TETRA TECH NUS, INC.
55 Jonspin Road • Wilmington, MA 01887-1020
Tel 978.658.7899 • Fax 978.658.7870 • www.tetratech.com

C-NAVY-01-01-1476W

January 11, 2001

Project Number N5278

Mr. James Shafer
Remedial Project Manager
Northern Division, Naval Facilities Engineering Command
10 Industrial Highway, Mail Stop 82
Lester, Pennsylvania 19113

Reference: CLEAN Contract No. N62472-90-D-1298
Contract Task Order 0218

Subject: Proposed Arsenic Background/Residential Direct Exposure Criteria Exceedance Map
Old Fire Fighting Training Area (OFFTA)
Naval Station Newport, Newport, Rhode Island

Dear Mr. Shafer:

As requested, enclosed are two copies of a map that indicates soil sample locations at the OFFTA site where arsenic concentrations exceed the proposed background level of 6.2 mg/kg and where concentrations for other contaminants exceed the RIDEM Residential Direct Exposure Criteria. The map provides concentrations for all exceedances of these criteria for arsenic, lead, benzo(a)pyrene and total petroleum hydrocarbon (TPH) and indicates if other contaminants exceed the direct exposure criteria at a location. Concentrations of other contaminants are provided only if that sample location does have an exceedance of arsenic, lead, benzo(a)pyrene or TPH. Concentrations for all substances exceeding the criteria are provided in the attached Table 1 and Table 2 for surface and subsurface soil samples, respectively. Sample depths are indicated in the tables.

Pursuant to your request, copies of the map have been distributed to directly to EPA, RIDEM, and NAVSTA Newport. Please contact me if you have any questions or comments about this transmittal

Very truly yours,

James R. Forrelli

James R. Forrelli, P. E.
Project Manager

JRF:rp

Enclosures

c: M. Griffin, NAVSTA Newport (w/enc.)
K. Keckler, EPA (w/enc.)
P. Kulpa, RIDEM (w/enc.)
J. Trepanowski/G. Glenn, TtNUS (w/enc.)
File N5278-8.0 (w/enc.), N5278-3.2 (w/o enc.)

TABLE 1
SURFACE SOIL CONCENTRATIONS EXCEEDING CRITERIA
OLD FIRE FIGHTERS TRAINING AREA
NAVSTA NEWPORT
NEWPORT, RHODE ISLAND

Location	Sample Depth		Parameter	Concentration	qual	units	Criteria[1]
	top	bottom					
B-8	0	1	ARSENIC	6.3	J	MG/KG	6 2
B-9	0	1	BERYLLIUM	0 43		MG/KG	0 4
B-11	0	1	ARSENIC	6 6	J	MG/KG	6 2
B-11	0	1	MANGANESE	439	J	MG/KG	390
B-12	0	1	ARSENIC	6 6	J	MG/KG	6 2
B-12	0	1	BENZO(A)PYRENE	2800		UG/KG	400
B-12	0	1	BENZO(G,H,I)PERYLENE	980		UG/KG	800
B-12	0	1	DIBENZO(A,H)ANTHRACENE	610		UG/KG	400
B-12	0	1	INDENO(1,2,3-CD)PYRENE	1200		UG/KG	900
B-12	0	1	MANGANESE	439	J	MG/KG	390
B-13	0	1	ARSENIC	10	J	MG/KG	6 2
B-14	0	1	ARSENIC	8.5		MG/KG	6 2
B-15	0	1	ARSENIC	7		MG/KG	6 2
B-15	0	1	BENZO(A)ANTHRACENE	2400		UG/KG	900
B-15	0	1	BENZO(A)PYRENE	2600		UG/KG	400
B-15	0	1	BENZO(B)FLUORANTHENE	3900		UG/KG	900
B-15	0	1	BENZO(G,H,I)PERYLENE	1300	J	UG/KG	800
B-15	0	1	CHRYSENE	2400		UG/KG	400
B-15	0	1	INDENO(1,2,3-CD)PYRENE	1100	J	UG/KG	900
B-15	0	1	MANGANESE	506	J	MG/KG	390
B-16	0	1	ARSENIC	7.3		MG/KG	6.2
B-16	0	1	BENZO(A)PYRENE	410		UG/KG	400
B-16	0	1	CHRYSENE	450		UG/KG	400
B-16	0	1	MANGANESE	554		MG/KG	390
B-17	0	1	MANGANESE	404	J	MG/KG	390
MW-7	0	1	BERYLLIUM	0 46		MG/KG	0 4
MW-8	0	1	CHRYSENE	450		UG/KG	400
MW-9	0	1	BENZO(A)PYRENE	890		UG/KG	400
MW-9	0	1	BENZO(B)FLUORANTHENE	1600		UG/KG	900
MW-9	0	1	BERYLLIUM	0 43		MG/KG	0 4
MW-9	0	1	CHRYSENE	750		UG/KG	400
MW-9	0	1	MANGANESE	451		MG/KG	390
MW-10	0	1	ARSENIC	7		MG/KG	6 2
MW-10	0	1	LEAD	372		MG/KG	150
MW-10	0	1	MANGANESE	697	J	MG/KG	390
MW-11	0	1	LEAD	2970		MG/KG	150
SS1	0	0 5	ARSENIC	6 2		MG/KG	6 2
SS1	0	0.5	BERYLLIUM	0.47		MG/KG	0.4
SS3	0	0 5	BERYLLIUM	0.41		MG/KG	0.4
SS5	0	0 5	BERYLLIUM	0.48		MG/KG	0.4

1 RIDEM Residential Soil Direct Exposure Criteria,
except for arsenic - Proposed background 6 2 mg/kg used

TABLE 1
SURFACE SOIL CONCENTRATIONS EXCEEDING CRITERIA
OLD FIRE FIGHTERS TRAINING AREA
NAVSTA NEWPORT
NEWPORT, RHODE ISLAND

Location	Sample Depth		Parameter	Concentration	qual	units	Criteria[1]
	top	bottom					
SS6	0	0.5	ARSENIC	8.9		MG/KG	6.2
SS6	0	0 5	BENZO(A)ANTHRACENE	3300		UG/KG	900
SS6	0	0 5	BENZO(A)PYRENE	2700		UG/KG	400
SS6	0	0 5	BENZO(B)FLUORANTHENE	2800		UG/KG	900
SS6	0	0 5	BENZO(K)FLUORANTHENE	3100		UG/KG	900
SS6	0	0 5	CHRYSENE	2800		UG/KG	400
SS6	0	0.5	MANGANESE	750		MG/KG	390
SS-10	0	0.5	BERYLLIUM	0 43		MG/KG	0 4
SS-11	0	0.5	BERYLLIUM	0.5		MG/KG	0.4
SS-12	0	1	BERYLLIUM	0.44		MG/KG	0.4
SS-13	0	1	BERYLLIUM	0 46		MG/KG	0.4
SS-14	0	1	ARSENIC	6.3	J	MG/KG	6.2
SS-15	0	1	ARSENIC	6 3	J	MG/KG	6 2
SS-19	0	1	ARSENIC	6 7	J	MG/KG	6.2
SS-19	0	1	BERYLLIUM	0.41		MG/KG	0.4
SS-20	0	1	ARSENIC	7.4	J	MG/KG	6 2
SS-20	0	1	BENZO(A)ANTHRACENE	1200		UG/KG	900
SS-20	0	1	BENZO(A)PYRENE	960		UG/KG	400
SS-20	0	1	BENZO(B)FLUORANTHENE	1800		UG/KG	900
SS-20	0	1	CHRYSENE	1100		UG/KG	400
SS-23	0	1	ARSENIC	8 5	J	MG/KG	6 2
SS-28	0	1	ARSENIC	6.2	J	MG/KG	6 2
SS-301	0	1	MANGANESE	478	J	MG/KG	390
SS-302	0	1	ARSENIC	7.3	J	MG/KG	6 2
SS-304	0	1	ARSENIC	6 4		MG/KG	6.2
SS-304	0	1	BENZO(A)PYRENE	430	J	UG/KG	400
SS-305	0	1	ARSENIC	7.8		MG/KG	6 2
SS-305	0	1	BERYLLIUM	0.6		MG/KG	0 4
SS-306	0	1	ARSENIC	7 6	J	MG/KG	6.2
SS-307	0	1	ARSENIC	8.1	J	MG/KG	6 2
SS-308	0	1	ARSENIC	9 1		MG/KG	6.2
SS-309	0	1	ARSENIC	6 5	J	MG/KG	6 2
SS-310	0	1	ARSENIC	9	J	MG/KG	6.2
SS-311	0	1	ARSENIC	8	J	MG/KG	6.2
SS-312	0	1	ARSENIC	6.2		MG/KG	6.2
SS-312	0	1	BENZO(A)ANTHRACENE	1400	J	UG/KG	900
SS-312	0	1	BENZO(A)PYRENE	1300	J	UG/KG	400
SS-312	0	1	BENZO(B)FLUORANTHENE	1700	J	UG/KG	900
SS-312	0	1	BENZO(G,H,I)PERYLENE	840	J	UG/KG	800
SS-312	0	1	BERYLLIUM	0 43		MG/KG	0 4
SS-312	0	1	CHRYSENE	1400	J	UG/KG	400
SS-312	0	1	MANGANESE	490		MG/KG	390

1 RIDEM Residential Soil Direct Exposure Criteria,
except for arsenic - Proposed background 6 2 mg/kg used

TABLE 1
SURFACE SOIL CONCENTRATIONS EXCEEDING CRITERIA
OLD FIRE FIGHTERS TRAINING AREA
NAVSTA NEWPORT
NEWPORT, RHODE ISLAND

Location	Sample Depth		Parameter	Concentration	qual	units	Criteria[1]
	top	bottom					
SS-313	0	1	BENZO(A)PYRENE	790	J	UG/KG	400
SS-313	0	1	BENZO(B)FLUORANTHENE	1100	J	UG/KG	900
SS-313	0	1	BENZO(G,H,I)PERYLENE	1000	J	UG/KG	800
SS-313	0	1	CHRYSENE	930	J	UG/KG	400
SS-313	0	1	MANGANESE	688		MG/KG	390
SS-314	0	1	BENZO(A)ANTHRACENE	9100		UG/KG	900
SS-314	0	1	BENZO(A)PYRENE	7100		UG/KG	400
SS-314	0	1	BENZO(B)FLUORANTHENE	9700		UG/KG	900
SS-314	0	1	BENZO(G,H,I)PERYLENE	4300		UG/KG	800
SS-314	0	1	BENZO(K)FLUORANTHENE	3500	J	UG/KG	900
SS-314	0	1	CHRYSENE	8100		UG/KG	400
SS-314	0	1	INDENO(1,2,3-CD)PYRENE	4100		UG/KG	900
SS-315	0	1	ARSENIC	6.9		MG/KG	6.2
SS-315	0	1	BENZO(A)ANTHRACENE	1100	J	UG/KG	900
SS-315	0	1	BENZO(A)PYRENE	920	J	UG/KG	400
SS-315	0	1	BENZO(B)FLUORANTHENE	1000	J	UG/KG	900
SS-315	0	1	CHRYSENE	910	J	UG/KG	400
SS-316	0	1	BERYLLIUM	0.51		MG/KG	0 4
SS-320	0	1	BERYLLIUM	0 41		MG/KG	0.4
SS-321	0	1	BERYLLIUM	0.46		MG/KG	0 4
SS-323	0	1	BERYLLIUM	0.42		MG/KG	0 4
SS-324	0	1	ARSENIC	6.7	J	MG/KG	6 2
SS-325	0	1	ARSENIC	10.4		MG/KG	6 2
SS-326	0	1	ARSENIC	10.1		MG/KG	6 2
SS-326	0	1	BERYLLIUM	0 47		MG/KG	0 4
SS-327	0	1	ARSENIC	7.7	J	MG/KG	6.2
SS-327	0	1	BENZO(A)ANTHRACENE	2500		UG/KG	900
SS-327	0	1	BENZO(A)PYRENE	1900		UG/KG	400
SS-327	0	1	BENZO(B)FLUORANTHENE	2400		UG/KG	900
SS-327	0	1	BENZO(G,H,I)PERYLENE	1200	J	UG/KG	800
SS-327	0	1	BENZO(K)FLUORANTHENE	930	J	UG/KG	900
SS-327	0	1	CHRYSENE	2300		UG/KG	400
SS-327	0	1	INDENO(1,2,3-CD)PYRENE	1100	J	UG/KG	900
SS-328	0	1	ARSENIC	10.3		MG/KG	6.2
SS-329	0	1	ARSENIC	7 2		MG/KG	6.2
SS-330	0	1	ARSENIC	8 7	J	MG/KG	6.2
SS-331	0	1	ARSENIC	6.8	J	MG/KG	6.2
SS-332	0	1	ARSENIC	7 9		MG/KG	6.2

1 RIDEM Residential Soil Direct Exposure Criteria,
except for arsenic - Proposed background 6 2 mg/kg used

TABLE 2
SUBSURFACE SOIL CONCENTRATIONS EXCEEDING CRITERIA
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT
NEWPORT, RHODE ISLAND

Location	Sample Depth top	Sample Depth bottom	Parameter	Concentration	qual	units	Criteria[1]
B-1	6	8	ARSENIC	9.6	J*	MG/KG	6 2
B-1	6	8	LEAD	529		MG/KG	150
B-2	2	4	MANGANESE	492	J*	MG/KG	390
B-2	6	8	ARSENIC	8.6		MG/KG	6 2
B-2	6	8	MANGANESE	584	J*	MG/KG	390
B-2	8	10	MANGANESE	646	J*	MG/KG	390
B-3	6	8	BENZO(A)PYRENE	660		UG/KG	400
B-3	6	8	CHRYSENE	770		UG/KG	400
B-3	12	14	ARSENIC	13.5	J*	MG/KG	6.2
B-5	4	6	MANGANESE	960	J*	MG/KG	390
B-6	10	12	MANGANESE	780	J*	MG/KG	390
B-7	4	6	BENZO(A)ANTHRACENE	1300	J	UG/KG	900
B-7	4	6	BENZO(A)PYRENE	1000	J	UG/KG	400
B-7	4	6	BENZO(B)FLUORANTHENE	1300	J	UG/KG	900
B-7	4	6	CHRYSENE	1000	J	UG/KG	400
B-7	6	8	BENZO(A)PYRENE	490		UG/KG	400
B-7	6	8	CHRYSENE	540		UG/KG	400
B-8	8	10	ARSENIC	6.4	J	MG/KG	6 2
B-8	8	10	BENZO(A)ANTHRACENE	2200		UG/KG	900
B-8	8	10	BENZO(A)PYRENE	1700		UG/KG	400
B-8	8	10	BENZO(B)FLUORANTHENE	2800		UG/KG	900
B-8	8	10	CHRYSENE	2100		UG/KG	400
B-8	8	10	LEAD	189		MG/KG	150
B-8	8	10	MANGANESE	540	J	MG/KG	390
B-11	4	6	ARSENIC	10	J	MG/KG	6 2
B-11	4	6	LEAD	314		MG/KG	150
B-11	4	6	MANGANESE	627	J	MG/KG	390
B-12	2	4	MANGANESE	551	J	MG/KG	390
B-13	4	6	ARSENIC	6 3	J	MG/KG	6.2
B-14	15	17	ARSENIC	9 2		MG/KG	6 2
B-14	15	17	CHRYSENE	460	J	UG/KG	400
B-14	15	17	LEAD	252		MG/KG	150

1 RIDEM Residential Soil Direct Exposure Criteria,
except Arsenic - Proposed background 6 2 mg/kg used

TABLE 2
SUBSURFACE SOIL CONCENTRATIONS EXCEEDING CRITERIA
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT
NEWPORT, RHODE ISLAND

Location	Sample Depth		Parameter	Concentration	qual	units	Criteria[1]
	top	bottom					
B-15	10	12	BENZO(A)ANTHRACENE	1200		UG/KG	900
B-15	10	12	BENZO(A)PYRENE	730		UG/KG	400
B-15	10	12	BENZO(B)FLUORANTHENE	1300		UG/KG	900
B-15	10	12	CHRYSENE	1100		UG/KG	400
B-15	17	19	BENZO(A)ANTHRACENE	1300		UG/KG	900
B-15	17	19	BENZO(A)PYRENE	760		UG/KG	400
B-15	17	19	BENZO(B)FLUORANTHENE	1400		UG/KG	900
B-15	17	19	CHRYSENE	1100		UG/KG	400
B-15	17	19	LEAD	292		MG/KG	150
B-15	17	19	MANGANESE	419	J	MG/KG	390
B-16	2	4	BENZO(A)ANTHRACENE	1200		UG/KG	900
B-16	2	4	BENZO(A)PYRENE	1200		UG/KG	400
B-16	2	4	BENZO(B)FLUORANTHENE	1900		UG/KG	900
B-16	2	4	CHRYSENE	1400		UG/KG	400
B-17	2	4	BERYLLIUM	0.44	B	MG/KG	0 4
B-17	2	4	MANGANESE	477	J	MG/KG	390
MW-2	6	8	ARSENIC	6.3	J*	MG/KG	6.2
MW-2	6	8	BENZO(A)ANTHRACENE	1800	J	UG/KG	900
MW-2	6	8	BENZO(A)PYRENE	1600	J	UG/KG	400
MW-2	6	8	BENZO(B)FLUORANTHENE	1400	J	UG/KG	900
MW-2	6	8	BENZO(K)FLUORANTHENE	1400	J	UG/KG	900
MW-2	6	8	CHRYSENE	1700	J	UG/KG	400
MW-2	6	8	LEAD	777	J*	MG/KG	150
MW-2	12	14	ANTIMONY	12 2	J*	MG/KG	10
MW-2	12	14	ARSENIC	8 7	J*	MG/KG	6 2
MW-2	12	14	LEAD	962	J*	MG/KG	150
MW-2	12	14	MANGANESE	464	J*	MG/KG	390
MW-3	12	14	BERYLLIUM	0 48	B1	MG/KG	0.4
MW-7	2	4	ARSENIC	6.2	S	MG/KG	6 2
MW-7	2	4	BENZO(A)ANTHRACENE	1300		UG/KG	900
MW-7	2	4	BENZO(A)PYRENE	1000		UG/KG	400
MW-7	2	4	BENZO(B)FLUORANTHENE	1800		UG/KG	900
MW-7	2	4	CHRYSENE	1100		UG/KG	400
MW-7	2	4	MANGANESE	396	J	MG/KG	390
MW-11	2	4	DIELDRIN	44	J	UG/KG	40
MW-11	2	4	LEAD	554		MG/KG	150
MW-11	2	4	MANGANESE	401	J	MG/KG	390
MW-10	4	6	ARSENIC	7		MG/KG	6 2
MW-10	4	6	MANGANESE	588	J	MG/KG	390

1 RIDEM Residential Soil Direct Exposure Criteria,
except Arsenic - Proposed background 6 2 mg/kg used

TABLE 2
SUBSURFACE SOIL CONCENTRATIONS EXCEEDING CRITERIA
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT
NEWPORT, RHODE ISLAND

Location	Sample Depth		Parameter	Concentration	qual	units	Criteria[1]
	top	bottom					
MW-101	6	8	ARSENIC	9 3	J	MG/KG	6 2
MW-101	6	8	CHRYSENE	430		UG/KG	400
MW-101	6	8	TOTAL PETROLEUM HYDROCARBONS	1900	J	MG/KG	500
MW-102	6	8	ANTIMONY	12	J	MG/KG	10
MW-102	6	8	ARSENIC	53 6	J	MG/KG	6.2
MW-102	6	8	BENZO(A)ANTHRACENE	3400		UG/KG	900
MW-102	6	8	BENZO(A)PYRENE	4000		UG/KG	400
MW-102	6	8	BENZO(B)FLUORANTHENE	2700	J	UG/KG	900
MW-102	6	8	BENZO(G,H,I)PERYLENE	1900	J	UG/KG	800
MW-102	6	8	BENZO(K)FLUORANTHENE	2200	J	UG/KG	900
MW-102	6	8	CHRYSENE	3200	J	UG/KG	400
MW-102	6	8	DIBENZO(A,H)ANTHRACENE	820	J	UG/KG	400
MW-102	6	8	INDENO(1,2,3-CD)PYRENE	2300	J	UG/KG	900
MW-102	6	8	LEAD	5400		MG/KG	150
MW-102	6	8	MANGANESE	562	J	MG/KG	390
MW-102	6	8	TOTAL PETROLEUM HYDROCARBONS	8200	J	MG/KG	500
TP2	2	2	BENZO(A)PYRENE	460	J	UG/KG	400
TP2	2	2	CHRYSENE	580	J	UG/KG	400
TP3	3	3	BENZO(A)PYRENE	630	J	UG/KG	400
TP3	3	3	CHRYSENE	640	J	UG/KG	400
TP3	7	7	BENZO(A)ANTHRACENE	2400	J	UG/KG	900
TP3	7	7	BENZO(A)PYRENE	2900	J	UG/KG	400
TP3	7	7	BENZO(B)FLUORANTHENE	2300	J	UG/KG	900
TP3	7	7	BENZO(G,H,I)PERYLENE	1700	J	UG/KG	800
TP3	7	7	BENZO(K)FLUORANTHENE	2500	J	UG/KG	900
TP3	7	7	CHRYSENE	2500	J	UG/KG	400
TP3	7	7	DIBENZO(A,H)ANTHRACENE	780	J	UG/KG	400
TP3	7	7	INDENO(1,2,3-CD)PYRENE	1700	J	UG/KG	900
TP3	7	7	MANGANESE	413	J	MG/KG	390
TP3	7	8	ARSENIC	16.3	J	MG/KG	6 2
TP3	7	8	CHRYSENE	690	J	UG/KG	400
TP3	7	8	LEAD	3090	J	MG/KG	150
TP-05	7	8	ARSENIC	14 3	J	MG/KG	6 2
TP-05	7	8	BENZO(A)PYRENE	690		UG/KG	400
TP-05	7	8	CHRYSENE	810		UG/KG	400
TP-05	7	8	LEAD	540	J	MG/KG	150
TP-05	7	8	MANGANESE	698	J	MG/KG	390

1 RIDEM Residential Soil Direct Exposure Criteria,
except Arsenic - Proposed background 6 2 mg/kg used

TABLE 2
SUBSURFACE SOIL CONCENTRATIONS EXCEEDING CRITERIA
OLD FIRE FIGHTING TRAINING AREA
NAVSTA NEWPORT
NEWPORT, RHODE ISLAND

Location	Sample Depth		Parameter	Concentration	qual	units	Criteria[1]
	top	bottom					
TP-06	6	7	BENZO(A)PYRENE	500		UG/KG	400
TP-06	6	7	CHRYSENE	650		UG/KG	400
TP-06	6	7	MANGANESE	410	J	MG/KG	390
TP-07	7	8	ARSENIC	6 2	J	MG/KG	6 2
TP-07	7	8	MANGANESE	417	J	MG/KG	390
TP-08	3	4	ARSENIC	13 8	J	MG/KG	6 2
TP-08	3	4	MANGANESE	478	J	MG/KG	390
TP-11	5	6	ARSENIC	8.3		MG/KG	6 2
TP-11	5	6	CHRYSENE	460		UG/KG	400
TP-11	5	6	LEAD	563		MG/KG	150
TP-11	5	6	TOTAL PETROLEUM HYDROCARBONS	7500		MG/KG	500
TP12	3.5	4	BENZO(A)PYRENE	660	J	UG/KG	400
TP12	3.5	4	CHRYSENE	730	J	UG/KG	400
TP12	3.5	4	LEAD	475	J	MG/KG	150
TP-12	4	5	LEAD	283	J	MG/KG	150
TP-12	4	5	MANGANESE	516	J	MG/KG	390
TP-12	4	5	TOTAL PETROLEUM HYDROCARBONS	4100	J	MG/KG	500
TP-13	6	7	ANTIMONY	39.2	J	MG/KG	10
TP-13	6	7	ARSENIC	18 3	J	MG/KG	6 2
TP-13	6	7	LEAD	7820	J	MG/KG	150
TP-13	6	7	MANGANESE	898	J	MG/KG	390
TP-13	6	7	TOTAL PETROLEUM HYDROCARBONS	7400	J	MG/KG	500
TP-14	3	4	ARSENIC	10 5		MG/KG	6 2
TP-14	3	4	TOTAL PETROLEUM HYDROCARBONS	4800		MG/KG	500
TP-15	5	6	ARSENIC	9.9	J	MG/KG	6 2
TP-15	5	6	BENZO(A)ANTHRACENE	1200	J	UG/KG	900
TP-15	5	6	BENZO(A)PYRENE	970	J	UG/KG	400
TP-15	5	6	CHRYSENE	1700	J	UG/KG	400
TP-15	5	6	LEAD	766	J	MG/KG	150
TP-15	5	6	TOTAL PETROLEUM HYDROCARBONS	21000	J	MG/KG	500
TP-16	10	11	ARSENIC	74.4	J	MG/KG	6 2
TP-16	10	11	LEAD	3350		MG/KG	150
TP-16	10	11	MANGANESE	1110	J	MG/KG	390
TP-16	10	11	TOTAL PETROLEUM HYDROCARBONS	6400	J	MG/KG	500
TP-17	8	9	ARSENIC	8.2		MG/KG	6.2

1 RIDEM Residential Soil Direct Exposure Criteria,
except Arsenic - Proposed background 6 2 mg/kg used