



DEPARTMENT OF THE NAVY
COMMANDER
NAVY REGION HAWAII
850 TICONDEROGA ST STE 110
JBPHH, HAWAII 96860-5101

OCT 18 2013 *RLC*

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October 17, 2013

CERTIFIED MAIL NO. 7011 2000 0002 7214 2735

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Mr. Richard Takaba
Hawaii State Department of Health
Environmental Management Division
Solid and Hazardous Waste Branch
Underground Storage Tank Section
919 Ala Moana Boulevard, Room 212
Honolulu, HI 96814

Dear Mr. Takaba:

SUBJECT: RED HILL TANK COMPLEX
SEPTEMBER 2013 OIL/WATER INTERFACE MEASUREMENTS
DOH FACILITY ID NO. 9-102271
DOH RELEASE ID NO. 99051, 010011 AND 020028

As recommended in the "Red Hill Bulk Fuel Storage Facility Groundwater Protection Plan" of January 2008 (revised December 2009), Environmental Science International took monthly oil/water interface measurements at groundwater monitoring wells RHMW01, RHMW02, RHMW03, and RHMW05 in September 2013. No free product was observed in the wells. A summary of the monthly oil/water interface measurements is being submitted in Enclosure 1.

If there are any questions regarding this matter, or if more information is needed, please contact Ms. Raelynn Kishaba at (808) 471-1171, extension 233.

Sincerely

AARON Y. POENTIS
Director
Regional Environmental Department
By direction of the
Commander

Enclosure: 1. Red Hill Oil/Water Interface Measurements

Copy to: Ms. Joanna Seto, DOH Safe Drinking Water Branch

Attachment A
Red Hill Oil/Water Interface Measurements September 2007 through September 2013

Date	RHMW01			RHMW02			RHMW03			RHMW05		
	Elevation = 102.27 ft.1			Elevation = 104.76 ft.1			Elevation = 121.06 ft.1			Elevation = 101.55 ft.1		
	DTW (TOC)	SWL	LNAPL	DTW (TOC)	SWL	LNAPL	DTW (TOC)	SWL	LNAPL	DTW (TOC)	SWL	LNAPL
Sep-07	NT	NT	NT	86.80	17.96	NP	103.44	17.62	NP	--	--	--
Jan-08	84.67	17.60	<0.01	86.23	18.53	<0.01	NT	NT	NT	--	--	--
Jul-08	83.37	18.90	0	86.10	18.66	0	102.45	18.61	0	--	--	--
Oct-08	83.80	18.47	0	86.45	18.31	0	102.49	18.57	0	--	--	--
Nov-08	83.91	18.36	0	86.56	18.20	0	102.80	18.26	0	--	--	--
Jan-09	83.13	19.14	0	85.79	18.97	0	102.04	19.02	0	--	--	--
Feb-09	NT	NT	NT	86.35	18.41	0	102.56	18.50	0	--	--	--
Mar-09	83.82	18.45	0	86.44	18.32	0	102.64	18.42	0	--	--	--
May-09	83.72	18.55	0	86.37	18.39	0	102.59	18.47	0	NT	NT	NT
May-09	83.50	18.77	0	86.15	18.61	0	102.41	18.65	0	NT	NT	NT
Jul-09	83.75	18.52	0	86.42	18.34	0	102.67	18.39	0	83.09	18.46	0
Aug-09	84.04	18.23	0	86.71	18.05	0	102.84	18.22	0	83.51	18.04	0
Sep-09	84.21	18.06	0	86.84	17.92	0	103.07	17.99	0	83.61	17.94	0
Oct-09	84.24	18.03	0	86.87	17.89	0	103.07	17.99	0	83.62	17.93	0
Nov-09	83.91	18.36	0	86.56	18.20	0	102.81	18.25	0	83.25	18.30	0
Dec-09	84.12	18.15	0	86.75	18.01	0	103.00	18.06	0	83.53	18.02	0
Jan-10	84.36	17.91	0	87.00	17.76	0	103.22	17.84	0	83.75	17.80	0
Feb-10	84.24	18.03	0	86.89	17.87	0	103.14	17.92	0	83.60	17.95	0
Mar-10	84.53	17.74	0	87.15	17.61	0	103.38	17.68	0	83.96	17.59	0
Apr-10	84.75	17.52	0	87.37	17.39	0	103.60	17.46	0	84.17	17.38	0
May-10	84.80	17.47	0	87.43	17.33	0	103.66	17.40	0	84.23	17.32	0
Jun-10	84.87	17.40	0	87.51	17.25	0	103.74	17.32	0	84.30	17.25	0
Jul-10	85.03	17.24	0	87.66	17.10	0	103.89	17.17	0	84.48	17.07	0
Sep-10	85.30	16.97	0	87.92	16.84	0	104.13	16.93	0	84.71	16.84	0
Oct-10	85.29	16.98	0	87.91	16.85	0	104.13	16.93	0	84.75	16.80	0
Nov-10	85.20	17.07	0	87.84	16.92	0	104.30	16.76	0	84.60	16.95	0
Dec-10	84.87	17.40	0	87.55	17.21	0	103.98	17.08	0	84.22	17.33	0
Jan-11	85.32	16.95	0	86.91	17.85	0	103.41	17.65	0	83.65	17.90	0
Feb-11	83.82	18.45	0	86.48	18.28	0	103.02	18.04	0	83.20	18.35	0
Mar-11	83.77	18.50	0	86.39	18.37	0	102.87	18.19	0	83.20	18.35	0
Apr-11	83.54	18.73	0	86.18	18.58	0	102.39	18.67	0	82.90	18.65	0
May-11	83.39	18.88	0	86.05	18.71	0	102.69	18.37	0	82.72	18.83	0
Jun-11	83.41	18.86	0	86.11	18.65	0	102.33	18.73	0	82.81	18.74	0
Jul-11	83.57	18.70	0	86.22	18.54	0	102.44	18.62	0	82.99	18.56	0
Aug-11	83.81	18.46	0	86.42	18.34	0	102.66	18.40	0	83.21	18.34	0
Sep-11	83.81	18.46	0	86.44	18.32	0	102.69	18.37	0	83.21	18.34	0
Oct-11	83.71	18.56	0	86.38	18.38	0	102.90	18.16	0	83.15	18.40	0
Nov-11	83.60	18.67	0	86.25	18.51	0	102.47	18.59	0	83.00	18.55	0
Dec-11	83.49	18.78	0	86.10	18.66	0	102.36	18.70	0	82.85	18.70	0
Jan-12	83.57	18.70	0	86.18	18.58	0	102.56	18.50	0	82.90	18.65	0
Feb-12	83.80	18.47	0	86.41	18.35	0	102.71	18.35	0	83.20	18.35	0
Mar-12	83.41	18.86	0	86.51	18.25	0	102.45	18.61	0	82.79	18.76	0
Apr-12	83.60	18.67	0	86.34	18.42	0	102.71	18.35	0	83.17	18.38	0
May-12	84.09	18.18	0	86.71	18.05	0	102.98	18.08	0	83.53	18.02	0
Jun-12	84.34	17.93	0	86.95	17.81	0	103.17	17.89	0	83.97	17.58	0
Jul-12	84.20	18.07	0	86.64	18.12	0	102.89	18.17	0	83.41	18.14	0
Aug-12	84.19	18.08	0	86.81	17.95	0	103.30	17.76	0	83.62	17.93	0
Oct-12	84.19	18.08	0	86.81	17.95	0	103.50	17.56	0	83.72	17.83	0
Nov-12	84.23	18.04	0	86.85	17.91	0	103.10	17.96	0	83.70	17.85	0
Dec-12	84.21	18.06	0	86.87	17.89	0	103.14	17.92	0	83.70	17.85	0
Jan-13	84.05	18.22	0	86.87	17.89	0	103.14	17.92	0	83.70	17.85	0
Feb-13	84.04	18.23	0	86.62	18.14	0	102.87	18.19	0	83.43	18.12	0
Mar-13	83.82	18.45	0	86.48	18.28	0	102.75	18.31	0	83.19	18.36	0
Apr-13	83.84	18.43	0	86.50	18.26	0	102.78	18.28	0	83.41	18.14	0
May-13	84.03	18.24	0	86.69	18.07	0	102.95	18.11	0	83.41	18.14	0
Jun-13	84.22	18.05	0	86.86	17.90	0	103.12	17.94	0	83.66	17.89	0
Jul-13	84.29	17.98	0	86.96	17.80	0	103.23	17.83	0	83.85	17.70	0
Aug-13	84.66	17.61	0	86.28	18.48	0	103.50	17.56	0	84.09	17.46	0
Sep-13	84.57	17.70	0	87.20	17.56	0	103.43	17.63	0	84.00	17.55	0

Notes:

1 - Elevations were updated based on the *Groundwater Flow Direction/Gradient and Tier 3 Risk Assessment Re-evaluation Letter Report, Red Hill Bulk Fuel Storage Facility, Pearl Harbor, Hawaii, Contract #N47408-04-O-8514, Task Order 54, dated April 15, 2010.*

Measurements recorded prior to September 2010 were collected by TEC. Measurements recorded between September 2010 through August 2012 were collected by Environet Inc. Measurements recorded after October 2012 are collected by ESI.

All units in Feet (ft.)

DTW (TOC) - depth to water from top of well casing

LNAPL - light non-aqueous phase liquid attributed to the Red Hill Bulk Fuel Storage Facility

NP - measurement not provided

NT - measurement not taken

SWL - static water level

-- - period prior to the installation of RHMW05

ENCLOSURE (1)