



## Tetra Tech EM Inc.

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May 25, 2000

Ms. Michelle Gallice-Sondrup  
Department of the Navy  
Engineering Field Division Southwest  
Naval Facilities Engineering Command  
1230 Columbia Street, Suite 1100  
San Diego, California 92101

**Subject: Interim Product Removal Report, April 2000, Events 8 and 9  
Naval Fuel Depot (NFD) Point Molate, Richmond, California  
CLEAN Contract No. N62474-94-D-7609, Contract Task Order (CTO) 112**

Dear Ms. Gallice-Sondrup:

Tetra Tech EM Inc. (TtEMI) conducted the eighth product extraction event on April 11, 2000 and the ninth product extraction event on April 25, 2000 in accordance with the Interim Product Removal Field Work Plan dated September 17, 1999. A table summarizing product removal data to date is provided in Attachment A.

Some monitoring wells in the Treatment Ponds Area were inaccessible because of continuing pipeline removal in April.

Monitoring well ERM-EW1, near the Waste Disposal Area, contained 0.01 feet of product on April 11 and 0.05 feet of product on March 27, 2000. These measurements show a significant decrease since previous measurements. However, because of recent heavy rains, the water elevation in this well increased more than 10 feet between January and February but has been decreasing steadily since February (see Attachment A). This increase in water elevation may have isolated product above the well screen and prevented product from entering the well during February and March.

Monitoring wells adjacent to the underground storage tanks (USTs) have shown fluctuations in product thickness since August. Several UST monitoring wells generally show reduction in product thickness since the November and December 1999 measurements. These wells and the respective measured thickness of product on April 25, 2000 are: MWTB-01 (0.01 foot), MWT05-02 (0.27 foot), MWT06-02 (0.27 foot), MWT03-01 (0.05 foot), and MWT18-01 (0.89 foot). No significant increases in product thickness were documented in April; however, the Tank 18 area still presents a significant source of free phase petroleum.

Well MW11-54, located along the shoreline between the Treatment Ponds Area and Drum Storage Area No. 1, was added to Attachment A. The product removal system at this well has not operated since December 1999 because of base-wide pipeline removal operations. Starting March 16, 2000, product thickness measurements were taken and the product was manually removed on March 28, 2000. The system was re-wired and operational on April 13, 2000. As has been observed over the past few years, product thickness in well MW11-54 significantly increases during the rainy season. A product recovery system log has been maintained for this well and is provided as Attachment B.

Ms. Michelle Gallice-Sondrup  
May 25, 2000  
Page 2

Product removal from the skim pit at Tank 18 also has been included in Attachment A. Data from the monitoring well product removals have been totaled both with and without the Tank 18 skim pit data. These data were totaled separately because the volume of product removed from the monitoring wells is calculated to a higher degree of accuracy than the skim pit volumes, which are approximated.

If you have any questions, please call me at (303) 312-8834.

Sincerely,



Gary Miller  
Project Manager

GM/rkr

Attachments

cc: Dave West, TtEMI  
Brian Schuller, TtEMI  
Simon Cardinale, TtEMI

**ATTACHMENT A**

ATTACHMENT A  
**NAVAL FUEL DEPOT POINT MOLATE  
 BASE-WIDE PRODUCT REMOVAL  
 APRIL 2000 PRODUCT REMOVAL SUMMARY**

Well Name	TQC Elevation	Date Measured	Prior to Product Removal				Following Product Removal				Volume of Product Removed (gallons)	Product Type and Comments
			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)		
<b>Treatment Ponds Area Monitoring Wells</b>												
PZ11-27A	16.92	4/99	14.60	15.44	2.32	0.84	Product not removed					Black diesel/bunker fuel
	16.92	8/25/99	15.72	16.58	1.20	0.86		15.95	0.97	0.00	0.14	0.56 feet in Jan. '99
	16.92	9/28/99	16.11	16.78	0.81	0.67	16.18	16.25	0.74	0.07	0.10	
	16.92	11/9/99	14.75	15.30	2.17	0.55	14.80	14.85	2.12	0.05	0.08	
	16.92	12/8/99	14.80	15.23	2.12	0.43	14.85	14.86	2.07	0.01	0.07	
Well abandoned by I.T. on 12/20/99 during base-wide pipeline removal												
MW11-28	16.57	4/99	12.70	13.19	3.87	0.49	Product not removed					Black diesel/bunker fuel
	16.57	8/25/99	13.89	15.17	2.68	1.28		15.67	0.90	0.00	0.84	0.29 feet in Jan. '99
	16.57	9/28/99	14.30	14.57	2.27	0.27		16.40	0.17	0.00	0.18	
	16.57	11/9/99	13.10	13.11	3.47	0.01		14.13	2.44	0.00	0.01	
	16.57	12/8/99	NP	13.19	3.38			NA				No product to remove
Well abandoned by I.T. on 12/21/99 during base-wide pipeline removal												
PZ11-31A	16.97	4/99	13.62	14.90	3.35	1.28	Product not removed					Diesel fuel
	16.97	8/25/99	13.99	15.36	2.98	1.37		16.50	0.47	0.00	0.22	1.35 feet in Jan. '99
	16.97	9/28/99	15.54	15.55	1.43	0.01	15.40	15.41	1.57	0.01	0.00	
	16.97	11/9/99	13.98	14.02	2.99	0.04		14.30	2.67	0.00	0.01	
	16.97	12/8/99	13.98	14.01	2.99	0.03		15.75	1.22	0.00	0.00	
	16.97	1/18/00	12.03	12.08	4.94	0.03		14.80	2.17	0.00	0.00	
	16.97	2/22/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	16.97	3/24/00	12.05	12.06	4.92	0.01	Product not removed					Measured during base-wide water levels
	16.97	3/27/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	16.97	4/11/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	16.97	4/17/00		11.06	16.97	0.00						Measured during base-wide water levels
	16.97	4/25/00	11.20	11.25	5.77	0.05		13.38	3.59	0.00	0.01	
PZ11-33A	17.79	4/99		12.04	17.79		Product not removed					Bunker fuel
	17.79	8/25/99	12.47	12.50	5.32	0.03		dry	dry	0.00	0.00	0.03 feet in Jan. '99
	17.79	9/28/99	12.22	12.62	5.57	0.40		dry	dry	0.00	0.07	
	17.79	11/9/99	12.41	12.42	5.38	0.01		dry	dry	0.00	0.00	
	17.79	12/8/99	12.30	12.40	5.49	0.10	12.38	12.39	5.41	0.01	0.01	
	17.79	1/18/00	9.78	10.15	8.01	0.37		13.02	4.77	0.00	0.06	
	17.79	2/22/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	17.79	3/24/00	11.58	11.59	6.21	0.01	Product not removed					Measured during base-wide water levels
	17.79	3/27/00	11.85	11.87	5.94	0.02		14.20	3.59	0.00	0.00	
	17.79	4/11/00	8.90	9.20	8.89	0.30		12.90	4.89	0.00	0.05	
	17.79	4/17/00	10.51	10.57	7.28	0.06	Product not removed					Measured during base-wide water levels
	17.79	4/25/00	11.60	11.62	6.19	0.02		12.80	4.99	0.00	0.00	

**ATTACHMENT A  
NAVAL FUEL DEPOT POINT MOLATE  
BASE-WIDE PRODUCT REMOVAL  
APRIL 2000 PRODUCT REMOVAL SUMMARY**

Well Name	TOC Elevation	Date Measured	Prior to Product Removal				Following Product Removal				Volume of Product Removed (gallons)	Product Type and Comments
			Depth to Product (feet)	Depth to Water (ft)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)		
<b>Treatment Ponds Area Monitoring Wells (Continued)</b>												
MW11-43	22.05	4/99	NP	7.06	14.99	0.00	Product not removed					Fuel type unknown
	22.05	8/25/99	8.92	NM	13.13	NA	8.79	8.82	13.26	0.03	NA	2.02 feet in Jan. '99
	22.05	9/28/99	8.92	8.98	13.13	0.06	NM	10.28		NA	NA	
	22.05	11/9/99	NP	8.78	13.27	0.00						
	22.05	12/8/99	NP	7.95	14.10	0.00						
	22.05	1/18/00	NP	6.58	15.47	0.00						
	22.05	2/14/00	NP	5.30	16.75	0.00						
	22.05	2/22/00	NM	NM	NA							Well inaccessible due to construction
	22.05	3/24/00	NP	6.68	15.37	0.00						Measured during base-wide water levels
	22.05	3/27/00	NM	NM	NA							Well inaccessible due to construction
	22.05	4/11/00	NM	NM	NA							Well inaccessible due to construction
	22.05	4/17/00	NP	6.29	15.76	0.00						Measured during base-wide water levels
	22.05	4/25/00	NP	6.50	15.55	0.00						
MW11-46	19.85	4/99	4.87	5.02	14.98	0.15	Product not removed					Possibly diesel fuel
	19.85	8/25/99	5.89	6.05	13.96	0.16		6.46	13.39	0.00	0.10	0.3 feet in Jan. '99
	19.85	9/28/99	6.24	6.25	13.61	0.01		6.97	12.88	0.00	0.01	
	19.85	11/9/99	7.15	7.24	12.70	0.09		8.53	11.32	0.00	0.06	
	19.85	12/8/99	6.81	6.82	13.04	0.01		7.80	12.05	0.00	0.01	
	19.85	1/18/00	6.76	6.78	13.09	0.02	Product not removed				NA	Well inaccessible due to construction
	19.85	2/22/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	19.85	3/27/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	19.85	4/11/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	19.85	4/17/00	NM	NM								Well covered by soil pile
MW11-49	20.98	4/99		3.10	20.98		Product not removed					Bunker fuel
	20.98	8/25/99	2.79	2.80	18.19	0.01		2.81	18.17	0.00	0.01	0.03 feet in Jan. '99
	20.98	9/28/99	3.65	3.67	17.33	0.02	4.72	4.73	16.26	0.01	0.01	
	20.98	11/9/99	3.37	3.40	17.61	0.03	3.90	3.91	17.08	0.01	0.01	
	20.98	12/8/99	3.44	3.45	17.54	0.01		3.63	17.35	0.00	0.01	
	20.98	1/18/00	NM	NM	NM	NA				NA	NA	Well inaccessible due to construction
	20.98	2/14/00	NP	2.42	18.56							Measured during base-wide water levels
	20.98	2/22/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	20.98	3/27/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	20.98	4/11/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	20.98	4/17/00	2.889	2.89	18.09	0.001						
	20.98	4/25/00	NM	NM	NA	NA					NA	Well inaccessible due to construction

ATTAC. INT A  
 NAVAL FUEL DEPOT POINT MOLATE  
 BASE-WIDE PRODUCT REMOVAL  
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			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)		
<b>Drum Lot No. 1 Monitoring Wells</b>												
MW11-54	17.42	3/16/00	10.07	16.68	7.35	6.61	Product not removed					Recovery system shut down since Dec. 99
	17.42	3/24/00	11.54	15.43	5.88	3.89	Product not removed					Recovery system shut down since Dec. 99
	17.42	3/28/00	10.56	15.69	6.86	5.13	Product bailed by hand			12		Bailed by hand
		4/13/00	MW11-54 product recovery system is re-wired by I.T. and operational									
	17.42	4/17/00	12.77	12.80	4.65	0.03						Measured during base-wide water levels
<b>Waste Disposal Area Monitoring Wells</b>												
ERM-EW1	106.29	8/6/99	14.54	15.00	91.75	0.46	Product not removed					Diesel fuel/JP-5
	106.29	8/25/99	16.37	16.99	89.92	0.62	18.44	18.45	87.85	0.01	0.40	0.69 feet in April '99
	106.29	9/28/99	18.15	18.53	88.14	0.38	20.19	20.22	86.10	0.03	0.23	
	106.29	11/4/99	19.17	19.35	87.12	0.18		21.64	84.65	0.00	0.12	
	106.29	12/8/99	17.98	18.35	88.31	0.37		19.00	87.29	0.00	0.24	
	106.29	1/18/00	14.49	15.07	91.80	0.58		16.12	90.17	0.00	0.38	
	106.29	2/22/00	3.97	3.98	102.32	0.01		4.55	101.74	0.00	0.01	
	106.29	3/23/00	5.27	5.275	101.02	0.005	Product not removed					Measured during base-wide water levels
	106.29	3/27/00	6.75	6.80	99.54	0.05		7.85	98.44	0.00	0.03	
	106.29	4/11/00	8.02	8.03	98.27	0.01	8.51	8.52	97.78	0.01	0.00	
	106.29	4/18/00	8.62	6.63	97.67	0.01	Product not removed					Measured during base-wide water levels
<b>UST Monitoring Wells</b>												
MWTB-01	68.66	8/6/99	22.94	23.22	45.72	0.28	Product not removed					Bunker fuel
	68.66	8/25/99	23.07	23.44	45.59	0.37		24.71	43.95	0.00	0.24	no product in April '99
	68.66	9/28/99	23.56	23.80	45.10	0.24		24.77	43.89	0.00	0.16	
	68.66	11/9/99	24.53	24.71	44.13	0.18		28.14	40.52	0.00	0.12	
	68.66	12/8/99	24.62	24.63	44.04	0.01		25.78	42.88	0.00	0.01	
	68.66	1/18/00	24.76	24.77	43.90	0.01		26.45	42.21	0.00	0.01	
	68.66	2/22/00	21.12	21.13	47.54	0.01		22.04	46.62	0.00	0.01	
	68.66	3/23/00	20.965	20.97	47.70	0.005	Product not removed					Measured during base-wide water levels
	68.66	3/27/00	21.23	21.39	47.43	0.16	24.06	24.10	44.60	0.04	0.08	
	68.66	4/11/00	21.80	22.30	46.86	0.50		24.30	44.36	0.00	0.33	
	68.66	4/18/00		20.82	68.66	0.00						Measured during base-wide water levels
	68.66	4/25/00	22.90	22.91	45.76	0.01	Product not removed					

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			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)		
UST Monitoring Wells (Continued)												
MWT05-02	213.55	8/6/99	26.16	26.17	187.39	0.01	Product not removed					JP-5 (diesel)
	213.55	8/25/99	26.21	26.42	187.34	0.21		27.58	185.97	0.00	0.14	
	213.55	9/28/99	26.33	27.42	187.22	1.09		30.82	182.73	0.00	0.71	
	213.55	11/4/99	26.50	31.08	187.05	4.58	32.14	32.18	181.41	0.04	2.96	
	213.55	12/8/99	25.95	26.28	187.60	0.33	26.95	26.97	186.60	0.02	0.20	
	213.55	1/18/00	25.77	25.97	187.78	0.20	25.82	25.83	187.73	0.01	0.12	
	213.55	2/22/00	25.66	25.89	187.89	0.23		26.65	186.90	0.00	0.15	
	213.55	3/23/00	25.81	26.30	187.74	0.49	Product not removed					Measured during base-wide water levels
	213.55	3/27/00	25.85	26.14	187.70	0.29		27.35	186.20	0.00	0.19	
	213.55	4/11/00	25.89	26.05	187.66	0.16		28.90	184.65	0.00	0.10	
	213.55	4/18/00	25.85	26.13	187.70	0.28	Product not removed					Measured during base-wide water levels
	213.55	4/25/00	25.83	26.10	187.72	0.27		28.81	184.74	0.00	0.18	
MWT06-02	159.92	8/6/99	25.85	26.21	134.07	0.36	Product not removed					JP-5 (diesel)
	159.92	8/25/99	25.86	26.24	134.06	0.38		27.49	132.43	0.00	0.25	
	159.92	9/28/99	25.97	26.25	133.95	0.28		28.55	131.37	0.00	0.18	
	159.92	11/4/99	26.01	26.28	133.91	0.27	27.28	27.29	132.64	0.01	0.17	
	159.92	12/8/99	25.70	26.07	134.22	0.37		28.63	131.29	0.00	0.24	
	159.92	1/18/00	25.03	25.27	134.89	0.24	25.82	25.83	134.10	0.01	0.15	
	159.92	2/22/00	25.27	25.48	134.65	0.21		28.80	131.12	0.00	0.14	
	159.92	3/23/00	25.57	25.80	134.35	0.23	Product not removed					Measured during base-wide water levels
	159.92	3/27/00	25.54	25.72	134.38	0.18		27.40	132.52	0.00	0.12	
	159.92	4/11/00	25.75	25.86	134.17	0.11	28.20	28.21	131.72	0.01	0.07	
	159.92	4/18/00	25.39	25.56	134.53	0.17	Product not removed					Measured during base-wide water levels
	159.92	4/25/00	25.83	26.10	134.09	0.27		28.81	131.11	0.00	0.18	
MWT08-01	188.78	8/6/99	23.45	23.49	165.33	0.04	Product not removed					JP-5 (diesel)
	188.78	8/25/99	23.43	23.50	165.35	0.07	24.64	24.70	164.14	0.06	0.01	
	188.78	9/28/99	23.50	23.70	165.28	0.20		dry	dry	0.00	0.13	
	188.78	11/4/99	23.51	23.81	165.27	0.30		dry	dry	0.00	0.20	
	188.78	12/8/99	23.46	23.50	165.32	0.04		24.90	163.88	0.00	0.03	
	188.78	1/18/00	NP	20.95	167.83	0.00						
	188.78	2/22/00	NP	22.54	166.24	0.00						
	188.78	3/23/00	23.25	23.26	165.53	0.01	Product not removed					Measured during base-wide water levels
	188.78	3/27/00	23.29	23.34	165.49	0.05		24.82	163.96	0.00	0.03	
	188.78	4/11/00	23.40	23.45	165.38	0.05	24.96	24.98	163.82	0.02	0.02	
	188.78	4/18/00	22.84	22.86	165.94	0.02	Product not removed					Measured during base-wide water levels

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			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)			
UST Monitoring Wells (Continued)													
MWT12-02	313.05	8/6/99	31.53	31.75	281.52	0.22	Product not removed						Diesel
	313.05	8/25/99	31.84	32.07	281.21	0.23		dry	dry	0.00	0.15		
	313.05	9/28/99	32.16	none	280.89	NA		dry	dry	0.00	NA		
	313.05	11/4/99	NP	dry	NA	0.00							
	313.05	12/8/99	NP	30.46	282.59	0.00							
	313.05	1/18/00	NP	30.62	282.43	0.00							
	313.05	2/22/00	NP	26.88	286.17	0.00							
	313.05	3/23/00	28.865	28.870	284.19	0.005	Product not removed						Measured during base-wide water levels
	313.05	3/27/00	NP	29.27	283.78	0.00							
	313.05	4/11/00	30.02	30.04	283.03	0.02		30.50	282.55	0.00	0.01		
	313.05	4/18/00	27.655	27.66	285.40	0.005	Product not removed						Measured during base-wide water levels
MWT13-02	399.72	8/8/99	32.05	32.55	367.67	0.50	Product not removed						JP-5 (diesel)
	399.72	8/25/99	32.15	32.68	367.57	0.53		33.62	366.10	0.00	0.35		
	399.72	9/28/99	32.34	32.83	367.38	0.49		34.35	365.37	0.00	0.32		
	399.72	11/4/99	32.59	33.04	367.13	0.45		35.71	364.01	0.00	0.29		
	399.72	12/8/99	32.73	33.05	366.99	0.32		33.80	365.92	0.00	0.21		
	399.72	1/18/00	32.63	32.65	367.09	0.02		35.88	363.84	0.00	0.01		
	399.72	2/22/00	29.04	29.07	370.68	0.03		29.02	370.70	0.00	0.02		
	399.72	3/23/00	29.59	30.25	370.13	0.66	Product not removed						Measured during base-wide water levels
	399.72	3/27/00	29.81	30.45	369.91	0.64	30.70	30.72	369.02	0.02	0.40		
	399.72	4/11/00	30.92	31.69	368.80	0.77	31.14	31.15	368.58	0.01	0.50		
	399.72	4/18/00	31.04	31.24	368.68	0.2	Product not removed						Measured during base-wide water levels
	399.72	4/25/00	31.28	31.76	368.44	0.48	31.50	31.51	368.22	0.01	0.31		
MWT15-01	276.25	8/6/99	26.40	26.97	249.85	0.57	Product not removed						Diesel
	276.25	8/25/99	27.70	23.29	248.55	0.59		29.52	246.73	0.00	0.38		
	276.25	9/28/99	29.15	29.55	247.10	0.40	31.58	31.59	244.67	0.01	0.25		
	276.25	11/4/99	29.13	29.14	247.12	0.01		30.92	245.33	0.00	0.01		
	276.25	12/8/99	NP	24.48	251.77	0.00							
	276.25	1/18/00	NP	23.82	252.43	0.00							
	276.25	2/22/00	21.94	21.95	254.31	0.01		22.01	254.24	0.00	0.01		
	276.25	3/23/00	23.19	23.20	253.06	0.01	Product not removed						Measured during base-wide water levels
	276.25	3/27/00	23.66	23.68	252.59	0.02		24.85	251.40	0.00	0.01		
	276.25	4/11/00	NP	24.15	252.10	0.00							
	276.25	4/18/00		22.91	276.25	0.00							Measured during base-wide water levels

**ATTACHMENT A  
NAVAL FUEL DEPOT POINT MOLATE  
BASE-WIDE PRODUCT REMOVAL  
APRIL 2000 PRODUCT REMOVAL SUMMARY**

Well Name	TOC Elevation	Date Measured	Prior to Product Removal				Following Product Removal				Volume of Product Removed (gallons)	Product Type and Comments
			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)		
<b>UST Monitoring Wells (Continued)</b>												
MWT03-01	136.99	11/9/99	23.20	23.47	113.79	0.27	23.65	23.70	113.34	0.05	0.14	
	136.99	12/8/99	23.12	23.27	113.87	0.15		23.95	113.04	0.00	0.10	
	136.99	1/18/00	23.02	23.12	113.97	0.10	22.92	22.93	114.07	0.01	0.06	
	136.99	2/22/00	22.05	22.06	114.94	0.01		22.10	114.89	0.00	0.01	
	136.99	3/24/00	NP	22.37	114.62	0.00						Measured during base-wide water levels
	136.99	3/27/00	22.32	22.34	114.67	0.02	22.61	22.62	114.38	0.01	0.01	
	136.99	4/11/00	22.67	22.82	114.32	0.15		22.88	114.11	0.00	0.10	
	136.99	4/18/00		22.52	136.99	0.00						Measured during base-wide water levels
	136.99	4/25/00	22.80	22.85	114.19	0.05		23.90	113.09	0.00	0.03	
MWT18-01	174.40	2/14/00	20.93	24.66	153.47	3.73	Product not removed					Measured during base-wide water levels
	174.40	2/15/00	21.60	24.76	152.80	3.16	Product not removed					Measured during base-wide water levels
	174.40	2/22/00	21.75	24.60	152.65	2.85		23.77	150.63	0.00	1.86	Added to routine product removal list
	174.40	3/6/00	21.79	23.16	152.61	1.37	Product not removed					Checked prior to prod. removal at Tank 18 skim pit
	174.40	3/23/00	22.64	23.54	151.76	0.90	Product not removed					Measured during base-wide water levels
	174.40	3/27/00	22.86	23.78	151.54	0.92		24.65	149.75	0.00	0.60	
	174.40	4/4/00	23.06	23.67	151.34	0.61	Product not removed					
	174.40	4/11/00	23.40	23.98	151.00	0.58		24.05	150.35	0.00	0.38	
	174.40	4/18/00	32.03	32.67	142.37	0.54	Product not removed					Measured during base-wide water levels
	174.40	4/25/00	23.62	24.51	150.78	0.89	24.95	24.98	149.45	0.03	0.56	
Tank 18 Skim Pit		2/20/00	25.2	30.96		5.76	Product not removed					Skim pit product volume = 2,447 gallons
		3/6/00	24.81	28.3		3.49	Product not removed					Skim pit product volume = 1,487 gallons
		3/8/00					Product removed				~2100	Product pumped to on-site Baker tank
		3/17/00	25.78	26.45		0.67	Product not removed					Skim pit product volume = 285 gallons
		3/21/00					Product removed				~300	Product pumped to on-site Baker tank
		3/23/00	24.96	25.22		0.26	Product not removed					Vol. = 110 gallons; Baker tank has 2,400 gal.
		3/28/00	25.74	26.2		0.46	Product not removed					Skim pit product volume = 195 gallons
		4/4/00	26.15	26.9		0.75	Product not removed					Skim pit product volume = 318 gallons
		4/18/00	25.76	26.70		0.94	Product not removed					Skim pit product volume = 400 gallons
		4/25/00					Product removed				~400	Product pumped to on-site Baker tank
<b>TOTAL PRODUCT REMOVED TO DATE (not including Tank 18 Skim Pit)</b>										<b>30.14</b>		
<b>TOTAL PRODUCT REMOVED TO DATE (including Tank 18 Skim Pit)</b>										<b>2,830.14</b>		
Notes:	Elevations are referenced to top of water or top of product (if present).											
	Volume calculated by subtracting the volume of free product in well casing after product extraction from the volume of product in the well casing before product extraction.											
	NA Not available    UST Underground Storage Tank											
	1 Not measured    TOC Top of casing                      NP No product											

**ATTACHMENT B**

ATTACHMENT B  
 NAVAL FUEL DEPOT POINT MOLATE  
 SITE 4 OPERATION AND MAINTENANCE  
 MW11-54 AND MW10-03 PRODUCT RECOVERY SYSTEMS LOG (1998-2000)

MW11-54 RECOVERY SYSTEM (500 GAL. CAPACITY)					MW10-03 RECOVERY SYSTEM (280 GAL. CAPACITY)				
Date	Time	Run Time (Hours)	Qty. Recov. (Gallons)	Comments (Cycling frequency, tank level, etc.)	Date	Time	Run Time (Hours)	Qty. Recov. (Gallons)	Comments (Cycling frequency, tank level, etc.)
<b>1998 READINGS</b>									
4/3/98	1000	0		System Startup (15 minutes/hour)	4/3/98	1100	0		System Startup (5 minutes/hour)
4/4/98		5.8			4/4/98				
4/6/98		6.65		System off for repair at EW-A					
4/10/98	1440	9.05		Resume startup (bypass EW-A)	4/10/98		14.75		Change frequency to 3 minutes/hour
4/11/98	1100	11.45			4/11/98	1100	15.9		
4/11/98	1550	12.7			4/11/98	1550	16.2		
4/17/98	1500	45.5		Brian Schuller (Tt EMI)	4/17/98	1330	23.3		Brian Schuller (Tt EMI)
4/20/98					4/20/98	?	26.2		Larry Duffield (IT)
4/21/98	0618	56.7		Larry Duffield (IT)	4/21/98	0615	27.7		Larry Duffield (IT)
4/22/98			29	2 1/8 inches (0.177 ft) in tank	4/22/98			15.4	2 inches (0.1667 ft) in tank
4/24/98	0820	66.7		Larry Duffield (IT)	4/24/98	0815	31.4		Larry Duffield (IT)
4/27/98	1300			Change to 15 min. X twice/day (SCS)	4/27/98	1300			Change to 5 min. X once/day (SCS)
5/1/98	1230	67.3		Larry Duffield (IT)	5/1/98	1240	35.1		"Pumping air" - Larry Duffield (IT)
5/4/98	1000	68.7		Larry Duffield (IT)	5/4/98	1015	36.8		Larry Duffield (IT)
5/8/98	1350	68.0		Did not get height of fluid; David West	5/8/98	1355	36.45	18.5	0.2 ft in tank; David West (Tt EMI)
6/2/98				Problems with timer reported by L. Duffield					
6/11/98			32.7	Tank level = 0.20 feet	6/11/98			49	Tank level = 0.54 feet
<b>1999 READINGS</b>									
5/14/99	?	147.6	32.7	D. Hall noted product in discharge; tank = 0.2'	5/14/99	?	365.7	126.8	D. Hall; tank level = 1.37 ft. (mostly water)
6/19/99	1132	148.8	32.7	Checked skimmer depth and function; reset timer to 15 min/day X once/day (on at 1115)	6/19/99	1130	366	1/2 full (guage)	D. West; reset timer to 10 min/day times once/day (on at 1130)
7/22/99	?	157.1		Simon Cardinale (33 days since last reading)	7/22/99		371.5		Simon Cardinale (times check out OK I)
8/6/99	1835	159.1		D. West; Shifted discharge tubing at pump head which yielded better vacuum; need to order more tubing I	8/6/99	1839	372.85	1/2 full (guage)	D. West; Replaced tubing at pump head - old section was worn out; no vacuum created
9/1/99	1550	162.7		D. West	9/1/99	1622	373.0	1/2 full (guage)	No water being pumped.
9/28/99	1200	164.8		New tubing installed incorrectly by IT; corrected by TtEMI	9/28/99	1202	374.2	1/2	New discharge tubing at pump; pumping water
10/12/99	1824	164.8		D. West; same time as 9/28, system reset to test (again).	10/12/99	1828	374.2	1/2	Intake tubing was kinked at pump; system reset
10/14/99	1330	165.45		D. West	10/14/99	1345	374.6	1/2+	JP-5 was evident in discharge I
10/19/99	1138	166.65		D. West; initial vacuum is ~10 in., then dropped.	10/19/99	1140	375.5	1/2+	
11/12/99	1310	172.7	~36	D. West; on 11/13 floating product skimmer removed, test for vacuum, skimmer height checked based on water level.	11/12/99	1315	379.5	~150 (1/2+)	Evidence of JP-5 in discharge.
12/19/99	1400	???		D. West; system inaccessible and shut down by IT for pipeline removal.	12/19/99	1445	380.9	1/2+	System still operational; may be shut down for pipeline removal in this area.
1/21/00	1430	179.1		J. DeAngelis; shut down for pipeline removal	1/21/00	1430	380.9		J. DeAngelis; shut down for pipeline removal

Notes: 1. Quantity recovered may be determined by measuring height of fuel and water in tank (in feet) times tank inside length times tank inside width times 7.48 gallons/cubic foot;  
 MW11-54 dimensions: 6.67' (L) X 3.28' (W) X 3.05' (H); MW10-03 dimensions: 4.95' (L) X 2.5' (W) X 3.0' (H)  
 2. Quantity recovered includes product and water





## **Tetra Tech EM Inc.**

1099 18th Street, Suite 1960 ♦ Denver, CO 80202 ♦ (303) 295-1101 ♦ FAX (303) 295-2818

May 26, 2000

Ms. Michelle Gallice-Sondrup  
Department of the Navy  
Engineering Field Division Southwest  
Naval Facilities Engineering Command  
1230 Columbia Street, Suite 1100  
San Diego, California 92101

**Subject: Interim Product Removal Report, May 2000, Events 10 and 11  
Naval Fuel Depot (NFD) Point Molate, Richmond, California  
CLEAN Contract No. N62474-94-D-7609, Contract Task Order (CTO) 112**

Dear Ms. Gallice-Sondrup:

Tetra Tech EM Inc. (TtEMI) conducted the tenth product extraction event on May 9, 2000, and the eleventh event on May 23, 2000, in accordance with the Interim Product Removal Field Work Plan dated September 17, 1999. A table summarizing product removal data to date is provided in Attachment A.

The following monitoring wells in the Treatment Ponds Area were abandoned as part of basewide pipeline removal operations in December 1999:

PZ11-27A  
MW11-28

The following monitoring wells in the Treatment Ponds and Waste Disposal Areas were inaccessible because of basewide pipeline removal operations in May 2000:

PZ11-31A  
PZ11-33A  
MW11-43  
MW11-45  
MW11-49  
ERM-EW1

Well MW11-54, located along the shoreline between the Treatment Ponds Area and Drum Storage Area No. 1, was added to the Interim Product Removal Report in April 2000. The product removal system at this well had not operated since December 1999 because of basewide pipeline removal operations. Starting March 16, 2000, product thickness measurements were taken and on March 28, 2000, the product was manually removed. The system was rewired and operational on April 13, 2000. As has been observed over the past few years, product thickness in well MW11-54 significantly increases during the rainy season. A product recovery system log has been maintained for this well and is provided as Attachment B.

Ms. Michelle Gallice-Sondrup  
May 26, 2000  
Page 2

Monitoring wells adjacent to the underground storage tanks (UST) have shown fluctuations in product thickness since August 1999. However, the UST monitoring wells generally show a reduction in product thickness since the November and December 1999 measurements. These wells and their measured thickness of product on May 23, 2000, are as follows:

MWTB-01	0.02 foot
MWT05-02	0.29 foot
MWT06-02	0.17 foot
MWT08-01	0.02 foot
MWT12-02	0.03 foot
MWT13-02	0.01 foot
MWT15-01	0.02 foot
MWT03-01	0.10 foot
MWT18-01	0.49 foot

No significant increases in product thickness were documented in May 2000, but the area around Tank 18 still presents a significant source of free phase petroleum.

Product removal data from the skim pit at Tank 18 is also provided in Attachment A. Data from the monitoring well product removals have been totaled both with and without the Tank 18 skim pit data. These data were totaled separately because the volume of product removed from the monitoring wells is calculated to a higher degree of accuracy than the skim pit volumes, which are approximated.

If you have any questions, please call me at (303) 312-8834.

Sincerely,

  
Gary Miller  
Project Manager

GM/hjm

Attachments

cc: Dave West, TtEMI  
Brian Schuller, TtEMI  
Simon Cardinale, TtEMI

**ATTACHMENT A**

**ATTACHMENT A  
NAVAL FUEL DEPOT POINT MOLATE  
BASEWIDE PRODUCT REMOVAL  
MAY 2000 PRODUCT REMOVAL SUMMARY**

Well Name	TOC Elevation	Date Measured	Prior to Product Removal				Following Product Removal				Volume of Product Removed (gallons)	Product Type and Comments
			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)		
<b>Treatment Ponds Area Monitoring Wells</b>												
<b>PZ11-27A</b>	16.92	4/99	14.60	15.44	2.32	0.84	Product not removed					Black diesel/bunker fuel
	16.92	8/25/99	15.72	16.58	1.20	0.86		15.95	0.97	0.00	0.14	0.56 feet in Jan. '99
	16.92	9/28/99	16.11	16.78	0.81	0.67	16.18	16.25	0.74	0.07	0.10	
	16.92	11/9/99	14.75	15.30	2.17	0.55	14.80	14.85	2.12	0.05	0.08	
	16.92	12/8/99	14.80	15.23	2.12	0.43	14.85	14.86	2.07	0.01	0.07	
Well abandoned by IT on 12/20/99 during basewide pipeline removal												
<b>MW11-28</b>	16.57	4/99	12.70	13.19	3.87	0.49	Product not removed					Black diesel/bunker fuel
	16.57	8/25/99	13.89	15.17	2.68	1.28		15.67	0.90	0.00	0.84	0.29 feet in Jan. '99
	16.57	9/28/99	14.30	14.57	2.27	0.27		16.40	0.17	0.00	0.18	
	16.57	11/9/99	13.10	13.11	3.47	0.01		14.13	2.44	0.00	0.01	
	16.57	12/8/99	NP	13.19	3.38	NA		NA		0.00	NA	No product to remove
Well abandoned by IT on 12/21/99 during basewide pipeline removal												
<b>PZ11-31A</b>	16.97	4/99	13.62	14.90	3.35	1.28	Product not removed					Diesel fuel
	16.97	8/25/99	13.99	15.36	2.98	1.37		16.50	0.47	0.00	0.22	1.35 feet in Jan. '99
	16.97	9/28/99	15.54	15.55	1.43	0.01	15.40	15.41	1.57	0.01	0.00	
	16.97	11/9/99	13.98	14.02	2.99	0.04		14.30	2.67	0.00	0.01	
	16.97	12/8/99	13.98	14.01	2.99	0.03		15.75	1.22	0.00	0.00	
	16.97	1/18/00	12.03	12.06	4.94	0.03		14.80	2.17	0.00	0.00	
	16.97	2/22/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	16.97	3/24/00	12.05	12.06	4.92	0.01	Product not removed					Measured during basewide water levels
	16.97	3/27/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	16.97	4/11/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	16.97	4/17/00	NP	11.06	5.91	0.00						Measured during basewide water levels
	16.97	4/25/00	11.20	11.25	5.77	0.05		13.38	3.59	0.00	0.01	
	16.97	5/9/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	16.97	5/23/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
<b>PZ11-33A</b>	17.79	4/99		12.04	17.79		Product not removed					Bunker fuel
	17.79	8/25/99	12.47	12.50	5.32	0.03		dry	dry	0.00	0.00	0.03 feet in Jan. '99
	17.79	9/28/99	12.22	12.62	5.57	0.40		dry	dry	0.00	0.07	
	17.79	11/9/99	12.41	12.42	5.38	0.01		dry	dry	0.00	0.00	
	17.79	12/8/99	12.30	12.40	5.49	0.10	12.38	12.39	5.41	0.01	0.01	
	17.79	1/18/00	9.78	10.15	8.01	0.37		13.02	4.77	0.00	0.06	
	17.79	2/22/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	17.79	3/24/00	11.58	11.59	6.21	0.01	Product not removed					Measured during basewide water levels
	17.79	3/27/00	11.85	11.87	5.94	0.02		14.20	3.59	0.00	0.00	
	17.79	4/11/00	8.90	9.20	8.89	0.30		12.90	4.89	0.00	0.05	
	17.79	4/17/00	10.51	10.57	7.28	0.06	Product not removed					Measured during basewide water levels
	17.79	4/25/00	11.60	11.62	6.19	0.02		12.80	4.99	0.00	0.00	
	17.79	5/9/00	NM	NM	NA	NA					NA	Well inaccessible due to construction
	17.79	5/23/00	NM	NM	NA	NA					NA	Well inaccessible due to construction

**ATTACHMENT A  
NAVAL FUEL DEPOT POINT MOLATE  
BASEWIDE PRODUCT REMOVAL  
MAY 2000 PRODUCT REMOVAL SUMMARY**

Well Name	TOC Elevation	Date Measured	Prior to Product Removal				Following Product Removal				Volume of Product Removed (gallons)	Product Type and Comments	
			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)			
<b>Treatment Ponds Area Monitoring Wells</b>													
MW11-43	22.05	4/99	NP	7.06	14.99	0.00	Product not removed					Fuel type unknown	
	22.05	8/25/99	8.92	NM	13.13		8.79	8.82	13.26			2.02 feet in Jan. '99	
	22.05	9/28/99	8.92	8.98	13.13	0.06	NM	10.28			NA	NA	
	22.05	11/9/99	NP	8.78	13.27	0.00							
	22.05	12/8/99	NP	7.95	14.10	0.00							
	22.05	1/18/00	NP	6.58	15.47	0.00							
	22.05	2/14/00	NP	5.30	16.75	0.00							
	22.05	2/22/00	NM	NM	NA							Well inaccessible due to construction	
	22.05	3/24/00	NP	6.68	15.37	0.00						Measured during basewide water levels	
	22.05	3/27/00	NM	NM	NA							Well inaccessible due to construction	
	22.05	4/11/00	NM	NM	NA							Well inaccessible due to construction	
	22.05	4/17/00	NP	6.29	15.76	0.00						Measured during basewide water levels	
	22.05	4/25/00	NP	6.50	15.55	0.00							
	22.05	5/9/00	NM	NM	NA							Well inaccessible due to construction	
	22.05	5/23/00	NM	NM	NA							Well inaccessible due to construction	
MW11-45	19.85	4/99	4.87	5.02	14.98	0.15	Product not removed					Possibly diesel fuel	
	19.85	8/25/99	5.89	6.05	13.96	0.16		6.46	13.39	0.00	0.10	0.3 feet in Jan. '99	
	19.85	9/28/99	6.24	6.25	13.61	0.01		6.97	12.88	0.00	0.01		
	19.85	11/9/99	7.15	7.24	12.70	0.09		8.53	11.32	0.00	0.06		
	19.85	12/8/99	6.81	6.82	13.04	0.01		7.80	12.05	0.00	0.01		
	19.85	1/18/00	6.76	6.78	13.09	0.02	Product not removed				NA	NA	Well inaccessible due to construction
	19.85	2/22/00	NM	NM	NA	NA					NA	NA	Well inaccessible due to construction
	19.85	3/27/00	NM	NM	NA	NA					NA	NA	Well inaccessible due to construction
	19.85	4/11/00	NM	NM	NA	NA					NA	NA	Well inaccessible due to construction
	19.85	4/17/00	NM	NM									Well covered by soil pile
	19.85	5/9/00	NM	NM	NA	NA					NA	NA	Well inaccessible due to construction
	19.85	4/11/00	NM	NM	NA	NA					NA	NA	Well inaccessible due to construction
	19.85	4/25/00	NM	NM	NA	NA					NA	NA	Well inaccessible due to construction
	19.85	5/9/00	NM	NM	NA	NA					NA	NA	Well inaccessible due to construction
	19.85	5/23/00	NM	NM	NA	NA					NA	NA	Well inaccessible due to construction

ATTAL INT A  
 NAVAL FUEL DEPOT POINT MOLATE  
 BASEWIDE PRODUCT REMOVAL  
 MAY 2000 PRODUCT REMOVAL SUMMARY

Well Name	TOC Elevation	Date Measured	Prior to Product Removal				Following Product Removal				Volume of Product Removed (gallons)	Product Type and Comments	
			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)			
<b>Treatment Ponds Area Monitoring Wells</b>													
MW11-49	20.98	4/99		3.10	20.98		Product not removed						Bunker fuel
	20.98	8/25/99	2.79	2.80	18.19	0.01		2.81	18.17	0.00	0.01		0.03 feet in Jan. '99
	20.98	9/28/99	3.65	3.67	17.33	0.02	4.72	4.73	16.26	0.01	0.01		
	20.98	11/9/99	3.37	3.40	17.61	0.03	3.90	3.91	17.08	0.01	0.01		
	20.98	12/8/99	3.44	3.45	17.54	0.01		3.63	17.35	0.00	0.01		
	20.98	1/18/00	NM	NM	NM	NA				NA	NA		Well inaccessible due to construction
	20.98	2/14/00	NP	2.42	18.56								Measured during basewide water levels
	20.98	2/22/00	NM	NM	NA	NA					NA		Well inaccessible due to construction
	20.98	3/27/00	NM	NM	NA	NA					NA		Well inaccessible due to construction
	20.98	4/11/00	NM	NM	NA	NA					NA		Well inaccessible due to construction
	20.98	4/17/00	2.889	2.89	18.09	0.001							
	20.98	4/25/00	NM	NM	NA	NA					NA		Well inaccessible due to construction
	20.98	5/9/00	NM	NM	NA	NA					NA		Well inaccessible due to construction
	20.98	5/23/00	NM	NM	NA	NA					NA		Well inaccessible due to construction
<b>Waste Disposal Area Monitoring Wells</b>													
MW11-54	17.42	3/16/00	10.07	16.68	7.35	6.61	Product not removed						Recovery system shut down since Dec. 99
	17.42	3/24/00	11.54	15.43	5.88	3.89	Product not removed						Recovery system shut down since Dec. 99
	17.42	3/28/00	10.56	15.69	6.86	5.13	Product bailed by hand				12		Bailed by hand
	17.42	4/17/00	12.77	12.80	4.65	0.03	Product being removed via product recovery system						Measured during basewide water levels
<b>Waste Disposal Area Monitoring Wells</b>													
ERM-EW1	106.29	8/6/99	14.54	15.00	91.75	0.46	Product not removed						Diesel fuel/JP-5
	106.29	8/25/99	16.37	16.99	89.92	0.62	18.44	18.45	87.85	0.01	0.40		0.69 feet in April '99
	106.29	9/28/99	18.15	18.53	88.14	0.38	20.19	20.22	86.10	0.03	0.23		
	106.29	11/4/99	19.17	19.35	87.12	0.18		21.64	84.65	0.00	0.12		
	106.29	12/8/99	17.98	18.35	88.31	0.37		19.00	87.29	0.00	0.24		
	106.29	1/18/00	14.49	15.07	91.80	0.58		16.12	90.17	0.00	0.38		
	106.29	2/22/00	3.97	3.98	102.32	0.01		4.55	101.74	0.00	0.01		
	106.29	3/23/00	5.27	5.275	101.02	0.005	Product not removed						Measured during basewide water levels
	106.29	3/27/00	6.75	6.80	99.54	0.05		7.85	98.44	0.00	0.03		
	106.29	4/11/00	8.02	8.03	98.27	0.01	8.51	8.52	97.78	0.01	0.00		
	106.29	4/18/00	8.62	8.63	97.67	0.01	Product not removed						Measured during basewide water levels
	106.29	5/9/00	NM	NM	NA	NA					NA		Well inaccessible due to construction
	106.29	5/23/00	NM	NM	NA	NA					NA		Well inaccessible due to construction

**ATTACHMENT A**  
**NAVAL FUEL DEPOT POINT MOLATE**  
**BASEWIDE PRODUCT REMOVAL**  
**MAY 2000 PRODUCT REMOVAL SUMMARY**

Well Name	TOC Elevation	Date Measured	Prior to Product Removal				Following Product Removal				Volume of Product Removed (gallons)	Product Type and Comments
			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)		
<b>UST Monitoring Wells</b>												
<b>MWTB-01</b>	68.66	8/6/99	22.94	23.22	45.72	0.28	Product not removed					Bunker fuel
	68.66	8/25/99	23.07	23.44	45.59	0.37		24.71	43.95	0.00	0.24	No product in April '99
	68.66	9/28/99	23.56	23.80	45.10	0.24		24.77	43.89	0.00	0.16	
	68.66	11/9/99	24.53	24.71	44.13	0.18		28.14	40.52	0.00	0.12	
	68.66	12/8/99	24.62	24.63	44.04	0.01		25.78	42.88	0.00	0.01	
	68.66	1/18/00	24.76	24.77	43.90	0.01		26.45	42.21	0.00	0.01	
	68.66	2/22/00	21.12	21.13	47.54	0.01		22.04	46.62	0.00	0.01	
	68.66	3/23/00	20.965	20.97	47.70	0.005	Product not removed					Measured during basewide water levels
	68.66	3/27/00	21.23	21.39	47.43	0.16	24.06	24.10	44.60	0.04	0.08	
	68.66	4/11/00	21.80	22.30	46.86	0.50		24.30	44.36	0.00	0.33	
	68.66	4/18/00		20.82	47.84	0.00						Measured during basewide water levels
	68.66	4/25/00	22.90	22.91	45.76	0.01	Product not removed					
	68.66	5/9/00	23.44	23.45	45.22	0.01		26.45	42.21	0.00	0.01	
	68.66	5/23/00	22.73	22.75	45.93	0.02		23.85	44.81	0.00	0.01	
<b>MWT05-02</b>	213.55	8/6/99	26.16	26.17	187.39	0.01	Product not removed					JP-5 (diesel)
	213.55	8/25/99	26.21	26.42	187.34	0.21		27.58	185.97	0.00	0.14	
	213.55	9/28/99	26.33	27.42	187.22	1.09		30.82	182.73	0.00	0.71	
	213.55	11/4/99	26.50	31.08	187.05	4.58	32.14	32.18	181.41	0.04	2.96	
	213.55	12/8/99	25.95	26.28	187.60	0.33	26.95	26.97	186.60	0.02	0.20	
	213.55	1/18/00	25.77	25.97	187.78	0.20	25.82	25.83	187.73	0.01	0.12	
	213.55	2/22/00	25.66	25.89	187.89	0.23		26.65	186.90	0.00	0.15	
	213.55	3/23/00	25.81	26.30	187.74	0.49	Product not removed					Measured during basewide water levels
	213.55	3/27/00	25.85	26.14	187.70	0.29		27.35	186.20	0.00	0.19	
	213.55	4/11/00	25.89	26.05	187.66	0.16		28.90	184.65	0.00	0.10	
	213.55	4/18/00	25.85	26.13	187.70	0.28	Product not removed					Measured during basewide water levels
	213.55	4/25/00	25.83	26.10	187.72	0.27		28.81	184.74	0.00	0.18	
	213.55	5/9/00	25.90	26.13	187.65	0.23		28.18	185.37	0.00	0.15	
	213.55	5/23/00	25.91	26.20	187.64	0.29		27.10	186.45	0.00	0.19	

ATTAC. INT A  
 NAVAL FUEL DEPOT POINT MOLATE  
 BASEWIDE PRODUCT REMOVAL  
 MAY 2000 PRODUCT REMOVAL SUMMARY

Well Name	TOC Elevation	Date Measured	Prior to Product Removal				Following Product Removal				Volume of Product Removed (gallons)	Product Type and Comments
			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)		
<b>UST Monitoring Wells</b>												
MWT06-02	159.92	8/6/99	25.85	26.21	134.07	0.36	Product not removed					JP-5 (diesel)
	159.92	8/25/99	25.86	26.24	134.06	0.38		27.49	132.43	0.00	0.25	
	159.92	9/28/99	25.97	26.25	133.95	0.28		28.55	131.37	0.00	0.18	
	159.92	11/4/99	26.01	26.28	133.91	0.27	27.28	27.29	132.64	0.01	0.17	
	159.92	12/8/99	25.70	26.07	134.22	0.37		28.63	131.29	0.00	0.24	
	159.92	1/18/00	25.03	25.27	134.89	0.24	25.82	25.83	134.10	0.01	0.15	
	159.92	2/22/00	25.27	25.48	134.65	0.21		28.80	131.12	0.00	0.14	
	159.92	3/23/00	25.57	25.80	134.35	0.23	Product not removed					Measured during basewide water levels
	159.92	3/27/00	25.54	25.72	134.38	0.18		27.40	132.52	0.00	0.12	
	159.92	4/11/00	25.75	25.88	134.17	0.11	28.20	28.21	131.72	0.01	0.07	
	159.92	4/18/00	25.39	25.56	134.53	0.17	Product not removed					Measured during basewide water levels
	159.92	4/25/00	25.83	26.10	134.09	0.27		28.81	131.11	0.00	0.18	
	159.92	5/9/00	25.66	25.72	134.26	0.06	29.36	29.37	130.56	0.01	0.03	
	159.92	5/23/00	25.71	25.88	134.21	0.17		28.55	131.37	0.00	0.11	
<b>MWT08-01</b>												
MWT08-01	188.78	8/6/99	23.45	23.49	165.33	0.04	Product not removed					JP-5 (diesel)
	188.78	8/25/99	23.43	23.50	165.35	0.07	24.64	24.70	164.14	0.06	0.01	
	188.78	9/28/99	23.50	23.70	165.28	0.20		dry	dry	0.00	0.13	
	188.78	11/4/99	23.51	23.81	165.27	0.30		dry	dry	0.00	0.20	
	188.78	12/8/99	23.46	23.50	165.32	0.04		24.90	163.88	0.00	0.03	
	188.78	1/18/00	NP	20.95	167.83	0.00						
	188.78	2/22/00	NP	22.54	166.24	0.00						
	188.78	3/23/00	23.25	23.26	165.53	0.01	Product not removed					Measured during basewide water levels
	188.78	3/27/00	23.29	23.34	165.49	0.05		24.82	163.96	0.00	0.03	
	188.78	4/11/00	23.40	23.45	165.38	0.05	24.96	24.98	163.82	0.02	0.02	
	188.78	4/18/00	22.84	22.86	165.94	0.02	Product not removed					Measured during basewide water levels
	188.78	5/9/00	23.35	23.37	165.43	0.02	23.31	23.32	165.47	0.01	0.01	
	188.78	5/23/00	23.40	23.42	165.38	0.02	24.90	24.91	163.88	0.01	0.01	

**ATTACHMENT A  
NAVAL FUEL DEPOT POINT MOLATE  
BASEWIDE PRODUCT REMOVAL  
MAY 2000 PRODUCT REMOVAL SUMMARY**

Well Name	TOC Elevation	Date Measured	Prior to Product Removal				Following Product Removal				Volume of Product Removed (gallons)	Product Type and Comments
			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)		
<b>UST Monitoring Wells</b>												
MWT12-02	313.05	8/6/99	31.53	31.75	281.52	0.22	Product not removed					Diesel
	313.05	8/25/99	31.84	32.07	281.21	0.23		dry	dry	0.00	0.15	
	313.05	9/28/99	32.16	none	280.89	NA		dry	dry	0.00	NA	
	313.05	11/4/99	NP	dry	NA	0.00						
	313.05	12/8/99	NP	30.46	282.59	0.00						
	313.05	1/18/00	NP	30.62	282.43	0.00						
	313.05	2/22/00	NP	26.88	286.17	0.00						
	313.05	3/23/00	28.865	28.870	284.19	0.005	Product not removed					Measured during basewide water levels
	313.05	3/27/00	NP	29.27	283.78	0.00						
	313.05	4/11/00	30.02	30.04	283.03	0.02		30.50	282.55	0.00	0.01	
	313.05	4/18/00	27.655	27.66	285.40	0.005	Product not removed					Measured during basewide water levels
	313.05	5/9/00	28.97	29.00	284.08	0.03		30.25	282.80	0.00	0.02	
	313.05	5/23/00	29.14	29.17	283.91	0.03		30.45	282.60	0.00	0.02	
MWT13-02	399.72	8/6/99	32.05	32.55	367.67	0.50	Product not removed					JP-5 (diesel)
	399.72	8/25/99	32.15	32.88	367.57	0.53		33.62	366.10	0.00	0.35	
	399.72	9/28/99	32.34	32.83	367.38	0.49		34.35	365.37	0.00	0.32	
	399.72	11/4/99	32.59	33.04	367.13	0.45		35.71	364.01	0.00	0.29	
	399.72	12/8/99	32.73	33.05	366.99	0.32		33.80	365.92	0.00	0.21	
	399.72	1/18/00	32.63	32.65	367.09	0.02		35.88	363.84	0.00	0.01	
	399.72	2/22/00	29.04	29.07	370.68	0.03		29.02	370.70	0.00	0.02	
	399.72	3/23/00	29.59	30.25	370.13	0.66	Product not removed					Measured during basewide water levels
	399.72	3/27/00	29.81	30.45	369.91	0.64	30.70	30.72	369.02	0.02	0.40	
	399.72	4/11/00	30.92	31.69	368.80	0.77	31.14	31.15	368.58	0.01	0.50	
	399.72	4/18/00	31.04	31.24	368.68	0.20	Product not removed					Measured during basewide water levels
	399.72	4/25/00	31.28	31.76	368.44	0.48	31.50	31.51	368.22	0.01	0.31	
	399.72	5/9/00	31.70	31.78	368.02	0.08		31.80	367.92	0.00	0.05	
	399.72	5/23/00	32.08	32.09	367.64	0.01	Product not removed due to time constraints					

ATTACHMENT A  
 NAVAL FUEL DEPOT POINT MOLATE  
 BASEWIDE PRODUCT REMOVAL  
 MAY 2000 PRODUCT REMOVAL SUMMARY

Well Name	TOC Elevation	Date Measured	Prior to Product Removal				Following Product Removal				Volume of Product Removed (gallons)	Product Type and Comments
			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)		
UST Monitoring Wells												
MWT15-01	276.25	8/6/99	26.40	26.97	249.85	0.57	Product not removed					Diesel
	276.25	8/25/99	27.70	28.29	248.55	0.59		29.52	246.73	0.00	0.38	
	276.25	9/28/99	29.15	29.55	247.10	0.40	31.58	31.59	244.67	0.01	0.25	
	276.25	11/4/99	29.13	29.14	247.12	0.01		30.92	245.33	0.00	0.01	
	276.25	12/8/99	NP	24.48	251.77	0.00						
	276.25	1/18/00	NP	23.82	252.43	0.00						
	276.25	2/22/00	21.94	21.95	254.31	0.01		22.01	254.24	0.00	0.01	
	276.25	3/23/00	23.19	23.20	253.06	0.01	Product not removed					Measured during basewide water levels
	276.25	3/27/00	23.66	23.68	252.59	0.02		24.85	251.40	0.00	0.01	
	276.25	4/11/00	NP	24.15	252.10	0.00						
	276.25	4/18/00		22.91	276.25	0.00						Measured during basewide water levels
	276.25	5/23/00	24.03	24.05	252.22	0.02		24.55	251.70	0.00	0.01	
MWT03-01	136.99	11/9/99	23.20	23.47	113.79	0.27	23.65	23.70	113.34	0.05	0.14	
	136.99	12/8/99	23.12	23.27	113.87	0.15		23.95	113.04	0.00	0.10	
	136.99	1/18/00	23.02	23.12	113.97	0.10	22.92	22.93	114.07	0.01	0.06	
	136.99	2/22/00	22.05	22.06	114.94	0.01		22.10	114.89	0.00	0.01	
	136.99	3/24/00	NP	22.37	114.62	0.00						Measured during basewide water levels
	136.99	3/27/00	22.32	22.34	114.67	0.02	22.61	22.62	114.38	0.01	0.01	
	136.99	4/11/00	22.67	22.82	114.32	0.15		22.88	114.11	0.00	0.10	
	136.99	4/18/00		22.52	136.99	0.00						Measured during basewide water levels
	136.99	4/25/00	22.80	22.85	114.19	0.05		23.90	113.09	0.00	0.03	
	136.99	5/9/00	23.02	23.16	113.97	0.14		23.32	113.67	0.00	0.09	
	136.99	5/23/00	23.06	23.16	113.93	0.10		23.80	113.19	0.00	0.07	
MWT18-01	174.40	2/14/00	20.93	24.66	153.47	3.73	Product not removed					Measured during basewide water levels
	174.40	2/15/00	21.60	24.76	152.80	3.16	Product not removed					Measured during basewide water levels
	174.40	2/22/00	21.75	24.60	152.65	2.85		23.77	150.63	0.00	1.86	Added to routine product removal list
	174.40	3/6/00	21.79	23.16	152.61	1.37	Product not removed					Checked prior to prod. removal at Tank 18 skim pit
	174.40	3/23/00	22.64	23.54	151.76	0.90	Product not removed					Measured during basewide water levels
	174.40	3/27/00	22.86	23.78	151.54	0.92		24.65	149.75	0.00	0.60	
	174.40	4/4/00	23.06	23.67	151.34	0.61	Product not removed					
	174.40	4/11/00	23.40	23.98	151.00	0.58		24.05	150.35	0.00	0.38	
	174.40	4/18/00	32.03	32.67	142.37	0.64	Product not removed					Measured during basewide water levels
	174.40	4/25/00	23.62	24.51	150.78	0.89	24.95	24.98	149.45	0.03	0.56	
	174.40	5/9/00	24.09	25.30	150.31	1.21	24.95	25.50	149.45	0.55	0.43	
	174.40	5/23/00	24.03	24.52	150.37	0.49	25.05	25.51	149.35	0.46	0.02	

**ATTACHMENT A  
NAVAL FUEL DEPOT POINT MOLATE  
BASEWIDE PRODUCT REMOVAL  
MAY 2000 PRODUCT REMOVAL SUMMARY**

Well Name	TOC Elevation	Date Measured	Prior to Product Removal				Following Product Removal				Volume of Product Removed (gallons)	Product Type and Comments
			Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)	Depth to Product (feet)	Depth to Water (feet)	Water/Product Elevations (feet)	Product Thickness (feet)		
<b>UST Monitoring Wells</b>												
Tank 18 Skim Pit		2/20/00	25.2	30.96		5.76	Product not removed					Skim pit product volume = 2,447 gallons
		3/6/00	24.81	28.3		3.49	Product not removed					Skim pit product volume = 1,487 gallons
		3/8/00					Product removed				~2100	Product pumped to onsite Baker tank
		3/17/00	25.78	26.45		0.67	Product not removed					Skim pit product volume = 285 gallons
		3/21/00					Product removed				~300	Product pumped to onsite Baker tank
		3/23/00	24.96	25.22		0.26	Product not removed					Vol. = 110 gallons; Baker tank has 2,400 gallons
		3/28/00	25.74	26.2		0.46	Product not removed					Skim pit product volume = 195 gallons
		4/4/00	26.15	26.9		0.75	Product not removed					Skim pit product volume = 318 gallons
		4/18/00	25.76	26.70		0.94	Product not removed					Skim pit product volume = 400 gallons
		4/25/00					Product removed				~400	Product pumped to onsite Baker tank
<b>Total Product Removed To Date (not including Tank 18 skim pit)</b>											<b>31.37</b>	
<b>Total Product Removed To Date (including Tank 18 skim pit)</b>											<b>~2831</b>	

Notes: Elevations are referenced to top of water or top of product (if present).  
Volume calculated by subtracting the volume of free product in well casing after product extraction from the volume of product in the well casing before product extraction.  
NA Not available UST Underground Storage Tank  
NM Not measured TOC Top of casing  
NP No product

**ATTACHMENT B**

ATTACHMENT B  
 NAVAL FUEL DEPOSIT POINT MOLATE  
 SITE 4 OPERATION AND MAINTENANCE  
 MW11-54 AND MW10-03 PRODUCT RECOVERY SYSTEMS LOG (1998-2000)

MW11-54 RECOVERY SYSTEM (500 GALLON CAPACITY)					MW10-03 RECOVERY SYSTEM (280 GALLON CAPACITY)				
Date	Time	Run Time (Hours)	Qty. Recov. (Gallons)	Comments (Cycling frequency, tank level, etc.)	Date	Time	Run Time (Hours)	Qty. Recov. (Gallons)	Comments (Cycling frequency, tank level, etc.)
<b>1998 READINGS</b>									
4/3/98	1000	0		System Startup (15 minutes/hour)	4/3/98	1100	0		System Startup (5 minutes/hour)
4/4/98		5.8			4/4/98				
4/6/98		6.65		System off for repair at well EW-A					
4/10/98	1440	9.05		Resume startup (bypass well EW-A)	4/10/98		14.75		Change frequency to 3 minutes/hour
4/11/98	1100	11.45			4/11/98	1100	15.9		
4/11/98	1550	12.7			4/11/98	1550	16.2		
4/17/98	1500	45.5		Brian Schuller (TtEMI)	4/17/98	1330	23.3		Brian Schuller (TtEMI)
4/20/98					4/20/98	?	26.2		Larry Duffield (IT)
4/21/98	0618	56.7		Larry Duffield (IT)	4/21/98	0615	27.7		Larry Duffield (IT)
4/22/98			29	2 1/8 inches (0.177 ft) in tank	4/22/98			15.4	2 inches (0.1667 ft) in tank
4/24/98	0820	66.7		Larry Duffield (IT)	4/24/98	0815	31.4		Larry Duffield (IT)
4/27/98	1300			Change to 15 min. X twice/day (SCS)	4/27/98	1300			Change to 5 min. X once/day (SCS)
5/1/98	1230	67.3		Larry Duffield (IT)	5/1/98	1240	35.1		"Pumping air" - Larry Duffield (IT)
5/4/98	1000	68.7		Larry Duffield (IT)	5/4/98	1015	38.8		Larry Duffield (IT)
5/8/98	1350	68.0		Did not get height of fluid; David West (TtEMI)	5/8/98	1355	36.45	18.5	0.2 ft in tank; David West (TtEMI)
6/2/98				Problems with timer reported by L. Duffield (IT)					
6/11/98			32.7	Tank level = 0.20 feet	6/11/98			49	Tank level = 0.54 feet
<b>1999 READINGS</b>									
5/14/99	?	147.6	32.7	D. Hall noted product in discharge; tank = 0.2'	5/14/99	?	365.7	126.8	D. Hall; tank level = 1.37 ft. (mostly water)
6/19/99	1132	148.8	32.7	Checked skimmer depth and function; reset timer to 15 min/day X once/day (on at 1115)	6/19/99	1130	366	1/2 full (guage)	D. West; reset timer to 10 min/day times once/day (on at 1130)
7/22/99	?	157.1		Simon Cardinale (33 days since last reading)	7/22/99		371.5		Simon Cardinale (times check out OK I)
8/6/99	1835	159.1		D. West; Shifted discharge tubing at pump head which yielded better vacuum; need to order more tubing I	8/6/99	1839	372.85	1/2 full (guage)	D. West; Replaced tubing at pump head - old section was worn out; no vacuum created
9/1/99	1550	162.7		D. West	9/1/99	1622	373.0	1/2 full (guage)	No water being pumped.
9/28/99	1200	164.8		New tubing installed incorrectly by IT; corrected by TtEMI	9/28/99	1202	374.2	1/2	New discharge tubing at pump; pumping water
10/12/99	1824	164.8		D. West; same time as 9/28, system reset to test (again).	10/12/99	1828	374.2	1/2	Intake tubing was kinked at pump; system reset
10/14/99	1330	165.45		D. West	10/14/99	1345	374.6	1/2+	JP-5 was evident in discharge I
10/19/99	1138	166.65		D. West; initial vacuum is ~10 in., then dropped.	10/19/99	1140	375.5	1/2+	
11/12/99	1310	172.7	-36	D. West; on 11/13 floating product skimmer removed, test for vacuum, skimmer height checked based on water level.	11/12/99	1315	379.5	~150 (1/2+)	Evidence of JP-5 in discharge.
12/19/99	1400	???		D. West; system inaccessible and shut down by IT for pipeline removal.	12/19/99	1445	380.9	1/2+	System still operational; may be shut down for pipeline removal in this area.
1/21/00	1430	179.1		J. DeAngelis; shut down for pipeline removal	1/21/00	1430	380.9		J. DeAngelis; shut down for pipeline removal

Notes: 1. Quantity recovered can be determined by measuring height of fuel and water in tank (in feet) times tank inside length times tank inside width times 7.48 gallons/cubic foot;  
 MW11-54 dimensions: 6.67' (L) X 3.28' (W) X 3.05' (H); MW10-03 dimensions: 4.95' (L) X 2.5' (W) X 3.0' (H)  
 2. Quantity recovered includes product and water

