



TETRA TECH NUS, INC.

55 Jonspin Road ■ Wilmington, MA 01887-1020
(978) 658-7899 ■ FAX (978) 658-7870 ■ www.tetrattech.com

N62661 AR 001158
NAVSTA NEWPORT RI
5090 3a

C-NAVY-1-99-1313W

Project Number N1679

January 18, 1999

Mr. David Rooney

Newport, RI

Reference: Contract No. N62472-90-D-1298, Navy (CLEAN), Contract Task Order No. 173,
Melville North Landfill, Portsmouth, Rhode Island

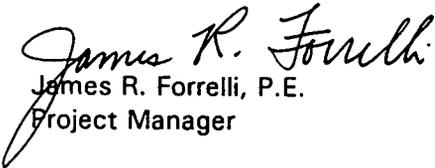
Subject: Transmittal of Background Soil Analytical Results to Property Owner

Dear Mr. Rooney:

Enclosed you will find the laboratory analytical results for the soil samples that were collected from your property during the September/October 1998 background soil investigation. These soil samples were collected on behalf of the U.S. Navy in support of an effort to determine naturally occurring metal concentrations, particularly for arsenic, representative of a background (undisturbed) environment.

Tetra Tech NUS, Inc. and the U.S. Navy thank you for allowing access to the Dyer Island property for the purpose of collecting the soil samples. If you have any comments or questions on this transmittal, please don't hesitate to contact me at (978) 658-7899.

Very truly yours,


James R. Forreli, P.E.
Project Manager

JRF/rt

c: J. Shafer, NORTHDIV (w/enc.)
M. Griffin, NSN, PWD (w/enc.)
J. Trepanowski/G. Glenn, TtNUS (w/enc.)
File N1679-3.2 (w/enc.)

**SOIL LOCATION
BACKGROUND SOIL INVESTIGATION
MELVILLE NORTH LANDFILL
PORTSMOUTH, RHODE ISLAND**

SOIL TYPE	GENERAL LOCATION	SAMPLE I.D.	EASTING*	NORTHING*
Matunuck Mucky Peat (Mk)	Dyer Island	BKG-SS06-MK-0016	554906.202	181147.180
		BKG-SS07-MK-0020	554943.772	181130.665
	Collected from the south-southwest tidal area of the island	BKG-SS08-MK-0016	554900.395	181224.046
		BKG-SS09-MK-0023	554873.343	181281.781
		BKG-SS10-MK-0018	554850.687	181415.316

NOTE:

* - East/North NAD27 conus

The Soil Sample "Sample I.D." indicates the following:

BKG = Background

SS# = Soil sample and location number

Mk = Matunuck Mucky Peat (soil type as designated by the U.S. Dept of Agriculture, Soil Conservation Service)

The last 4 digits indicate the depth interval the soil was collected from, for example, 0020 indicates the soil collected from ground surface (zero or 0.0) down to two feet (2 0).

**GPL LABORATORIES, LLLP
METALS CASE NARRATIVE**

PROJECT: NUS
Description: NUS CTO 172 MELVILLE N LANDFIL
GP Work Orders: 98-10-060
DATE: October 30, 1998

The following data package comprises twenty five soil samples and one water sample which were received at GPL Laboratories on October 9, 1998. The three soil samples and one water sample were analyzed for TAL metals, and twenty two soil samples analyzed for arsenic by ILMO4.0 methodologies.

The sample IDs were modified to accommodate the computer software used to generate the data package. The following changes were made:

CLIENT ID	MODIFIED ID	LAB ID
BKG-SS01-NEB-0015	SS0115	9810060-01A
BKG-SS02-NEB-0020	SS0220	9810060-02A
BKG-DUPL01-NEB	L01NEB	9810060-03A
BKG-SS03-NEB-0016	SS0316	9810060-04A
BKG-SS04-NEB-0018	SS0418	9810060-05A
BKG-SS05-NEB-0017	SS0517	9810060-06A
BKG-SS06-NEB-0020	SS0620	9810060-07A
BKG-SS07-NEB-0020	SSEB20	9810060-08A
BKG-SS08-NEB-0017	SS0817	9810060-09A
BKG-SS09-NEB-0018	SS0918	9810060-10A
BKG-SS10-NEB-0005	SS1005	9810060-11A
BKG-SS10-NEB-0551	SS1051	9810060-12A
BKG-DUPL02-NEB	L02NEB	9810060-13A
BKG-SS01-MK-0532	SS0132	9810060-14A
BKG-SS01-MK-0005	SS0105	9810060-15A
BKG-SS02-MK-0022	SS0222	9810060-16A
BKG-SS03-MK-0022	SS0322	9810060-17A
BKG-SS04-MK-0012	SS0412	9810060-18A
BKG-SS05-MK-0010	SS0510	9810060-19A
BKG-SS06-MK-0016	SS0616	9810060-20A
BKG-SS07-MK-0020	SS0720	9810060-21A
BKG-SS08-MK-0016	SS0816	9810060-22A
BKG-SS09-MK-0023	SS0923	9810060-23A
BKG-SS10-MK-0018	SS1018	9810060-24A
BKG-DUPL03-MK	L03-MK	9810060-25A
BKG-SS09-RB01	9-RB01	9810060-26A

*Dyer Island
Portsmouth, RI*

RA 10/30/98

few 10-30-98

A matrix spike, duplicate, and serial dilution were performed on soil samples BKG-SS02-NEB-0020, and BKG-SS07-MK-0020 for all required ICP analytes. The matrix spike was outside of the control limits on sample BKG-SS07-MK-0020 for antimony; all associated data was flagged with an "N". The matrix spike could not be recovered for lead. The spike addition was insignificant relative to the sample concentration. A post digestion analytical spike was performed with good recovery. The duplicate was outside of the control limits on sample BKG-SS07-MK-0020 for lead; all associated data was flagged with an "*". The serial dilution result was outside of the control limits on sample BKG-SS07-MK-0020 for copper; all associated data was flagged with an "E".

A matrix spike, duplicate, and serial dilution were performed on water sample BKG-SS09-RB01 for all required ICP analytes. The duplicate was outside of the control limits for lead; all associated data was flagged with an "*".

A matrix spike and duplicate were performed on soil sample BKG-SS03-NEB-0016 for mercury. All were within the control limits.

All QA/QC criteria were met with the exceptions of those mentioned above.

RA 10/30/98
RA 10-30-98

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

SS0616

Lab Name: GPL LABORATORIES

Contract:

Lab Code: GPL

Case No.:

SAS No.:

SDG No.: NUS060

Matrix (soil/water): SOIL

Lab Sample ID: 9810060-20

Level (low/med): LOW

Date Received: 10/09/98

% Solids: 67.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic	7.4			P
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead				
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-2	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				
7740-42-8	Boron				
7740-42-0	Tin				
7439-98-7	Molybdenum				

Color Before: BROWN

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: YES

Comments:
ROOTS

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

SS0720

Lab Name: GPL LABORATORIES

Contract:

Lab Code: GPL

Case No.:

SAS No.:

SDG No.: NUS060

Matrix (soil/water): SOIL

Lab Sample ID: 9810060-21

Level (low/med): LOW

Date Received: 10/09/98

% Solids: 71.9

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum	10700	—	—	P
7440-36-0	Antimony	0.76	U	N	P
7440-38-2	Arsenic	5.1	—	—	P
7440-39-3	Barium	6.2	B	—	P
7440-41-7	Beryllium	0.36	B	—	P
7440-43-9	Cadmium	0.37	B	—	P
7440-70-2	Calcium	996	—	—	P
7440-47-3	Chromium	11.5	—	—	P
7440-48-4	Cobalt	3.1	B	—	P
7440-50-8	Copper	11.0	—	E	P
7439-89-6	Iron	14500	—	—	P
7439-92-1	Lead	33.9	—	*	P
7439-95-4	Magnesium	2530	—	—	P
7439-96-5	Manganese	113	—	—	P
7439-97-6	Mercury	0.04	B	—	AV
7440-02-2	Nickel	9.4	—	—	P
7440-09-7	Potassium	695	B	—	P
7782-49-2	Selenium	0.45	B	—	P
7440-22-4	Silver	0.15	U	—	P
7440-23-5	Sodium	3800	—	—	P
7440-28-0	Thallium	0.75	U	—	P
7440-62-2	Vanadium	20.9	—	—	P
7440-66-6	Zinc	32.4	—	—	P
	Cyanide		—	—	—
7740-42-8	Boron		—	—	—
7740-42-0	Tin		—	—	—
7439-98-7	Molybdenum		—	—	—

Color Before: BROWN

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: YES

Comments:
ROOTS

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

SS0816

Lab Name: GPL LABORATORIES

Contract:

Lab Code: GPL

Case No.:

SAS No.:

SDG No.: NUS060

Matrix (soil/water): SOIL

Lab Sample ID: 9810060-22

Level (low/med): LOW

Date Received: 10/09/98

% Solids: 69.1

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic	4.3			P
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead				
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-2	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				
7740-42-8	Boron				
7740-42-0	Tin				
7439-98-7	Molybdenum				

Color Before: BROWN

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: YES

Comments:
ROOTS

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

SS0923

Lab Name: GPL LABORATORIES

Contract:

Lab Code: GPL

Case No.:

SAS No.:

SDG No.: NUS060

Matrix (soil/water): SOIL

Lab Sample ID: 9810060-23

Level (low/med): LOW

Date Received: 10/09/98

% Solids: 78.8

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic	5.2			
7440-39-3	Barium				P
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead				
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-2	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				
7740-42-8	Boron				
7740-42-0	Tin				
7439-98-7	Molybdenum				

Color Before: BROWN

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: YES

Comments:
ROOTS

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

SS1018

Lab Name: GPL LABORATORIES

Contract:

Lab Code: GPL

Case No.:

SAS No.:

SDG No.: NUS060

Matrix (soil/water): SOIL

Lab Sample ID: 9810060-24

Level (low/med): LOW

Date Received: 10/09/98

% Solids: 51.0

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic	3.9			P
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead				
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-2	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				
7740-42-8	Boron				
7740-42-0	Tin				
7439-98-7	Molybdenum				

Color Before: BROWN

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: YES

Comments:
ROOTS

ENVIROFORMS/INORGANIC CLP

SAMPLE NO.

1
INORGANIC ANALYSIS DATA SHEET

L03-MK

Lab Name: GPL LABORATORIES

Contract:

Lab Code: GPL

Case No.:

SAS No.:

SDG No.: NUS060

Matrix (soil/water): SOIL

Lab Sample ID: 9810060-25

Level (low/med): LOW

Date Received: 10/09/98

% Solids: 64.2

Concentration Units (ug/L or mg/kg dry weight): MG/KG

CAS No.	Analyte	Concentration	C	Q	M
7429-90-5	Aluminum				
7440-36-0	Antimony				
7440-38-2	Arsenic	6.3			P
7440-39-3	Barium				
7440-41-7	Beryllium				
7440-43-9	Cadmium				
7440-70-2	Calcium				
7440-47-3	Chromium				
7440-48-4	Cobalt				
7440-50-8	Copper				
7439-89-6	Iron				
7439-92-1	Lead				
7439-95-4	Magnesium				
7439-96-5	Manganese				
7439-97-6	Mercury				
7440-02-2	Nickel				
7440-09-7	Potassium				
7782-49-2	Selenium				
7440-22-4	Silver				
7440-23-5	Sodium				
7440-28-0	Thallium				
7440-62-2	Vanadium				
7440-66-6	Zinc				
	Cyanide				
7740-42-8	Boron				
7740-42-0	Tin				
7439-98-7	Molybdenum				

Color Before: BROWN

Clarity Before:

Texture: MEDIUM

Color After: YELLOW

Clarity After: CLEAR

Artifacts: YES

Comments:
ROOTS