
SITE: Zone 7

SAMPLE No.	SAMPLE LOCATION	DATE	TIME	DEPTH (Ft.)	SAMPLE METHOD	(G) Grab (C) Composite	CONCENTRATION (L)LOW (H)HIGH	TOTAL No. OF CONTAINERS	ANALYSES: TCL VOC 2 OZ. JAR	TCL SVOC 4 OZ. JAR	TAL METALS 4 OZ. JAR	SPLP METALS 4 OZ. JAR	SPLP LEAD 2 OZ JAR	TPH 4 OZ. JAR	SOIL DESCRIPTION	COC NO.
LS7SB010030 1	TB10-7RI	9/26/97	0857	5-6	3"SS	G	L	3		1	1		1		M-Cgr Sand & Fine Gravel	5
SBFD-007	TB10-7RI	↓	0000	2-4	3"SS	G	L	4		1	1		1	1	Field Duplicate of LS7SB010020 1	5
LS7SB005 0101	TB5-7RI	9/26/97	0850	2-4	DPT	G	L	2		1				1	F-Mgr Sand Some Gravel	5
LS7SB005 0201	↓	↓	0855	5-6	DPT	G	✓	1		1					↓	5
LS7SB004 0201	TB4-7RI	9/27/97	0856	2-4	3"SS	G	L	2		1				1	↓	6
LS7SB004 0301	↓	↓	0903	5-6	3"SS	G	L	1		1					↓	6
LS7SB006 0201	TB6-7RI	9/27/97	1029	2-4	3"SS	G	L	4		1	1		1	1	F-Cgr Sand Tr Gravel	6
LS7SB006 0301	↓	↓	1037	5-6	3"SS	G	L	3		1	1		1		↓	6
SBFD-009	TB6-7RI	9/27/97	0000	2-4	3"SS	G	L	4		1	1		1	1	Field Duplicate of "LS7SB006 0201"	6
LS7SB003 0201	TB3-7RI	|	1345	2-4	3"SS	G	L	2		1				1	Fgr Sand Trace Gravel	6
LS7SB003 0301	↓	↓	1351	5-6	3"SS	G	L	1		1					↓	

REMARKS:

LABORATORY:

SIGNATURES:

B.2

GROUNDWATER

B.2.1

ZONE 1

GROUNDWATER SAMPLE LOG SHEET

LS1 GW13MW101

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[✓] Monitoring Well Data
[ ] Other Well Type:
[✓] QA Sample Type: DUPLICATE

Sample ID No.: ~~LS2 GW13MW101~~
Sample Location: 13MW1
Sampled By: PAH/TEH9
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 111097 / Time: 2130	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: direct fill	6.34	0.354	17.11	4.4	8.04	0.17	-20.4	1.2 mg/L

PURGE DATA

Date: 111097	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: low flow	Initial							
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: SCH40PVC	3							
Total Well Depth (TD): 17.30								
Static Water Level (WL): 9.55								
One Casing Volume(gal/L): 1.2								
Start Purge (hrs): 2045		SEE LOW FLOW PURGE DATA						
End Purge (hrs): 2130								
Total Purge Time (min): 45								
Total Vol. Purged (gal/L): ± 5								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD	Duplicate ID No.:
✓	DUP005

Signature(s):

Low Flow Purge Data Sheet

Well No.: 13MW1

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE:

DATE: 11-10-97
WEATHER: COLD, CLOUDY
PERSONNEL: PAH / TEM

Well Screen Depth: 7.30' ASSUME / 17.30' ft.
Initial Water Level: 9.95' @ 2035 hrs.
Pump Type/Material: TEFLON/SILICON
Pump Intake Depth: ≈13'
Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected
Total Purge Volume= ____ (gal / L)
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh mV	Comments
2045	9.95'	Initial	375	16.51	6.95	0.326	9.60	195.8	0.16	8.6	
2050	9.95'		"	16.78	6.64	0.325	9.22	193.1	0.16	1.4	
2055	9.95'		400	16.95	6.47	0.328	8.97	142.9	0.16	0.5	35
2100	9.95'		400	17.00	6.43	0.331	8.07	54.7	0.16	0.7	22
2105	9.95		400	17.12	6.39	0.334	7.97	59.3	0.16	-1.4	13
2110	9.95		400	17.13	6.37	0.339	7.69	57.1	0.16	-6.9	9
2115	9.95		400	17.11	6.35	0.344	7.93	42.6	0.16	-12.1	6.8
2120	9.95		400	17.19	6.36	0.349	7.71	38.6	0.17	-17.1	5.8
2125	9.95		400	17.11	6.34	0.354	8.04	37.3	0.17	-20.4	4.4

Remarks: ____

GROUNDWATER SAMPLE LOG SHEET

Project Site Name:	NSB-NLON	Sample ID No.:	LS ~~2~~ .1 GW13MW201
Project No.:	~~7327~~ 7237	Sample Location:	ZONE 2
		Sampled By:	TOM / PAH
[ ] Domestic Well Data		C.O.C. No.:	
[X] Monitoring Well Data		Type of Sample:	
[ ] Other Well Type:		[ ] Low Concentration	
[ ] QA Sample Type:		[ ] High Concentration	

TE 3/23/98

SAMPLING DATA

Date: 11/~~10~~ 11/97	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Time: 0000								
Method: slow flow	6.33	0.361	17.76	3.9	8.43	0.17	-126.2	0.4 mg/L

PURGE DATA

Date: 11/10/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: slow flow	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 17.38'								
Static Water Level (WL): 9.~~97~~'								
One Casing Volume(gal/L): 1.3 g								
Start Purge (hrs): 2310								
End Purge (hrs): 2350								
Total Purge Time (min): 40								
Total Vol. Purged (gal/L): 4.2 g								

SEE LOW FLOW PURGE DATA SHEET

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	Cristian Malden

Low Flow Purge Data Sheet

Well No.: 13MW7

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 2

DATE: 11/10/97
WEATHER: clear, cold
PERSONNEL: TOM, PAH

Well Screen Depth: / 17.38 ft.
Initial Water Level: 9.37' @ 2255 hrs.

Pump Type/Material: peristaltic/teflon-silicon
Pump Intake Depth: 13.4'

Tide Cycle: [ ] High @ [ ] Low @ [X] Not Affected

Total Purge Volume= (gal / L)
Drawdown + Tubing Volume= (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh mV	Comments
2310	9.38'	Initial	460	17.10	6.33	0.267	7.70	51.6	0.13	-44.8	TURB. = 34.0
2315	9.38'	2000	400	17.77	6.31	0.284	7.29	42.5	0.13	-74.8	TURB. = 13.0
2320	9.38'			17.83'	6.31	0.292	7.26	45.5	0.14	-92.4	TURB. = 8.9
2325	9.38'			17.82'	6.31	0.303	7.38	34.7	0.14	-105.3	TURB. = 8.5
2330	9.38'			17.76'	6.31	0.327	7.54	33.6	0.15	-115.8	TURB. = 7.8
2335	9.38'			17.78'	6.32	0.335	7.55	31.5	0.16	-119.7	TURB. = 6.2
2340	9.38'			17.77	6.32	0.343	8.16	89.5	0.17	-122.2	TURB. = 5.0
2345	9.38'			17.77	6.33	0.354	8.34	39.7	0.17	-124.9	TURB. = 4.0
2350	9.38'	↓	↓	17.96	6.33	0.361	8.43	39.8	0.17	-126.2	3.9

Remarks: Turbidity doesn't correlate well between YSI and turbidimeter.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[✓] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS1 GW13mw301
Sample Location: 13mwC3
Sampled By: TEM/PAH
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11-10-97 / Time: 1400	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: direct fill	6.52	0.529	18.99	4.78	12.08	0.25	-82.3	1.1

PURGE DATA

Date: 11-10-1-	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: low flow	Initial							
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: [illegible]	3							
Total Well Depth (TD): 17.28								
Static Water Level (WL): 9.47								
One Casing Volume(gal/L): 1.27								
Start Purge (hrs): 1300		SEE LOW FLOW PURGE DATA SHEET						
End Purge (hrs): 1400								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 3 gal								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: 13MW3

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: EONE 1

DATE: 11/20/97
WEATHER: clear, cool, 10°
PERSONNEL: TEM, PAH

Well Screen Depth: 7.25 ~~ft~~ 17.28 ft.
Initial Water Level: 9.47 @ 1300 hrs.
Pump Type/Material: teflon
Pump Intake Depth: 13.0'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ____ (gal / L)
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh mV	Comments
1310	9.50		Initial	18.81	6.21	0.485	10.79	397.7	0.23	44.4	0 ppm
1315	9.50	1300	260	18.86	6.40	0.517	11.71	580.0	0.25	-20.7	TURB: 22.5 FIELD
1320	9.50	↓	260	18.98	6.45	0.519	12.13	566.0	0.25	-48.4	TURBIDIMETER
1325	9.48		260	18.95	6.48	0.522	11.89	536.6	0.25	-59.3	TURB. = 9.8
1330	9.48	↓	↓	18.90	6.49	0.524	11.98	504.0	0.25	-66.7	TURB = 3.34
1335	9.48			18.84	6.51	0.525	11.95	449.0	0.25	-74.0	TURB. = 4.22
1340	9.48			18.90	6.51	0.523	11.99	442.8	0.25	-78.5	TURB. = 4.78
1345	9.48	↓	↓	18.99	6.52	0.524	12.08	382.3	0.25	-82.3	

Remarks: Severe discrepancy between YSI and turbidimeter!

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[x] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS1 GW13MW801
Sample Location: 13MW8
Sampled By: TEM, FAH
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11/13/97 Time: 0028	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: slow flow	6.92	0.990	18.29	0.58	46.5	0.49	-182.6	0.0 mg/L

PURGE DATA

Date: 11/12/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: slow flow	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 19.65'								
Static Water Level (WL): 6.2'								
One Casing Volume(gal/L): 2.2 g								
Start Purge (hrs): 2328								
End Purge (hrs): 0028								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 5.7 g								

SEE LOW FLOW DATA SHEET

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: 13MW8

PROJECT:	NSB-NLON	**DATE:**	11-12-97
PROJECT NUMBER:	7237	**WEATHER:**	clear, cold
SITE:	ZONE 1	**PERSONNEL:**	HALE / MADDEN

Well Screen Depth: _____ / 17.65 ft.
Initial Water Level: 6.20' @ 2310 hrs.
Pump Type/Material: Peristaltic/Teflon
Pump Intake Depth: ~12.9'
Tide Cycle: [ ] High @ _____ [✓] Low @ 0128 [ ] Not Affected
Total Purge Volume= _____ (gal / L)
Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh mV	Comments
~~2328~~	6.22'	Initial	360	17.17	7.53	1.626	250.0	0.9	0.85	-139.5	TN33 = 10.1
2330	6.24'	1800		18.27	7.04	0.996	40.3	0.8	0.49	-161.4	TUG3 = 0.76
2335	6.26'			18.25	6.98	0.991	438.4	-1.3	0.49	-164.8	=0.70
2340				18.35	6.97	0.988	395.4	-1.8	0.49	-168.0	=0.74
2345				18.39	6.95	0.987	390.7	-71.8	0.49	-169.9	=0.6=
2350				18.34	6.94	0.992	320.5	27.2	0.49	-172.0	=0.58
2355				18.37	6.93	0.991	477.6	0.4	0.49	-173.6	< 1
0000				18.33	6.92	0.989	276.1	900.2	0.49	-174.1	"
0005				18.31	6.93	0.987	248.4	4.2	0.49	-176.5	"
0010				18.34	6.92	0.988	378.6	-0.8	0.49	-178.0	"
0015				18.35	6.91	0.989	250.0	144.6	0.49	-179.7	"
0020				18.37	6.91	0.988	229.0	17.4	0.49	-181.3	"
0028				18.29	6.92	0.990	46.5	965.2	0.49	-182.6	"
							? 0	? 0			

Remarks: _____

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS / GW13mW9
Sample Location: ZONE 1
Sampled By: TEM / PAH
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11/12/97 Time: 1241	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: Slow Flow	7.18	23.17	17.20	11.3	538.6	14.0	-375.9	0.0 mg/L

PURGE DATA

Date: 11/12/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: Slow Flow	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 19.34'								
Static Water Level (WL): 5.50'								
One Casing Volume(gal/L): 2.26 g								
Start Purge (hrs): 1140		SEE LOW FLOW PURGE DATA SHEET						
End Purge (hrs): 1240								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 6.3 g								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):
Cristina Madden

Low Flow Purge Data Sheet

Well No.: BMW9

PROJECT:	NSB-NLON	**DATE:**	11/12/97
PROJECT NUMBER:	7237	**WEATHER:**	cloudy, cold
SITE:	ZONE 1	**PERSONNEL:**	JEM, PAH

Well Screen Depth: 1 19.34 ft.
Initial Water Level: 5.50' @ 1135 hrs.
Pump Type/Material: peristaltic/teflon-silicon
Pump Intake Depth: ~12.5'
Tide Cycle: [ ] High @ ____ [X] Low @ 1341 [ ] Not Affected
Total Purge Volume= _____ (gal / L)
Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ ORP mV	Comments
1140	5.64'	Initial	540	15.68	6.59	29.97	542.0		18.75	-255.4	TURB. = 103.0
1145	5.65'	2000	400	16.92	6.96	29.92	540.3		18.60	-316.2	= 91.0
1150	5.66'			16.91	7.04	29.96	540.4		18.58	-329.9	= 57.0
1155	5.68'			16.93	7.20	29.86	540.3		18.55	-347.5	= 36.0
1200	5.69'			16.97	7.25	29.81	540.1		18.52	-353.7	= 12.0
1205	5.73'			17.18	7.22	27.99	538.7		16.15	-359.3	= 11.7
1210	5.77'			17.24	7.18	22.08	538.4		13.35	-344.7	= 11.1
1215	5.83'			17.24	7.17	23.03	538.4		13.95	-361.9	= 11.2
1220	5.88'			17.22	7.19	23.35	538.5		14.17	-364.9	= 11.1
1225	5.90'			17.24	7.19	23.34	538.4		14.16	-363.3	= 10.22
1230	5.95'			17.27	7.18	23.29	538.2		14.13	-367.4	= 10.36
1235	6.00'			17.19	7.22	23.19	538.6		14.07	-375.1	= 11.80
1240	6.00'	↓	↓	17.20	7.18	23.17	538.6		14.00	-375.9	= 11.3
							?	?			
							°	°			

Remarks: DO is off. ~~YSI~~ turb. is not working. For some bizarre reason, the YSI turbidity probe and DO probe starting working again, but the readings were off.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS / GW/3MW/901
Sample Location: ZONE 1
Sampled By: JDM / PAH
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11/11/97 Time: 1715	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: slow flow	9.09	1.456	42.59	6.3	1.32	0.67	-216.3	0.0 mg/L

PURGE DATA

Date: 11/11/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: slow flow	Initial							
Monitor Reading (ppm): 0.3	1							
Well Casing Diameter: 2" PVC	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 14.65'								
Static Water Level (WL): 4.12								
One Casing Volume(gal/L): 1.72g								
Start Purge (hrs): 1640								
End Purge (hrs): 1715		SEE	LOW	FLOW	PURGE	DATA	SHEET	
Total Purge Time (min): 35								
Total Vol. Purged (gal/L): 3.24g								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Well near steam lines.

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Dithan Maddox

Low Flow Purge Data Sheet

Well No.: 13MW19

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 1

DATE: 11/11/97
WEATHER: clear, cool
PERSONNEL: TOM, PAH

Well Screen Depth: / 14.65 ft.
Initial Water Level: 4.12' @ 1635 hrs.

Pump Type/Material: peristaltic/teflon-silicon
Pump Intake Depth: ~9.0'

Tide Cycle: [ ] High @ [ ] Low @ [X] Not Affected

Total Purge Volume= (gal / L)
Drawdown + Tubing Volume= (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
1640	4.31'	Initial	400	38.98	7.91	1.140	3.15	131.3	0.56	-62.7	TURB. = 25.3
1645	4.48'	1750	350	42.10	8.38	1.174	1.71	117.1	0.57	-82.9	TURB = 20.1
1650	4.44'	1750	350	42.20	8.75	1.236	1.60	69.0	0.60	-142.0	= 75.0
1655	4.44'	↓	↓	42.56	8.91	1.301	1.57	39.0	0.63	-166.3	= 11.0
1700	4.47'			42.61	8.98	1.367	1.25	21.5	0.67	-190.6	= 8.9
1705	4.48'			42.71	9.02	1.403	1.34	17.0	0.67	-205.2	= 6.6
1710	4.49'			42.58	9.05	1.430	1.38	11.6	0.67	-209.3	= 6.8
1715	4.49'			42.59	9.09	1.456	1.32	8.3	0.67	-216.3	= 6.3

Remarks: This well is close to some steam lines. Turbidimeter and YSI don't correlate.

Page___ of ___

GROUNDWATER SAMPLE LOG SHEET

Project Site Name:	NSB-NLON	Sample ID No.:	LS / GW/3MW2N
Project No.:	~~7327~~ 7237	Sample Location:	Zone 1
		Sampled By:	TGM / PAH
[ ] Domestic Well Data		C.O.C. No.:	
[X] Monitoring Well Data		Type of Sample:	
[ ] Other Well Type:		[ ] Low Concentration	
[ ] QA Sample Type:		[ ] High Concentration	

SAMPLING DATA

Date: 11/4/97	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Time: 2130								
Method: slow flow	9.08	4.966	38.51	18.0	1.89	2.65	-271.7	0.0 mg/L

PURGE DATA

Date: 11/4/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: slow flow	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 14.57'								
Static Water Level (WL): 7.00'								
One Casing Volume(gal/L): 1.23g								
Start Purge (hrs): 2055								
End Purge (hrs): 2125								
Total Purge Time (min): 30								
Total Vol. Purged (gal/L): 3.2g								

SEE LOW FLOW PURGE DATA SHEET.

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Well near steam lines.

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	Tristan Madden

Low Flow Purge Data Sheet

Well No.: 13MW20

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: Zone 1

DATE: 11/11/97
WEATHER: clear, cool
PERSONNEL: TCM, PAH

Well Screen Depth: / 14.57 ft.
Initial Water Level: 7.00' @ 2045 hrs.

Pump Type/Material: peristaltic/teflon silicon
Pump Intake Depth: ~10.8'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ____ (gal / L) **Drawdown + Tubing Volume=** ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ ORP mV	Comments
2055	7.03'	Initial	400	38.13	8.91	4.147	0.66	451.8	2.15	-133.6	TUBB = 31.0
2100	7.03'	2000	↓	38.40	8.88	4.674	0.63	103.5	2.45	-191.7	TUBB = 21.0
2105	7.03'	↓	↓	38.49	8.93	4.927	0.84	77.5	2.59	-226.6	= 20.0
2110	7.03'	↓	↓	38.49	8.98	5.060	1.67	403.6	2.65	-252.3	= 19.0
2115	7.03'	↓	↓	38.56	9.01	5.091	1.93	6448.6	2.65	-267.1	= 19.0
2120	7.03'	↓	↓	38.51	9.04	5.064	1.91	185.1	2.65	-270.9	= 18.0
2125	7.03'	↓	↓	38.51	9.08	4.966	1.89	36.9	2.65	-271.7	-

Remarks: Near steam lines. YSI and turbidimeter do not correlate.

Page __ __

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[✓] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS1 GW13mw21c
Sample Location: 13mw21
Sampled By: TEM / PAH
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11/11/97 Time: 1830	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: slow flow	10.25	~~2.106~~	64.63	19.0	0.74	1.03	-323.4	0.0 mg/L
	(Re 3/23/98 2.151 J)							

PURGE DATA

Date: 11/11/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: slow flow	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: 4"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 12.62								
Static Water Level (WL): 4.87								
One Casing Volume(gal/L): 1.26g								
Start Purge (hrs): 1755								
End Purge (hrs): 1825								
Total Purge Time (min): 30								
Total Vol. Purged (gal/L): 3.17g								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Well near steam lines.

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: 13MW21

PROJECT:	NSB-NLON	**DATE:**	11/11/97
PROJECT NUMBER:	7237	**WEATHER:**	clear cold
SITE:	ZONE 1	**PERSONNEL:**	TEM / PAH

Well Screen Depth: / 12.62 ft.
Initial Water Level: 4.87 @ 1750 hrs.
Pump Type/Material: peristaltic/teflon
Pump Intake Depth: ~8.0'
Tide Cycle: [ ] High @ [ ] Low @ [ ] Not Affected
Total Purge Volume= (gal / L)
Drawdown + Tubing Volume= (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh (ORP) mV	Comments
1755	4.90'	Initial	450	62.09	10.42	2.106	0.73	177.0	1.01	-166.3	-0.03 = -24.0
1800	4.89'	2000	400	64.02	10.34	2.134	0.65	45.7	1.02	-235.9	= 22.1
1805	4.88'	2000	400	64.07	10.33	2.137	0.66	67.1	1.02	-270.2	= 21.0
1810	4.87'	2000	400	64.22	10.31	2.144	0.67	72.2	1.03	-292.7	= 19.0
1815	4.87'	2000	400	64.45	10.28	2.148	0.72	62.7	1.03	-307.5	= 21.0
1820	4.87'	2000	400	64.54	10.27	2.153	0.77	60.8	1.03	-318.2	= 20.0
1825	4.87'	2000	400	64.63	10.25	2.151	0.74	55.9	1.03	-323.4	= 19.0

Remarks: Near steam pipes. YSI and turbidimeter do not correlate.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS / GW ~~10~~ MW13
Sample Location: ZONE 1
Sampled By: TBM / PAH
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11/12/97 Time: 1750	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: slow flow	7.52	0.923	13.72	61.9	559.4	0.43	-136.3	0.0 mg/L

PURGE DATA

Date: 11/12/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: slow flow	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 9.9'								
Static Water Level (WL): 9.14'								
One Casing Volume(gal/L): 0.12 g								
Start Purge (hrs): 1725								
End Purge (hrs): 1745								
Total Purge Time (min): 20								
Total Vol. Purged (gal/L): 0.37 g								

SEE Low Flow PURGE DATA SHEET

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Brittan Madden

Low Flow Purge Data Sheet

Well No.: FO.4W.3

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 1

DATE: 11/13/97
WEATHER: sun, cold
PERSONNEL: TOM, PAUL

Well Screen Depth: ____ / 9.9 ft.
Initial Water Level: 9.14' @ 1700 hrs.

Pump Type/Material: peristaltic / teflon-silicon
Pump Intake Depth: ~9.5'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ____ (gal / L)
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh mV	Comments
											turbidity
1725	9.9	Initial	70	13.57	7.35	0.779	560.1	0.4	0.47	-122.2	97.6
1730	9.9	350	70	13.71	7.50	0.739	558.7	0.1	0.43	-130.7	61.8
1735	9.9	350	70	13.74	7.49	0.736	554.1	-196.2	0.46	-134.5	58.7
1740	9.9	350	70	13.76	7.53	0.737	554.9	0.5	0.43	-136.4	60.1
1745	9.9	350	70	13.72	7.52	0.733	554.4	-196.2	0.43	-136.3	61.9

Remarks: ____

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[✓] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS | GWFCMW14011
Sample Location: FCMW14
Sampled By: TEM/PAH
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11 10 97 / Time: 1515	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: direct fill	6.58	1.062	16.87	30.70	13.37	0.53	-105.6	1.0

PURGE DATA

Date: 11 10 97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: Low Flow	Initial							
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: SCH40PVC	3							
Total Well Depth (TD): 10.00								
Static Water Level (WL): 9.24								
One Casing Volume(gal/L): 0.12								
Start Purge (hrs): 1445								
End Purge (hrs): ~~1545~~								
Total Purge Time (min): 30								
Total Vol. Purged (gal/L): DS								

SEE LOW FLOW PURGE PATH SHEET

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Water is "sudsy"

Circle if Applicable:

MS/MSD	Duplicate ID No.:	Signature(s):

Low Flow Purge Data Sheet

Well No.: FDMW14

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 1

DATE: 11 10 97
WEATHER: cold, cloudy 50
PERSONNEL: TEM, PAH

Well Screen Depth: 5 (assume) / 10 ft.
Initial Water Level: 9.24 @ 1445 hrs.

Pump Type/Material: Peristaltic
Pump Intake Depth: 10

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ____ (gal / L)
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ ORP mV	Comments
1500	9.85	255	85	16.90	6.59	1.085	11.83	412.9	0.54	-113.7	TURB. 31.85
1503	9.85	"	85	16.90	6.59	1.077	12.14	415.8	0.54	-111.2	TURB. 27.70
1506	9.85	"	85	16.89	6.58	1.067	13.01	434.7	0.53	-107.5	TURB. 27.70
1509	9.86	"	85	16.87	6.58	1.062	13.37	430.0	0.53	-105.6	TURB. 30.70

Remarks: Turbidity doesn't correlate between YSI and turbidimeter.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 1 GW FOMW15
Sample Location: ZONE 1
Sampled By: JSM / PAH
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11/11/97 Time: 1320	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: slow flow	6.64	0.971	17.85	7.96	5.81	0.49	-106.4	3.8 mg/L

PURGE DATA

Date: 11/11/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: slow flow	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 10.00								
Static Water Level (WL): 9.30								
One Casing Volume(gal/L): 0.114								
Start Purge (hrs): 1250								
End Purge (hrs): 1320								
Total Purge Time (min): 30								
Total Vol. Purged (gal/L): 1.31								

SEE LOW FLOW PURGE DATA SHEET

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: FOMW15

PROJECT:	NSB-NLON	**DATE:**	11/11/97
PROJECT NUMBER:	7237	**WEATHER:**	clear, cool
SITE:	ZONE 1	**PERSONNEL:**	TOM, PAH

Well Screen Depth: / 10.00' ft.
Initial Water Level: 9.30' @ 1249 hrs.
Pump Type/Material: peristaltic/Teflon-silicon
Pump Intake Depth: 9.65'
Tide Cycle: [ ] High @ [ ] Low @ [X] Not Affected
Total Purge Volume= (gal / L)
Drawdown + Tubing Volume= (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh mV	Comments
1250'	9.50'	Initial	300	17.84	6.64	1.309	3.52	1368.0	0.66	-112.6	TURB. = 450
1255	9.95'	825	165	17.92	6.64	1.270	4.49	2070.9	0.62	-111.9	= 214
1300	9.99'	↓	↓	17.87	6.64	1.073	5.13	389.4	0.53	-109.0	38.1
1305	9.99'			17.95	0.63	1.031	5.30	847.0	0.51	-107.5	26.6
1310	9.99'			17.88	6.63	1.006	5.68	~~904~~ 743.4	0.50	-106.9	7.93
1315	9.99'			17.83	6.63	0.986	5.70	57.0	0.49	-106.5	~~7.96~~
1320	9.99'	↓	↓	17.85	6.64	0.971	5.81	15.6	0.49	-106.4	

Remarks: YSI turbidity is wrong!!

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[ ] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS1 GW FOMW16
Sample Location: FOMW16
Sampled By: FAH
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11-11-97 / Time: 1530	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: direct fill	6.59	0.991	17.28	1.07	10.33	0.51	-104.2	-0-

PURGE DATA

Date: 11-11-97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: Low flow	Initial							
Monitor Reading (ppm): 0.5	1							
Well Casing Diameter: 2"	2							
Well Casing Material: SCH 40 PVC	3							
Total Well Depth (TD): 10.00								
Static Water Level (WL): 9.24								
One Casing Volume(gal/L): 0.129								
Start Purge (hrs): 1440								
End Purge (hrs): 1510								
Total Purge Time (min): 30								
Total Vol. Purged (gal/L): 2.5 q								

SEE LOW FLOW

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: FOMW16

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE:

DATE: 11-11-97
WEATHER: COLD, PARTLY CLOUDY
PERSONNEL: HALE / MADDEN

Well Screen Depth: 5' assume / 10 ft.
Initial Water Level: 9.24 @ 1430 hrs.
Pump Type/Material: Peristaltic/Teflon
Pump Intake Depth: 9.9'
Tide Cycle: [ ] High @ [ ] Low @ [✓] Not Affected
Total Purge Volume= _____ (gal / L)
Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh mV	Comments
1440	9.24		200	17.31	6.61	1.134	8.23	8.1	0.53	-115.6	
1445	9.27		↓	17.33	6.62	1.014	8.95	1.4	0.53	-112.1	
1450	9.27		↓	17.32	6.61	1.014	9.67	1.2	0.52	-109.8	
1455	9.27		↓	17.29	6.60	1.020	9.73	1.2	0.51	-107.3	
1500	9.27		↓	17.29	6.59	0.991	10.29	1.01	0.51	-104.9	
1505	9.27		↓	17.28	6.59	0.991	10.31	1.01	0.51	-104.3	
1510	9.27		↓	17.28	6.59	0.991	10.33	1.07	0.51	-104.2	

Remarks:

B.2.2

ZONE 2

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS2GW13MW601
Sample Location: 13MW6
Sampled By: DJS/GM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11-4-97 / Time: 1325	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Method: low flow	6.22	0.53	16.72	~~25.5~~	53.65	0.26	32.9	0 mg/L

PURGE DATA

Date: 11-4-97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: low flow	Initial				(2.37)			
Monitor Reading (ppm): 0	1				TE 3/23/98			
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 27.65								
Static Water Level (WL): 18.40								
One Casing Volume (gal/L): 1.6								
Start Purge (hrs): 1300								
End Purge (hrs): 1320								
Total Purge Time (min): 20								
Total Vol. Purged (gal/L): 6								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.: 1

Signature(s): David DeMaderbey

Low Flow Purge Data Sheet

Well No.: 13MW6

PROJECT:	NSB-NLON	**DATE:**	11-4-97
PROJECT NUMBER:	7237	**WEATHER:**	60, Sunny
SITE:	Site 2	**PERSONNEL:**	Dave Schnackenberg, Kevin Margetts

Well Screen Depth: _____ / _____ ft.
Initial Water Level: 18.40 @ 1245 hrs.

Pump Type/Material: geopump2/tygon
Pump Intake Depth: 23.0

Tide Cycle: [ ] High @ _____ [ ] Low @ _____ [X] Not Affected

Total Purge Volume= _____ (gal / L)

Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ ORP mV	Comments
1300	18.40	Initial	300	17.71	6.28	0.539	56.27	22.9	0.26	12.2	
1305	18.40	1500	300	16.87	6.20	0.539	50.52	30.3	0.26	23.6	
1310	18.40	3000	300	16.94	6.21	0.542	53.57	28.3	0.26	27.7	
1315	18.40	4500	300	16.78	6.21	0.542	50.75	30.6	0.26	31.6	
1320	18.40	6000	300	16.72	6.22	0.539	53.65	28.5	0.26	32.9	

Remarks: Turbidity = 2.37
sample collected at 1325

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS2GW13MW10
Sample Location: ZONE 2
Sampled By: TOM / PAH
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11/12/97 Time: 0000	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: slow flow	6.56	7.339	15.59	2.5	1.52	4.0	2.9	0.0 mg/L

PURGE DATA

Date: 11/11/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: slow flow	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 15.0'								
Static Water Level (WL): 5.7'								
One Casing Volume(gal/L): 2.46 g								
Start Purge (hrs): 2248								
End Purge (hrs): 2348								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 5.1 g								

SEE LOW FLOW PURGE DATA SHEET

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD | Duplicate ID No.:

Signature(s): Kristen Madden

Low Flow Purge Data Sheet

Well No.: 13MW10

PROJECT:	NSB-NLON	**DATE:**	11/11/97
PROJECT NUMBER:	7237	**WEATHER:**	clear and cold
SITE:	ZONE 2	**PERSONNEL:**	TOM / PAH

Well Screen Depth: / 15.00' ft.
Initial Water Level: 5.70' @ 2230 hrs.
Pump Type/Material: peristaltic/teflon silicon
Pump Intake Depth: ~10.3'
Tide Cycle: [ ] High @ [X] Low @ 2448/0048 [ ] Not Affected
Total Purge Volume= _____ (gal / L)
Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
2248	5.73'	Initial	320	15.68	7.24	7.366	1.18	271.0	4.09	1.0	TURB. = 25.0
2255	5.73'	1600		15.57	7.11	7.210	1.16	91.9	3.98	-0.1	
2300	5.74'			15.45	7.02	7.038	1.18	-11.0	3.90	-0.3	
2305	5.75'			15.54	6.92	6.839	1.20	+9.8	3.77	-1.0	
2310	5.76'			15.47	6.85	6.754	1.22	0.8	3.72	-1.8	
2315	5.78'			15.45	6.78	6.472	1.31	3.0	3.56	-2.9	
2320	5.80'			15.35	6.75	6.273	1.37	6.5	3.45	-3.3	
2325	5.82'			15.35	6.71	6.082	1.43	1.0	3.33	-3.4	
2330	5.84'	↓	↓	15.26	6.68	5.824	1.50	-0.02	3.18	-3.8	TURB. = 0.45
2335	5.86'			15.21	6.64	5.623	1.58	400.0?	3.06	-3.6	
2340	5.87'			15.51	6.58	7.077	1.50	0.53	3.91	1.2	
2345	5.89'			15.55	6.57	7.196	1.56	2812.7	2.98	1.9	
2348	5.91'	↓	↓	15.59	6.56	7.339	1.52	-13.5	4.00	2.9	TURB. = 2.5

Remarks: Turbidity fluctuated quite a bit

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 2 GW/3MW1101
Sample Location: Zone 2
Sampled By: Tom/PAH
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11/1/97	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Time: 1110								
Method: slow flow	0.76	0.871	19.71	1.5	3.70	0.44	-105.1	1.2 mg/L

PURGE DATA

Date: 11/11/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: slow flow	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 13.65'								
Static Water Level (WL): 5.10'								
One Casing Volume(gal/L): 1.39g								
Start Purge (hrs): 1010								
End Purge (hrs): 1110								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 6.34g								

SEE LOW FLOW PURGE DATA SHEET

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s): [signature]

Low Flow Purge Data Sheet

Well No.: 13MW11

PROJECT:	NSB-NLON	**DATE:**	11/11/97
PROJECT NUMBER:	7237	**WEATHER:**	clear, cool
SITE:	ZONE 2	**PERSONNEL:**	TEM, PAH

Well Screen Depth: / 13.65 ft.
Initial Water Level: 5.10' @ 1000 hrs.

Pump Type/Material: peristaltic/Teflon-silicon
Pump Intake Depth: 9.4'

Tide Cycle: [ ] High @ ____ [X] Low @ 1210 [ ] Not Affected

Total Purge Volume= _____ (gal / L)
Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP mV	Comments
1010	5.23'	Initial	415	19.51	6.50	1.437	7.22	2138.6	0.73	-18.1	TURB. = 450
1015	5.25'	2000	400	19.61	6.67	1.316	6.15	1815.5	0.66	-47.0	TURB. = 300
1020	5.25'		400	19.71	6.77	1.109	5.41	813.6	0.55	-63.8	TURB. = 160
1025	5.26'			19.69	6.79	1.022	6.75	838.1	0.51	-74.1	TURB. = 75
1030	5.27'			19.64	6.77	0.977	4.99	977.4	0.48	-82.0	TURB. = 50
1035	5.29'			19.67	6.76	0.926	5.07	74.6	0.46	-88.2	TURB. = 15
1040	5.30'		400	19.75	6.76	0.905	5.79	226.6	0.45	-91.2	9.7
1050	5.32'		400	19.73	6.76	0.890	5.15	4635	0.44	-96.5	6.1
1055	5.33'			19.62	6.76	0.888	4.75	161.8	0.44	-100.9	8.7
1100	5.34'			19.68	6.76	0.885	3.93	314.0	0.44	-102.1	5.0
1105	5.35'			19.70	6.76	0.880	3.83	376.0	0.44	-107.9	1.0
1110	5.35'			19.71	6.76	0.871	3.70	416.2	0.44	-105.1	1.5

Remarks: Obviously, the YSI is incorrect for turbidity.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7227~~ 7231

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 2 GW 13MW17 01
Sample Location: 13mw17
Sampled By: TEM, DJS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

2.6
TE 3/27/98

SAMPLING DATA

Date: 10/31/97 Time: 1445	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Method: low flow	6.34	3.129	17.19	~~0.4~~	12.67	1.65	127.4	0 mg/L

PURGE DATA

Date: 10/31/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	~~Eh~~ ORP
Method: low flow	Initial	6.27	7.426	17.80	283.0	24.18	4.61	112.3
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 33.40								
Static Water Level (WL): 5.46								
One Casing Volume (gal/L): 4.7								
Start Purge (hrs): 1345								
End Purge (hrs): 1445								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 14.0								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s): David Schnackenberg

Low Flow Purge Data Sheet

Well No.: 13MW17

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE

DATE: 10/31/97
WEATHER: clear, cool
PERSONNEL: FEM, DJS

Well Screen Depth: / 33.40 ft.
Initial Water Level: 5.40 @ 1340 hrs.

Pump Type/Material: teflon
Pump Intake Depth: 19.40

Tide Cycle: [ ] High @ ____ [X] Low @ 1544 [ ] Not Affected

Total Purge Volume= _____ (gal / L)

Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
1345	5.46'		Initial	17.80	6.27	7.426	24.18	283.0	4.61	112.3	
1350	5.46'	1375	275	17.13	5.90	10.05	37.93	204.8	5.69	132.1	
1355	5.50'	1500	300	17.19	5.97	9.021	37.88	85.1	5.14	132.7	
1400	5.52'	1500	300	17.30	6.33	4.103	14.84	104.1	2.14	115.9	
1405	5.55'	1375	275	17.33	6.36	3.117	12.72	60.0	1.64	117.4	
1410	5.59'	1300	260	17.30	6.34	3.191	10.91	45.0	1.68	119.0	
1415	5.59'	1250	250	17.29	6.35	3.086	12.04	31.7	1.62	120.5	
1420	5.62'	1250	250	17.26	6.35	3.070	13.23	22.7	1.62	122.0	
1425	5.65'	1250	250	17.25	6.35	3.069	13.33	10.4	1.61	123.4	
1430	5.69'	1200	240	17.25	6.34	3.113	11.17	3.5	1.63	124.9	
1435	5.71'	1000	200	17.23	6.35	3.119	12.38	1.5	1.64	125.4	
1440	5.74'	1000	200	17.22	6.34	3.154	12.28	-0.6	1.66	127.1	
1445	5.76'	1000	200	17.19	6.34	3.129	12.67	0.4	1.65	127.4	TURB. = 2.6 FROM TURBIDIMETER

Remarks: _____

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS2GWNES0601
Sample Location: NES0-6
Sampled By: TEM. DJS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 11/3/97 Time: 0920	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh ORP	Fe+2
Method: low flow	NA	NA	NA	NA	NA	NA	NA	~~0~~ mg/L

PURGE DATA

Date: 11/3/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh ORP
Method: low flow	Initial	6.31	2,737	17.16	27.9	15.54	1.37	98.4
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 3"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 9.46								
Static Water Level (WL): 6.04								
One Casing Volume (gal/L): ~~0.6 A.J.S.~~								
Start Purge (hrs): 0810								
End Purge (hrs): 0835								
Total Purge Time (min): 25								
Total Vol. Purged (gal/L): 6.5								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

AT 0840, THE YSI STOPPED WORKING. SO, WE PURGED UNTIL 0920 TO CLEAN OUT THE WELL.

*Field Blank 001 collected @ 0850

Circle if Applicable:
MS/MSD | Duplicate ID No.:

Signature(s): David Schnacker

Low Flow Purge Data Sheet

Well No.: NESO-6

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 2

DATE: 11/3/97
WEATHER: clear, cool
PERSONNEL: TEM, DJS

Well Screen Depth: ____ / 9.46 ft.
Initial Water Level: 1.64 @ 0800 hrs.

Pump Type/Material: Teflon
Pump Intake Depth: 7.8'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ____ (gal / L)

Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
0810	6.02	Initial	300	17.16	6.31	2.737	15.54	77.9	1.37	98.4	
0815	6.02	1500	300	17.73	6.30	5.980	14.56	30.2	3.30	119.4	
0820	6.02	1750	350	17.86	6.33	5.940	9.85	21.7	3.23	122.9	
0825	6.02	1750	350	17.90	6.37	5.404	12.18	9.8	2.94	124.1	
0830	6.02	1750	350	17.94	6.38	5.107	12.14	11.8	2.76	125.3	
0835	6.02	1750	350	18.00	6.39	4.887	9.23	4.1	2.61	126.4	
0840											

Remarks: At 0840 the YSI stopped working. So, we purged for until 0920 to clear out the well.

B.2.3

ZONE 3

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 3 GW 13MW1201
Sample Location: 13MW12
Sampled By: TEM, DJS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

5.4 TE 11/23/98

SAMPLING DATA

Date: 10/31/97 Time: 0930 Method: low flow	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
	6.72	0.350	21.65	~~9.3~~	0.48	0.17	-121.5	2.6 mg/L

PURGE DATA

Date: 10/31/97 Method: low flow	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	~~Eh~~ ORP
	Initial	6.16	0.315	20.14	~~6.5~~	4.15	0.15	-51.2
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 15.18'								
Static Water Level (WL): 6.40'								
One Casing Volume (gal/L): 1.5								
Start Purge (hrs): 0825								
End Purge (hrs): 0910								
Total Purge Time (min): 45								
Total Vol. Purged (gal/L): 9.4								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s): David Schneckenburger

Low Flow Purge Data Sheet

Well No.: 13MW12

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 3

DATE: 10/31/97
WEATHER: Clear, cool
PERSONNEL: TEM, DJS

Well Screen Depth: / 15.18 ft.
Initial Water Level: 6.40 @ 0820 hrs.

Pump Type/Material: teflon
Pump Intake Depth: 10.8'

Tide Cycle: [ ] High @ [ ] Low @ [X] Not Affected

Total Purge Volume= (gal / L)

Drawdown + Tubing Volume= (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP ~~Eh~~ mV	Comments
0825	6.63'		Initial	20.14	6.16	0.315	4.15	65.4	0.15	-51.2	
0830	6.74'	2000	400	21.15	6.60	0.328	1.10	63.8	0.16	-95.6	
0835	6.71'	1125	~~225~~	20.83	6.70	0.326	1.28	44.9	0.16	-100.6	
0840	6.71'	1125	225	21.04	6.72	0.330	0.72	32.6	0.16	-105.2	
0845	6.72'	1125	225	21.45	6.74	0.335	0.69	23.0	0.16	-109.8	
0850	6.72'	~~1000~~	~~200~~	21.35	6.74	0.341	0.97	11.4	0.16	-113.7	
0855	6.71'	1000	200	21.51	6.73	0.343	0.62	15.6	0.16	-116.3	TURB = 6.8
0900	6.70'	1000	200	21.44	6.72	0.348	0.57	9.8	0.17	-119.1	FROM TURBIDIMETER
0905	6.70'	1000	200	21.53	6.72	0.347	0.51	9.6	0.17	-119.9	
0910	6.70'	1000	200	21.65	6.72	0.350	0.48	9.3	0.17	-121.5	TURB = 5.4
											FROM TURBIDIMETER

Remarks:

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS3GW00101
Sample Location: MW1-3RI
Sampled By: TEM, DJS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 10/30/97 Time: 1405	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh ORP	Fe+2
Method: low flow	6.83	3.603	19.07	0.8	9.40	1.90	34.1	0 mg/L

PURGE DATA

Date: 10/30/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh ORP
Method: low flow	Initial	6.94	8.043	19.20	0.0	15.51	4.50	542
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2" PVC	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 9.70								
Static Water Level (WL): 5.53								
One Casing Volume (gal/L): 0.7								
Start Purge (hrs): 1315								
End Purge (hrs): 1405								
Total Purge Time (min): 50								
Total Vol. Purged (gal/L): 14.9								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓

OBSERVATIONS / NOTES

TURBIDITY ON THE YSI WAS NEGATIVE, IN SOME CASES (SHOWN AS 0.0). SPECIFIC CONDUCTANCE AND TURBIDITY DID NOT STABILIZE BEFORE THE DESIGNATED SAMPLING TIME OF 1405 (1 HOUR BEFORE LOW TIDE).

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	D and Schumacher

Low Flow Purge Data Sheet

Well No.: MW1-3RI

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 3

DATE: 10/30/97
WEATHER: Clear + cool
PERSONNEL: tem, DJS

Well Screen Depth: / 9.70 ft.
Initial Water Level: 5.53 @ 1305 hrs.

Pump Type/Material: tefl.
Pump Intake Depth: 7.6'

Tide Cycle: [ ] High @ ____ [X] Low @ 1505 [ ] Not Affected

Total Purge Volume= _____ (gal / L)
Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh (ORP) mV	Comments
1315	5.64'	1750	350	19.20	6.94	8.043	15.51	0.0	4.50	54.2	
1320	5.67'	1500	300	18.97	6.90	7.675	21.20	5.5	4.24	51.9	
1325	5.69'	1500	300	19.12	6.89	6.849	4.09	7.1	3.75	47.5	
1330	5.72'	1500	300	19.03	6.87	6.247	6.97	0.0	3.40	42.8	
1335	5.74'	1500	300	18.96	6.85	5.590	8.98	0.0	3.05	38.3	
1340	5.75'	1500	300	19.10	6.83	5.093	10.97	0.0	3.74	37.7	
1345	5.77'	1500	300	19.10	6.83	4.649	9.31	0.0	2.49	37.4	
1350	5.79'	1500	300	18.99	6.82	4.311	8.59	0.0	2.30	36.4	
1355	5.81'	1375	275	18.98	6.82	3.974	10.18	0.0	2.11	35.6	
1400	5.83'	1250	250	19.03	6.82	3.777	9.92	1.3	2.01	35.0	
1405	5.85'	1250	250	19.07	6.83	3.603	9.40	0.0	1.90	34.1	TURB=0.80

Remarks: TURBIDITY ON THE YSI WAS NEGATIVE. SPECIFIC CONDUCTANCE AND TURBIDITY DID NOT STABILIZE BEFORE THE DESIGNATED SAMPLING TIME OF 1405 (1 HOUR BEFORE LOW TIDE).

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 3 GW00201
Sample Location: MW2-3RI
Sampled By: JR JGM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 103007 / Time: 1420 / Method: Low Flow	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~SP~~ ORP	Fe+2
	6.45	11.76	18.96	13.3	6.68	6.73	37.6	0.0

PURGE DATA

Date:	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial							
Monitor Reading (ppm): 0.0 ppm	1							
Well Casing Diameter: 2.0	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 8.0								
Static Water Level (WL): 5.56								
One Casing Volume(gal/L): .41 g								
Start Purge (hrs): 1319								
End Purge (hrs): 1405								
Total Purge Time (min): 46								
Total Vol. Purged (gal/L): 10 L								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

MW2-3RI
Well No.: LS3GW00201

PROJECT:	NSB-NLON	**DATE:**	103097
PROJECT NUMBER:	7237	**WEATHER:**	57° Clear skies
SITE:		**PERSONNEL:**	JR JCM

Well Screen Depth: _____ / _____ ft.
Initial Water Level: 5.56 @ 1309 hrs.
Pump Type/Material: Teflon
Pump Intake Depth: 6.8'
Tide Cycle: [ ] High @ _____ [X] Low @ 1505 [ ] Not Affected
Total Purge Volume= 10.0 L (gal / L) **Drawdown + Tubing Volume=** _____ (gal / L)
TD- 8.0

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP ~~Eh~~ mV	Comments
1319	5.58	Initial	300	19.42	6.48	25.02	5.61	31.7	15.37	32.1	
1324	5.60	1500	300	19.05	6.57	13.75	5.88	19.7	8.04	18.6	
1329	5.63	3000	300	18.92	6.52	12.65	6.93	16.0	7.29	21.0	
1334	5.65	4500	300	18.94	6.50	12.43	6.48	16.5	7.16	23.7	
1339	5.68	6000	300	18.95	6.48	~~12.37~~ 15.40	6.63	15.5	7.03	26.5	
1344	5.70	7000	200	18.95	6.47	11.94	~~6.65~~	14.4	6.84	29.9	
1349	5.71	8000	200	18.92	6.47	11.86	6.85	13.8	6.80	32.2	
1354	5.76	9000	100	18.94	6.47	11.68	6.70	13.5	6.70	34.3	
1400	5.76	9500	100	18.98	6.46	11.67	6.85	13.5	6.68	36.2	
1405	5.76	10000	100	18.96	6.45	11.76	6.68	13.3	6.73	37.6	

Remarks: PID - 0.0 ppm
2020 turbidimeter

B.2.4

ZONE 4

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS4 GW WE101
Sample Location: WE1
Sampled By: DJS/TM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

1.23
TE 3/18/98

SAMPLING DATA

Date: 10-29-97 / Time: 0940	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh ORP	Fe+2
Method: Low flow	6.56	0.624	23.72	~~17.6~~	0.82	0.30	-97.3	1.0 mg/L

PURGE DATA

Date: 10-29-97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	~~Eh~~ ORP
Method: Low flow	Initial	6.39	0.632	21.70	25.7	3.46	0.31	-63.9
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 15.40								
Static Water Level (WL): 6.44								
One Casing Volume (gal/L): 1.5								
Start Purge (hrs): 0900								
End Purge (hrs): 0930								
Total Purge Time (min): 30								
Total Vol. Purged (gal/L): 7.75								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD | Duplicate ID No.:

Signature(s): David Schneckenburger

Low Flow Purge Data Sheet

Well No.: WE 1

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 4

DATE: 10/29/97
WEATHER: Cloudy, cool
PERSONNEL: DTS, JEM

Well Screen Depth: _____ / 15.40' ft.
Initial Water Level: 6.44' @ 0840 hrs.

Pump Type/Material: teflon
Pump Intake Depth: 11.0'

Tide Cycle: [ ] High @ _____ [ ] Low @ _____ [X] Not Affected

Total Purge Volume= _____ (gal / L)
Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
0900	6.80'	Initial	300	21.70	6.39	0.632	3.46	25.7	0.31	-63.9	
0905	6.74'	1500	250	23.35	6.59	0.625	1.08	28.5	0.30	-91.1	
0910	6.74'	2750	250	23.71	6.59	0.625	0.91	26.4	0.30	-97.4	
0915	6.73'	4000	250	23.64	6.59	0.627	0.89	18.9	0.30	-98.0	
0920	6.72'	5250	250	23.54	6.58	0.626	0.87	12.9	0.30	-97.7	
0925	6.72'	6500	250	23.77	6.57	0.625	0.85	13.0	0.30	-97.8	
0930	6.73'	7750	250	23.72	6.56	0.624	0.82	13.6	0.30	-97.3	TURB. = 1.23

Remarks: _____

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~T32T~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 4 GW NES01001
Sample Location: NESO-10
Sampled By: Tom, DJS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

18.0
TE 3/23/98

SAMPLING DATA

Date: 10/30/97 Time: 1735	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Method: low flow	6.94	5.945	19.62	~~27.7~~	15.36	3.26	-147.3	2.0 mg/L

PURGE DATA

Date: 10/30/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	~~Eh~~ ORP
Method: low flow	Initial	7.15	1.516	19.55	626.0	3.71	0.76	-156.3
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 9.24'								
Static Water Level (WL): 6.34'								
One Casing Volume (gal/L): 0.5								
Start Purge (hrs): 1730								
End Purge (hrs): 1830								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 11.1								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓

OBSERVATIONS / NOTES

PURGE WATER IS VERY CLOUDY. DO READING WAS UNSTABLE AND OSCILLATING QUITE A BIT.

Circle if Applicable:		Signature(s):
MS/MSD	Duplicate ID No.:	David Schnackenberg

Low Flow Purge Data Sheet

Well No.: NESO-10

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 4

DATE: 10/30/97
WEATHER: clear, cold
PERSONNEL: TOM, DJS

Well Screen Depth: ____ / 9.24 ft.
Initial Water Level: 6.34' @ 1720 hrs.

Pump Type/Material: Teflon
Pump Intake Depth: 7.8'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ____ (gal / L)
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
1730	6.82'	750	150	19.55	7.15	1.516	3.71	626.0	0.76	-186.3	
1735	6.80'	750	150	19.75	7.13	1.807	4.08	441.9	0.93	-158.2	TURB. = 360.0,
1740	6.81'	875	175	19.78	7.10	2.387	6.01	366.1	1.25	-161.8	FROM TURBIDIMETER
1745	6.80'	875	175	19.81	7.08	3.003	8.31	277.0	1.56	-161.2	
1750	6.78'	875	175	19.81	7.05	3.527	11.27	202.4	1.87	-159.8	
1755	6.78'	875	175	19.76	7.02	4.073	10.96	141.7	2.17	-157.7	TURB. = 80.0
1800	6.77'	875	175	19.75	7.01	4.406	13.76	106.7	2.38	-155.8	FROM TURBIDIMETER
1805	6.77'	875	175	19.72	6.99	4.817	13.73	77.6	2.60	-154.5	
1810	6.76'	875	175	19.70	6.98	5.104	16.32	63.2	2.76	-153.3	
1814	6.75'	875	175	19.71	6.97	5.213	14.74	52.0	2.84	-152.5	
1818	6.74'	875	175	19.75	6.96	5.397	15.07	45.2	2.94	-151.5	
1822	6.72'	875	175	19.66	6.95	5.712	15.92	42.8	3.10	-149.8	
1826	6.70'	875	175	19.60	6.95	5.809	14.94	36.3	3.18	-148.6	
1830	6.68'	875	175	19.62	6.94	5.945	15.36	27.7	3.26	-147.3	TURB. = 18.0
											FROM TURBIDIMETER

Remarks: PURGE WATER IS VERY CLOUDY. DO READING WAS UNSTABLE AND OSCILLATING QUITE A BIT.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 4 GW NES01101
Sample Location: NESO-11
Sampled By: TDM, DJS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

1.9 TE 3/23/98

SAMPLING DATA

	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Date: 10/29/97								
Time: 1820								
Method: low flow	6.75	0.540	20.20	~~9.1~~	0.71	0.26	31.6	0 mg/L

PURGE DATA

	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	~~Eh~~ ORP
Date: 10/29/97								
Method: low flow	Initial	6.36	0.536	18.98	230.7	6.29	0.26	2.3
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 8.85'								
Static Water Level (WL): 5.57'								
One Casing Volume(gal/L): 0.6								
Start Purge (hrs): 1715								
End Purge (hrs): 1813								
Total Purge Time (min): 58								
Total Vol. Purged (gal/L): 18.2								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓

OBSERVATIONS / NOTES

CLEANED OUT YSI DUE TO VERY HIGH AND SUDDEN TURBIDITY READING OF 171.6 @ 1755 HOURS. PURGE WATER APPEARS TO BE CLEAN, HOWEVER. TURBIDITY FROM TURBIDIMETER = 1.9.

Circle if Applicable:
MS/MSD | Duplicate ID No.:

Signature(s): David Schmachtenberg

Low Flow Purge Data Sheet

Well No.: NESO 11

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 4

DATE: 10/29/97
WEATHER: Clear, Cold
PERSONNEL: TOM, DOS

Well Screen Depth: / 8.85' ft.
Initial Water Level: 5.57' @ 1700 hrs.

Pump Type/Material: tefl.
Pump Intake Depth: 7.0'

Tide Cycle: [ ] High @ [ ] Low @ [X] Not Affected

Total Purge Volume= _____ (gal / L)

Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
1715	5.84'	2000	400	18.98	6.36	0.536	6.27	230.7	0.26	2.3	
1720	5.81'	1500	300	19.77	6.82	0.595	4.74	171.7	0.25	2.6	
1725	5.82'		300	20.09	6.81	0.530	2.93	101.7	0.26	12.6	
1730	5.82'		300	20.09	6.80	0.524	2.16	62.6	0.25	17.7	
1735	5.84'		300	20.15	6.79	0.534	1.67	75.9	0.26	19.9	
1740	5.84'		300	20.19	6.78	0.537	1.38	36.2	0.26	22.6	
1745	5.84'		300	20.22	6.78	0.538	1.17	21.6	0.26	24.5	
1750	5.88'		300	20.24	6.77	0.543	1.01	14.6	0.26	27.1	
1755	5.83'		300	20.02	6.72	0.546	2.36	9.3	0.27	31.5	CLEANED YSI
1800	5.83'		300	20.22	6.72	0.543	0.89	8.7	0.26	28.9	
1805	5.83'	↓	300	20.24	6.74	0.551	0.77	62.1	0.27	29.8	TURB. OFF?
1809	5.83'	1200	300	20.31	6.76	0.546	0.70	36.4	0.26	30.7	
1813	5.83'	1200	300	20.20	6.75	0.540	0.71	9.1	0.26	31.6	TURB. = 1.9

Remarks: CLEANED OUT YSI DUE TO VERY HIGH AND SUDDEN TURBIDITY READING OF 171.6 @ 1755. PURGE WATER APPEARS TO BE CLEAR, HOWEVER, TURBIDITY FROM TURBIDOMETER = 1.9.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 4 GW 13MW130
Sample Location: 13mw13
Sampled By: TFM, DJS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

18.0' TOC 3/27/98

SAMPLING DATA

	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh ORP	Fe+2
Date: 10/29/97								
Time: 1630								
Method: low flow	6.61	0.690	19.49	~~370~~	0.57	0.34	-140.4	4.6 mg/L

PURGE DATA

	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh ORP
Date: 10/29/97								
Method: low flow	Initial	6.66	0.743	18.86	95.5	~~0.56~~	0.37	-134.5
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 14.3								
Static Water Level (WL): 5.52								
One Casing Volume (gal/L): 1.5								
Start Purge (hrs): 1555								
End Purge (hrs): 1625								
Total Purge Time (min): 30								
Total Vol. Purged (gal/L): 9.0								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s): David Schnackenberg

Low Flow Purge Data Sheet

Well No.: 13MW13

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 4

DATE: 10/29/97
WEATHER: Cool, clear
PERSONNEL: TOM, DJS

Well Screen Depth: / 14.3 ft.
Initial Water Level: 9.52' @ 1545 hrs.

Pump Type/Material: teflon
Pump Intake Depth: 10.0'

Tide Cycle: [ ] High @ [ ] Low @ [X] Not Affected

Total Purge Volume= _____ (gal / L)

Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ ORP mV	Comments
1555	5.63'	1500	300	18.86	6.66	0.748	1.56	95.5	0.37	-134.5	
1600	5.65'	~~500~~		19.32	6.63	0.721	0.97	91.3	0.35	-141.3	
1605	5.64'			19.32	6.61	0.715	0.78	68.9	0.35	-141.2	
1610	5.63'			19.35	6.61	0.708	0.68	63.9	0.35	-141.7	
1615	5.65'			19.34	6.61	0.700	0.63	38.5	0.34	-141.1	TURB. = 20.0
1620	5.66'			19.47	6.61	0.698	0.59	35.4	0.34	-140.0	
1625	5.66'	↓	↓	19.49	6.61	0.690	0.57	37.0	0.34	-140.4	TURB. = 18.0

Remarks: _____

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS4 GW 13MW14D1
Sample Location: 13MW14
Sampled By: DJS/TM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 10-28-97 / Time: 1325	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Method: low flow	6.60	19.89	17.85	0.89	0.56	11.90	67.5	0 mg/L

PURGE DATA

Date: 10-28-97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	~~Eh~~ ORP
Method: low flow	Initial	6.51	19.99	17.92	19.6	1.24	11.96	122.2
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 14.16								
Static Water Level (WL): 6.68								
One Casing Volume (gal/L): 1.3								
Start Purge (hrs): 1235								
End Purge (hrs): 1315								
Total Purge Time (min): 40								
Total Vol. Purged (gal/L): ~~760~~ 30								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s): David Schnackenberg

Low Flow Purge Data Sheet

Well No.: 13MW14

PROJECT:	NSB-NLON	**DATE:**	10/28/97
PROJECT NUMBER:	7237	**WEATHER:**	PARTLY CLOUDY, COLD & BREEZY
SITE:	ZONE 4	**PERSONNEL:**	DJS, TEM

Well Screen Depth: _____ / _____ ft.
Initial Water Level: 6.68' @ 1215 hrs.

Pump Type/Material: TEFLON
Pump Intake Depth: 10.5'

Tide Cycle: [ ] High @ _____ [X] Low @ 1344 [ ] Not Affected

Total Purge Volume= _____ (gal / L)

Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh (orp) mV	Comments
1235	6.83'	INITIAL	250	17.82	6.51	19.99	1.24	19.6	11.96	122.0	
1240	6.87'	1250	200	19.88	6.59	20.06	0.73	18.4	12.01	94.4	
1245	6.89'	2250	200	18.00	6.60	20.00	0.62	8.8	11.97	82.7	
1250	6.94'	3250	200	17.85	6.60	19.98	0.56	6.8	11.97	77.3	
1255	6.99'	4250	200	17.98	6.60	19.95	0.53	3.8	11.94	73.9	
1300	7.02'	5250	150	18.00	6.61	19.95	0.53	2.1	11.94	71.8	
1305	7.05'	6000	150	18.13	6.60	19.92	0.54	0.4	11.92	70.5	
1310	7.09'	6750	150	17.81	6.60	19.90	0.53	0.7	11.90	68.2	
1315	7.11'	7500	150	17.85	6.60	19.89	0.56	0.3	11.90	67.5	TURB = 0.89

Remarks: _____

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 4 GW 13 MW15 01
Sample Location: 13MW15
Sampled By: KJM / JR
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date / Time	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Date: 110397 Time: 1700								
Method: Slow Flow	7.20	34.71	16.79	~~187~~	0.06	21.88	-490.8	0.0 TE 3/23/98

PURGE DATA

Date: 110397	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: Slow Flow	Initial				5.91			
Monitor Reading (ppm): 0 ppm	1				TE 3/23/98			
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD):								
Static Water Level (WL): 5.40								
One Casing Volume(gal/L):								
Start Purge (hrs): 1556								
End Purge (hrs): 1700								
Total Purge Time (min): 1 hr.								
Total Vol. Purged (gal/L): 15 Lt								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	—
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
TCL SVOC	None	2	x	1L Amber Glass	—
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	—
Hardness	HNO3	1	x	125 mL HDPE Plastic	—
Dissolved Methane	HCl	3	x	40 mL Glass Vial	—
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	—

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

CS4GW13mw1501

Low Flow Purge Data Sheet

Well No.: 13MW15

PROJECT:	NSB-NLON	**DATE:**	110397
PROJECT NUMBER:	7237	**WEATHER:**	50° Clear sky
SITE:	Groton Lower Base	**PERSONNEL:**	JR TM

Well Screen Depth: _____ / _____ ft.
Initial Water Level: 5.40 @ 1532 hrs.

Pump Type/Material: Peristaltic/Teflon
Pump Intake Depth: 10.0

Tide Cycle: [ ] High @ _____ [X] Low @ 1756 [ ] Not Affected

Total Purge Volume= 15.0 Ltrs (gal / L) **Drawdown + Tubing Volume=** _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh mV	Comments
1556	5.55	Initial	250	16.64	6.58	21.73	4.96	162.6	12.74	-147.3	
1601	5.59	1250	250	16.73	6.99	27.74	3.88	104.2	17.06	-310.6	
1606	5.67	2500	250	16.82	7.13	28.70	6.23	51.23	18.71	-371.5	
1611	5.70	3750	250	16.96	7.26	32.70	7.87	20.48	20.51	-438.6	
1616	5.70	5000	250	16.94	7.27	32.81	7.86	20.57	21.3	-445.6	
1621	5.70	6250	250	16.89	7.29	33.01	7.33	20.64	20.72	-460.7	
1626	5.74	7500	250	16.84	7.28	33.18	5.09	19.3	20.81	-468.1	
1631	5.77	8750	250	16.83	7.26	33.40	2.70	19.1	20.97	-473.6	
1636	5.79	1000	250	16.78	7.25	33.77	0.49	19.1	21.23	-478.4	
1641	5.81	11250	250	16.78	7.23	33.99	0.13	19.1	21.38	-481.9	
1646	5.87	12500	250	16.77	7.22	34.25	0.11	18.8	21.55	-485.6	
1651	5.89	13750	250	16.77	7.21	34.52	0.08	18.8	21.74	-488.1	
1656	5.93	15000	250	16.79	7.20	34.71	0.06	18.7	21.88	-490.8	
1700	Sample time										

Remarks: PID - 0.0 ppm
2020 turbidimeter - 5.91

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 4 GW13MW1101
Sample Location: TEM, DJS
Sampled By: 13MW16
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

3.5
TE 3/23/98

SAMPLING DATA

Date: 10/29/97	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Time: 1255								
Method: low flow	6.66	19.52	15.92	~~15.7~~	1.34	11.59	-193.6	1.6 mg/l

PURGE DATA

Date: 10/29/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	~~Eh~~ ORP
Method: low flow	Initial	6.70	24.00	16.34	37.2	1.33	14.25	-192.1
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 15.60								
Static Water Level (WL): 5.77								
One Casing Volume (gal/L): 1.7								
Start Purge (hrs): 1230								
End Purge (hrs): 1255								
Total Purge Time (min): 25								
Total Vol. Purged (gal/L): 6.75								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

TURBIDITY MEASURED FROM YSI SEEMS TOO HIGH. STRONG H_2S STENCH.

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): David Betrachenberg

Low Flow Purge Data Sheet

Well No.: 13MW16

PROJECT:	NSB-NLON	**DATE:**	10/29/97
PROJECT NUMBER:	7237	**WEATHER:**	Clear & cool
SITE:	ZONE 4	**PERSONNEL:**	TEM, DJS

Well Screen Depth: / 15.60 ft.
Initial Water Level: 5.77 @ 1215 hrs.
Pump Type/Material: teflon
Pump Intake Depth: 10.7'
Total Purge Volume= _____ (gal / L)
Drawdown + Tubing Volume= _____ (gal / L)

Tide Cycle: [ ] High @ _____ ; [X] Low @ 1215 ; [ ] Not Affected

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ ORP mV	Comments
1230	5.98'	2000	400	16.34	6.70	24.06	1.33	37.2	14.25	-192.1	
1235	5.97'	1250	250	16.12	6.70	21.72	1.27	29.3	13.32	-188.0	
1240	6.01'	"	250	15.99	6.66	20.33	1.16	64.0	12.20	-181.7	
1245	6.05'	"	250	15.98	6.66	19.93	1.21	74.5	11.91	-184.9	
1250	6.10'	1000	200	15.88	6.66	19.46	1.29	43.0	11.64	-186.7	
1255	6.13'	1000	200	15.92	6.66	19.52	1.34	15.7	11.59	-193.6	TURB. = 3.5

Remarks: Turbidity measured from YSI meter seems too high. Strong H_2S stench!!

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 4 GW QW401
Sample Location: ~~Tem, DJS~~ QW-4
Sampled By: TEM, DJS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

9.3, TE 3/23/98

SAMPLING DATA

Date: 10/30/97	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Time: 1050								
Method: low flow	6.73	20.38	16.58	~~18.7~~	1.19	12.22	-30.5	0.6 mg/L

PURGE DATA

Date: 10/30/97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	~~Eh~~ ORP
Method: low flow	Initial	6.55	19.98	15.80	4.2	2.84	11.97	-5.8
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 6"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 6.83								
Static Water Level (WL): 3.58								
One Casing Volume (gal/L): ~~0.6~~ 0.9								
Start Purge (hrs): 1010								
End Purge (hrs): 1045								
Total Purge Time (min): 35								
Total Vol. Purged (gal/L): 9.5								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓

OBSERVATIONS / NOTES

TURBIDITY DID NOT STABILIZE AGAIN. YSI AND TURBIDIMETER DO NOT AGREE.

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s): David Schnackenberg

Low Flow Purge Data Sheet

Well No.: QW-4

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 4

DATE: 10-30-97
WEATHER: Clear, cool
PERSONNEL: TBM, DFS

Well Screen Depth: _____ / 6.83 ft.
Initial Water Level: 3.58 @ 1005 hrs.

Pump Type/Material: _____
Pump Intake Depth: 5-21'

Tide Cycle: [ ] High @ _____ [ ] Low @ _____ [X] Not Affected

Total Purge Volume= _____ (gal / L)

Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP ~~Eh~~ mV	Comments
1010	3.73	2000	400	15.80	6.55	19.98	2.84	4.2	11.97	-5.8	
1015	3.80	1750	350	16.08	6.69	20.26	1.83	5.6	12.15	-29.4	
1020	3.85	1500	300	16.08	6.72	20.26	1.42	6.4	12.14	-33.5	
1025	3.86	1250	250	16.21	6.72	20.28	1.30	5.2	12.16	-32.3	
1030	3.94	1250	250	16.45	6.72	20.28	1.17	7.9	12.16	-31.0	
1035	3.98	1000	200	16.47	6.72	20.37	1.15	10.6	12.22	-29.4	TURB. = 6.4
1040	4.02	~~1500~~	~~300~~	16.52	6.72	20.37	1.19	11.3	12.22	-29.7	
1045	4.06	750	150	16.58	6.73	20.38	1.19	18.7	12.22	-30.5	TURB. = 9.3

Remarks: TURBIDITY DID NOT STABILIZE AGAIN. YSI AND TURBIDOMETER DO NOT AGREE.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 4 GW 00101
Sample Location: MW 1-4RI
Sampled By: TDM, DSS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

1.00
JE 3/23/98

SAMPLING DATA

	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh ORP	Fe+2
Date: 10/30/97								
Time: 0900								
Method: low flow	6.51	1.689	18.93	~~48.1~~	4.63	0.86	84.3	0 mg/L

PURGE DATA

	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh ORP
Date: 10/30/97								
Method: low flow	Initial	6.29	2.002	18.22	96.2	5.38	1.02	51.6
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 5.38								
Static Water Level (WL): 4.86								
One Casing Volume (gal/L): 0.1								
Start Purge (hrs): 0835								
End Purge (hrs): 0855								
Total Purge Time (min): 20								
Total Vol. Purged (gal/L): 6.0								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓

OBSERVATIONS / NOTES

TURBIDIMETER READING SAYS 1.00 VS. 76.3 BY YSI. EVERYTHING STABILIZED EXCEPT FOR TURBIDITY.

Circle if Applicable:
(MS/MSD) #1
Duplicate ID No.:

Signature(s): [signature] and Schnackenberg

Low Flow Purge Data Sheet

Well No.: MW1-4RI

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 4

DATE: 10/30/97
WEATHER: clear & cool
PERSONNEL: TEM, DJS

Well Screen Depth: / 5.38 ft.
Initial Water Level: 4.80 @ 0830 hrs.

Pump Type/Material: teflon
Pump Intake Depth: 5.10'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ____ (gal / L)
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP ~~Eh~~ mV	Comments
0835	4.83'	1500	300	18.22	6.29	2.002	5.38	96.2	1.02	51.6	TURBIDITY SEEMS TOO HIGH
0840	4.84'	↓	300	18.83	6.48	1.762	4.88	76.3	0.90	65.7	TURB. = 1.00
0845	4.84'		300	18.86	6.50	1.722	4.74	149.4	0.87	74.1	
0850	4.84'		300	18.87	6.52	1.709	4.67	51.1	0.87	81.5	
0855	4.89'	↓	300	18.93	6.51	1.689	4.63	48.1	0.86	84.3	
0											

Remarks: TURBIDOMETER READING SAYS 1.00 VS. 76.3 BY YSI. EVERYTHING STABILIZED EXCEPT FOR TURBIDITY.

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 4 GW 00201
Sample Location: MW2-4RI
Sampled By: TOM, DJS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

(0.95) TE 3/23/98

SAMPLING DATA

	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Date: 10/29/97 Time: 1055								
Method: low flow	6.83	0.908	17.70	~~129.9~~	4.70	0.45	52.1	0 mg/L

PURGE DATA

	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	~~Eh~~ ORP
Date: 10/29/97								
Method: low flow	Initial	6.43	0.704	17.06	9.00	7.15	0.35	3.0
Monitor Reading (ppm): 0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 9.50								
Static Water Level (WL): 5.20								
One Casing Volume (gal/L): 0.7								
Start Purge (hrs): 1015								
End Purge (hrs): 1050								
Total Purge Time (min): 45								
Total Vol. Purged (gal/L): 10.75								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

THE PURGE WATER APPEARS TO BE CLEAR, NOT TURBID AS THE YSI METER INDICATED. THE TURBIDIMETER SHOWED A TURBIDITY OF 2.03 AS OPPOSED TO 173.7.

Circle if Applicable:
MS/MSD | Duplicate ID No.:

Signature(s): Daniel Schnackenberg

Low Flow Purge Data Sheet

Well No.: MW2-4RI

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: ZONE 4

DATE: 10/29/97
WEATHER: cloudy, cool
PERSONNEL: DJS, TDM

Well Screen Depth: ____ / 9.50 ft.
Initial Water Level: 5.20 @ 1005 hrs.

Pump Type/Material: Te Flon
Pump Intake Depth: 7.4'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ____ (gal / L)
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP ~~Eh~~ mV	Comments
1015	5.38'	1850	350	17.06	6.43	0.704	7.15	90	0.35	3.0	
1020	5.37'	1500	300	17.73	6.58	0.727	4.86	9.4	0.36	11.5	
1025	5.38'		300	17.69	6.71	0.779	4.65	13.5	0.38	22.2	
1030	5.38'		300	17.77	6.77	0.815	4.43	42.6	0.40	31.6	
1035	5.38'		300	17.73	6.80	0.847	4.58	173.7	0.42	38.2	TURB. = 2.03
1040	5.38'		300	17.74	6.82	0.870	4.62	173.5	0.43	43.1	
1045	5.38'		300	17.70	6.84	0.897	4.66	142.1	0.44	47.7	
1050	5.38'	↓	300	17.70	6.83	0.908	4.70	129.9	0.45	52.1	TURB = 0.95

Remarks: The purge water appeare to be clear, not turbid as the YSI meter was showing. The turbidity meter showed a turbidity of 2.03 as opposed to 173.7.

B.2.5

ZONE 5

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 5 GW 19MW201
Sample Location: 19 MW 2
Sampled By: KJM/RS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 102897 / Time: 1305	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh ORP	Fe+2
Method: Slow Flow	6.36	16.53	16.93	-.2	6.96	9.74	54.6	0.0

PURGE DATA

Date: 102897	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: Slow Flow	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 5.52								
Static Water Level (WL): 4.96								
One Casing Volume(gal/L): .09								
Start Purge (hrs): 1244								
End Purge (hrs): 1259								
Total Purge Time (min): 15								
Total Vol. Purged (gal/L): 6.95L.								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	—
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
TCL SVOC	None	2	x	1L Amber Glass	—
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	—
Hardness	HNO3	1	x	125 mL HDPE Plastic	—
Dissolved Methane	HCl	3	x	40 mL Glass Vial	—
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	—

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: 19MW2

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE:

DATE: 102897
WEATHER: 50° pc windy
PERSONNEL:

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 4.96 @ 1225 hrs.

Pump Type/Material: Teflon
Pump Intake Depth: 5.2

Tide Cycle: [ ] High @ ____ [X] Low @ ____ [ ] Not Affected

Total Purge Volume= .286/gal (gal / L) TD 5.52

Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
1244	5.32	~~Initial~~	~~Initial~~ 300	17.03	~~4.43~~ 6.43	16.66	7.96	165.5	9.77	47.9	
1249	5.28	1500	270	16.93	6.38	17.01	7.52	1.7	10.06	51.6	
1254	5.29	~~1350~~ 1350	250	17.01	6.36	16.87	7.36	0.4	9.96	53.0	
1259	5.31	1250/6950	250	16.93	6.36	16.83	6.96	-.2	9.74	54.6	

Remarks: ____

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7227~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 5 GW MMW3D
Sample Location: MMW3
Sampled By: JR KJM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 102897 / Time: ~~0905~~	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Method: JR KJM	6.14	.709	16.11	~~17.6~~	.71	.35	-98.5	8.0

PURGE DATA

Date:	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial				6.08			
Monitor Reading (ppm): 0.0ppm	1				~~3/23/98~~			
Well Casing Diameter: 2.0"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 4.0								
Static Water Level (WL): 3.95								
One Casing Volume(gal/L): .31								
Start Purge (hrs): 0957								
End Purge (hrs): 1022								
Total Purge Time (min): 25								
Total Vol. Purged (gal): 3.0								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: 19mw3

PROJECT:	NSB-NLON	**DATE:**	102897
PROJECT NUMBER:	7237	**WEATHER:**	50° pc windy
SITE:	19mw3	**PERSONNEL:**	JR KJM DJS TM

Well Screen Depth: _____ / _____ ft.
Initial Water Level: 3.93 @ 0935 hrs.
Pump Type/Material: Teflon
Pump Intake Depth: 5.0'
Tide Cycle: [ ] High @ _____ [ ] Low @ _____ [X] Not Affected
Total Purge Volume= 1.0 (gal / L) TD 6.0'
Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO ~~mg/L~~ %	Turbidity NTU	Salinity %	ORP ~~Eh~~ mV	Comments
0957	4.11	Initial	~~300~~ 300	15.55	6.89	.656	4.63	28	.31	-20.5	
1002	4.14	~~500~~ 500	300	16.66	6.14	.626	1.51	21.0	.31	-74.2	
1007	4.16	~~600~~ 600	300	16.58	6.12	.670	.83	21.6	.33	-87.0	
1012	4.17	~~700~~ 700	250	16.51	6.13	.693	.81	19.6	.34	-92.1	
1017	4.18	~~850~~ 850	250	16.82	6.13	.698	.79	19.4	.34	-96.6	
1022	4.20	~~1000~~ 1000	250	16.44	6.14	.709	.71	17.8	.35	-98.5	TURB = 6.08

Remarks: _____

B.2.6

ZONE 6

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 232T 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 6 GW00101
Sample Location: MW1-6RI
Sampled By: JR KJM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Date: 103097								
Time: 1650	5.81							
Method: Low Flow	~~5.96~~	~~0.236~~	~~14.94~~	~~0.39~~	6.34	~~0.11~~	~~44.5~~	0.0 mg/L

TE 3/23/98

PURGE DATA

Date:	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial		0.176	12.00	3.75	5.07	0.08	52.8
Monitor Reading (ppm): 0.3	1							
Well Casing Diameter: 2.0	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 34.30								
Static Water Level (WL): 27.30								
One Casing Volume(gal/L): 1.19								
Start Purge (hrs): 1603								
End Purge (hrs): 1643								
Total Purge Time (min): 40								
Total Vol. Purged (gal/L): ~~5~~ 10								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓
TCL VOC - Low Concentration	HCL	3	x	40 mL Glass Vial	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD

Duplicate ID No.: GWFD-002

Signature(s):

Low Flow Purge Data Sheet

Well No.: LSGG-W00101 MW1-6RI

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE:

DATE: 10/30/97
WEATHER: 50° Clear skies
PERSONNEL: JR KJM

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 27.30 @ 1600 hrs.

Pump Type/Material: Teflon
Pump Intake Depth: 31.0'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ____ (gal / L)
TD - 34.30

Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~ORP~~ Eh mV	Comments
1603	27.41	Initial	250	14.94	5.96	.236	6.39	63 3	.11	44.5	
1608	27.41	1250	250	12.42	5.84	.178	6.21	41.3	.08	51.2	
1613	27.41	2500	250	12.36	5.83	.176	5.89	44.4	.08	49.0	
1618	27.42	3750	250	12.35	5.82	.176	5.67	30.4	.08	52.6	
1623	27.42	~~4000~~ 5000	250	12.22	5.82	.175	5.41	27.6	.08	531	
1628	27.42	~~4750~~ 6250	250	12.15	5.81	.176	5.42	27.9	.08	52.4	
1633	27.42	~~5500~~ 7500	250	12.12	5.81	.176	5.14	21.8	.08	52.4	
1638	27.42	~~6250~~ 8750	250	12.10	5.81	.176	5.06	21.7	.08	52.4	
1643	27.42	~~7000~~ 10000	250	12.00	5.81	.176	5.07	19.2	.08	52.8	
1650	SAMPLE TIME										

Remarks: PID 0.3 ppm + Duplicate
2020 Turbity meter 3.75

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS6GW002.01
Sample Location: MW2-6RI
Sampled By: DJS/KM
C.O.C. No.:
Type of Sample:
[X] Low Concentration VOLITILES
[ ] High Concentration

SAMPLING DATA

Date: 11-4-97 / Time: 0910	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Method: Low flow	7.06	1.864	15.91	~~5.1~~	38.85	0.95	-151.5	0.6 mg/L

PURGE DATA

Date: 11-4-97	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: Low flow	Initial				1.42			
Monitor Reading (ppm): 0	1				TB 3/23/98			
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 7.95								
Static Water Level (WL): 2.78								
One Casing Volume (gal/L): 0.9								
Start Purge (hrs): 0810								
End Purge (hrs): 0905								
Total Purge Time (min): 55								
Total Vol. Purged (gal/L) 14.5								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓
TCL VOC	HCl	3	X	40ml Glass Vial	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
(Duplicate ID No.: Duplicate 004)

Signature(s): David Schaefer

CS66W00201

Low Flow Purge Data Sheet

Well No.: MW2-6RI

PROJECT:	NSB-NLON	**DATE:**	11-4-97
PROJECT NUMBER:	7237	**WEATHER:**	50s, Fog
SITE:	Zone 6	**PERSONNEL:**	Dave Schodtkenberg, Kelvin Margetts

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 2.78 @ 0805 hrs.

Pump Type/Material: gc0pump2 / ~~PVC~~ Tryon
Pump Intake Depth: 5.4 feet

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ____ (gal / L)
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ ORP mV	Comments
0810	2.78	Initial	200	14.23	5.76	2.246	16.88	-1.5	1.14	53.6	
0815	2.78	1000	250	15.04	6.55	1.906	18.78	-2.7	0.97	11.0	
0820	2.78	1250	250	15.43	6.87	1.877	24.51	-3.2	0.96	-22.6	
0825	2.78	1250	250	15.44	6.92	1.877	25.52	-3.8	0.96	-34.4	
0830	2.78	1250	250	15.55	6.98	1.875	29.69	-4.6	0.96	-61.8	
0835	2.78	1250	250	15.65	7.01	1.893	34.07	-4.5	0.97	-89.2	
0840	2.78	1250	250	15.67	7.02	1.892	31.84	-4.7	0.97	-105.5	
0845	2.78	1250	250	15.72	7.04	1.907	33.52	-5.0	0.98	-117.5	
0850	2.77	1250	250	15.79	7.04	1.904	38.19	-4.7	0.98	-131.2	
0855	2.75	1250	250	15.78	7.05	1.908	36.79	-4.9	0.97	-141.8	
0900	2.76	1750	350	15.91	7.05	1.887	39.92	-5.0	0.96	-146.9	
0905	2.75	1750	350	15.91	7.06	1.964	38.85	-5.1	0.95	-151.5	
	Final turbidity = 1.42										

Remarks: 0910 sample MW2-6RI

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[ ] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 6 GW00301
Sample Location: MW3-ORI
Sampled By: JR KJM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 110397 / Time: 0855	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Method: Low Flow	7.25	.553	15.80	~~80.1~~	4.51	0.27	-626	0.0

PURGE DATA

Date:	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: Low Flow	Initial				1.18			
Monitor Reading (ppm): 0.0	1				TE 3/23/98			
Well Casing Diameter: 2.0	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 7.85								
Static Water Level (WL): 3.0								
One Casing Volume(gal/L): ~~4.85~~ .82								
Start Purge (hrs): 0810								
End Purge (hrs): 0845								
Total Purge Time (min): 35								
Total Vol. Purged (gal/L): 8.75								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓
VOA	HCL	3 x 140mL	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s): [signature]

Low Flow Purge Data Sheet

LS6GWC0301

Well No.: MW3-6RI

PROJECT:	NSB-NLON	**DATE:**	110397
PROJECT NUMBER:	7237	**WEATHER:**	45° clear sky
SITE:	Groton lower Base	**PERSONNEL:**	JR KJM

Well Screen Depth: _____ / _____ ft.
Initial Water Level: 3.00 @ 800 hrs.

Pump Type/Material: _____
Pump Intake Depth: _____

Tide Cycle: [ ] High @ _____
[ ] Low @ _____
[X] Not Affected

Total Purge Volume= 8.75 liters (gal / L) **Drawdown + Tubing Volume=** _____ (gal / L)
TD - 7.85

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ ORP mV	Comments
0810	3.00	initial	250	14.59	7.42	.583	7.34	32.4	.28	-64.2	
0815	3.02	1250 ~~initial~~	250	14.80	7.22	.577	5.75	29.0	.28	-63.6	
0820	3.02	2500	250	15.45	7.25	.577	5.47	24.8	.28	-63.0	
0825	3.00	3750	250	15.44	7.26	.575	5.06	22.4	.28	-62.4	
0830	3.00	5000	250	15.59	7.26	.568	5.47	21.3	.28	-62.0	
0835	3.00	6250	250	15.67	7.26	.559	4.58	20.8	.27	-62.6	
0840	3.00	7500	250	15.78	7.25	.555	4.53	20.4	.27	-62.5	
0845	3.00	8750	250	15.80	7.25	.553	4.51	20.1	.27	-62.6	
0855	sample time										

Remarks: PID - 0.0 ppm
2020 turbidimeter — 1.18 ~~ppm~~ ppm
GND 4-6-98

Page ___

GROUNDWATER SAMPLE LOG SHEET

Project Site Name:	NSB-NLON	Sample ID No.:	LS 6 GW~~00001~~ 00401 TE 11/3/97
Project No.:	~~7327~~ 7237	Sample Location:	MW4 GRI
		Sampled By:	JR KJM
[ ] Domestic Well Data		C.O.C. No.:	
[X] Monitoring Well Data		Type of Sample:	
[ ] Other Well Type:		[ ] Low Concentration	
[ ] QA Sample Type:		[ ] High Concentration	

SAMPLING DATA

Date: 110397	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Time: 1320								
Method: Low Flow	6.92	.321	17.10	~~19.6~~	2.45	.15	-42.3	0.0

PURGE DATA

Date:	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial				0.64			
Monitor Reading (ppm): 0.0ppm	1				TE 3/23/98			
Well Casing Diameter: 2.0	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 7.90								
Static Water Level (WL): 3.40								
One Casing Volume(gal/L): .76								
Start Purge (hrs): 1250								
End Purge (hrs): 1315								
Total Purge Time (min): 25								
Total Vol. Purged (gal/L): 6.25								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓
TCL VOC - Low Concentration	HCl	3	x	40 mL Glass Vial	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [signature]

Low Flow Purge Data Sheet

Well No.: MW4-6RI

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE:

DATE: 110397
WEATHER: 55° clear skys
PERSONNEL: JR KJM

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 3.40 @ 1249 hrs.

Pump Type/Material: Teflon
Pump Intake Depth: 6.0'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= 6.25 liters (gal / L) TD - 7.90
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ orp mV	Comments
1250	3.43	Initial	250	18.05	7.07	.307	4.02	20.3	.15	-41.9	
1255	3.43	1250	250	17.29	6.94	.317	2.83	20.1	.15	-39.6	
1300	3.43	2500	250	17.17	6.91	.320	2.84	19.9	.15	-39.7	
1305	3.43	3750	250	17.15	6.91	.322	2.50	19.7	.15	-40.6	
1310	3.43	5000	250	17.16	6.92	.321	2.46	19.7	.15	-41.6	
1315	3.43	6250	250	17.10	6.92	.321	2.45	19.6	.15	-42.3	
1320	sample	time									

Remarks: PID - 0.0ppm
2020 - turbidimeter - 0.64

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 6 GW 005 01
Sample Location: MW5-6RI
Sampled By: KJM/RJ
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 110397 / Time: 1100	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Method: Slow flow	6.80	.157	17.18	19.7	1.47	0.07	-64.5	0.0

PURGE DATA

Date: 110397	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: Slow flow	Initial							
Monitor Reading (ppm): 0 ppm	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 7.65								
Static Water Level (WL): 3.65								
One Casing Volume(gal/L): .68 gal								
Start Purge (hrs): 1026								
End Purge (hrs): 1056								
Total Purge Time (min): 30 min								
Total Vol. Purged (gal/L): 7.54								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	—
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
TCL SVOC	None	2	x	1L Amber Glass	—
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	—
Hardness	HNO3	1	x	125 mL HDPE Plastic	—
Dissolved Methane	HCl	3	x	40 mL Glass Vial	—
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	—

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

LSIGW00501
Well No.: MW5-GRI

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: Lower Base Groton

DATE: 110397
WEATHER: 50° clear skys
PERSONNEL: JM KJM

Well Screen Depth: _____ / _____ ft.
Initial Water Level: 3.05 @ 1022 hrs.
Pump Type/Material: _____
Pump Intake Depth: 5.5'

Tide Cycle: [ ] High @ _____ [ ] Low @ _____ [X] Not Affected

Total Purge Volume= 7.65 (gal / L)
Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ ORP mV	Comments
1026	3.66	initial	250	16.84	7.53	.177	5.32	20.6	0.09	-60.7	
1031	3.66	1250	250	16.74	7.19	.165	3.27	20.3	0.08	-58.9	
1036	3.66	2500	250	16.76	6.92	.159	2.11	20.2	0.07	-59.2	
1041	3.66	3750	250	16.71	6.86	.155	1.92	19.9	0.07	-59.8	
1046	3.66	5000	250	16.90	6.84	.157	1.65	20.1	0.07	-61.6	
1051	3.66	6250	250	16.82	6.80	.157	1.51	19.9	0.07	-62.3	
1056	3.65	7500	250	17.18	6.80	.157	1.47	19.7	0.07	-64.5	
Sample time 1100											

Remarks: PID- 0.0ppm
2020 - turbidimeter -

B.2.7

ZONE 7

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~4927~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS7 GW20mw201
Sample Location: 20mw2
Sampled By: JR IGM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 103097	pH	S.C.	Temp.	Turbidity	DO	Salinity	~~Eh~~ ORP	Fe+2
Time: 1145	6.89	mS/cm	°C	NTU				
Method: Low Flow	~~6.88~~	~~.756~~	~~20.50~~	~~4.05~~	~~1.54~~	.37	~~-181.5~~	6.0

PURGE DATA

Date: 103097	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial		.755	20.33	4.48	0.48		-189.9
Monitor Reading (ppm): 0.0ppm	1				TB 3/23/98			
Well Casing Diameter: 2.0"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 12.35								
Static Water Level (WL): 5.13								
One Casing Volume(gal/L): 1.2								
Start Purge (hrs): 1049								
End Purge (hrs): 1139								
Total Purge Time (min): 50								
Total Vol. Purged (gal/L): 14 Liters								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD | Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: LSTCW20MW201 (20MW2)

PROJECT:	NSB-NLON	DATE:	103097
PROJECT NUMBER:	7237	WEATHER:	55° Clear skies
SITE:		PERSONNEL:	JR KJM

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 5.13 @ 1035 hrs.
Pump Type/Material: Teflon
Pump Intake Depth: 8.6
Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected
Total Purge Volume= ____ (gal / L)
Drawdown + Tubing Volume= ____ (gal / L)
TD- 12.35

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
1049	~~Initial~~ 5.22	Initial	250	19.01	6.91	.794	1.56	62.7	.39	-145.2	
1054	5.19	1250	~~250~~ 300	20.29	6.88	.783	1.12	20.7	.39	-165.8	
1059	5.20	2750	300	20.34	6.88	.777	0.78	21.9	.38	-174.2	
1104	5.20	4250	300	20.36	6.88	.770	0.67	20.2	.38	-179.9	
1109	5.20	5750	300	20.25	6.88	.765	0.63	19.7	.38	-182.1	
1114	5.20	7250	300	20.28	6.88	.761	0.57	17.9	.37	-185.2	
1119	5.20	8750	300	20.22	6.89	.758	0.48	16.9	.37	-187.4	
1124	5.22	10250	300	20.18	6.89	.757	0.60	26.2	.37	-186.5	
1129	5.22	11750	300	20.36	6.89	.757	0.52	18.0	.37	-188.4	
1134	5.22	13250	300	20.39	6.89	.757	0.49	25.0	.37	-188.9	
1139	5.22	14750	300	20.33	6.89	.755	0.48	20.2	.37	-189.9	
1145	sample time								~~.39~~		
1205		Final		20.50	6.88	.756	1.54	20.5	.37	-181.5	

Remarks: PID – 0.0 ppm
2020 - turbidimeter – 4.48

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 7 GW 20MW3 01
Sample Location: 20 MW3
Sampled By: KJM / DJS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 110497 / Time: 1130	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Method: slow flow	6.44	.143	18.16	8.5	7.40	0.07	-101.6	0

PURGE DATA

Date: 110497	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method: slow flow	Initial							
Monitor Reading (ppm): 0 ppm	1							
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 12.05								
Static Water Level (WL): 4.15								
One Casing Volume(gal/L): 13 gal								
Start Purge (hrs): 1030								
End Purge (hrs): 1125								
Total Purge Time (min): 55 min								
Total Vol. Purged (gal/L): 11.25 L								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	—
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
TCL SVOC	None	2	x	1L Amber Glass	—
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	—
Hardness	HNO3	1	x	125 mL HDPE Plastic	—
Dissolved Methane	HCl	3	x	40 mL Glass Vial	—
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	—

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: 20MW3

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: Zone 7

DATE: 11-3-97
WEATHER: 60, Sunny
PERSONNEL: Dave Schmackenberg, Kevin Marquiss

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 4.15 @ 1020 hrs.

Pump Type/Material: geopump 2/tygon
Pump Intake Depth: 8.1 feet

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ____ (gal / L)
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ ORP mV	Comments
1030	4.53	Initial	250	17.63	7.55	0.152	13.90	69.9	0.07	-90.6	
1035	4.50	1250	200	17.72	6.77	0.116	6.62	48.4	0.05	-60.6	
1040	4.48	2250	200	17.86	6.56	0.115	6.82	44.1	0.05	-58.3	
1045	4.46	3250	200	17.78	6.47	0.120	7.16	36.3	0.06	-64.5	
1050	4.46	4250	200	17.91	6.43	0.127	8.63	30.2	0.06	-72.6	
1055	4.44	5250	200	17.91	6.42	0.130	7.47	24.4	0.06	-77.8	
1100	4.42	6250	200	17.95	6.41	0.134	7.95	19.3	0.06	-82.1	
1105	4.41	7250	200	18.04	6.43	0.135	8.85	14.5	0.06	-90.2	
1110	4.40	8250	200	18.09	6.44	0.135	7.64	11.8	0.06	-95.1	
1115	4.39	9250	200	18.06	6.42	0.140	8.00	9.6	0.07	-96.8	
1120	4.37	10250	200	17.97	6.41	0.146	8.47	9.2	0.07	-96.5	
1125	4.36	11250	200	18.16	6.44	0.143	8.40	8.5	0.07	-101.6	

Remarks: final turbidity 8.49
1130 sample well

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 7 GW 20mw401
Sample Location: 20mw4
Sampled By: KJM / RJ
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 103097 / Time: 1000	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh ORP	Fe+2
Method: low flow	6.92	.707	22.1	~~44.1~~	.45	.34	-11.7	0.0

PURGE DATA

Date: 103097	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial				1.89			
Monitor Reading (ppm): 0.0ppm	1				~~15~~ 3/23/48			
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 13.95								
Static Water Level (WL): 5.38								
One Casing Volume(gal/L): 1.4 gal								
Start Purge (hrs): 0856								
End Purge (hrs): 0951								
Total Purge Time (min): 55 min								
Total Vol. Purged (gal/L): 14.75 gl.								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	—
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
TCL SVOC	None	2	x	1L Amber Glass	—
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	—
Hardness	HNO3	1	x	125 mL HDPE Plastic	—
Dissolved Methane	HCl	3	x	40 mL Glass Vial	—
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	—

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s): Dawn J. Margetts

Low Flow Purge Data Sheet

Well No.: LS7GW20MW401 20MW4

PROJECT:	NSB-NLON	DATE:	103097
PROJECT NUMBER:	7237	WEATHER:	45° clear skies
SITE:		PERSONNEL:	JR KJM

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 5.38 @ 0845 hrs.

Pump Type/Material: Teflon
Pump Intake Depth: 9.0'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= 14.75 Liters (gal / L) TD - 13.95'

Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP ~~Eh~~ mV	Comments
0856	5.38	initial	200	17.17	6.7	.699	1.49	21.1	.35	41.0	
0901	5.38	1000	200	20.1	6.77	.696	1.34	19.9	.34	32.8	
0906	5.38	2000	250	21.4	6.84	.701	.87	17.4	.34	21.3	
0911	5.38	3250	250	21.17	6.87	.707	.76	16.3	.35	15.8	
0916	5.38	4500	250	21.36	6.89	.707	.88	15.0	.34	10.1	
0921	5.38	5750	250	21.35	6.90	.710	.63	14.9	.35	5.5	
0926	5.37	7250	300	21.86	6.90	.707	.61	14.5	.34	1.1	
0931	5.36	8750	300	21.85	6.91	.712	.50	14.4	.35	-3.0	
0936	5.36	10250	300	21.89	6.91	.708	.57	14.4	.35	-5.9	
0941	5.36	11750	300	21.95	6.92	.708	.48	14.3	.34	-7.4	
0946	5.36	13250	300	22.06	6.92	.705	.46	14.1	.34	-9.9	
0951	5.36	14750	300	22.1	6.92	.707	.45	14.1	.34	-11.7	
1000	sample time										
1020	5.36	Final	300	20.53	6.91	.690	.83	~~13.6~~ 1.89	.34	-16.5	

Remarks: WL rising in well PID reading - 2020 turbidimeter - 1.89

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7327 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 7GW 20MW50
Sample Location: 20MW5
Sampled By: JR KDM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 102897 / Time: 1740	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh ORP	Fe+2
Method: Low Flow	6.62	0.027	14.8	3.6	8.10	0.01	64.9	0.0

PURGE DATA

Date:	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: 2.0	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 13.39								
Static Water Level (WL): 3.88								
One Casing Volume(gal/L): 1.6								
Start Purge (hrs): 1658								
End Purge (hrs): 1733								
Total Purge Time (min): 35								
Total Vol. Purged (gal/L): 10.5								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	—
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
TCL SVOC	None	2	x	1L Amber Glass	—
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	—
Hardness	HNO3	1	x	125 mL HDPE Plastic	
Dissolved Methane	HCl	3	x	40 mL Glass Vial	—
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	—

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD | Duplicate ID No.:

Signature(s):

1.61 x 3 = 4.85

Low Flow Purge Data Sheet

Well No.: 20mw5

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE:

DATE: 102897
WEATHER: 45° PC windy
PERSONNEL: JR KJM

Well Screen Depth: _____ / _____ ft.
Initial Water Level: 3.88 @ 1631 hrs.
Total Purge Volume= 10.5L (gal / L) TP 13:39

Pump Type/Material: _____
Pump Intake Depth: _____

Drawdown + Tubing Volume= _____ (gal / L)

Tide Cycle: [ ] High @ _____ [ ] Low @ _____ [ ] Not Affected

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP ~~Eh~~ mV	Comments
1658	3.93	inital	300	11.50	6.40	0.033	11.13	1.1	0.01	161.2	
1703	3.94	~~300~~1500	300	13.04	6.74	0.031	1.85	20.1	0.01	148.7	
1708	3.95	3000	300	13.62	6.74	0.030	5.69	11.3	0.01	125.9	
1713	3.95	4500	300	14.28	6.69	0.030	9.61	7.8	0.01	95.7	
1718	3.95	6000	300	15.10	6.68	0.028	9.33	5.8	0.01	77.5	
1723	3.95	7500	300	15.29	6.66	0.027	9.05	4.6	0.01	70.0	
1728	3.95	9000	300	15.38	6.64	0.027	8.85	4.0	0.01	64.7	
1733	3.95	10500	300	14.8	6.62	0.027	8.10	3.6	0.01	61.9	
1800	3.96										

Remarks: _____

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 7 GW 20 MW601
Sample Location: 20MW6
Sampled By: KSM/RS
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 10/3/97 Time: 0950 Method: Slow Flow	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
	6.62	.396	16.9	~~2.8~~	2.17	.19	-45.9	1.0

PURGE DATA

Date: 10/3/97 Method: Slow Flow Monitor Reading (ppm): 0.7 ppm Well Casing Diameter: 2" Well Casing Material: PVC	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
	Initial				4.37			
	1				~~2.8~~ 3/23/98			
	2							
	3							
Total Well Depth (TD):								
Static Water Level (WL): 7.20								
One Casing Volume(gal/L):								
Start Purge (hrs): ~~7.20~~ 855								
End Purge (hrs): 940								
Total Purge Time (min): ~~1.25~~ 45 min								
Total Vol. Purged (gal/L): 11.25 H								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD

Duplicate ID No.: GWFD-003
~~LS7GW20MW601~~

Signature(s):

ZONE 7

Low Flow Purge Data Sheet

Well No.: LS7GW20MW601

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE: Groton Low Sub Base Zone 7

DATE: 10 3 97
WEATHER: Cool & Sunny 40° F
PERSONNEL: Kevin J. Margetts / Jeff Redden

Well Screen Depth: — / — ft.
Initial Water Level: 7.20 @ ____ hrs.
Total Purge Volume= ____ (gal / L)

Pump Type/Material: Parastoltic
Pump Intake Depth: 10.00 FT
Drawdown + Tubing Volume= ____ (gal / L)

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP ~~Eh~~ mV	Comments
855	7.20	~~2500~~ initial	250	14.64	6.67	.343	2.23	69.0	.16	5.2	
900	7.22	~~2500~~ 1250 ~~500~~	250	16.43	6.61	.361	2.11	26.6	.17	-14.0	
905	7.22	~~7500~~ 2500 mL	250	16.55	6.63	.375	2.10	14.4	.18	-25.2	
910	7.22	3750	250	16.61	6.63	.384	2.06	7.5	.18	-32.5	
0915	7.23	5000	250	16.65	6.63	.391	2.03	5.6	.19	-37.5	
0920	7.23	6250	250	16.65	6.63	.393	2.07	4.9	.19	-38.5	
0925	7.23	7500	250	16.70	6.63	.395	2.06	4.1	.19	-41.6	
0930	7.23	8750	250	16.81	6.63	.395	2.06	3.2	.19	-42.9	
0935	7.23	10000	250	16.89	6.62	.396	2.10	2.9	.19	-44.9	
0940	7.23	11250	250	16.90	6.62	.396	2.18	~~2.8~~ 4.37	.19	-45.9	
0950	sample time							END 4-6-98			

Remarks: Ø ppm PID
2020 turbidimeter - 4.37

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS7 GW ~~20MW701~~ 20MW701 TE 3/23/98
Sample Location: 20 MW 7
Sampled By: JR KJM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Date: 103197 / Time: 1500								
Method: Low Flow	7.76	.510	18.33	~~129.7~~ N	2.64	.25	-238.0	0.9

PURGE DATA

Date:	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial				1.59			
Monitor Reading (ppm): 0.0	1				TE 3/23/98			
Well Casing Diameter: 2.0	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 12.40								
Static Water Level (WL): 3.14								
One Casing Volume(gal/L): 1.5								
Start Purge (hrs): 1345								
End Purge (hrs): 1445								
Total Purge Time (min): 60								
Total Vol. Purged (gal/L): 15.0								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: LS76Gw20MW701

PROJECT:	NSB-NLON	**DATE:**	103197
PROJECT NUMBER:	7237	**WEATHER:**	50° & PC skies
SITE:	Lower Sub base	**PERSONNEL:**	JR KJM

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 3.14 @ 1345 hrs.
Pump Type/Material: Teflon
Pump Intake Depth: 8'
Tide Cycle: [ ] High @ ____ [X] Low @ ~1545 [ ] Not Affected
Total Purge Volume= TP 12.40 (gal / L)
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	~~Eh~~ ORP mV	Comments
1345	3.16	Initial	250	18.62	7.21	.33	6.78	9.00	.26	-27.9	
1350	3.17	1250	250	18.41	7.55	.537	3.35	6.4	.26	-170.9	
1355	3.17	2500	250	18.43	7.60	.536	3.35	12.2	.26	-182.3	
1400	3.17	3750	250	18.45	7.62	.534	3.35	14.1	.26	-195.6	
1405	3.17	5000	250	18.46	7.66	.533	3.36	15.9	.26	-202.4	
1410	3.17	6250	250	18.40	7.70	.529	3.11	28.0	.26	-216.0	
1415	3.17	7500	250	18.38	7.72	.527	3.27	40.6	.25	-221.8	
1420	3.20	8750	250	18.38	7.73	.521	2.96	65.6	.25	-223.9	
1425	3.21	10,000	250	18.43	7.75	.516	2.70	61.4	.25	-230.1	
1430	3.22	11,250	250	18.35	7.76	.514	2.48	74.9	.25	-234.5	
1435	3.25	12500	250	18.36	7.76	.513	2.49	95.7	.25	-237.6	
1440	3.25	13750	250	18.34	7.77	.511	2.56	117.4	.25	-238.0	
1445	3.26	15000	250	18.33	7.76	.510	2.64	129.7	.25	-238.0	
1450		16250	250								

Remarks: PID - 0.0 ppm
2020 turbidimeter 1.59
WL rises when large truck pass by well in street

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type: 0.724

Sample ID No.: LS 7 GW001-001
Sample Location: MW5-7RI
Sampled By: JR KJM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 102997	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO mg/L	Salinity	Eh	Fe+2
Time: 1645								
Method: Low Flow	6.39	~~0.683~~	~~18.86~~	1.4	~~2.16~~	0.35	~~-93.3~~	6.0

PURGE DATA

Date:	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial	~~19.91~~	~~0.724~~	19.91		0.41		-158.5
Monitor Reading (ppm): 0.0	1	TC	TC					
Well Casing Diameter: 2.0	2	3	23/45					
Well Casing Material: PVC	3							
Total Well Depth (TD): 9.70								
Static Water Level (WL): 5.75								
One Casing Volume(gal/L): .67								
Start Purge (hrs): 1555								
End Purge (hrs): 1640								
Total Purge Time (min): 45								
Total Vol. Purged (gal/L): 10.3								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD

Duplicate ID No.: GWFD-001

Signature(s): [signature]

Low Flow Purge Data Sheet

Well No.: MW57RI

PROJECT:	NSB-NLON	**DATE:**	102997
PROJECT NUMBER:	7237	**WEATHER:**	~~80~~ 45° Clear skies
SITE:		**PERSONNEL:**	JR KJM

Well Screen Depth: _____ / _____ ft.
Initial Water Level: 5.75 @ 1532 hrs.
Pump Type/Material: Teflon
Pump Intake Depth: 7.5
Tide Cycle: [ ] High @ _____ [ ] Low @ _____ [X] Not Affected
Total Purge Volume= 10.3 L (gal / L) TD - 9.70
Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
1555	5.79	Initial	300	19.09	6.73	~~2~~.718	3.44	55.1	.35	-78.6	
1600	5.79	300	~~250~~ 250	19.67	6.41	.743	1.15	29.6	.36	-126.2	
1605	5.79	1550	250	19.77	6.39	.743	.83	10.7	.36	-140.6	
1610	5.79	2800	250	19.86	6.39	.736	.65	3.5	.36	-149.6	
1615	5.79	~~3~~4050	250	19.85	6.39	.735	.56	0.1	.36	-153.5	
1620	5.79	~~4~~5300	250	19.81	6.39	.731	.46	-.7	.36	-156.0	
1625	5.79	6550	250	19.86	6.39	.728	.58	-1.0	.36	-157.3	
1630	5.79	7800	250	19.86	6.38	.729	.42	-1.1	.35	-156.8	
1635	5.79	9050	250	19.84	6.38	.729	.44	-1.5	.35	-157.4	
1640	5.79	10300	250	19.91	6.39	.724	.41	-1.3	.35	-158.5	
1715	5.79	Final		18.81	6.30	.683	2.16	-1.7	.33	-93.3	

Remarks: PID - 0.0 ppm
2020 Turbidimeter - 1.4

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 7 GW00301
Sample Location: MW1-9RF
Sampled By: JR KJM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 103197 / Time: 1135	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	Eh	Fe+2
Method: Low Flow	7.26	0.230	21.79	5.60	1.01	0.11	-151.1	0.6

PURGE DATA

Date:	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial							
Monitor Reading (ppm): 0.0	1							
Well Casing Diameter: ~~PVC~~ 2.0	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 9.30								
Static Water Level (WL): 5.23								
One Casing Volume(gal/L): 4.07								
Start Purge (hrs): 1047								
End Purge (hrs): 1125								
Total Purge Time (min): 38								
Total Vol. Purged (gal/L): 8.75								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: LS7GW00301 (MW17R1)

PROJECT:	NSB-NLON	DATE:	103197
PROJECT NUMBER:	7237	WEATHER:	50° clear skys
SITE:		PERSONNEL:	JR KSM

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 5.23 @ 1040 hrs.
Pump Type/Material: ____
Pump Intake Depth: 7.20
Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected
Total Purge Volume= 8.75 liters (gal / L) TD - 9.30
Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
1047	5.45	Initial	250	21.33	7.06	.246	4.01	-0.2	.12	-31.7	
1052	5.33	1250	250	21.60	7.17	.230	1.70	-1.6	.11	-74.5	
1057	5.33	2500	250	21.65	7.21	.228	1.37	-2.2	.11	-117.5	
1105	5.33	3750	250	21.70	7.24	.226	1.11	-2.0	.11	-134.0	
1110	5.33	5000	250	21.84	7.25	.229	1.12	-1.8	.11	-140.5	
1115	5.33	6250	250	21.76	7.25	.229	1.05	-2.3	.11	-143.6	
1120	5.33	7500	250	21.80	7.27	.228	1.05	-2.4	.11	-150.6	
1125	5.33	8750	250	21.79	7.26	.230	1.01	-2.6	.11	-151.1	
1135	Sample time										

Remarks: PID 0.0 ppm
2020 - turbidimeter - 5.60

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 232T 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

53.83

Sample ID No.: LS7 GW00401
Sample Location: MW2-7RI
Sampled By: JR KJM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Date: 162497								
Time: 0920								
Method: Low Flow	7.74	~~1.07~~	~~55.07~~	~~3.6~~	~~46~~	~~.12~~	~~-274.9~~	0.0

PURGE DATA

Date:	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial		~~1.274~~		1.84	0.41	0.13	-257.3
Monitor Reading (ppm): 0.0	1		TB 3.27		TB 3.27			
Well Casing Diameter: 2.0	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 9.15								
Static Water Level (WL): 7.96								
One Casing Volume(gal/L): .763								
Start Purge (hrs): 0840								
End Purge (hrs): 0915								
Total Purge Time (min): 35								
Total Vol. Purged (gal) 7.5								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	✓
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	✓
TCL SVOC	None	2	x	1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	✓
Hardness	HNO3	1	x	125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3	x	40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: MW-7RI

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE:

DATE: 102997
WEATHER: 50° cloudy
PERSONNEL: JR KJM

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 4.96 @ 0825 hrs.

Pump Type/Material: Teflon
Pump Intake Depth: 7.0'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= ~~9.5 g~~ 7.5 liters (gal / L) TD - 9.43

Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP Eh mV	Comments
0840	~~initial~~ 4.98	initial	200	47.19	7.77	.2454	1.13	24.1	.13	-54.4	
0845	4.98	1000	200	50.97	7.85	.247	.82	8.13	.13	-149.9	
0850	4.98	2250	250	52.43	7.82	.291	.73	2.0	.13	-196.5	
0855	4.98	3500	250	53.06	7.79	.290	.54	-.6	.13	-224.4	
0900	4.98	4750	250	53.58	7.76	.289	.53	-1.6	.13	-237.7	
0905	4.98	5000	250	53.78	7.74	.287	.42	-2.9	.13	-249.5	
0910	4.98	6250	250	53.86	7.74	.285	.52	-3.0	.13	-259.6	
0915	4.98	7500	250	53.83	7.74	.285	.41	-3.1	.13	-257.3	
0940	4.98		250	55.07	7.72	.278	.46	-3.6	.12	-274.9	

Remarks: 2020 Turbimeter reading - 1.84

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~1327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 7 GW000701
Sample Location: MW3-7RI
Sampled By: JR RJM
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

Date: 102497 / Time: 1100	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ ORP	Fe+2
Method: Low Flow	~~7.02~~	~~.785~~	~~18.8~~	~~216~~	~~1.89~~	.39	~~-126~~	0.0

PURGE DATA

Date:	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Method:	Initial	6.90	0.800	19.20	1.45	0.42		-85.6
Monitor Reading (ppm): 0.5	1				RE 3/23/98			
Well Casing Diameter: 2.0	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 8.26								
Static Water Level (WL): 3.81								
One Casing Volume(gal/L): .75								
Start Purge (hrs): 1014								
End Purge (hrs): 1054								
Total Purge Time (min): 40								
Total Vol. Purged (gal/L): 12								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements	Collected
TPH (418.1)	HCl	2 x 1L Amber Glass	✓
Total TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
Dissolved TAL Metals	HNO3	1 x 500 mL HDPE Plastic	✓
TCL SVOC	None	2 x 1L Amber Glass	✓
Phosphate, Ammonia, TOC	H2SO4	1 x 250 mL Amber Glass	✓
Hardness	HNO3	1 x 125 mL HDPE Plastic	✓
Dissolved Methane	HCl	3 x 40 mL Glass Vial	✓
Alkalinity, Sulfate, Chloride, Nitrate	None	1 x 1L HDPE Plastic	✓

OBSERVATIONS / NOTES

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

Low Flow Purge Data Sheet

Well No.: MW37RL

PROJECT: NSB-NLON
PROJECT NUMBER: 7237
SITE:

DATE: 102997
WEATHER: 55° Cloudy
PERSONNEL: JR KJM

Well Screen Depth: ____ / ____ ft.
Initial Water Level: 3.81 @ 1005 hrs.

Pump Type/Material: Teflon
Pump Intake Depth: 6.0'

Tide Cycle: [ ] High @ ____ [ ] Low @ ____ [X] Not Affected

Total Purge Volume= 12.0 Liters (gal / L) TD - 8.2'

Drawdown + Tubing Volume= ____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	Eh mV	Comments
1014	3.84	Initial	400	19.52	7.54	.796	2.32	-1.7	.39	54.9	
1019	3.84	1500	300	19.40	7.12	.793	0.93	-2.1	.39	39.1	
1024	3.84	3000	300	19.35	6.98	.790	.72	-1.4	.39	15.5	
1029	3.84	4500	300	19.29	6.93	.791	.73	~~-1.1~~ -1.6	.39	-6.7	
1034	3.84	6000	300	19.32	6.91	.789	.45	-2.1	.39	-32.1	
1039	3.84	7500	300	19.29	6.90	.790	.52	-2.0	.39	-53.1	
1044	3.84	9000	300	19.24	6.90	.798	.44	-2.5	.39	-70.4	
1049	3.84	10500	300	19.27	6.90	.798	.42	-2.6	.39	-78.4	
1054	3.84	12000	300	19.20	6.90	.800	.42	-2.8	.39	-85.6	
1100	Sample time								B		
1120			300	18.8	7.02	.785	1.89	-1.6	.39	-62.6	

Remarks: 2020 turbimeter reading - 1.45
PID - 0.5 ppm in well

GROUNDWATER SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: ~~7327~~ 7237

[ ] Domestic Well Data
[X] Monitoring Well Data
[ ] Other Well Type:
[ ] QA Sample Type:

Sample ID No.: LS 7 GW ~~MW401~~ 00401
Sample Location: MW4 - 7RI
Sampled By: KJM/JR
C.O.C. No.:
Type of Sample:
[ ] Low Concentration
[ ] High Concentration

SAMPLING DATA

	pH	S.C. mS/cm	Temp. °C	Turbidity NTU	DO	Salinity	~~Eh~~ DRP	Fe+2
Date: 102997								
Time: 1330								
Method: Slow flow	6.77	.642	18.24	~~381~~	.54	.31	-172.2	

PURGE DATA

	Volume	pH	S.C.	Temp	Turbidity	DO	Salinity	Eh
Date: 102997								
Method: Slow flow	Initial				1.63			
Monitor Reading (ppm): 0 ppm	1				TE 3/23/98			
Well Casing Diameter: 2"	2							
Well Casing Material: PVC	3							
Total Well Depth (TD): 987								
Static Water Level (WL): 5.52								
One Casing Volume(gal/L): .7 gal								
Start Purge (hrs): 1243								
End Purge (hrs): 1318								
Total Purge Time (min): 35 min								
Total Vol. Purged (gal/L): 8.1254								

SAMPLE COLLECTION INFORMATION

Analysis	Preservative	Container Requirements			Collected
TPH (418.1)	HCl	2	x	1L Amber Glass	—
Total TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
Dissolved TAL Metals	HNO3	1	x	500 mL HDPE Plastic	—
TCL SVOC	None	2	x	1L Amber Glass	—
Phosphate, Ammonia, TOC	H2SO4	1	x	250 mL Amber Glass	—
Hardness	HNO3	1	x	125 mL HDPE Plastic	—
Dissolved Methane	HCl	3	x	40 mL Glass Vial	—
Alkalinity, Sulfate, Chloride, Nitrate	None	1	x	1L HDPE Plastic	—

OBSERVATIONS / NOTES

Circle if Applicable:

MS/MSD

Duplicate ID No.:

Signature(s): Kim J Murgatt

Low Flow Purge Data Sheet

Well No.: MW-7RI

PROJECT:	NSB-NLON	**DATE:**	102997
PROJECT NUMBER:	7237	**WEATHER:**	55° PC
SITE:		**PERSONNEL:**	JR KJM

Well Screen Depth: _____ / _____ ft.
Initial Water Level: 5.52 @ 1235 hrs.
Pump Type/Material: _____
Pump Intake Depth: _____
Tide Cycle: [ ] High @ _____ [X] Low @ _____ [ ] Not Affected
Total Purge Volume= 8.125 Liters (gal / L) TD 9.87
Drawdown + Tubing Volume= _____ (gal / L)

Time	Water Level feet below TOC	Volume mL	Flow Rate mL/min	Temp °C	pH	Sp Cond mS/cm	DO mg/L	Turbidity NTU	Salinity %	ORP ~~Eh~~ mV	Comments
1243	5.64	initial		18.01	7.00	.650	5.39	17.6	.32	-72.9	
1248	5.68	1500	300	18.25	6.77	.642	1.41	16.2	.31	-138.1	
1253	5.69	2875	275	18.28	6.76	.639	.83	16.1	.31	-156.9	
1258	5.70	3125	250	18.34	6.76	.641	.62	15.3	.31	-162.0	
1303	5.70	4375	250	18.30	6.76	.641	.64	31.2	.31	-168.2	
1308	5.70	5625	250	18.21	6.76	.642	.52	28.6	.31	-170.2	
1313	5.70	6875	250	18.23	6.76	.641	.52	29.7	.31	-171.7	
1318	5.70	8125	250	18.24	6.77	.642	.54	38.1	.31	-172.2	
1330	sample time										
1350	5.73			18.01	6.76	.638	4.23	41.1	.31	-172.8	

Remarks: 2020 turbidimeter - 1.63
PID in hole - 0.0 ppm

Page ___ ___

19 MW2 - 0.0 PPM

B.3

THAMES RIVER SURFACE WATER AND SEDIMENT

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: LS1SD00101
Sample Location: SWYS01-1RI
Sampled By: TE / DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 10-21-97			
Time: 1957	0-6"	dk olive brn	organic silt tr sticks
Method: mod van Veen			(H2S odor)
Monitor Reading (ppm): –			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO	Salinity	Eh mV
shallow	1952	2.25 ft	7.80	15.52	42.03	0.8	8.54	27.02	151.5
deep	1955	40.755	7.84	16.02	44.81	3.5	7.66	28.99	150.8

SAMPLE COLLECTION INFORMATION

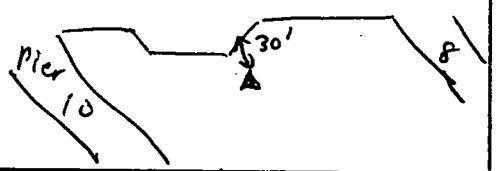
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
(TE) ~~TCL Pesticides~~	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41° 23.6423
LONGITUDE: W72° 05.5218
WATER/SEDIMENT INTERFACE DEPTH: 41.4 ft
LOW TIDE @ 2109 HRS.

MAP

X 7805 ~~31.05~~ 49.3
Y 2049 ~~75.82~~ 81.9 (TE)



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Tholf SC

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: LS150002 01
Sample Location: SW/SD2-IRF
Sampled By: TE/DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10/21/97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 1939	0-6"	dk olive brn	organic silt + mussel shell
Method: mod VanVeen			
Monitor Reading (ppm): —			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	1933	2.293ft	7.50	15.65	41.72	0.8	8.84	26.82	127.1
Deep	1935	41.154	7.76	16.01	44.79	1.4	7.59	29.01	125.6

SAMPLE COLLECTION INFORMATION

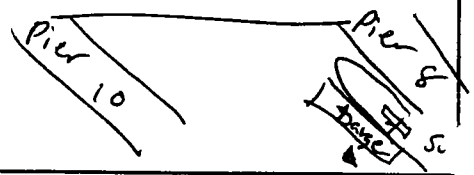
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41°23.6041
LONGITUDE: W 72°05.5537
WATER/SEDIMENT INTERFACE DEPTH: 44.6
LOW TIDE @ 2109 HRS.

MAP

X 780381.9
Y 204743.8



Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: LS1 SD00301
Sample Location: SW/SD3-1 RI
Sampled By: TE / DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 10-21-97			
Time: 2040	0-6"	dk olive brn	organic Silt tr shell, sticks
Method: mod Van Veen			
Monitor Reading (ppm):			(Soupy)

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	2036	2.221 ft	7.87	15.71	40.99	16.4	8.60	26.27	223.6
deep	2037	30.313	7.85	15.92	44.40	3.9	7.68	28.83	220.1

SAMPLE COLLECTION INFORMATION

Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
(TE) ~~TCL Pesticides~~	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	
	X 780 ~~381.9~~ (TE) 332.6		
	Y ~~204743.8~~ 205241.0		

OBSERVATIONS / NOTES

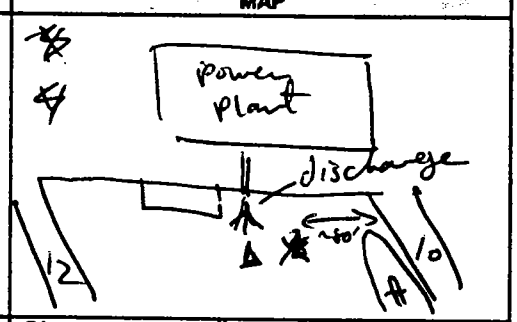
GPS COORDINATES: LATITUDE: N 41° 23.6776
LONGITUDE: W 72° 05.5627

WATER/SEDIMENT INTERFACE DEPTH: 32.2 ft

LOW TIDE @ 2109 HRS.

- Power Plant discharging H_2O @ outfall
- H_2O frothy @ location

MAP



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Timothy C

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: LS1SD00401
Sample Location: SW/SD4-1RI
Sampled By: TE/DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 10-21-97			
Time: 2020	0-6"	dk olive brn	organic silt tr gravel, sand, sticks, shell
Method: mod VanVeen			(gd texture)
Monitor Reading (ppm): —			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	2013	2.297ft	7.86	15.63	41.72	0.5	8.38	26.76	241.5
Deep	2014	20.615ft	7.83	15.91	43.54	29.3	7.55	28.06	222.1

SAMPLE COLLECTION INFORMATION

Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
TE ~~TCL Pesticides~~	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41° 23.7154
LONGITUDE: W 72° 05.5692
WATER/SEDIMENT INTERFACE DEPTH: ~~21.8~~ 24.2 TE
LOW TIDE @ 2109 HRS.

MAP

X 78038~~1.9~~ TE 17.3
Y 204~~743.8~~ TE 5417.4

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [signature]

SOIL / SEDIMENT SAMPLE LOG SHEET

LS2SD00101

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: SW/SD1-2RI
Sample Location: ~~Zone 2~~
Sampled By: TE/~~Zone 2 DS~~
C.O.C. No.: 8

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10-21-97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 0940	~~36.1-37.4~~	dk olive brn	organic silt fr fgr sand
Method: mod. Van Veen	0-6"		
Monitor Reading (ppm):			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	0935	1.844~~A~~	7.82	15.44	42.53	-1.8	7.68	27.36	176.8
Deep	0937	34.650	7.84	15.95	44.96	-0.7	6.92	29.13	174.8

SAMPLE COLLECTION INFORMATION

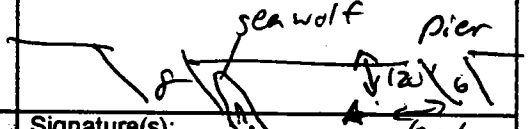
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~ (TP)	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	
		5	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N41°23.5689
LONGITUDE: W72°05.5073
WATER/SEDIMENT INTERFACE DEPTH: 38.4 ft
LOW TIDE @ 0824 HRS.

MAP

X 780603.0
Y 204539.0



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

SOIL / SEDIMENT SAMPLE LOG SHEET

LS2SD0021

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: SW/SD2-2RI
Sample Location:
Sampled By: TE/DS
C.O.C. No.: 8

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: ~~8-2~~ 10/21/97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 0910	~~41.8-42.5~~	dk olive brn	organic silt tr fgr sand
Method: Mod Van Veen	0-6"		
Monitor Reading (ppm):			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	0906	2-454ft	7.82	15.48	42.44	6.8	7.58	27.32	197.5
Deep	0909	37.627	7.85	15.94	45.03	46.7	6.89	29.17	154.3

SAMPLE COLLECTION INFORMATION

Analysis	Container Requirements	Collected	Other
TCL SVOC	3 ~~1~~ x 4 oz. jar / None	✓	
~~TCL Pesticides~~	~~3 1 x 2 oz. jar / None~~	~~✓~~	
TAL Metals	3 ~~1~~ x 4 oz. jar / None	✓	
AVS/SEM	3 ~~1~~ x 4 oz. jar / None	✓	
TOC, Ammonia, pH	3 ~~1~~ x 4 oz. jar / None	✓	
Grain Size	3 ~~1~~ x 2 oz. jar / None	✓	
		15	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41° 23.5935
LONGITUDE: W 72° 05.4916
WATER/SEDIMENT INTERFACE DEPTH: 41.8 ft
LOW TIDE @ 0824 HRS.

MAP

X 780675.0
Y 204685.3

Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s): [signature]

SOIL / SEDIMENT SAMPLE LOG SHEET

LS35D00101

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: SW/SO 1-3RI
Sample Location: ~~Zone 3~~
Sampled By: TE / DS
C.O.C. No.: 8

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 10-21-97			
Time: 0752	~~33.5~~ 33.8'	olive brn	<1½" sand
Method: Mod Van Veen	0-6"		organic silt
Monitor Reading (ppm): –			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	0747	2.627	7.82	15.48	42.65	-2.3	8.21	27.49	174.4
Deep	0749	29.24	7.84	15.92	45.02	-0.2	7.00	29.21	174.3

SAMPLE COLLECTION INFORMATION

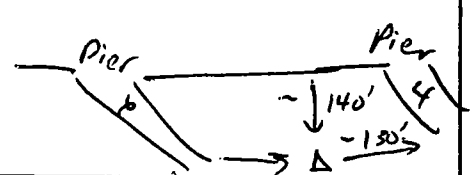
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~	~~1 x 2 oz. jar / None~~	~~✓~~	
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41° 23.5259
LONGITUDE: W 72° 05.4833
WATER/SEDIMENT INTERFACE DEPTH: 33.3 ft
LOW TIDE @ 0824 HRS.

MAP

X 780 ~~728.15~~ ~~33.01~~ 10.2
Y 2042 ~~78.77~~ 72.6



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Thomas S

SOIL / SEDIMENT SAMPLE LOG SHEET

LS3SD002

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: SW/SD2-3RI
Sample Location: ~~2~~
Sampled By: TE / DS
C.O.C. No.: 8

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 10-21-97			
Time: 0725	~~20.4-20.0~~ (TE)	olive brn	organic silt (4½" Sand @ Surface)
Method: Mod VanVeen	0-6"		tr sticks
Monitor Reading (ppm): —			Sheen on surface

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	0720	2.913 ft	7.74	14.23	43.76	0.1	~~18.905~~ 7.86	27.57	181.4
Deep	0722	~~23.24~~ (TE) ft 23.278	7.82	15.97	44.90	-1.0	6.90	29.09	179.3

SAMPLE COLLECTION INFORMATION

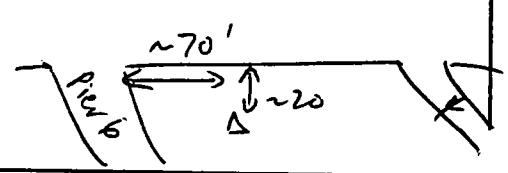
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
(TE) ~~TCL Pesticides~~	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41° 23.5343
LONGITUDE: W 72° 05.4690
WATER/SEDIMENT INTERFACE DEPTH: 25.4 ft
LOW TIDE @ 0824 HRS.

MAP

X ~~780781.35~~ (TE) 780800.2
Y ~~204473.51~~ (TE) 204461.6



Circle if Applicable:

MS/MSD	Duplicate ID No.: SDFD-01 @ 0000 hrs

Signature(s): [signature]

SOIL / SEDIMENT SAMPLE LOG SHEET

LS4SD00101

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: SW/SD1-4RI
Sample Location: Zone 4
Sampled By: TE/DS
C.O.C. No.: 8

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10-21-97	Depth (ft)	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 0818	~~0-0.4~~	dk olive brn	organic silt (<1/2" sand @ surface
Method: mod Van Veen	0-0.4'		
Monitor Reading (ppm): -			tr gravel + stick + shells

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
shallow	0813	2.572	7.81	15.58	42.45	6.3	7.47	27.32	172.0
Deep	0814	15.542	7.81	15.93	44.49	30.3	6.88	28.87	166.3

SAMPLE COLLECTION INFORMATION

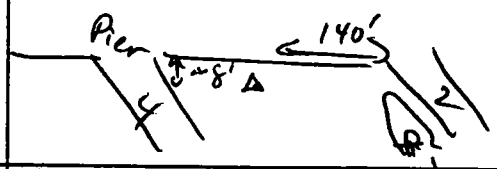
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41°23.5023
LONGITUDE: W 72°05.4332
WATER/SEDIMENT INTERFACE DEPTH: 16.9 ft
LOW TIDE @ 0824 HRS.

MAP

X 780958.2
Y 204128.8



Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

SOIL / SEDIMENT SAMPLE LOG SHEET

LS4SD002C

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: SW/SD2-4RI
Sample Location: ~~Zone 4~~
Sampled By: TE / DS
C.O.C. No.: 8

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10-21-97	Depth (ft)	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 0845	~~33.3 33.8~~	DK olive brn	Organic silt some fine sand
Method: mod. Van Veen	0-6"		
Monitor Reading (ppm):			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	0840	2.713ft	7.81	15.14	42.36	6.8	7.95	27.14	199.1
Deep	0842	30.900ft	7.84	15.92	45.10	7.4	6.99	29.23	196.9

SAMPLE COLLECTION INFORMATION

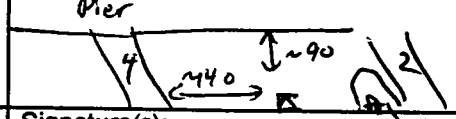
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~	~~1 x 2 oz. jar / None~~	✓	
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41° 23.4937
LONGITUDE: W 42° 05.4530
WATER/SEDIMENT INTERFACE DEPTH: ~~33.3~~ 33.3 ft
LOW TIDE @ ~~33.3~~ 0824 HRS.

MAP

X 780885.4
Y 204091.8



Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

SOIL / SEDIMENT SAMPLE LOG SHEET

LS4SD00301

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: SW/SD3-4RI
Sample Location: ~~Zone 4~~ 2
Sampled By: TE / DS
C.O.C. No.: 8

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 10-21-97			
Time: 0656	~~25.4~~	olive brn (dk)	Organic Silt tr
Method: Mod Vanveen	~~25.9~~		sand & gravel
Monitor Reading (ppm): —	0-6"		sheen on surface

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	0649	2.73 ft	7.60	15.55	43.02	-1.7	7.23	27.73	207.0
Deep	0652	20.4	7.74	16.06	44.00	-2.4	6.80	28.42	204.4

SAMPLE COLLECTION INFORMATION

Analysis		Container Requirements	Collected	Other
TCL SVOC	14 days	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~	~~14 days~~	~~1 x 2 oz. jar / None~~	~~✓~~	
TAL Metals		1 x 4 oz. jar / None	✓	
AVS/SEM	7 days	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH		1 x 4 oz. jar / None	✓	
Grain Size		1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

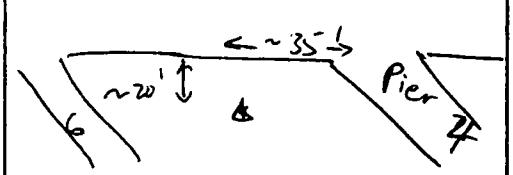
GPS COORDINATES: LATITUDE: 41° 23.5334 N
LONGITUDE: 72° 05.4542 W

WATER/SEDIMENT INTERFACE DEPTH: 25.4 ft

LOW TIDE @ 0824 HRS.

MAP

~~780887.~~ 780856.9
~~204316.25~~ 204231.2



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): Thot/SE

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: LSSSD001 01
Sample Location: SW/SD5 ~~1-RI~~ (TL)
Sampled By: JE/DS 1-5RI
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10-21-97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 0904	0-6"	DK olive brn	organic silt fr fine sand
Method: mud Van Veen			plant
Monitor Reading (ppm): —			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
shallow	0900	2.378 ft	7.78	13.72	37.44	-1.9	8.72	23.80	162.2
deep	0902	20.783ft	7.75	15.81	42.56	-1.8	7.53	27.38	162.6

SAMPLE COLLECTION INFORMATION

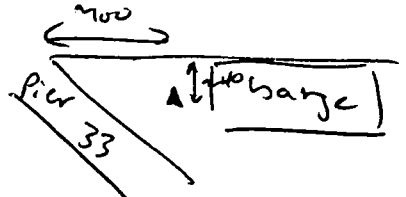
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
(TL) ~~TCL Pesticides~~	1 x 2 oz. jar / None		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41° 24.1462
LONGITUDE: W 72° 05.6083
WATER/SEDIMENT INTERFACE DEPTH: 22.6 ft
LOW TIDE @ 0925 HRS.

MAP

X 780104.6
Y 208130.4



Circle if Applicable:
MS/MSD | Duplicate ID No.:

Signature(s):

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: LSSD002-01
Sample Location: SW/SD2-SRF
Sampled By: TE/DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10/22/07	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 0925	0-6"	dk brn	organic silt
Method: mod/Van Veen			
Monitor Reading (ppm): —			(pudding texture)

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
shallow	0920	2.009ft	7.82	14.84	38.44	-1.4	8.42	24.34	169.8
deep	0923	30.032	7.81	15.91	43.56	-1.1	7.34	28.08	169.9

SAMPLE COLLECTION INFORMATION

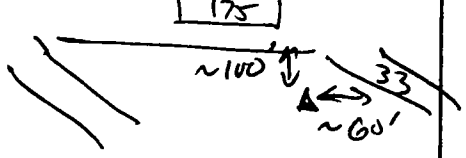
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~ (TC)	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	—	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41°24.1992
LONGITUDE: W 72°05.6383
WATER/SEDIMENT INTERFACE DEPTH: 34.3ft
LOW TIDE @ 0925 HRS.

MAP

X 779984.0
Y 208306.2



Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: LSSSD00301
Sample Location: SW/SD3-SRI
Sampled By: TE/DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10/22/97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 0940	0-6"	brn	f-Egr Sand, tr fine gravel
Method: mod Van Veen			
Monitor Reading (ppm): —			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	0936	1.939ft	7.81	14.19	37.52	-1.7	8.44	23.83	156.8
deep	0938	14.077	7.78	16.36	40.87	-1.4	7.39	26.20	157.7

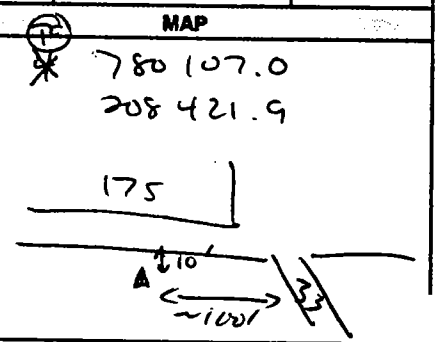
SAMPLE COLLECTION INFORMATION

Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41°24.2090
LONGITUDE: W 72°05.6091
WATER/SEDIMENT INTERFACE DEPTH: 16.2 ft
LOW TIDE @ 0925 HRS.

MAP



Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s): Trudt/SL

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: LS5SD00401
Sample Location: SW/SD4-SRI
Sampled By: TE/DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 10-22-97			
Time: 1003	0-6"	dk brn	fgr sand & leaf litter
Method: mod Van Veen			
Monitor Reading (ppm):			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	0957	2.483ft	7.82	14.23	37.49	-1.7	8.42	23.78	204.0
Deep	1000	16.46/ft	7.78	15.84	42.69	-1.5	7.27	27.49	201.0

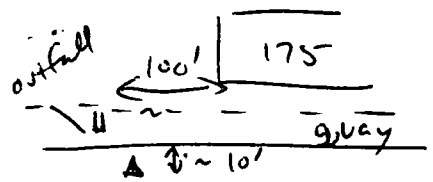
SAMPLE COLLECTION INFORMATION

Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
TCL Pesticides	1 x 2 oz. jar / None	✓	
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41°24.2404
LONGITUDE: W 72° 05.6087
WATER/SEDIMENT INTERFACE DEPTH: 17.7 ft
LOW TIDE @ 0925 HRS.
X 780110.0
Y 208622.3

MAP



Circle if Applicable:

MS/MSD	Duplicate ID No.: ~~SDFD002~~ (TE)

Signature(s): [signature]

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: L56SD00101
Sample Location: SW/SD1-6 RI
Sampled By: TE / DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10-21-97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 2202	0-6"	dk ~~brn~~ olive (M) brn	organic silt
Method: mod Van Veen			
Monitor Reading (ppm):			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	2157	2.4 60A	7.87	15.41	39.29	0.9	8.80	25.59	216.9
Deep	2159	25.26 ft	7.84	15.89	43.70	0.9	8.00	28.14	217.4

SAMPLE COLLECTION INFORMATION

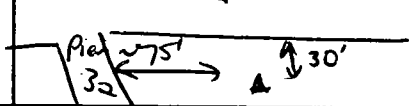
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~ (TE)	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N41°24.0544
LONGITUDE: W 72°05.6232
WATER/SEDIMENT INTERFACE DEPTH: ~~28~~ 8.6 ft
LOW TIDE @ 2109 HRS.

MAP

X 780050.0
Y 2074923



Circle if Applicable:
MS/MSD | Duplicate ID No.:

Signature(s):

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: 156SD0020 1
Sample Location: SW/SD2-6RI
Sampled By: TE/DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10-22-97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 0847	0-6"	DK olive brn	f-mgr sand & fine gravel
Method: mod Van Veen			
Monitor Reading (ppm): —			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	0843	2.266ft	7.61	13.61	37.42	-1.8	8.84	23.76	208.3
Deep	0846	16.005ft	7.68	15.42	40.95	-2.1	7.52	26.23	201.1

SAMPLE COLLECTION INFORMATION

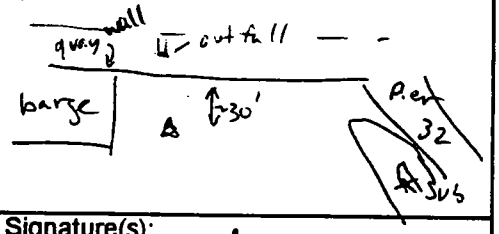
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~ (TE)	1 x 2 oz. jar / None		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 2 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41°24.0922
LONGITUDE: W 72°05.6091
WATER/SEDIMENT INTERFACE DEPTH: 17.3ft
LOW TIDE @ 0925 HRS.

MAP

X 7801107.7
Y 207723.5



Circle if Applicable:
MS/MSD | Duplicate ID No.:

Signature(s):

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: LS75D001 01
Sample Location: SW/SD1-7RI
Sampled By: TE / DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10-21-97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 21:03	0-6"	dk brn olive brn to black	organic silt (1st branch)
Method: mod. Van Veen			
Monitor Reading (ppm): -			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	2058	2.243 ft	7.89	15.26	41.20	5.6	10.12	26.58	181.2
deep	2100	37.962 ft	7.84	15.86	44.29	2.2	7.96	28.79	181.9

SAMPLE COLLECTION INFORMATION

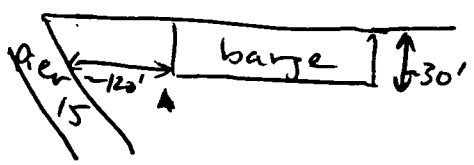
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x ~~4~~ 8 oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41° 23.8207
LONGITUDE: W 72° 05.6091
WATER/SEDIMENT INTERFACE DEPTH: 40.3 ft
LOW TIDE @ 2109 HRS.

MAP

X 780111.2
Y 206059.6



Circle If Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: LS7SD ~~2001~~ 00201
Sample Location: SW/SO 2-7RI
Sampled By: TE
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Date: 10-21-97			
Time: 2125	0-6"	dk ~~brn~~ olive brn	organic silt tr shell
Method: mod vanVeen		TE	
Monitor Reading (ppm):			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
Shallow	2120	2.403ft	7.88	15.52	40.40	1.0	8.79	25.88	214.0
Deep	2122	47.927	7.85	15.96	44.79	~~3.3~~ 8.1 TE	7.27	29.00	209.2

SAMPLE COLLECTION INFORMATION

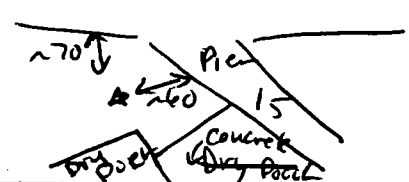
Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
TE ~~TCL Pesticides~~	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 4 ~~2~~ oz. jar / None	✓	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: N 41° 23.8693
LONGITUDE: W 72° 05.6109
WATER/SEDIMENT INTERFACE DEPTH: 55.7ft
LOW TIDE @ 2109 HRS.

MAP

X 780113.5
Y 206,363.2



Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): [signature]

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: LS7SD003301
Sample Location: SW/SD3-7R1
Sampled By: TE/DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10-21-97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 2143	0-6"	DK olive brn	organic silt fr shell
Method: mod VanVeen			
Monitor Reading (ppm): —			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO mg/L	Salinity ppt	Eh mV
shallow	2137	2.429ft	7.88	15.30	40.08	0.9	9.18	25.58	231.8
deep	2138	24.9	7.84	15.79	43.31	0.4	7.77	28.01	229.4

SAMPLE COLLECTION INFORMATION

Analysis	Container Requirements	Collected	Other
TCL SVOC	1 x 4 oz. jar / None	✓	
~~TCL Pesticides~~ TE	~~1 x 2 oz. jar / None~~		
TAL Metals	1 x 4 oz. jar / None	✓	
AVS/SEM	1 x 4 oz. jar / None	✓	
TOC, Ammonia, pH	1 x 4 oz. jar / None	✓	
Grain Size	1 x 4 oz. jar / None	✓	

OBSERVATIONS / NOTES

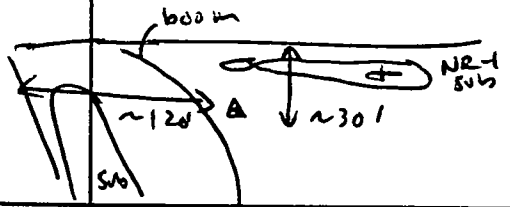
GPS COORDINATES: LATITUDE: N 41° 23.8980
LONGITUDE: W 72° 05.6054

WATER/SEDIMENT INTERFACE DEPTH: 25.8 ft

LOW TIDE @ 2109 HRS.

MAP

X 780135.0
Y 206545.6



Circle if Applicable:
MS/MSD
Duplicate ID No.:

Signature(s):

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[X] QA Sample Type: Rinsate Blank

Sample ID No.: SDRB002
Sample Location: —
Sampled By: TE/DS
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10/22/97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 1050			
Method: Direct FTR			
Monitor Reading (ppm): —			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO	Salinity	Eh mV
				N/A					

SAMPLE COLLECTION INFORMATION

Analysis	Container Requirements	Collected	Other
TCL SVOC	2 x 1L ~~4 oz. jar~~ / None		
TCL Pesticides	2 x 1L ~~2 oz. jar~~ / None		
TAL Metals	1 x 500mL ~~4 oz. jar~~ / None		
~~AVS/SEM~~ (2)	1 x ~~4 oz. jar~~ / None		
TOC, Ammonia, ~~pH~~ (2)	1 x 250mL ~~4 oz. jar~~ / None H_2SO_4		
~~Grain Size~~ (2)	1 x ~~2 oz. jar~~ / None		

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: _____
LONGITUDE: _____
WATER/SEDIMENT INTERFACE DEPTH: _____
LOW TIDE @ _____ HRS.

MAP

Ricca DI H_2O (~~Lot #G052~~ Exp 7/98)
oven
Stainless modified
van Veen dredge

Circle if Applicable:
MS/MSD | Duplicate ID No.: —

Signature(s):

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[ ] Sediment
[ ] Other:
[X] QA Sample Type: Ambient Blank

Sample ID No.: SDAB00|
Sample Location: SW/SD2-6RI
Sampled By: TE
C.O.C. No.: 9

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10/22/97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 0850			
Method: Direct Fill			
Monitor Reading (ppm): —			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO	Salinity	Eh mV
				NA					
				(N)					

SAMPLE COLLECTION INFORMATION

Analysis	Container Requirements	Collected	Other
TCL SVOC	2 x 1L ~~4 oz. jar~~ / None	✓	
TCL Pesticides	2 x 1L ~~2 oz. jar~~ / None	✓	
TAL Metals	1 x ~~4 oz. jar~~ / None	✓	
~~AVS/SEM~~ (TE)	1 x ~~4 oz. jar~~ / None		
TOC, Ammonia, ~~pH~~ (TE)	1 x 250ml ~~4 oz. jar~~ / ~~None~~ H_2SO_4	✓	
~~Grain Size~~ (TE)	1 x 2 oz. jar / None		

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: _____
LONGITUDE: _____
WATER/SEDIMENT INTERFACE DEPTH: _____
LOW TIDE @ _____ HRS.

MAP

RICCA DI H_2O
Lot # G052
Exp 7/98

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s): T Wolfs

SOIL / SEDIMENT SAMPLE LOG SHEET

Project Site Name: NSB-NLON
Project No.: 7237

[ ] Surface Soil
[ ] Subsurface Soil
[X] Sediment
[ ] Other:
[ ] QA Sample Type:

Sample ID No.: SDRB00 1
Sample Location: —
Sampled By: TE
C.O.C. No.: 8

Type of Sample:
[X] Low Concentration
[ ] High Concentration

GRAB SAMPLE DATA

Date: 10/21/97	Depth	Color	Description (Sand, Silt, Clay, Moisture, etc.)
Time: 1100			
Method: Direct Fill			
Monitor Reading (ppm):			

SURFACE WATER QUALITY DATA

Location	Time	Depth	pH	Temp °C	SpCond mS/cm	Turbidity NTU	DO	Salinity	Eh mV
				(TE)					

SAMPLE COLLECTION INFORMATION

Analysis	Container Requirements	Collected	Other
TCL SVOC	2 x 1L 4 oz. jar / None	✓	
(TE) ~~TCL Pesticides~~	~~2 x 1L 2 oz. jar / None~~	✓	
TAL Metals	1 x 500mL 4 oz. jar / None	✓	
(TE) ~~AVS/SEM~~	~~1 x 4 oz. jar / None~~		
TOC, Ammonia, ~~pH~~	1 x 250 ~~4 oz. jar / None~~ H_2SO_4	✓	
(TE) ~~Grain Size~~	~~1 x 2 oz. jar / None~~		
	4 Total Sent	—	

OBSERVATIONS / NOTES

GPS COORDINATES: LATITUDE: _____
LONGITUDE: _____
WATER/SEDIMENT INTERFACE DEPTH: _____
LOW TIDE @ _____ HRS.

MAP

RICCA DI H_2O (Lot# F092 Exp 1/98) over Stainless steel trowel

Circle if Applicable:

MS/MSD	Duplicate ID No.:

Signature(s):

APPENDIX C

CHAIN OF CUSTODY RECORDS

WN2563 COC # (1)

Brown & Root Environmental 661 Andersen Dr VII Pittsburgh PA 15220 Contact: Corey Rick (412) 921-8244 **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 7327 SITE NAME: NSB NLON

SAMPLERS (SIGNATURE):

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	40z jar TCL SVOC	40z jar TAL metals	20z jar SPLP metals	40z jar TPH	1L glass/None TCL SVOC	500mL PE/HNO3 TAL Metals	1L glass/HCl TPH (418.1)	REMARKS
TB3-2RI	9/22/97	1400		✓	LS2SB00301 01	2	1			1				DPT
↓		1403		✓	LS2SB00302 01	1	1							↓
Rinsate Blank		1425		✓	~~LS2~~ SB RB-001 ~~0001~~ (TB)	5					2	1	2	
TB2-2RI		1435		✓	LS2SB002 01 01	2	1			1				DPT
↓		1440		✓	LS2SB002 0201	1	1							
TB1-2RI		1520		✓	LS2SB001 01 01	2	1			1				
TB1-2RI		1525		✓	LS2SB001 0201	1	1							
TB7-2RI		1555		✓	LS2SB00701 01	1	1							
↓		~~1555~~ 1600 (TB)		✓	LS2SB00702 01	1	1							
TB6-2RI		1655		✓	LS2SB00601 01	1	1							
↓		1700		✓	LS2SB00603 01	3 (TB)	1	1	1					
Field Duplicate	↓	0000		✓	~~LS2~~ SB FB001 ~~0001~~ DUP 9424 (TB)	3	1	1	1					
TB5-2RI	9/23/97	~~9/23/97~~ 0845		✓	LS2SB00501 01	1	1							
↓	↓	0850 (TB)		✓	LS2SB00503 01	9	3	3	3					MS/MSD ↓

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):
	9/24/97 1015	K Tuft			
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: FedEx AB# 800872661549	

2100000

BRE 440 Revised 0196

WN2574

WN2574 COC #(2)

Brown & Root Environmental 661 Andersen Dr VII Pittsburgh PA 15220 Contact: Corey Rich (412) 921-7090 **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 7327 SITE NAME: NSBNLON

SAMPLERS (SIGNATURE): David Schnackenberg

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	40z Jar TCL SVOC	40z Jar TAL Metals	20z Jar SPLP Metals	40z Jar TPH (418.1)	1L glass TCL SVOC	500mL PE/HNO3 TAL Metals	1L glass/HCl IPH (418.1)	2 oz TCL VOA's	40mL/HCl TCL TVP Blank	REMARKS
TB4-3RI	9/23/97	1100		✓	LS3SB004 0101	2	1			1						DPT
TB3 3RI		1115		✓	LS3SB003 0101	1	1									↓
↓		1120		✓	LS3SB003 0201	1	1									
Rinsate Blank		1440		✓	SBRB-002	5 ~~7~~ (TB)					2	1	2			
TB4-3RI		1535		✓	LS3SB004 0201	1	1									DPT
TB4-2RI		1600		✓	LS2SB004 0101	1	1									
TB4-4RI		1635		✓	LS(TB)4SB00401 01	1	1									
↓		1640		✓	LS4SB004 0201	1	1									
TB3-4RI		1710		✓	LS4SB003 0101	4	1	1	1	1						
↓		1715		✓	LS4SB003 0201	3	1	1	1							
Field Duplicate		0000		✓	SB(FD)~~FB~~002	1	1									
TB4-2RI		1805		✓	LS2SB004 0401	2	1	1								↓
~~Frip~~ (TB)																

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
[signature]	9/24/97 1010	K. Huffs	9/25/97 0855		
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS:	
					FedEx AB 800872661376

BRE 440 0196

3100000

WN2542

COC # 3

Brown & Root Environmental 661 Anderson Dr VII Pittsburg PA 15220 Contact Cory Rich (417) 921-7090

CHAIN OF CUSTODY RECORD

PROJECT NO.: 7327

SITE NAME: NSBNLDN

SAMPLERS (SIGNATURE): Timothy S [signature] David Schnackenberg

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	4oz Jar TCL SVOC	4oz Jar TAL Metals	4oz Jar TPH (418.1)	1 liter glass/Nine TCL SVOC	500 mL PE/HNO3 Tal metals	1 liter glass HCl TPH (418.1)	2oz TCL VOA	40 ml HCl Trip Blank	2oz Jar SPLP Metals	4oz Jar SPLP Metals	DPT	REMARKS
TB6-5RI	09/24/97	0820		✓	LS5SB0060101	4	1	1	1						1			✓
↓		0825		✓	LS5SB0060201	3	1	1							1			✓
TB5-1RI		0910		✓	LS1SB0050101	1	1											✓
↓		0925		✓	LS1SB0050301	1	1											✓
TB6-1RI		0955		✓	LS1SB0060101	3	1	1	1									✓
↓		1015		✓	LS1SB0060301	1	1											✓
TB3-1RI		1100		✓	LS1SB0030101	1	1											✓
TB2-6RI		1105		✓	LS6SB0020201	4	1	1	1				1				HSA	✓
↓	↓	1115		✓	LS6SB0020301	4	1	1	1				1				HSA	✓
Trip Blank	9/24/97	—		✓	TB-001	3								3				✓
TB5-6RI	9/24/97	1422		✓	LS6SB0050101	4	1	1	1			*	1				HSA	✓
↓		1435		✓	LS6SB0050301	4	1	1	1			*	1				HSA	✓
TB4-6RI		1538		✓	LS6SB0040101	5	1	1	1				1			1		✓
↓	↓	1548		✓	LS6SB0040301	15	3	3	3				3			3	MS/MSD	✓

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):
Timothy S [signature]	9/25/97 1400				
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: FedEx AB # 800872661387 2 Coolers	

BRE 440 Revised 0196

COC #13

Brown & Root Environmental 661 Andersen Dr VII Pittsburgh PA 15220 Contact

CHAIN OF CUSTODY RECORD

PROJECT NO.: 7327

SITE NAME: NSBNLON

SAMPLERS (SIGNATURE): David Schmachtenberg

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	40z Jar TCL SVOC	40z Jar TAL Metals	4 oz Jar TPH (418.1)	1L glass/Plastic TCL SVOC	500mL Plastic TAL Metals	1L glass/HCl TPH (418.1)	2 oz TEMP	40mL TCL VOA	2 oz Jar SPLP Metals	40z Jar SPLP Lead	4 oz Jar SPLP Metals	REMARKS
TB3-5RI	9/24/97	1645		✓	LS5SB00301O1	2	1		1									DPT
Field Duplicate		0000		✓	SBFD-003	4	1	1	1						1			DPT
TB2-5RI		1450		✓	LS5SB002 0201	1	1											DPT
↓		1440		✓	LS5SB002 0101	2	1		1									DPT
TB1-5RI		1420		✓	LS5SB0010201	3	1	1							1			DPT
Field Duplicate		0000		✓	SBFD-004	2	1		1									DPT
TB3-1RI		1800		✓	LS1SB003 0201	1	1											DPT
TB3-5RI		1650		✓	LS5SB 003 0201	1	1											DPT
TB1-5RI	↓	1415		✓	LS5SB001 0101	4	1	1	1						1			DPT
Rinsate Blank	9/24/97	1830		✓	SBRB-003	5				2	1	2						

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
	9/25/97 1400				
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS:	FedEx Airbill # 800872661387 2 coolers

CCCC016

BRE 440 F 0196

SDGNSB03 B/E WN2603 COC #4

Brown & Root Environmental 661 Andersen Dr. VII Pittsburgh PA 15220 Contact: Corey Rich (412) 921-8244 **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 7327 SITE NAME: NSB NLON

SAMPLERS (SIGNATURE): David Schnackenberg

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	Other SL 40z/vw	TCL SVOC 40z VAH	TAL Metals 302 VAH	SPLP Lead 302 VAH	SPLP Metals 402 VAH	TRPH (418.1) 1L 9635/NONE	TCL SVOC 2L Glass/NONE	TP HL (418.1) 40mL/HCl	TRPH (Block) 40mL/HCl	TCL VOA 500mls/HCl	TAL PE/HNO3 202 Metals	TCL VOA 202 VOA	REMARKS
Trip Blank	9/25/97	0725		✓	TB-002 AQ	3								3					
TB7-7RI		0824		✓	LS7SB007 0101	2	1				1								HSA
↓		0841		✓	LS7SB007 0301	1	1												↓
Field Duplicate		0000		✓	SBFD-005	2	1				1								
TB3-6RI		1036		✓	LS6SB003 0201	5	1	1		1	1						1		
↓		1042		✓	LS6SB003 0301	5	1	1		1	1						1		↓
Field Blank		1430		✓	FB-001 AQ	8						2	2		3	1			DI H_2O
Rinsate Blank		0905		✓	SBRB-004 AQ	8						2	2		3	1			3"SS
Ambient Blank		1040		✓	SBAB-001 AQ	8						2	2		3	1			
TB2-7RI		1545		✓	LS7SB002 0101	2	1				1								DPT
↓		1550		✓	LS7SB002 0201	1	1												↓
TB5-5RI		1505		✓	LS5SB005 0101	2	1				1								
↓		1510		✓	LS5SB005 0201	1	1												
Field Duplicate		0000		✓	SBFD-006	2	1				1								✓

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):
[signature]	9/26/97 0800	FedEx			
	9/27/97 1100	[signature]			
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: FedEx AB# 8008726613 98 3 Coolers	

BRE 440 Revised 0196

COC# (4)

Brown & Root Environmental 661 Andersen Dr VII Pittsburgh PA 15220 Contact: Corey Rich (412) 921-8244 **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 7327 SITE NAME: NSBNLON

SAMPLERS (SIGNATURE): Timothy S. [signature] David Schnackenberg

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	402 Jar TCL SVOC	402 Jar TAL Metals	202 Jar SPLP Lead	402 Jar SPLP Metals	402 Jar TPH (418.1)							REMARKS
TB4-5RI	9/25/97	1415 ~~1450~~		✓	LS5SB0040101	2	1				1							DPT
↓		1425		✓	LS5SB0040201	1	1											↓
TB11-7RI		0910		✓	LS7SB0110201	2	1	1										↓
TB9-7RI		0940		✓	LS7SB0090101	9	3	3			3						★	MS/MSD
TB8-7RI		1020		✓	LS7SB0080101	2	1				1							DPT
↓		1030		✓	LS7SB0080201	1	1											
TB5-3RI		1215		✓	LS3SB0050201	3	1	1	1									
↓		1115		✓	LS3SB0050101	2	1	1										
TB4-1RI		0810		✓	LS1SB0040101	1 ~~2~~	1											
↓		0830		✓	LS1SB0040301	1	1											
TB11-7RI		0905		✓	LS7SB0110101	3	1	1			1							
TB9-7RI		0945		✓	LS7SB0090201	2	1	1										

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Timothy S. [signature]	9/26/97 0800	FedEx			
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):
	9/27/97 1100	K Tuff [signature]			
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: FedEx AB # 800872661398 3 coolers	

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BRE 440 F 0196

COC #5

Brown & Root Environmental 661 Andersen Dr VII Pittsburgh PA 15220 Contact: Corey Rich (412) 921-7090

CHAIN OF CUSTODY RECORD

PROJECT NO.: 7327

SITE NAME: NSB NCON

SAMPLERS (SIGNATURE): [signature] David Schnackenberg [signature]

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	402 Jar TCL SVOC	402 Jar TPH (418.1)	402 Jar TAL Metals	2oz Jar SPLP Pb	1L glass/Nuc TCL SVOC	1L glass/HCl TPH (418.1)	500mL DE/HNO3 TAL Metals		REMARKS
Rinsate Blank	9/26/97	0725		✓	SBRB-005 AQ	5					2	2	1		
TB10-7RI		0851		✓	LS7SB01000201	4	1	1	1	1					HSA
↓		0857		✓	LS7SB01000301	3	1		1	1					
TB5-4RI		1300		✓	LS4SB0050101	4	1	1	1	1					
↓		1310		✓	LS4SB0050301	3	1		1	1					
TB1-4RI		1409		✓	LS4SB0010101	4	1	1	1	1					
↓		1415		✓	LS4SB0010301	3	1		1	1					
Field Duplicate		0000		✓	SBFD-007	4	1	1	1	1					
TB8-1RI		1530		✓	LS1SB0080101	1	1								DPT
↓		1545		✓	LS1SB0080301	1	1								
TB9-1RI		1025		✓	LS1SB0090101	1	1								
↓		1030		✓	LS1SB0090201	1	1								
TB1-1RI		0935		✓	LS1SB0010101	4	1	1	1	1					
↓		0950		✓	LS1SB0010201	1	1								

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[signature]	9/26/97 1800	FedEx			
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RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: FedEx # 8008 7266 1402 2 coolers	

BRE 440 Revised 0196

0000012

COC #6

Brown & Root Environmental 661 Andersen Dr VII Pittsburgh PA 15220 Contact: Corey Rich (412) 921-7090 **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 7327 SITE NAME: NSB NLON

SAMPLERS (SIGNATURE): David Richardson

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	40z VOA	1CL SVOC	40z VOA (418.1)	TPH 40z Jar	TAL Metals	20z Jar SPLP Pb	1L glass /None ICL	1L glass SVOC	TPH (418.1) SDG w PE/HNO3	TAL Metals	REMARKS
TB1-1RI	9/24/97	0825		✓	LS1SB0010201	1	1										DPT
TB1-1RI		0815		✓	LS1SB0010101	6	3	3									
TB7-1RI		1240		✓	LS1SB0070101	1	1										
↓		1300		✓	LS1SB0070401	1	1										
Field Duplicate		0000		✓	SBFD-008	1	1										
TB5-1RI		0850		✓	LS1SB0050101	2	1	1									
↓		0855		✓	LS1SB0050201	1	1										
TB2-1RI		1430		✓	LS1SB0020101	4	1	1	1	1							
↓		1445		✓	LS1SB0020201	1	1										
TB2-4RI		1355		✓	LS4SB0020101	1	1										
↓	↓	1400		✓	LS4SB0020201	1	1										↓

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	9/26/97 1500				
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RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: FedEx AB# 800872661402 2 Coolers	

BRE 440 F 0196

WN2619 COC #1

Brown & Root Environmental 601 Andersen Dr VII Pittsburgh PA 15220 Contact: Corey Rich (412) 921-7090 **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 7327 SITE NAME: NSB NLON

SAMPLERS (SIGNATURE):

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	40z VOA TCL SVOC	40z VOA TAL Metals	40z VOA TPH (418.1)	2oz Jar SPLP Lead	1L glass/none TCL Pest	1L glass/HCl TPH (418.1)	500mL PE/HNO3 TAL metals	REMARKS
Rinsate Blank	9/27/97	1110		✓	SBRB-006	5					2	2	1	HSA
TB6-7RI		1024		✓	LS7SB006 0X01 (2) LL 3.24-98	4	1	1	1	1				
Field Duplicate		0000		✓	SBFD-009	4	1	1	1	1				
TB6-7RI		1037		✓	LS7SB006 0301	3	1	1		1				
TB3-7RI		1345		✓	LS7SB003 0201	2	1		1					
↓		1351		✓	LS7SB003 0301	1	1							
TB4-7RI		0856		✓	LS7SB004 0201	2	1		1					
↓		0903		✓	LS7SB004 0301	1	1							
TB1-3RI		1520		✓	LS3SB001 0201	4	1	1	1	1				
TB1-3RI	↓	1527		✓	LS3SB001 0301	2	1	1						

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):
	9/29/97 1400	FedEx			
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):
	9/30/97 0150				
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: FedEx AB# 800872661413 1 cooler	

BRE 440 Revised 0196

Page 1 of 1

WN 2649 COC # ~~6~~ 7

Brown & Root Environmental 601 Andersen Dr VII Pittsburgh PA 15220 Contact: Corey Rich (412) 921 8244

CHAIN OF CUSTODY RECORD

PROJECT NO.: 7327

SITE NAME: NSB NLON

SAMPLERS (SIGNATURE): [signature]

STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	1L Amber/None	TCL SVOC	1L Amber/HCl	TPH (418.1)	500mL PE/HNO3	TAL Metals	40mL vial/HCl	TCL VOC	40mL vial/HCl	Trip Blank	40L glass/	TAL Metals	40L glass/	TCL SVOC	20L glass/	TCL VOC	40L glass/	TPH (418.1)	40L glass/	SPLP Metals	20L glass/	SPLP Pb	REMARKS
Rinsate Blank	9/29/97	0720		✓	SBRB-007	5	2	2	1																				HSA
TB1-6RI	9/30/97	1336		✓	LS6SB0010201	15											3	3	3	3	3								MS/MSD
↓	↓	1349		✓	LS6SB0010401	5											1	1	1	1	1								
TB2 3RI	9/29/97	1712		✓	LS3SB0020201	4	1										1			1						1			
Field Duplicate	9/29/97	0000		✓	SBFD-010	4	1										1			1						1			
Trip Blank	9/29/97	0725		✓	TB-003	3									3														
TB2-3RI	10/1/97	0821		✓	LS3SB0020401	3											1	1								1			HSA
Field Blank	10/1/97	0800		✓	FB-002	8	2	2	1	3																			
Rinsate Blank	10/1/97	0845		✓	SBRB-008	5	2	2	1																				

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[signature]	10/1/97 1400	Fed Ex			
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):
		[signature]	10/2/97 1025		
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS: FedEx AB # 800872661424 2 coolers	

BRE 440 P 0196

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Page 1 of 1

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

(8)

PLEASE PRINT IN PEN

Page 1 of 1

Client: Brown & Root Environmental | Contact: Corey Rich | Phone #: (412) 921-8244 | Fax #: (412) 921-4040

Address: 661 Andersen Dr VII | City: Pittsburgh | State: PA | Zip Code: 16066

Purchase Order #: | Proj. Name / No.: NSB NLON / 7327 | Katahdin Quote #:

Bill (if different than above): | Address:

Sampler (Print / Sign): Timothy S Evans / Timothy S Evans; David J. Schmackenberg / David J. Schmackenberg | Copies To:

LAB USE ONLY | WORK ORDER #: WN2858

KATAHDIN PROJECT MANAGER:

REMARKS: Cooler Temp Blank 1.2°C

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C: ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	4oz glass/None TCL SVOC (Filt. ☐Y ☐N)	4oz glass/None TAL Metals (Filt. ☐Y ☐N)	4oz glass/None AVS/SEM (Filt. ☐Y ☐N)	4oz glass/None TOC, NH_3, pH (Filt. ☐Y ☐N)	2oz glass/None Grain Size (Filt. ☐Y ☐N)	1L Amber/None TCL SVOC (Filt. ☐Y ☐N)	500L HDPE/HNO_3 TAL Metals (Filt. ☐Y ☐N)	250mL/H_2SO_4 TOC, NH_3 (Filt. ☐Y ☐N)	(Filt. ☐Y ☐N)	(Filt. ☐Y ☐N)
	LS4SD003 01	10/21/97 / 0656	SED	5	1	1	1	1	1					
	LS3SD002 01	10/21/97 / 0725	SED	5	1	1	1	1	1					
	SDFD001	/ 0000	SED	5	1	1	1	1	1					
	LS3SD001 01	/ 0752	SED	5	1	1	1	1	1					
	LS4SD001 01	/ 0818	SED	5	1	1	1	1	1					
	LS4SD002 01	/ 0845	SED	5	1	1	1	1	1					
*	LS2SD002 01	/ 0910	SED	15	3	3	3	3	3					
	LS2SD001 01	/ 0940	SED	5	1	1	1	1	1					
	SDRB001	10/21/97 / 1100	RB	4						2	1	1		
		/												
		/												
		/												
		/												
		/												
		/												
		/												

COMMENTS

* MS/MSD

SED = sediment
RB = rinsate blank

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Timothy S Evans	10/21/97 1200	FedEx	R Willman	10/22/97 1647	
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY (9)

PLEASE PRINT IN PEN Page ____ of ____

Client	Contact	Phone #	Fax #
Brown & Root Environmental	Corey Rich	(412) 921 8244	(412) 921- 10

Address	City	State	Zip Code
66 / Anderson Dr VII	pittsburgh	PA	16066

Purchase Order #	Proj. Name / No.	Katahdin Quote #
	NSBNLON / 7327	

Bill (if different than above) ____ Address ____

Sampler (Print / Sign) Timothy Evans / Tim Evans; David Schnackenberg / David Schnackenberg

Copies To:

LAB USE ONLY WORK ORDER #: WM2872

KATAHDIN PROJECT MANAGER ____

REMARKS: Cooler Temp Blanks 1.5 - 3.4°C

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO: ____

TEMP°C ____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	Filt. Y N	4oz glass TCL SVOC	Filt. Y N	4oz glass Anl/SEM	Filt. Y N	4oz glass TAL metals	Filt. Y N	4oz glass TOC, NH3, pH	Filt. Y N	2oz glass Grain Size	Filt. Y N	2oz glass TCL Pesticides	Filt. Y N	1L Amber/pres TCL SVOC	Filt. Y N	1L Amber/pres TCL Pesticides	Filt. Y N	500mL HDPE/HNO3 Total TAL Metals	Filt. Y N	250mL H2SO4/NH3 TOC
	LS6SD0101	10/21/97 2202	SED	5		1		1		1		1		1										
	LS7SD0003 01	/2143	SED	5		1		1		1		1		1										
	LS1SD0002 01	/1939	SED	5		1		1		1		1		1										
	LS1SD0001 01	/1957	SED	5		1		1		1		1		1										
	LS1SD0004 01	/2020	SED	5		1		1		1		1		1										
→	LS1SD0003 01	/2040	SED	5		1		1		1		1		1										
	LS7SD0001 01	/2103	SED	5		1		1		1		1		1										
	LS7SD0002 01	V /2125	SED	5		1		1		1		1		1										
	LS6SD0002 01	10/22/97 0847	SED	5		1		1		1		1		1										
	LS5SD0001 01	/0904	SED	5		1		1		1		1		1										
	LS5SD0002 01	/0925	SED	5		1		1		1		1		1										
	LS5SD0003 01	/0940	SED	5		1		1		1		1		1										
	LS5SD0004 01	/1003	SED	6		1		1		1		1		1		1								
	S50AASD0001 01	V /1030	SED	6		1		1		1		1		1		1								
	SDFD0002	10/22/97 0000	SED	6		1		1		1		1		1		1								
	SDAB0001	10/22/97 0850	AQ	6														2		2		1		1
	SDRB0002	V /1050	AQ	6		X (2)												2		2		1		1

COMMENTS

FedEx AB# 800872661468

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
Tim Evans	10/22/97 1600	[signature]	[signature] 10/23/97 1000		
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Sig. a)

FORMSOURCE INC. ☎ (207) 782-3311
FORM # CHN-OF-CSTDY

0000014

ORIGINAL

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN Page 1 of 1

Client	Contact	Phone #	Fax #
Brown & Root Environmental	Corey Rich	(412) 921-7090	( )

Address 661 Andersen Dr 5th Fl City Pittsburgh State PA Zip Code 15220-2746

Purchase Order # | Proj. Name / No. | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign) David J. Schnackenberg / David J. Schnackenberg, Kevin J. Margetts / Kevin J. Margetts, Jeff Redden / Jeff Redden

Copies To:

LAB USE ONLY WORK ORDER #: WO2959 KATAHDIN PROJECT MANAGER LP

REMARKS: Cooler Temp Blanks 3.5/2.4°C

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 1997	Matrix	No. of Cntrs.	TPH (2) HCl	TCL SVOC (2)	TAL metals (Diss) (1) HNO_3	TAL metals (Tot) (1) HNO_3	methane (3)	Alkalinity, Sulfate, Chloride, Nitrate Hardness (1) HNO_3	TOC, Phosphate, (1) ammonia H_2SO_4	Trip blanks (3)
	LS5GW19MW301	10-28 / 1030	GW	12	X	X	X	X	X	X	X	1 set
	LS4GW13MW1401	10-28 / 1325	GW	12	X	X	X	X	X	X	X	1 set
	LS5GW19MW201	10-28 / 1305	GW	11	X	X	X	X	X	X	X	1 set
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COMMENTS 1 SVOC bottle was broken for LS5GW19MW201 so only 11 were shipped

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
David Schnackenberg	10-29-97 1300	Fed Ex			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
		10/29/97 1255			

FORMSOURCE INC. ☎ (207) 782-3311
FORM # CHN-OF-CSTDY

0000011
ORIGINAL

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN Page ____ of ____

Client: Brown & Root Environmental | Contact: Corey Rich | Phone #: (412) 921-7090 | Fax #: ( )

Address: 661 Anderson Dr 5th Floor | City: Pittsburg | State: PA | Zip Code: 15220-2741

Purchase Order #: | Proj. Name / No.: | Katahdin Quote #:

Bill (if different than above): | Address:

Sampler (Print / Sign): Jeff Redden [signature] Kevin J Margetts [signature] | Copies To:

LAB USE ONLY WORK ORDER #: WN 2970 [signature] 10/31/97

KATAHDIN PROJECT MANAGER:

REMARKS:

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	TPH HCL (Filt. ☐Y ☒N)	TCL SVOC (Filt. ☐Y ☒N)	Tal Metals (Dissolved) HNO3 (Filt. ☒Y ☐N)	Tal Metals (Total) HNO3 (Filt. ☐Y ☒N)	Methane HCL (Filt. ☐Y ☒N)	Alkalinity, Sulfate, Chloride, Nitrate (Filt. ☐Y ☒N)	Hardness HNO3 (Filt. ☐Y ☒N)	TOC, Phosphate, Ammonia H2SO4 (Filt. ☐Y ☒N)	Trip Blanks (Filt. ☐Y ☒N)	Filt. ☐Y ☐
	LS7GW20MW501	102897/1740	GW	12	2	2	1	1	3	1	1	1		
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	102997 1300	FED-X 800872661479	K Sylwester	10/29/97 0945	/
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN

Client: Brown & Root Environmental
Contact: Corey Rich
Phone #: (412) 921-7090
Fax #: ( )
Address: 661 Andersen Dr 5th Fl.
City: Pittsburgh
State: PA
Zip Code: 15220-2741
Purchase Order #:
Proj. Name / No.:
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): David J. Schnackenberg / David J. Schnackenberg / Kristin Madden / Jeff Redden / Kevin J Margetts
Copies To:

LAB USE ONLY
WORK ORDER #: WN 2768 2970 Rev 10/31/97
KATAHDIN PROJECT MANAGER:

REMARKS: Cooler Temp Blank. 3.5. → 8.3°C

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 1997	Matrix	No. of Cntrs.	TPH. HCl (Filt. ☐Y ☒N)	TCL SVOC. (Filt. ☐Y ☒N)	TAL metals (Diss) HNO3 (Filt. ☒Y ☐N)	TAL metals (Litter) HNO3 (Filt. ☐Y ☒N)	methane. HCl (Filt. ☐Y ☒N)	Alkalinity Sulfate Chloride, Nitrate (Filt. ☐Y ☒N)	Hardness HNO3 (Filt. ☐Y ☒N)	TOC, phosphate ammonia H2SO4 (Filt. ☐Y ☒N)	Trip blanks (3) (Filt. ☐Y ☒N)	(Filt. ☐Y ☐)
	LS4GWWE101	10-29 / 0940	GW	12	X	X	X	X	X	X	X	X	X	
	LS4GW00201	10-29 / 1055	GW	12	X	X	X	X	X	X	X	X	X	
	LS4GW13MW1601	10-29 / 1255	GW	12	X	X	X	X	X	X	X	X	X	
	LS7GW00401	10-29 / 0920	GW	12	X	X	X	X	X	X	X	X	X	
	LS7GW00701	10-29 / 1100	GW	12	X	X	X	X	X	X	X	X	X	
	LS7GW00901	10-29 / 1330	GW	12	X	X	X	X	X	X	X	X	X	
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
David J. Schnackenberg	10-29 / 1500	Fed Ex	R. SYLVESTER	10/30/97 0945	
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN

Client: Brown + Root Environmental | Contact: Corey Rich | Phone #: (412) 921-7090 | Fax #: ( )

Address: 661 Anderson Dr 5th Floor | City: Pittsburg | State: Pa | Zip Code: 15240-2741

Purchase Order #: | Proj. Name / No.: | Katahdin Quote #:

Bill (if different than above): | Address:

Sampler (Print / Sign): David Schnackenberg / David Schnackenberg; Tristram Madden / Tristram Madden | Copies To:

LAB USE ONLY | WORK ORDER #: | KATAHDIN PROJECT MANAGER:

REMARKS: Cooler Temp Blanks 3.5°C

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd	Matrix	No. of Cntrs.	TPH HCl	TCL SVOC 4°C	Tal metals (Dissolved) HNO3	Tal metals (Total) HNO3	Methane (Dissolved) HCL	Alkalinity, sulfate, chloride, nitrate	Hardness HNO3	TOC, phosphate, ammonia, H2SO4	~~Trip Blanks~~	
	LS7GW001001 ~~LS7GW00[illegible]~~	102997/1645	GW	11	2	2		1	3	1	1	1		
	LS7GW001001-F	102997/1645 ~~0000~~	GW	1			1							
	GWFD-001	102997/0000	GW	11	2	2		1	3	1	1	1		
	GWFD-001-F	102997/0000	GW	1			1							
	LS7GW20MW401	103097/1000	GW	11	2	2		1	3	1	1	1		
	LS7GW20MW401-F	103097/1000	GW	1			1							
	LS7GW20MW201	103097 ~~103097~~/1145	GW	11	2	2		1	3	1	1	1		
	LS7GW20MW201	103097/1145	GW	1			1							
	LS3GW00201	103097/1420	GW	11	2	2		1	3	1	1	1		
	LS3GW00201-F	103097/1420	GW	1			1							
	LS4GW13MW1301	10-29-97/1630	GW	11	2	2		1	3	1	1	1		
	LS4GW13MW1301-F	10-29-97/1630	GW	1			1							
	LS4GWNES01101	10-29-97/1820	GW	11	2	2		1	3	1	1	1		
	LS4GWNES01101-F	10-29-97/1820	GW	1			1							
	LS4GW00101	10-29-97/0900	GW	11	2	2		1	3	1	1	1		
	LS4GW00101-F	10-29-97/0900	GW	1			1							

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
David Schnackenberg	10-30-97 1630	Fed Ex	[signature]	1000 10/31/97	
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN

Client: Brown & Root Environmental
Contact: Corey Rich
Phone #: ( )
Fax #: ( )
Address: 661 Andersen Dr. 5th Fl
City: Pittsburgh
State: PA
Zip Code: 15240-2741
Purchase Order #:
Proj. Name / No.:
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): David Schnackenberg / David Schnackenberg; Tristan Malle / Tristan Malle
Copies To:

LAB USE ONLY
WORK ORDER #:
KATAHDIN PROJECT MANAGER:
REMARKS:
SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C: ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 1997	Matrix	No. of Cntrs.	TPH HCl	TCL SVOC 4°C	TAL metals (Dissolved) HNO3	TAL metals (Total) HNO3	Methane (dissolved) HCl	Alkalinity, SO4, Chloride, Nitrate	Hardness HNO3	TOC, phosphate, ammonia, H2SO4		
	LS4GW00101MS	10-30/0900	GW	11	2	2		1	3	1	1	1		
	LS4GW00101MSF	10-30/0900	GW	1			1							
	LS4GW00101MSD	10-30/0900	GW	11	2	2		1	3	1	1	1		
	LS4GW00101MSDF	10-30/0900	GW	1			1							
	LS4GWQW401	10-30/1050	GW	11	2	2		1	3	1	1	1		
	LS4GWQW401-F	10-30/1050	GW	1			1							
	LS3GW00101	10-30/1405	GW	11	2	2		1	3	1	1	1		
	LS3GW00101-F	10-30/1405	GW	1			1							
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
David Schnackenberg	10-30-97 1630	Fed Ex	[signature]	10/31/97 1000	
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

cooler Temp Blank 3.7 → 7.7°C

WN3008

NUS CORPORATION AND SUBSIDAIRES Contact - Corey Rich (412) 921-7090 661 Anderson Dr 5th Floor - Pittsburg Pa 15220-2741 **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 7237-0306 | SITE NAME: Groton Naval Sub Base

SAMPLERS (SIGNATURE): David Schnackenberg

	STATION NO.	DATE 1997	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPH HCl	Tal svoc 4°C	Tal metals Cdsolved HNO3	Tal Metals Total HNO3	methane Dissolved HCl	Alkalinity sulfate chloride nitrat	Hardness	TOC phosphat ammonia, H2SO4	Tal voc HCl VOA	REMARKS
1	MW1-6RI	103097	1650		X	LS6GW00101	1A	2	2		1	3	1	1	1	3	
3	MW1-6RI	103097	1650		X	LS6GW00101-F	1			1							
2		103097	0000		X	GWFD-002	~~2~~ 14	2	2		1	3	1	1	1	3	
4		103097	0000		X	GWFD-002	1			1							
12	NES010	10-30-97	1835		X	LS4GWNES01001	11	2	2		1	3	1	1	1		
5	NES010	10-30-97	1835		X	LS4GW NES01001-F	1			1							
13	13MW12	10-31-97	0930		X	LS3GW13MW1201	11	2	2		1	3	1	1	1		
6	13MW12	10-31-97	0930		X	LS3GW13MW1201-F	1			1							
13	13MW12	10-31	0930		X	LS3GW13MW1201-MS	11	2	2		1	3	1	1	1		
6	13MW12	10-31	0930		X	LS3GW13MW1201-MS-F	1			1							
13	13MW12	10-31	0930		X	LS3GW13MW1201-MSD	11	2	2		1	3	1	1	1		
6	13MW12	10-31	0930		X	LS3GW13MW1201-MSD-F	1			1							
14	MW1-7RI	103197	1135		X	LS7GW00301	11	2	2		1	3	1	1	1		
7	MW1-7RI	103197	1135		X	LS7GW00301-F	1			1							

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
David Schnackenberg	10-31-97 1630	Fed Ex			
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
		11/3/97 1000			
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS:	

NUS 440 D 0890

000015

WN3002

NUS CORPORATION AND SUBSIDAIRES Contact: Corey Rich (412) 921-7090 661 Anderson Drive 5th floor, Pittsburg PA 15220-2741 **CHAIN OF CUSTODY RECORD**

PROJECT NO.: 7237-0300 | SITE NAME: Groton Naval Sub Base

SAMPLERS (SIGNATURE): David Schnackenberg

	STATION NO.	DATE	TIME	COMP	GRAB	STATION LOCATION	NO. OF CONTAINERS	TPH (HEL)	TCL SVOC 625	Tal metals (Dissolved) HNO3	Methane Dissolved HCL	Alkalinity sulfide chloride Nitrate Hardness	TOC, phosphate ammonia, H2S04	REMARKS
15	20mw6	10/3/97	0950		X	LS7GW20mw601	11	2	2	3	1	1	1	
8	20mw6	10/3/97	0950		X	LS7GW20mw601-F	1			1				
16	—	10/3/97	0000		X	GWFD-003	11	2	2	3	1	1	1	
9	—	10/3/97	0000		X	GWFD-003-F	1			1				
17	20mw7	10/3/97	1500		X	LS7GW20mw701	11	2	2	3	1	1	1	
10	20mw7	10/3/97	1500		X	LS7GW20mw701-F	1			1				
18	13MW17	10/3/97	1445		X	LS2GW13MW1701	11	2	2	3	1	1	1	
11	13MW17	10/3/97	1445		X	LS2GW13MW1701-F	1			1				

RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
David Schnackenberg	1630 10-31-97	Fed Ex			
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY (SIGNATURE):	RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED BY(SIGNATURE):
		11/3/97 1000			
RELINQUISHED BY (SIGNATURE):	DATE / TIME:	RECEIVED FOR LABORATORY BY (SIGNATURE):	DATE / TIME:	REMARKS:	

NUS 440 REVISED 0890

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN

Client: Brown & Root Environmental
Contact: Corey Rich
Phone #: (412) 921-7090
Fax #: ( )
Address: 661 Andersen Dr. 5th Floor
City: Pittsburgh
State: PA
Zip Code: 15240-2741
Purchase Order #:
Proj. Name / No.:
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign): David Schnackenberg / Jeff Redden / Kevin J. Marquetts
Copies To:

LAB USE ONLY
WORK ORDER #: WN 3025
KATAHDIN PROJECT MANAGER: LP
REMARKS: Cooler Temp BK 3.3 → 7.1°C
SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 1997	Matrix	No. of Cntrs.	TPH HCl (Filt. ☐Y ☒N)	TCL SVOC 4°C (Filt. ☐Y ☒N)	Tal metals (dissolved) HNO3 (Filt. ☒Y ☐N)	Tal metals (total) HNO3 (Filt. ☐Y ☒N)	Methane (dissolved) HCl (Filt. ☐Y ☒N)	Alkalinity, Sulfate, Chloride, Nitrate (Filt. ☐Y ☒N)	Hardness HNO3 (Filt. ☐Y ☒N)	TOC, phosphate, amonia, H2SO4 (Filt. ☐Y ☒N)	TCL VOAs HCl (Filt. ☐Y ☐N)	Filt. ☐Y ☐
1	Field Blank 001	11-3 / 0850	Water	10	1	2		1	3	1	1	1		
7	Field Blank 001-F	11-3 / 0850	Water	1			1							
2	LS2GWNES0601	11-3 / 0920	GW	10	1	2		1	3	1	1	1		
8	LS2GWNES0601-F	11-3 / 0920	GW	1			1							
3	GWRB-001	11-3 / 0930	Water	~~10~~ 13	1	2		1	3	1	1	1	3	
9	GWRB-001-F	11-3 / 0930	Water	1			1							
4	LS6GW00301	11-3 / 0855	GW	~~10~~ 13	1	2		1	3	1	1	1	3	
10	LS6GW00301-F	11-3 / 0855	GW	1			1							
5	LS6GW00501-	11-3 / 1100	GW	13	1	2		1	3	1	1	1	3	
11	LS6GW00501-F	11-3 / 1100	GW	1			1							
6	LS6GW00401	11-3 / 1320	GW	13	1	2		1	3	1	1	1	3	
12	LS6GW00401-F	11-3 / 1320	GW	1			1							
		/												
		/												
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		/												

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
David Schnackenberg	11-3-97 1530	Fed Ex	Kelly A Perkins	11/4/97 0945	
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN

Page 1 of

Client: Brown & Root Environmental | Contact: Corey Rich | Phone #: (412) 921-7090 | Fax #: ( )

Address: 661 Andersen Dr. 5th Floor | City: Pittsburgh | State: PA | Zip Code: 15240-274

Purchase Order # | Proj. Name / No. | Katahdin Quote #

Bill (if different than above) | Address

Sampler (Print / Sign): David Schnackenberg / Kevin J Margetts / David Schnackenberg

Copies To:

LAB USE ONLY WORK ORDER #: WN3057

KATAHDIN PROJECT MANAGER

REMARKS: Cooler Temp 22 → 7.2°C

SHIPPING INFO: ☐ FED EX ☐ UPS ☐ CLIENT

AIRBILL NO:

TEMP°C ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

*	Sample Description	Date / Time coll'd 1997	Matrix	No. of Cntrs.	ANALYSIS AND CONTAINER TYPE PRESERVATIVES: TPH HCl	TCL SVOC 4°C	Tal metals (dissolved) HNO_3	Tal metals (total) HNO_3	Methane (dissolved) HCl	Alkalinity, sulfate, Chloride, nitrate	Hardness HNO_3	TOC, phosphate, ammonia, H_2SO_4	TCL VOC HCl	Trip blank
	LS2GW13MW601	11-4 / 1325	GW	11	2	2		1	3	1	1	1		
	LS7GW20MW301	11-4 / 1130	GW	11	2	2		1	3	1	1	1		
	LS4GW13MW1501	11-3 / 1700	GW	11	2	2		1	3	1	1	1		
	LS6GW00201	11-4 / 0910	GW	14	2	2		1	3	1	1	1	3	3
	Duplicate 004	11-4 / 0000	GW	14	2	2		1	3	1	1	1	3	
	LS2GW13MW601-F	11-4 / 1325	GW	1			1							
	LS7GW20MW301-F	11-4 / 1130	GW	1			1							
	LS4GW13MW1501-F	11-3 / 1700	GW	1			1							
	LS6GW00201-F	11-4 / 0910	GW	1			1							
	Duplicate 004-F	11-4 / 0000	GW	1			1							
		/												
		/												
		/												
		/												
		/												
		/												

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
David Schnackenberg	11-4-97 1900	Kevin Margetts	11/05/97 1000		
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

FORMSOURCE INC. ☎ (207) 782-3311
FORM # CHN-OF-CSTDY

0000018
ORIGINAL

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN

Page ____ of ____

Client: BROWN / ROOT
Contact: COREY RICH
Phone #: (412) 921-8244
Fax #: (412) 9 40
Address: 661 ANDERSEN DR, FOSTER 7
City: PITTSBURGH
State: PA
Zip Code: 15220
Purchase Order #:
Proj. Name / No.: 7237
Katahdin Quote #:
Bill (if different than above):
Address:
Sampler (Print / Sign):
Copies To:

LAB USE ONLY
WORK ORDER #: 3129
KATAHDIN PROJECT MANAGER: LP
REMARKS: Cooler Temps 1.6° → 5.7°C
SHIPPING INFO: ☑ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO: 80238024 1510
TEMP°C ____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 1997	Matrix	No. of Cntrs.	Dissolved Methane 40 mL vial w/HCL (Filt. ☐Y☐N)	SVOC 1 LAG (Filt. ☐Y☐N)	TPH, 1 L HDPE HCL (Filt. ☐Y☐N)	Alkalinity, Sulfate, Chlor, Nitrate: 1 L HDPE (Filt. ☐Y☐N)	TAL METALS 500 mL HDPE: HNO3 (Filt. ☐Y☐N)	TOC, Phosphate, Ammonia, 250 mL AG: H2SO4 (Filt. ☐Y☐N)	HARDNESS, 125 mL HDPE: HNO3 (Filt. ☐Y☐N)	DISSOLVED METALS 500 mL HDPE: HNO3 (Filt. ☑Y☐N)	(Filt. ☐Y☐N)	(Filt. ☐Y☐N)
	LS1GW13MW301	11-10 / 1400	GW	10	3	2	1	1	1	1	1			
	LS1GW13MW301-F	11-10 / 1400	GW	1								1		
	LS1GWFOMW1401	11-10 / 1515	GW	10	3	2	1	1	1	1	1			
	LS1GWFOMW1401-F	11-10 / 1515	GW									1		
	LS2GW13MW1001	11-10 / 2130	GW	30	9	6	3	3	3	3	3		MS/MSD	
	LS2GW13MW1001-F	11-10 / 2130	GW	3								3	MS/MSD	
	DUP005	11-10 / 0000	GW	11	3	2	1	1	1	1	1	1		
	LS1GW13MW201	11-11 / 0000	GW	10	3	2	1	1	1	1	1			
	LS1GW13MW201 F	11-11 / 0000	GW	1	~~3~~	~~2~~	~~1~~	~~1~~	~~1~~ PAH			1		
	LS2GW13MW1101	11-11 / 1110	GW	11	3	2	2	1	1	1	1			
	LS2GW13MW1101-F	11-11 / 1110	GW	1								1		
		/												
		/												
		/												
		/												
		/												

COMMENTS: SAMPLE LS2GW13MW1001 IS ~~LA~~ GOING TO BE LABLED LS2GW13MW101 per client request ~~DO~~ ~~PS~~ DUP005-F CREATED FOR FILTERED METALS ANALYSIS 11/13 LP

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	11-11-97 / 1330	[signature]	11/12/97 1000		
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

FORMSOURCE INC ☎ (207) 782-3311
FORM # CHN-OF-CSTDY

0000012
ORIGINAL

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN

Page ____ of ____

Client: BROWN / ROOT
Contact: COREY RICH
Phone #: (412) 921-8244
Fax #: (412) 921-4040

Address: 661 ANDERSEN DR, FOSTER 7
City: PITTSBURGH
State: PA
Zip Code: 15220

Purchase Order #:
Proj. Name / No.: 7237
Katahdin Quote #:

Bill (if different than above):
Address:

Sampler (Print / Sign):
Copies To:

LAB USE ONLY
WORK ORDER #: WN3150
KATAHDIN PROJECT MANAGER: LP

REMARKS: Temp Blanks 3° → 5.1°C

SHIPPING INFO: ☑ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO: 802380241554
TEMP°C _____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 1997	Matrix	No. of Cntrs.	Dissolved Methane 40mL g: HCL	SVOC, 1 LAG	TPH, 1L HDPE HCL	ALK, Sulf, Chl, Nit 1L HDPE	TAL METALS, 500 mL HDPE, HNO3	TOC, Phosph, Amm. onia 250mL AG: H2SO4	HARDNESS, 125mL HDPE, HNO3	Dissolved Metals 500mL HDPE: HNO3		
	LS1GWFOMW1601	11-11 / 1530	GW	11	3	2	2	1	1	1	1			
	LS1GWFOMW1601-F	/ 1530		1								1		
	LS1GWFOMW1501	/ 1320		11	3	2	2	1	1	1	1			
	LS1GWFOMW1501-F	/ 1320		1								1		
	LS1GW13MW1901	/ 1715		11	3	2	2	1	1	1	1			
	LS1GW13MW1901-F	/ 1715		1								1		
	LS1GW13MW2101	/ 1830		11	3	2	2	1	1	1	1			
	LS1GW13MW2101-F	/ 1830		1								1		
	LS1GW13MW2001	/ 2130		11	3	2	2	1	1	1	1			
	LS1GW13MW2001-F	/ 2130		1								1		
	LS2GW13MW1001	11-12 / 0000		11	3	2	2	1	1	1	1			
	LS2GW13MW1001-F	11-12 / 0000		1								1		
	LS1GW13MW901	11-12 / 1241		11	3	2	2	1	1	1	1			
	LS1GW13MW901-F	/ 1241		1								1		
	LS1GW13MW1801	/ 1440		10	PAH 32	2	2	1	1	1	1			
	LS1GW13MW1801-F	/ 1440		1								1		

COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	11-12 1530	FEDEX			
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
		[signature] 11/13/97			

FORMSOURCE INC. ☎ (207) 782-3311
FORM # CHN-OF-CSTDY

0000013
ORIGINAL

Katahdin ANALYTICAL SERVICES
340 County Road No. 5
P.O. Box 720
Westbrook, ME 04098
Tel: (207) 874-2400
Fax: (207) 775-4029

CHAIN of CUSTODY

PLEASE PRINT IN PEN Page ____ of ____

Client: BROWN & ROOT
Contact: COREY RICH
Phone #: (412) 921-8244
Fax #: (412) 921 40

Address: 661 ANDERSEN DR, FOSTER 7
City: PITTSBURGH
State: PA
Zip Code: 15220

Purchase Order #:
Proj. Name / No.: 7237
Katahdin Quote #:

Bill (if different than above):
Address:

Sampler (Print / Sign): PAUL A. HALE
Copies To:

LAB USE ONLY
WORK ORDER #: WN3182
KATAHDIN PROJECT MANAGER: LP

REMARKS:

SHIPPING INFO: ☒ FED EX ☐ UPS ☐ CLIENT
AIRBILL NO:
TEMP°C ____ ☐ TEMP BLANK ☐ INTACT ☐ NOT INTACT

ANALYSIS AND CONTAINER TYPE PRESERVATIVES

*	Sample Description	Date / Time coll'd 1997	Matrix	No. of Cntrs.	DISSOLVED METHANE 40 mL VIAL: HCL (Filt. ☐Y☐N)	SVOC 1 L AG (Filt. ☐Y☐N)	TPH 1 L HDPE: HCL (Filt. ☐Y☐N)	AIR, Sulfate, Chlor, Nitr. 1 L HDPE (Filt. ☐Y☐N)	TOC, TPO4, NH4 250 mL AG: H2SO4 (Filt. ☐Y☐N)	HARDNESS: 125 mL HDPE: HNO3 (Filt. ☐Y☐N)	TAL Metals: 500 mL HDPE: HNO3 (Filt. ☐Y☐N)	DISSOLVED METALS 500 mL HDPE: HNO3 (Filt. ☐Y☐N)	(Filt. ☐Y☐N)	(Filt. ☐Y☐N)
	LS1GWFOMW1301	11-12 / 1750	GW	11	3	2	2	1	1	1	1			
	LS1GWFOMW301-F	11-12 / 1750	GW	1								1		
	LS1GW13MW801	11-13 / 0028	GW	11	3	2	2	1	1	1	1			
	LS1GW13MW801-F	11-13 / 0028	GW	1								1		
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COMMENTS

Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)
[signature]	11-13-97 1340	FEDEX	11/14/97 [signature]	1010	
Relinquished By: (Signature)	Date / Time	Received By: (Signature)	Relinquished By: (Signature)	Date / Time	Received By: (Signature)

FORMSOURCE INC. ☎ (207) 782-3311
FORM # CHN-OF-CSTDY

0000014
ORIGINAL

APPENDIX D

SURVEY DATA

SURVEYED BY: Louis Federici & Assoc. Providence, RI 10/1/97		THE VALUES BELOW ARE BASED ON THE FOLLOWING DATUMS: HORIZONTAL = NAD 1983 VERTICAL = NGVD 1988 (MSL)					THE VALUES BELOW ARE BASED ON THE FOLLOWING DATUMS: HORIZONTAL = NAD 1927 VERTICAL = NGVD 1929 (MSL)					THE VALUES BELOW ARE BASED ON THE FOLLOWING DATUMS: VERTICAL = SUBASE 1982 (MSL)		
LFA PT. NO.	BROWN & ROOT DESCRIPTION	NORTHING	EASTING	ORIG. GRADE	TOP OF CASE	TOP OF PVC	NORTHING	EASTING	ORIG. GRADE	TOP OF CASE	TOP OF PVC	ORIG. GRADE	TOP OF CASE	TOP OF PVC
29	BRASS DISC	705148.643	1180452.404	4.94			205108.935	780326.756	5.89			7.21		
31	BRASS DISC	704016.181	1180990.148	5.16			203976.527	780864.614	6.11			7.43		
260	BRASS DISC	706339.576	1180305.549	6.64			206299.853	780179.780	7.59			8.91		
263	BRASS PIN	704144.711	1181161.494	15.29			204105.075	781035.947	16.24			17.56		
563	BRASS DISC	708397.888	1180578.692	26.44			208358.192	780452.715	27.39			28.71		
564	BRASS DISC	708646.292	1180185.015	7.00			208606.557	780059.013	7.95			9.27		
565	BRASS PIN	709640.260	1180130.217	4.75			209600.520	780004.114	5.70			7.02		
567	BRASS DISC	705215.871	1180739.155	11.00			205176.192	780613.500	11.95			13.27		
930	BRASS DISC	707124.061	1180615.275	31.66			207084.369	780489.427	32.61			33.93		
950	BRASS DISC	707351.399	1180134.060	4.57			207311.659	780008.189	5.52			6.84		
953	BRASS DISC	704566.612	1180726.790	5.28			204526.932	780601.201	6.23			7.55		
1346	TB1-1RI	705136.987	1180551.138	5.65			205097.289	780425.491	6.60			7.92		
1349	TB2-1RI	705379.595	1180448.678	5.82			205339.887	780323.007	6.77			8.09		
1350	TB3-1RI	705456.738	1180507.071	5.98			205417.035	780381.392	6.93			8.25		
1351	TB4-1RI	705490.453	1180602.716	9.10			205450.760	780477.033	10.05			11.37		
1352	TB5-1RI	705511.879	1180682.296	10.11			205472.194	780556.611	11.06			12.38		
1357	TB6-1RI	705433.507	1180737.855	10.97			205393.828	780612.178	11.92			13.24		
1354	TB7-1RI	705287.138	1180791.904	12.81			205247.464	780666.241	13.76			15.08		
1355	TB8-1RI	705211.855	1180713.690	9.19			205172.174	780588.035	10.14			11.46		
1356	TB9-1RI	705187.083	1180650.302	8.36			205147.395	780524.650	9.31			10.63		
1364	TB1-2RI	704751.016	1180715.991	5.53			204711.335	780590.383	6.48			7.80		
1348	TB2-2RI	704886.146	1180658.990	5.31			204846.459	780533.369	6.26			7.58		
1347	TB3-2RI	705028.948	1180630.824	6.12			204989.258	780505.188	7.07			8.39		
1353	TB4-2RI	705194.342	1180784.194	13.47			205154.667	780658.541	14.42			15.74		
1372	TB5-2RI	704922.757	1180878.131	10.95			204883.092	780752.506	11.90			13.22		
1371	TB6-2RI	704760.297	1180942.141	10.28			204720.639	780816.532	11.23			12.55		
1363	TB7-2RI	704693.907	1180801.997	6.45			204654.235	780676.395	7.40			8.72		
1360	MW1-3RI	704496.602	1180844.906	5.69	5.69	5.26	204456.934	780719.323	6.64	6.64	6.21	7.96	7.96	7.53
1362	MW2-3RI	704590.848	1180804.048	5.88	5.88	5.39	204551.175	780678.456	6.83	6.83	6.34	8.15	8.15	7.66
1365	TB3-3RI	704477.455	1180929.527	6.71			204437.796	780803.946	7.66			8.98		
1369	TB4-3RI	704569.481	1180993.974	8.02			204529.828	780868.384	8.97			10.29		
1370	TB5-3RI	704670.433	1180954.349	8.86			204630.776	780828.749	9.81			11.13		
1366	MW1-4RI	704130.152	1181062.302	5.88	5.88	5.56	204090.506	780936.757	6.83	6.83	6.51	8.15	8.15	7.83
1367	MW2-4RI	704204.876	1181147.114	6.96	6.96	6.46	204165.239	781021.561	7.91	7.91	7.41	9.23	9.23	8.73
1361	TB2-4RI	704327.211	1180933.495	6.20			204287.552	780807.930	7.15			8.47		
1373	TB3-4RI	704271.909	1181019.058	6.31			204232.259	780893.498	7.26			8.58		
1368	TB4-4RI	704408.738	1181023.875	6.97			204369.088	780898.302	7.92			9.24		

SURVEYED BY: Louis Federici & Assoc. Providence, RI 10/1/97		THE VALUES BELOW ARE BASED ON THE FOLLOWING DATUMS: HORIZONTAL = NAD 1983 VERTICAL = NGVD 1988 (MSL)					THE VALUES BELOW ARE BASED ON THE FOLLOWING DATUMS: HORIZONTAL = NAD 1927 VERTICAL = NGVD 1929 (MSL)					THE VALUES BELOW ARE BASED ON THE FOLLOWING DATUMS: VERTICAL = SUBASE 1982 (MSL)		
LFA PT. NO.	BROWN & ROOT DESCRIPTION	NORTHING	EASTING	ORIG. GRADE	TOP OF CASE	TOP OF PVC	NORTHING	EASTING	ORIG. GRADE	TOP OF CASE	TOP OF PVC	ORIG. GRADE	TOP OF CASE	TOP OF PVC
1329	TB1-5RI	708322.780	1180193.737	5.70			208283.046	780067.767	6.65			7.97		
1330	TB2-5RI	708262.549	1180169.416	4.93			208222.812	780043.453	5.88			7.20		
1328	TB3-5RI	708372.424	1180147.099	5.43			208332.685	780021.125	6.38			7.70		
1327	TB4-5RI	708438.652	1180147.118	5.47			208398.913	780021.137	6.42			7.74		
1325	TB5-5RI	708568.038	1180146.091	5.52			208528.299	780020.097	6.47			7.79		
1326	TB6-5RI	708537.901	1180168.985	5.36			208498.164	780042.993	6.31			7.63		
1324	MW1-6RI	707646.337	1180332.944	28.36	28.36	27.99	207606.617	780207.043	29.31	29.31	28.94	30.63	30.63	30.26
1334	MW2-6RI	707554.255	1180197.852	4.10	4.10	3.63	207514.521	780071.960	5.05	5.05	4.58	6.37	6.37	5.90
1333	MW3-6RI	707614.373	1180172.718	4.38	4.38	3.92	207574.636	780046.821	5.33	5.33	4.87	6.65	6.65	6.19
1332	MW4-6RI	707712.406	1180171.077	4.95	4.95	4.51	207672.670	780045.169	5.90	5.90	5.46	7.22	7.22	6.78
1331	MW5-6RI	707797.749	1180170.561	5.24	5.24	4.83	207758.012	780044.645	6.19	6.19	5.78	7.51	7.51	7.10
1341	MW1-7RI	706203.499	1180331.074	6.13	6.13	5.72	206163.779	780205.319	7.08	7.08	6.67	8.40	8.40	7.99
1339	MW2-7RI	706342.269	1180270.894	5.81	5.81	5.43	206302.543	780145.125	6.76	6.13	6.38	8.08	7.45	7.70
1336	MW3-7RI	706602.227	1180250.634	4.67	4.67	4.27	206562.498	780124.838	5.62	5.62	5.22	6.94	6.94	6.54
1337	MW4-7RI	706757.855	1180277.038	6.03	6.03	5.67	206718.130	780151.227	6.98	6.98	6.62	8.30	8.30	7.94
1345	MW5-7RI	706369.728	1180460.172	6.94	6.94	6.48	206330.021	780334.400	7.89	7.89	7.43	9.21	9.21	8.75
1343	TB1-7RI	706117.582	1180216.317	4.73			206077.850	780090.571	5.68			7.00		
1340	TB2-7RI	706248.180	1180202.153	4.88			206208.446	780076.394	5.83			7.15		
1338	TB5-7RI	706439.350	1180302.190	5.27			206399.626	780176.411	6.22			7.54		
1335	TB8-7RI	706719.772	1180353.194	7.64			206680.054	780227.387	8.59			9.91		
1342	TB9-7RI	706510.251	1180358.924	6.55			206470.533	780233.138	7.50			8.82		
1344	TB11-7RI	706276.680	1180517.872	7.19			206236.978	780392.110	8.14			9.46		

APPENDIX E

SMITH COVE TIDAL CHARTS

Tides - Smith Cove entrance

Average Tides
Mean Range: 2.5 ft
Diurnal Range: 3.0 ft
Mean Tide: 1.4 ft

41° 24.0' N 72° 6.0' W

September 1997

Monthly High & Low
High September 18, 11:02a 3.6 ft
Low September 17, 4:55p -0.3 ft

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
	1 (EDT) ft 3:59 am 0.3 Low 9:47 am 2.7 High 4:15 pm 0.3 Low 10:01 pm 2.9 High	**2** (EDT) ft 4:38 am 0.3 Low 10:23 am 2.8 High 4:57 pm 0.3 Low 10:37 pm 2.8 High	**3** (EDT) ft 5:17 am 0.3 Low 10:58 am 2.8 High 5:38 pm 0.4 Low 11:13 pm 2.8 High	**4** (EDT) ft 5:57 am 0.3 Low 11:34 am 2.9 High 6:21 pm 0.4 Low 11:50 pm 2.7 High	**5** (EDT) ft 6:37 am 0.4 Low 12:11 pm 2.9 High 7:06 pm 0.5 Low	**6** (EDT) ft 12:29 am 2.6 High 7:19 am 0.5 Low 12:50 pm 2.8 High 7:53 pm 0.5 Low
7 (EDT) ft 1:10 am 2.5 High 8:03 am 0.6 Low 1:32 pm 2.8 High 8:44 pm 0.6 Low	**8** (EDT) ft 1:57 am 2.4 High 8:51 am 0.7 Low 2:19 pm 2.8 High 9:38 pm 0.6 Low	**9** (EDT) ft 2:50 am 2.3 High 9:43 am 0.8 Low 3:13 pm 2.8 High 10:34 pm 0.6 Low	**10** (EDT) ft 3:51 am 2.3 High 10:39 am 0.8 Low 4:13 pm 2.8 High 11:29 pm 0.5 Low	**11** (EDT) ft 4:54 am 2.3 High 11:36 am 0.7 Low 5:14 pm 2.9 High	**12** (EDT) ft 12:23 am 0.4 Low 5:54 am 2.5 High 12:32 pm 0.5 Low 6:14 pm 3.0 High	**13** (EDT) ft 1:14 am 0.2 Low 6:50 am 2.7 High 1:27 pm 0.3 Low 7:11 pm 3.2 High
14 (EDT) ft 2:03 am 0.1 Low 7:43 am 2.9 High 2:19 pm 0.1 Low 8:05 pm 3.3 High	**15** (EDT) ft 2:51 am -0.1 Low 8:33 am 3.2 High 3:11 pm -0.1 Low 8:57 pm 3.4 High	**16** (EDT) ft 3:38 am -0.2 Low 9:23 am 3.4 High 4:03 pm -0.3 Low 9:48 pm 3.4 High	**17** (EDT) ft 4:26 am -0.2 Low 10:12 am 3.6 High 4:55 pm -0.3 Low 10:39 pm 3.4 High	**18** (EDT) ft 5:14 am -0.2 Low 11:02 am 3.6 High 5:48 pm -0.3 Low 11:31 pm 3.2 High	**19** (EDT) ft 6:04 am -0.1 Low 11:54 am 3.6 High 6:42 pm -0.2 Low	**20** (EDT) ft 12:25 am 3.1 High 6:57 am 0.0 Low 12:48 pm 3.5 High 7:39 pm -0.1 Low
21 (EDT) ft 1:21 am 2.8 High 7:52 am 0.2 Low 1:45 pm 3.3 High 8:38 pm 0.1 Low	**22** (EDT) ft 2:22 am 2.6 High 8:51 am 0.4 Low 2:46 pm 3.1 High 9:38 pm 0.2 Low	**23** (EDT) ft 3:26 am 2.5 High 9:52 am 0.5 Low 3:51 pm 2.9 High 10:40 pm 0.4 Low	**24** (EDT) ft 4:35 am 2.4 High 10:54 am 0.6 Low 4:58 pm 2.8 High 11:39 pm 0.4 Low	**25** (EDT) ft 5:41 am 2.4 High 11:55 am 0.6 Low 6:01 pm 2.8 High	**26** (EDT) ft 12:34 am 0.4 Low 6:40 am 2.5 High 12:51 pm 0.6 Low 6:57 pm 2.7 High	**27** (EDT) ft 1:23 am 0.4 Low 7:27 am 2.6 High 1:41 pm 0.5 Low 7:43 pm 2.7 High
28 (EDT) ft 2:08 am 0.4 Low 8:07 am 2.7 High 2:27 pm 0.4 Low 8:23 pm 2.7 High	**29** (EDT) ft 2:49 am 0.4 Low 8:43 am 2.8 High 3:10 pm 0.4 Low 8:59 pm 2.8 High	**30** (EDT) ft 3:28 am 0.3 Low 9:17 am 2.9 High 3:51 pm 0.3 Low 9:35 pm 2.8 High				

Tides - Smith Cove entrance

Average Tides
Mean Range: 2.5 ft
Diurnal Range: 3.0 ft
Mean Tide: 1.4 ft

41° 24.0' N 72° 6.0' W

October 1997

Monthly High & Low
High October 17, 10:40a 3.7 ft
Low October 16, 4:38p -0.4 ft

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 (EDT) ft 4:06 am 0.3 Low 9:51 am 3.0 High 4:31 pm 0.3 Low 10:10 pm 2.8 High	**2** (EDT) ft 4:44 am 0.3 Low 10:25 am 3.0 High 5:12 pm 0.3 Low 10:46 pm 2.7 High	**3** (EDT) ft 5:22 am 0.4 Low 10:59 am 3.0 High 5:53 pm 0.3 Low 11:22 pm 2.7 High	**4** (EDT) ft 6:01 am 0.5 Low 11:34 am 3.0 High 6:37 pm 0.3 Low
5 (EDT) ft 12:01 am 2.6 High 6:42 am 0.6 Low 12:12 pm 3.0 High 7:23 pm 0.4 Low	**6** (EDT) ft 12:42 am 2.5 High 7:26 am 0.7 Low 12:53 pm 3.0 High 8:12 pm 0.4 Low	**7** (EDT) ft 1:29 am 2.4 High 8:15 am 0.8 Low 1:40 pm 2.9 High 9:05 pm 0.5 Low	**8** (EDT) ft 2:23 am 2.4 High 9:11 am 0.8 Low 2:36 pm 2.9 High 10:01 pm 0.5 Low	**9** (EDT) ft 3:25 am 2.4 High 10:12 am 0.8 Low 3:40 pm 2.8 High 10:58 pm 0.5 Low	**10** (EDT) ft 4:30 am 2.4 High 11:14 am 0.7 Low 4:47 pm 2.9 High 11:53 pm 0.4 Low	**11** (EDT) ft 5:31 am 2.6 High 12:13 pm 0.5 Low 5:52 pm 2.9 High
12 (EDT) ft 12:45 am 0.2 Low 6:29 am 2.9 High 1:10 pm 0.3 Low 6:52 pm 3.0 High	**13** (EDT) ft 1:36 am 0.1 Low 7:22 am 3.1 High 2:04 pm 0.0 Low 7:47 pm 3.1 High	**14** (EDT) ft 2:25 am 0.0 Low 8:13 am 3.4 High 2:56 pm -0.2 Low 8:40 pm 3.2 High	**15** (EDT) ft 3:13 am -0.1 Low 9:02 am 3.6 High 3:47 pm -0.3 Low 9:31 pm 3.2 High	**16** (EDT) ft 4:01 am -0.2 Low 9:51 am 3.7 High 4:38 pm -0.4 Low 10:22 pm 3.1 High	**17** (EDT) ft 4:49 am -0.1 Low 10:40 am 3.7 High 5:29 pm -0.4 Low 11:13 pm 3.0 High	**18** (EDT) ft 5:39 am 0.0 Low 11:30 am 3.6 High 6:22 pm -0.3 Low
19 (EDT) ft 12:05 am 2.9 High 6:31 am 0.1 Low 12:22 pm 3.5 High 7:16 pm -0.1 Low	**20** (EDT) ft 12:59 am 2.7 High 7:26 am 0.3 Low 1:17 pm 3.3 High 8:12 pm 0.1 Low	**21** (EDT) ft 1:57 am 2.6 High 8:25 am 0.4 Low 2:15 pm 3.0 High 9:09 pm 0.2 Low	**22** (EDT) ft 3:00 am 2.5 High 9:26 am 0.6 Low 3:18 pm 2.8 High 10:08 pm 0.4 Low	**23** (EDT) ft 4:05 am 2.4 High 10:28 am 0.7 Low 4:23 pm 2.6 High 11:05 pm 0.4 Low	**24** (EDT) ft 5:09 am 2.4 High 11:29 am 0.7 Low 5:25 pm 2.5 High 11:58 pm 0.5 Low	**25** (EDT) ft 6:06 am 2.5 High 12:25 pm 0.6 Low 6:22 pm 2.5 High
26 (EST) ft 5:54 am 2.6 High 12:16 pm 0.5 Low 6:09 pm 2.5 High	**27** (EST) ft 12:32 am 0.4 Low 6:34 am 2.7 High 1:02 pm 0.4 Low 6:51 pm 2.5 High	**28** (EST) ft 1:14 am 0.4 Low 7:10 am 2.8 High 1:44 pm 0.3 Low 7:29 pm 2.6 High	**29** (EST) ft 1:54 am 0.3 Low 7:45 am 2.9 High 2:25 pm 0.2 Low 8:05 pm 2.6 High	**30** (EST) ft 2:33 am 0.3 Low 8:19 am 3.0 High 3:05 pm 0.2 Low 8:42 pm 2.6 High	**31** (EST) ft 3:11 am 0.3 Low 8:53 am 3.1 High 3:46 pm 0.1 Low 9:19 pm 2.6 High	

Tides - Smith Cove entrance

Average Tides
Mean Range: 2.5 ft
Diurnal Range: 3.0 ft
Mean Tide: 1.4 ft

41° 24.0' N 72° 6.0' W

November 1997

Monthly High & Low
High November 14, 8:32a 3.6 ft
Low November 14, 3:22p -0.4 ft

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1 (EST) ft 3:49 am 0.4 Low 9:27 am 3.2 High 4:27 pm 0.1 Low 9:57 pm 2.6 High
2 (EST) ft 4:29 am 0.4 Low 10:03 am 3.2 High 5:10 pm 0.1 Low 10:37 pm 2.5 High	**3** (EST) ft 5:10 am 0.5 Low 10:42 am 3.1 High 5:56 pm 0.2 Low 11:20 pm 2.5 High	**4** (EST) ft 5:55 am 0.6 Low 11:25 am 3.1 High 6:44 pm 0.2 Low	**5** (EST) ft 12:08 am 2.4 High 6:47 am 0.7 Low 12:14 pm 3.0 High 7:37 pm 0.3 Low	**6** (EST) ft 1:03 am 2.4 High 7:46 am 0.7 Low 1:11 pm 2.9 High 8:32 pm 0.3 Low	**7** (EST) ft 2:05 am 2.4 High 8:50 am 0.7 Low 2:17 pm 2.8 High 9:28 pm 0.3 Low	**8** (EST) ft 3:08 am 2.6 High 9:54 am 0.5 Low 3:25 pm 2.7 High 10:24 pm 0.2 Low
9 (EST) ft 4:10 am 2.7 High 10:55 am 0.4 Low 4:32 pm 2.7 High 11:18 pm 0.2 Low	**10** (EST) ft 5:09 am 3.0 High 11:53 am 0.1 Low 5:34 pm 2.8 High	**11** (EST) ft 12:10 am 0.1 Low 6:03 am 3.2 High 12:48 pm -0.1 Low 6:31 pm 2.8 High	**12** (EST) ft 1:00 am 0.0 Low 6:54 am 3.4 High 1:41 pm -0.3 Low 7:24 pm 2.8 High	**13** (EST) ft 1:49 am -0.1 Low 7:44 am 3.6 High 2:32 pm -0.4 Low 8:15 pm 2.9 High	**14** (EST) ft 2:38 am -0.1 Low 8:32 am 3.6 High 3:22 pm -0.4 Low 9:05 pm 2.8 High	**15** (EST) ft 3:27 am -0.1 Low 9:20 am 3.6 High 4:11 pm -0.4 Low 9:54 pm 2.8 High
16 (EST) ft 4:16 am 0.0 Low 10:09 am 3.5 High 5:01 pm -0.3 Low 10:45 pm 2.7 High	**17** (EST) ft 5:08 am 0.1 Low 10:58 am 3.3 High 5:52 pm -0.2 Low 11:36 pm 2.6 High	**18** (EST) ft 6:01 am 0.3 Low 11:49 am 3.1 High 6:44 pm 0.0 Low	**19** (EST) ft 12:31 am 2.5 High 6:58 am 0.4 Low 12:43 pm 2.8 High 7:37 pm 0.2 Low	**20** (EST) ft 1:28 am 2.4 High 7:57 am 0.5 Low 1:40 pm 2.6 High 8:32 pm 0.3 Low	**21** (EST) ft 2:28 am 2.4 High 8:57 am 0.6 Low 2:40 pm 2.4 High 9:26 pm 0.4 Low	**22** (EST) ft 3:28 am 2.4 High 9:56 am 0.6 Low 3:40 pm 2.3 High 10:18 pm 0.4 Low
23 (EST) ft 4:23 am 2.4 High 10:52 am 0.6 Low 4:36 pm 2.2 High 11:08 pm 0.4 Low	**24** (EST) ft 5:12 am 2.5 High 11:44 am 0.5 Low 5:27 pm 2.2 High 11:54 pm 0.4 Low	**25** (EST) ft 5:55 am 2.6 High 12:31 pm 0.4 Low 6:13 pm 2.3 High	**26** (EST) ft 12:38 am 0.3 Low 6:34 am 2.8 High 1:15 pm 0.2 Low 6:55 pm 2.3 High	**27** (EST) ft 1:19 am 0.3 Low 7:10 am 2.9 High 1:58 pm 0.1 Low 7:34 pm 2.4 High	**28** (EST) ft 1:59 am 0.3 Low 7:46 am 3.0 High 2:39 pm 0.0 Low 8:13 pm 2.4 High	**29** (EST) ft 2:39 am 0.2 Low 8:22 am 3.1 High 3:20 pm -0.1 Low 8:53 pm 2.4 High
30 (EST) ft 3:19 am 0.2 Low 8:59 am 3.2 High 4:02 pm -0.1 Low 9:33 pm 2.5 High						

APPENDIX F

WASTE MANIFESTS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS MATERIALS
One Winter Street Boston, Massachusetts 02108

46873
MAK455604

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

UNIFORM HAZARDOUS WASTE MANIFEST	1. Generator's US EPA ID No. CT4170022020	Manifest Document No. 55604	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.

3. Generator's Name and Mailing Address
US Navy Submarine Base Box 39
Naval Submarine Base Bldg #166
Groton, CT
4. Generator's Phone (860) 694-5176

A. State Manifest Document Number: MA K 455604
B. State Gen. ID: same

5. Transporter 1 Company Name: Laidlaw Environmental Services (TG) Inc
6. US EPA ID Number: SCD987574647

C. State Trans. ID: CT-20940-A

7. Transporter 2 Company Name: Laidlaw Environmental Services (TG) Inc
8. US EPA ID Number: SCD987574647

D. Transporter's Phone: (978) 683-1002

9. Designated Facility Name and Site Address
Laidlaw Environmental Svc (NE), Inc.
300 Canal Street
Lawrence, MA 01840
10. US EPA ID Number: MAD000604447

E. State Trans. ID:
F. Transporter's Phone: (978) 683-1002
G. State Facility's ID: NOT REQUIRED
H. Facility's Phone: (978) 683-1002

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. WASTE NO.
a. Hazardous Waste Solid, n.o.s. (Lead, Mercury) 9, NA3077, III	01	DM	500	P	D008, D009
b.					
c.					
d.					

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)
(NE)
VSN01-005
a. Soil: Lead/32PM Mercury
b.
c.
d.

K. Handling Codes for Wastes Listed Above
a. S 1 0 1
b.
c.
d.

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford.
Emergency Contact: Laidlaw/Northeast (978) 683-1002

Printed/Typed Name	Signature	Date (Month Day Year)
Kate Schweitzer	Kate Schweitzer	02 26 98

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials		
Printed/Typed Name: Steven W. Burke	Signature	Date: 02 26 98
18. Transporter 2 Acknowledgement of Receipt of Materials		
Printed/Typed Name	Signature	Date

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item19

Printed/Typed Name	Signature	Date

In case of emergency or spill, immediately I the National Response Center (800) 424-8802

Form Approved OMB No. 2050-0039. Expires 9-30-99
EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

COPY>1: FACILITY MAILS TO DESTINATION STATE

COMMONWEALTH OF MASSACHUSETTS

HAZARDOUS MATERIALS

DEPARTMENT OF ENVIRONMENTAL PROTECTION
DIVISION OF HAZARDOUS MATERIALS
One Winter Street Boston, Massachusetts 02108

76873
MAK4~~74739~~ 55766

Please print or type. (Form designed for use on elite (12-pitch) typewriter)

UNIFORM HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.	Manifest Document No.	2. Page 1 of 1	Information in the shaded areas is not required by Federal law.
CT4170022020	55766		

3. Generator's Name and Mailing Address
US NAVY SUBMARINE BASE
NAVAL SUBMARINE BASE BLDG#166 Box 39
GROTON, CT 06349
4. Generator's Phone (860) 694-5176

A. State Manifest Document Number: MA K 455766
B. State Gen. ID: SAME

5. Transporter 1 Company Name: LAIDLAW ENVIRONMENTAL SERVICES (TG), INC
6. US EPA ID Number: SCD987574647
C. State Trans. ID: (CT) 20940-A

7. Transporter 2 Company Name: LAIDLAW ENVIRONMENTAL SERVICES (TG), INC
8. US EPA ID Number: SCD987574647
D. Transporter's Phone: (978) 683-1002

9. Designated Facility Name and Site Address
LAIDLAW ENVIRONMENTAL SVC (NE), INC.
300 CANAL STREET
LAWRENCE, MA 01840
10. US EPA ID Number: MAD000604447
E. State Trans. ID:
F. Transporter's Phone: (978) 683-1002
G. State Facility's ID: NOT REQUIRED
H. Facility's Phone: (978) 683-1002

11. US DOT Description (Including Proper Shipping Name, Hazard Class and ID Number)	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol	I. WASTE NO.
a. HAZARDOUS WASTE, SOLID, N.O.S., (ACETONE), 9, NA3077, III	02	DM	1000	P	F003
b. NON REGULATED MATERIAL, NONE	19	DM	7600	P	CR04 MA99
c. NON REGULATED MATERIAL, NONE	03	DM	1500	P	CR05 MA99
d. Hazardous Waste, Solid, n.o.s. (Lead) 9 NA3077 III	03	DM	1500	P	D008

J. Additional Descriptions for Materials Listed Above (include physical state and hazard code.)
a. USN01-002 SOIL: HAZARDOUS, 90 PPB Acetone
c. USN01-003 SOIL: NON-HAZARDOUS
b. USN01-001 GROUND WATER: NON-HAZARDOUS
d. USN01-004 Soil: Low Level Lead

K. Handling Codes for Wastes Listed Above
a. S01 c. S01
b. S01 d. S01

15. Special Handling Instructions and Additional Information

16. GENERATOR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by proper shipping name and are classified, packed, marked, and labeled, and are in all respects in proper condition for transport by highway according to applicable international and national government regulations.
If I am a large quantity generator, I certify that I have a program in place to reduce the volume and toxicity of waste generated to the degree I have determined to be economically practicable and that I have selected the practicable method of treatment, storage, or disposal currently available to me which minimizes the present and future threat to human health and the environment; OR, if I am a small quantity generator, I have made a good faith effort to minimize my waste generation and select the best waste management method that is available to me and that I can afford. Emergency Telephone Contact: Laidlaw (NorthEast) (978)683-1002

Printed/Typed Name	Signature	Date (Month Day Year)
Kate Schweitzer	Kate Schw	9 2 2 6 9 8

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)
Steven W. Burke		9 2 7 9 8

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Date (Month Day Year)

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of hazardous materials covered by this manifest except as noted in item19

Printed/Typed Name	Signature	Date (Month Day Year)

Form Approved OMB No. 2050-0039 Expires 9-30-99
EPA Form 8700-22 (Rev. 9-88) Previous editions are obsolete.

In case of emergency or spill, immediately call the National Response Center (800) 424-8802

GENERATOR

MA K 455766 COPY>1: FACILITY MAILS TO DESTINATION STATE

COPY>1: FACILITY MAILS TO DESTINATION STATE

APPENDIX G

SITE PHOTOGRAPHS

ZONE 1

SITE 10 - FUEL STORAGE TANKS E, F, G, H , L and TANK 54-H
FACING EAST

SITE 11 - POWER PLANT OIL TANKS A, B, C, D
FACING SOUTH

ZONE 2

INTERSECTION OF CORVINA ROAD & ALBACORE ROAD
FACING SOUTH

ZONE 3

SITE 17 - HAZARDOUS MATERIALS/SOLVENTS STORAGE AREA (BUILDING 31)
FACING NORTHEAST

ZONE 4

SITE 13 - BUILDING 79 WASTE OIL PIT
FACING SOUTHEAST

SITE 19 - SOLVENT STORAGE AREA (BUILDING 316)
FACING SOUTH

ZONE 4

QUAY WALL STUDY AREA
FACING SOUTH

UTILITIES EXPOSED NEAR PIER 4
FACING WEST

ZONE 5

SITE 22 - PIER 33/BUILDING 175 (FORMER ACID STORAGE AREA)
FACING NORTH

SITE 22 - PIER 33/BUILDING 175 (FORMER ACID STORAGE AREA)
FACING SOUTH

ZONE 6

NO PHOTO AVAILABLE

SITE 24 - CENTRAL PAINT ACCUMULATION AREA

ZONE 7

SITE 21 - BERTH 16
FACING EAST

SITE 25 - CLASSIFIED MATERIALS INCINERATOR
FACING NORTHEAST

ZONE 7

TRANSFORMERS AT BUILDING 157 VAULT 31
FACING SOUTH

TRANSFORMERS AT BUILDING 157 VAULT 31
FACING SOUTH