DEPARTMENT OF THE NAVY
NAVAL EDUCATION AND TRAINING CENTER
NEWPORT, RHODE ISLAND 2841-50 0

IN REPLY REFER TO
5090
Ser 343 / 424E
21 FEB 1991

State of Rhode Island
Department of Environmental Management
Division of Air and Hazardous Materials
Attn: Ms. Cynthia Gianfrancesco
291 Promenade Street
Providence, RI 02908-5767

Re: Closure of Tanks 53 and 56, Tank Farm 5: Phase II - Initial Assessment Study

Dear Ms. Gianfrancesco:

Enclosed are the analytical results of the sampling of soil borings and groundwater monitoring wells in the vicinity of Tanks 53 and 56, Tank Farm 5. A copy of the final report, Initial Assessment Study, will be submitted to you as soon as possible.

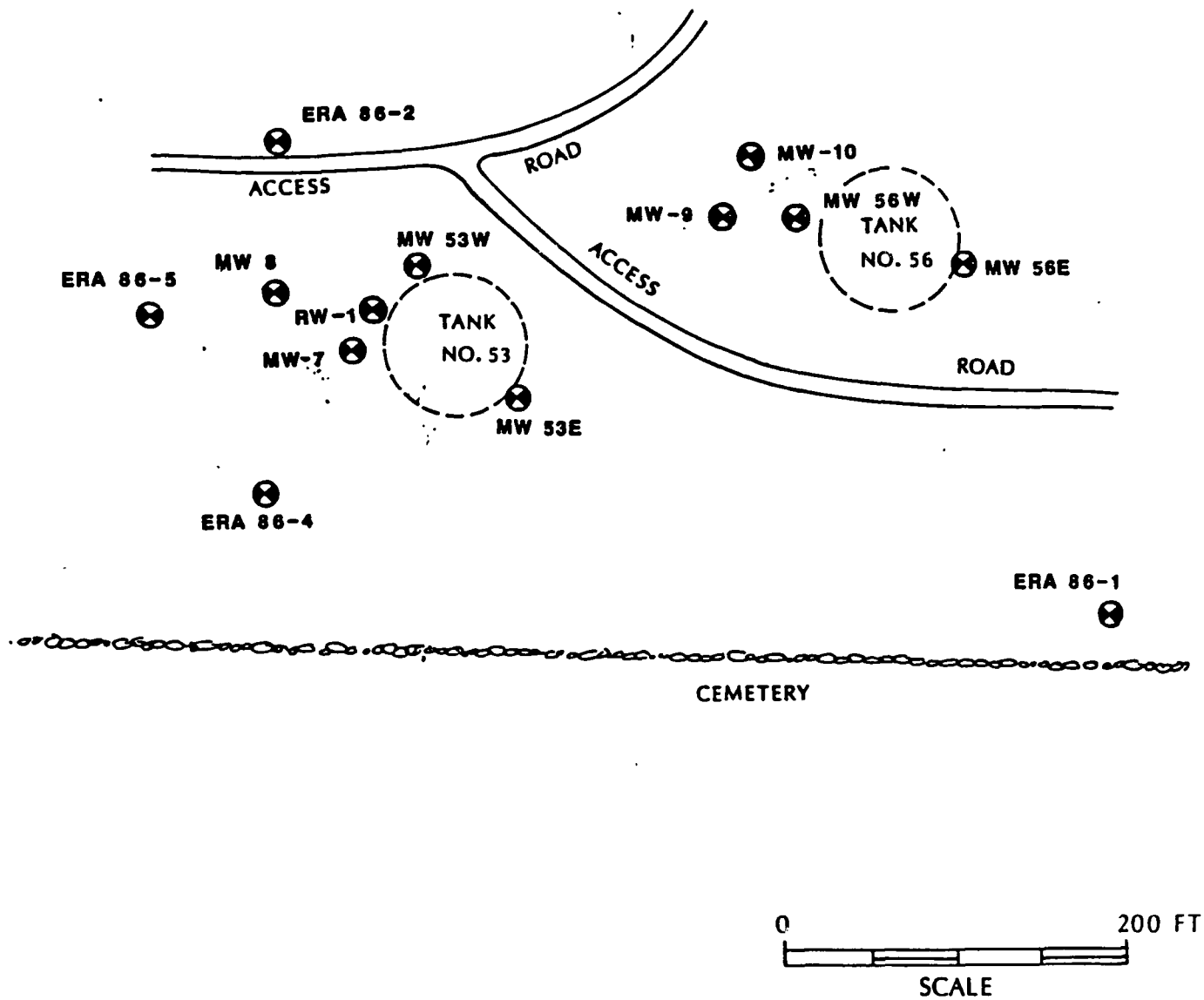
If you have any questions concerning these results, our point of contact is Rachel Marino at 841-3735.

Sincerely,

HAROLD B. BELSON
Director of Engineering
By direction of the Commander

Copy to:
NORTHNAVFACENGCOM (Mr. Russell Fish)
EPA REGION I, Federal Facilities Program (Ms. Carol Keating)

FIGURE - NOT COMPLETED -
SHOWS WELL LOCATIONS



LEGEND

MONITORING WELL

40 GROUND WATER CONTOUR

BASE MAP
SOURCE: TANK CLOSURE PLAN
(ERA, 1987)

TRC
Environmental Consultants

800 Connecticut Boulevard
East Hartford, Connecticut 06108
(203) 289-8631

NAVAL EDUCATION TRAINING CENTER NEWPORT, RI

TANK FARM FIVE

FIGURE

GROUND WATER CONTOUR MAP

TANK CLOSURE – TANK FARM 5
GROUND WATER AND SOIL SAMPLING PARAMETERS
OCTOBER 25, 1990

SOIL BORINGS

	PARAMETERS				
SAMPLE NUMBER	TCL VOA	TCL BNA	TCL PESTICIDES/PCB'S	TPH	TAL METALS
M7-1	X				
M8-1	X	X	X	X	X
M9-1	X	X	X	X	X
M10-1	X	X	X	X	X
RW1-1	X	X	X	X	
RW1-2	X	X	X	X	X

GROUNDWATER

SAMPLE NUMBER	VOA 8240	BNA 8270	PRIORITY POLLUTANT METALS	OIL & GREASE	TOTAL SUSPENDED SOLIDS
MW-7	X	X	X	X	X
MW-9	X	X	X	X	X
MW-10	X	X	X	X	X
RW-1 (Recovery Well)	X	X	X	X	X
MW-53E	X	X			
MW-53W (oil)	X				
MW-56E	X	X	X	X	X
MW-56W	X	X	X	X	X
MW-86-1	X	X	X	X	
MW-86-2	X	X	X	X	X
MW-86-4	X				X

MW-86-5
MW-8 } DRY

TANK FARM 5
CONSTITUENTS DETECTED IN SOIL BORING SAMPLES
MONITORING WELL BORINGS

SAMPLE IDENTIFICATION:	M7-1	M8-1	M9-1	M10-1	RM1-1	RM1-2	Field Blank FB-091890	TB-091190	Trip Blanks TB-091490	TB-091890	TB-092090
**** VOLATILE ORGANICS (PPB) ***											
METHYLENE CHLORIDE.....	58 B	46 B	41 B	47 B	4100 B	160 B	12 B	13 B	35 B	120 B	21 B
ACETONE.....	47 B	21 B	39 B	18 B	3700 B	42 JB	7 JB		96 B		25
1,1-DICHLOROETHANE.....					530 J						
1,2-DICHLOROETHENE (TOTAL).....					300 J						
CHLOROFORM.....										1 J	
1,1,1-TRICHLOROETHANE.....					190 J						
TRICHLOROETHENE.....		2 J									
TETRACHLOROETHENE.....				1 J	150 J						
TOLUENE.....					8400						
ETHYLBENZENE.....					8500						
XYLENE.....					34000						
TOTAL VOLATILE ORGANICS.....	105	69	80	66	59870	202	19	13	131	121	46
** BASE NEUTRAL / ACIDS (PPB) **											
NAPHTHALENE.....					5800	370 J					
2-METHYLNAPHTHALENE.....					15000	1400					
ACENAPHTHENE.....					1200 J						
FLUORENE.....					2700 J						
PHENANTHRENE.....					4200	440					
ANTHRACENE.....					510 J						
DI-N-BUTYLPHTHALATE.....			130 J	63 J							
FLUORANTHENE.....					700 J						
PYRENE.....					1100 J						
BUTYLBENZYLPHTHALATE.....					630 J						
BENZO(a)ANTHRACENE.....					570 J						
CHRYSENE.....					760 J						
BIS(2-ETHYLHEXYL)PHTHALATE.....		1000 B	140 JB	90 JB	5300	1100					
BENZO(b)FLUORANTHENE.....											
BENZO(k)FLUORANTHENE.....											
BENZO(a)PYRENE.....											
TOTAL BNA'S.....		1000	270	153	38470	3310	0				
TOTAL PAH'S.....		0	0	0	32540	2210	0				
TOTAL CARCINOGENIC PAH'S.....		0	0	0	1330	0	0				
******* INORGANICS (PPM) *******											
SILVER.....			3.8	3.9		3.6					
ALUMINUM.....		2760	7060	8860		10300					
ARSENIC.....		51.3	54.7	41.8		15.7					
CALCIUM.....		1360	3470	1800		12700					
COBALT.....			23.1	20.1		14.2					
CHROMIUM.....		3.3	10.3	16.3		12.8					
COPPER.....		24.2	28.2	38.5		21.1					
IRON.....		22000	40000	34400		33900	0.406				
MAGNESIUM.....			4250	3240		4260					
MANGANESE.....		87.3	816	530		327					
NICKEL.....		10.7	44.7	32.2		29.5					
LEAD.....		33.4	850	8		3.5					
SELENIUM.....			2.8								
ZINC.....		32.4	77.9	61.2		69.2	0.0284				
PETROLEUM HYDROCARBONS (PPM)....		4.5	8.7	15	22000	2000					

NOTE: J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO.
B - COMPOUND ALSO DETECTED IN THE BLANK.

TANK FARM 5
CONSTITUENTS DETECTED IN GROUND WATER SAMPLES

SAMPLE IDENTIFICATION:	MW-7	MW-11 DUP MW-7	MW-9	MW-10	MW-53E	MW-53W OIL	MW-56E	MW-56W
**** VOLATILE ORGANICS (PPB) ***								
CHLOROMETHANE.....								
VINYL CHLORIDE.....					2 J			
METHYLENE CHLORIDE.....	1 JB	2 JB	3 JB	3 JB	12 B	7900 B	19 B	12 B
ACETONE.....				3 JB	12 B		13 B	10 B
1,1-DICHLOROETHENE.....					4 J			
1,1-DICHLOROETHANE.....	51	52			58	3600		
1,2-DICHLOROETHENE (TOTAL).....	140	140			1400	7000		
CHLOROFORM.....			1 J	1 J	3 J			
2-BUTANONE.....					10			
1,1,1-TRICHLOROETHANE.....	25	24			690	27000		
TRICHLOROETHENE.....	6	6			460	2200 J		
BENZENE.....	16	15			200			
TETRACHLOROETHENE.....	2 J				33	5100		
TOLUENE.....	4 J	4 J			100	2800		
ETHYLBENZENE.....	6	5			150	22000		
XYLENE.....	8	8			430	38000		
TOTAL VOLATILE ORGANICS.....	259	256	4	7	3564	115600	32	22
** BASE NEUTRAL / ACIDS (PPB) **								
NAPHTHALENE.....	5 J	7 J			4700	|		
2-METHYLNAPHTHALENE.....	2 J	3 J			12000	|		
ACENAPHTHENE.....						|		
FLUORENE.....	1 J	2 J				|		
PHENANTHRENE.....					2000 J	|		
PYRENE.....					330 J	|		
BIS(2-ETHYLHEXYL) PHTHALATE.....	2 J	2 J			3400	|	1 J	
TOTAL BNA'S.....	10	14	0	0	22430	|	1	0
TOTAL PAH'S.....	8	12	0	0	19030	|	0	0
TOTAL CARCINOGENIC PAH'S.....	0	0	0	0	0	|	0	0
******* INORGANICS (PPB) *******								
ARSENIC.....	31.3	38.8		34.6	|	|	26.3	62.5
CHROMIUM.....					|	|	15.8	
COPPER.....	31.4	77.3			|	|	60.6	51.2
NICKEL.....	52.8	95		92	|	|	90.4	138
LEAD.....	31.6	32	5.8	11.4	|	|	35.6	25.2
ZINC.....	130	202	42.2	95.5	|	|	138	199
OIL AND GREASE (PPM).....	18.6	12.8			N/A	N/A		
TOTAL SUSPENDED SOLIDS (PPM)....	3060	3530	412	908	N/A	N/A	6280	740

NOTE: J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO.
B - COMPOUND ALSO DETECTED IN THE BLANK.
N/A - NOT ANALYZED

TANK FARM 5
CONSTITUENTS DETECTED IN GROUND WATER SAMPLES

SAMPLE IDENTIFICATION:	RM-1	MM-861	MM-862	MM-864	FB-1025	TB1-1025	TB2-1025	TB3-1025
**** VOLATILE ORGANICS (PPB) ***								
CHLOROMETHANE.....		2 J						
VINYL CHLORIDE.....	27							
METHYLENE CHLORIDE.....	16 B	11 B	11 B	8 B	13 B	2 JB	7 B	16 B
ACETONE.....	14 B	4 JB	3 JB		6 JB		9 JB	5 JB
1,1-DICHLOROETHENE.....								
1,1-DICHLOROETHANE.....	100		1 J					
1,2-DICHLOROETHENE (TOTAL).....	190		12					
CHLOROFORM.....			5		2 J			
2-BUTANONE.....								
1,1,1-TRICHLOROETHANE.....	29		7					
TRICHLOROETHENE.....	5		8					
BENZENE.....	18							
TETRACHLOROETHENE.....						1 J		
TOLUENE.....	5				1 J			
ETHYLBENZENE.....	11							
XYLENE.....	18							
TOTAL VOLATILE ORGANICS.....	433	17	47	8	22	3	16	21
** BASE NEUTRAL / ACIDS (PPB) **								
NAPHTHALENE.....	16							
2-METHYLNAPHTHALENE.....	27							
ACENAPHTHENE.....	1 J							
FLUORENE.....	2 J							
PHENANTHRENE.....	3 J							
PYRENE.....								
BIS(2-ETHYLHEXYL)PHTHALATE.....	3 J				1 J			
TOTAL BNA'S.....	52	0	0		1			
TOTAL PAH'S.....	49	0	0		0			
TOTAL CARCINOGENIC PAH'S.....	0	0	0		0			
******* INORGANICS (PPB) *******								
ARSENIC.....	19.1	159	51.6					
CHROMIUM.....			12.4					
COPPER.....		160	91.2		28.8			
NICKEL.....		250	134					
LEAD.....	7	48.6	36.2					
ZINC.....	73	334	331		27			
OIL AND GREASE (PPM).....	35.1			N/A				
TOTAL SUSPENDED SOLIDS (PPM)....	2450	N/A	2000	20100				

NOTE: J - INDICATES AN ESTIMATED VALUE. THE VALUE IS BELOW THE SAMPLE QUANTITATION LIMIT BUT GREATER THAN ZERO.
B - COMPOUND ALSO DETECTED IN THE BLANK.
N/A - NOT ANALYZED