



TRC Environmental Corporation

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NAVSTA NEWPORT RI
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LETTER OF TRANSMITTAL

5 WATERSIDE CROSSING
WINDSOR CT 06095

DATE	3/23/94	JOB NO	01093-0060-60
ATTENTION	BRAD WHEELER		
RE	TANK FARM 5 UST SAMPLING & OFFSHORE INVESTIGATION		

TO US NAVY
NAVAL EDUCATION AND TRAINING
CENTER
PUBLIC WORKS DEPT., BUILDING 1
NEWPORT, RI 02841

WE ARE SENDING YOU Attached Under separate cover via _____ the following items:

- Shop drawings Prints Plans Samples Specifications
 Copy of letter Change order DATA

COPIES	DATE	NO.	DESCRIPTION
1	3/14/94	1	NEW ENGLAND TESTING LAB DATA REPORT - TANK FARM 5 UST SAMPLES
1	3/9/94	2	BATTELLE LETTER ON MUSSEL & CLAMS FROM BAY @ TANK FARMS 4 & 5

THESE ARE TRANSMITTED as checked below:

- For approval Approved as submitted Resubmit _____ copies for approval
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 As requested Returned for corrections Return _____ corrected prints
 For review and comment _____
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REMARKS BRAD, AS REQUESTED, ENCLOSED IS A COPY OF
THE LABORATORY DATA REPORT FOR THE
RECENT TANK FARM 5 TANK SAMPLING.

- ALSO ENCLOSED IS A COPY OF A BATTELLE
LETTER AND DATA FOR THE MUSSEL AND
CLAM SAMPLES COLLECTED AT THE MOUTHS
OF THE TANK FARM 4 AND 5 STREAMS

ANY QUESTIONS - PLEASE CALL, JIM PERONTO

COPY TO D. CARLSON / NORTH DIV

SIGNED: Jim Peronto



March 9, 1994



Mr. James Peronto
TRC Environmental Corporation
5 Waterside Crossing
Windsor, CT 06095

Dear Jim,

Enclosed you will find the data-tables for the analyses of the four Tank Farm 4 and Tank Farm 5 mussel and clam tissue samples. These samples were processed and analyzed along with mussel batch #2 and clam batch #2, as reported in Battelle's Draft Report "Off-Shore Investigation at Naval Education and Training Center (NETC), Newport, Rhode Island." However, per your request, the data the Tank Farm 4 and 5 samples, and the associated laboratory documentation, have been kept separate from the rest of the work.

If you compare the PAH, butyltin, and TAL metal concentrations for the Tank Farm 4 and 5 mussel and clam samples with the nearshore data reported for the reference sites, Melville North Landfill, and other non-contaminated Narragansett Bay locations you will find that the analyte concentrations for the Tank Farm 4 and 5 samples are generally no higher, and often lower, than at these other locations. The PCB concentrations in the Tank Farm 5 mussel and tissue samples are also comparable to those measured at nearby non-contaminated locations. However, the PCB levels in the mussels and clams collected at Tank Farm 4 were approximately 3 to 5 times higher than what was measured in samples collected at other nearby non-contaminated locations. The Tank Farm 4 mussel sample had PCB levels that were about half of what was measured for the McAllister Point mussel sample with the highest PCB concentration (S1-NS-13/14/15), and the Tank Farm 4 clam sample had higher PCB levels than any sample collected at NETC for this work (no clams were found at the McAllister Point stations that had the highest sediment and mussel PCB levels).

The data suggest that there is no significant PAH, butyltin, or TAL metals contamination of mussels or clams at Tank Farm 4, but that there may be a PCB contamination problem. The PAH, PCB, butyltin, and TAL metals concentrations in the mussels and clams collected at Tank Farm 5 were not elevated.

Please feel free to contact me at (617)934-0571 if you have any questions at all.

Sincerely,

Gregory S. Durell
Principal Research Scientist

Battelle Ocean Sciences
 Off-Shore Investigation; NETC Newport Rhode Island
 PAH data in ug/Kg Dry Weight for Tank Farm 4 and 5 Mussel and Clam Samples
 G283301-0003
 Report Date LAL 09/27/93 07.31
 Filename. TF_FLD WK3

Station ID	TANK FARM 4	TANK FARM 5	TANK FARM 4	TANK FARM 5
Matrix	Mussel	Mussel	Clam	Clam
Dry Weight (g)	3.958	3.683	3.334	3.252
Lipid Wt (g/g)	0.104	0.102	0.077	0.043
naphthalene	50.30	60.06	65.45	50.86
C1-naphthalenes	15.14	17.42	15.58	14.30
C2-naphthalenes	25.83	27.01	34.06	32.21
C3-naphthalenes	31.58	33.54	23.89	28.49
C4-naphthalenes	36.14	0.00 ND	37.67	36.19
biphenyl	11.25	12.94	11.26	9.26
acenaphthylene	3.70 J	3.96 J	2.96 J	4.01 J
acenaphthene	3.58	3.73	3.57	3.68
dibenzofuran	6.27	6.78	5.35 J	5.63 J
fluorene	6.24	5.58	4.43 J	6.21
C1-fluorenes	10.75	11.48	8.32	9.13
C2-fluorenes	27.53	22.65	16.64	18.89
C3-fluorenes	0.00 ND	0.00 ND	34.06	39.83
phenanthrene	31.44	33.17	25.49	49.14
anthracene	6.51	5.87	4.91	7.44
C1-phenanthrenes/anthracenes	27.80	25.52	20.04	31.77
C2-phenanthrenes/anthracenes	38.38	39.03	29.48	35.15
C3-phenanthrenes/anthracenes	42.76	32.98	29.90	23.63
C4-phenanthrenes/anthracenes	32.67	29.14	38.23	37.93
dibenzothiophene	2.79 J	2.52 J	2.55 J	3.47 J
C1-dibenzothiophenes	8.62	7.39	6.18	6.57
C2-dibenzothiophenes	21.13	15.76	13.24	11.86
C3-dibenzothiophenes	24.42	20.81	29.61	17.52
fluoranthene	80.81	73.69	52.70	85.06
pyrene	67.59	54.77	43.16	65.82
C1-fluoranthenes/pyrenes	47.11	36.89	38.70	46.95
benz[a]anthracene	11.66	9.31	24.49	35.49
chrysene	18.39	10.00	25.39	33.07
C1-chrysenes	18.20	9.70	40.14	24.71
C2-chrysenes	24.92	23.66	56.09	27.99
C3-chrysenes	0.00 ND	0.00 ND	0.00 ND	0.00 ND
C4-chrysenes	0.00 ND	0.00 ND	0.00 ND	0.00 ND
benzo[b]fluoranthene	20.71	18.64	37.96	49.65
benzo[k]fluoranthene	4.41	5.23	13.30	17.37
benzo[e]pyrene	31.05	21.51	42.62	41.11
benzo[a]pyrene	6.79	5.24	19.24	24.58
perylene	6.19	7.18	8.07	9.12
indeno[1,2,3-c,d]pyrene	5.34	5.83	16.64	21.05
dibenz[a,h]anthracene	1.23 J	1.62 J	4.55 J	4.32 J
benzo[g,h,i]perylene	9.81	9.62	28.85	36.87
Total PAH	819	710	915	1006

ND - Non Detected.

J - Determined below the limit of detection

Battelle Ocean Sciences
 Off-Shore Investigation; NETC Newport Rhode Island
 PCB and Butyltin data in ug/Kg Dry Weight for Tank Farm 4 and 5 Mussel and Clam Samples
 G283301-0003
 Report Date: LAL 09/27/93 07:31
 Filename: TF_FLD.WK3

Station ID	TANK FARM 4	TANK FARM 5	TANK FARM 4	TANK FARM 5
Matrix	Mussel	Mussel	Clam	Clam
Dry Weight (g)	3.958	3.683	3.334	3.252
Lipid Wt (g/g)	0.104	0.102	0.077	0.043
CL2(08)	3.40	3.46	2.48	1.21 J
CL3(18)	0.00 ND	0.00 ND	0.00 ND	0.00 ND
CL3(28)	1.78	2.53	1.01	0.74 J
CL4(52)	7.34	4.73	4.17	1.07 J
CL4(44)	3.10	1.38	6.65	0.82
CL4(66)	11.78	6.67	4.44	1.75
CL5(101)	41.45	23.14	13.64	3.23
CL4(77)	0.00 ND	0.00 ND	0.00 ND	0.00 ND
CL5(118)	43.20	25.11	10.82	3.10
CL6(153)	149.68	68.55	38.52	8.26
CL5(105)	4.93	3.51	2.81	1.70
CL6(138)	118.39	44.54	30.33	5.29
CL5(126)	0.00 ND	0.00 ND	0.00 ND	0.00 ND
CL7(187)	32.02	16.59	11.00	2.83
CL6(128)	12.87	6.65	3.32	0.69 J
CL7(180)	30.83	12.06	16.13	3.10
CL7(170)	7.07	2.30	5.20	1.16
CL8(195)	0.17 J	0.15 J	0.58	0.19 J
CL9(206)	0.64	0.29 J	0.76	0.39 J
CL10(209)	0.82	0.37 J	0.42 J	0.18 J
AROCLOR 1016/1242	0.00 ND	0.00 ND	0.00 ND	0.00 ND
AROCLOR 1221	0.00 ND	0.00 ND	0.00 ND	0.00 ND
AROCLOR 1232	0.00 ND	0.00 ND	0.00 ND	0.00 ND
AROCLOR 1248	0.00 ND	0.00 ND	0.00 ND	0.00 ND
AROCLOR 1254	981	388	253	67.9
AROCLOR 1260	0.00 ND	0.00 ND	0.00 ND	0.00 ND
Monobutyltin (MBT)	0.00 ND	0.00 ND	NA	NA
Dibutyltin (DBT)	0.00 ND	0.00 ND	NA	NA
Tributyltin (TBT)	0.00 ND	0.00 ND	NA	NA
Tetrabutyltin (TTBT)	0.00 ND	0.00 ND	NA	NA

ND - Non Detected.

J - Determined below the limit of detection.

NA - Not applicable. Butyltins were not determined in clam tissue samples

Battelle Ocean Sciences
 Off-Shore Investigation; NETC Newport Rhode Island
 TAL Metals data in ug/g Dry Weight for Tank Farm 4 and 5 Mussel and Clam Samples
 G283301-0003
 Report Date: LAL 09/27/93 07:31
 Filename: TF_FLD.WK3

Station ID Matrix	TANK FARM 4 Mussel	TANK FARM 5 Mussel	TANK FARM 4 Clam	TANK FARM 5 Clam
Ag	0.069	0.040	1.25	0.898
Al	44.0	58.3	256	272
As	14.6	18.4	14.7	15.4
Ba	0.507	0.859	3.77	3.97
Be	0.012	0.052	0.104	0.123
B	27.7	32.6	27.1	38.1
Ca	3330	2760	8940	8490
Cd	0.663	0.727	0.263	0.530
Cr	11.5	19.3	88.0	107
Co	0.647	0.729	2.18	3.09
Cu	7.65	6.50	14.8	19.2
Fe	273	309	2280	2150
Hg	0.084	0.085	0.067	0.099
K	10300	11000	11500	12300
Mg	5350	6090	8280	9540
Mn	10.1	15.8	47.8	41.1
Na	40700	45300	58700	71300
Ni	9.2	12.5	50.8	57.9
Pb	1.27	1.26	1.74	3.51
Sb	0.009	0.015	0.033	0.063
Se	1.68	1.60 U	1.66	1.20 U
Tl	0.003	0.004	0.006	0.012
V	2.51	4.63	6.29	6.44
Zn	76.0	85.8	97.4	117

U - Not detected above the limit of detection. Detection limit entered