



## DEPARTMENT OF THE NAVY

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

5090  
Ser N45/0589  
July 29, 2016

CERTIFIED NO: 7015 0640 0002 4679 4407

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  
JULY 2016 OIL/WATER INTERFACE MEASUREMENTS  
DOH FACILITY ID NO. 9-102271  
DOH RELEASE ID NO. 990051, 010011, 020028, AND 140010

In response to the January 2014 release from Red Hill Tank 5, oil/water interface measurements were taken at groundwater monitoring wells RHMW01, RHMW02, RHMW03 and RHMW05 on July 20, 2016. No free product was observed in the wells.

A summary of the oil/water interface measurements from January 2014 through July 2016 is being submitted as Enclosure 1.

If there are any questions regarding this matter, or if more information is needed, please contact Mr. Melvin Muraoka at (808) 471-1171, extension 245.

Sincerely,

A handwritten signature in black ink, appearing to read "Aaron Y. Poentis".

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

Enclosure: 1. Red Hill Oil/Water Interface Measurements, January 2014 through July 2016

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Copy to: Ms. Joanna Seto, DOH Safe Drinking Water Branch  
Mr. Bob Pallarino, U.S. EPA Region 9, Underground Storage  
Tank Program Office  
LCDR Andrew Lovgren, NAVSUP FLC Pearl Harbor  
Mr. Rockne Krill, DLA Energy Pacific

Red Hill Oil/Water Interface Measurements January 2014 through July 2016

Date	RHMW01			RHMW02			RHMW03			RHMW05		
	Elevation = 102.27 ft <sup>1</sup>			Elevation = 104.76 ft <sup>1</sup>			Elevation = 121.06 ft <sup>1</sup>			Elevation = 101.55 ft <sup>1</sup>		
	DTW (TOC)	SWL	LNAPL	DTW (TOC)	SWL	LNAPL	DTW (TOC)	SWL	LNAPL	DTW (TOC)	SWL	LNAPL
15-Jan-14	83.94	18.33	0	86.62	18.14	0	NT	NT	NT	NT	NT	NT
16-Jan-14	NT	NT	NT	NT	NT	NT	NT	NT	NT	83.09	18.46	0
22-Jan-14	83.53	18.74	0	86.20	18.56	0	NT	NT	NT	82.87	18.68	0
23-Jan-14	83.58	18.69	0	86.24	18.52	0	NT	NT	NT	82.94	18.61	0
24-Jan-14	83.57	18.70	0	86.23	18.53	0	NT	NT	NT	82.93	18.62	0
27-Jan-14	83.55	18.72	0	86.23	18.53	0	NT	NT	NT	82.93	18.62	0
28-Jan-14	83.56	18.71	0	86.25	18.51	0	102.52	18.54	0	82.94	18.61	0
29-Jan-14	83.56	18.71	0	86.22	18.54	0	NT	NT	NT	82.94	18.61	0
30-Jan-14	83.53	18.74	0	86.21	18.55	0	NT	NT	NT	82.93	18.62	0
31-Jan-14	83.53	18.74	0	86.19	18.57	0	NT	NT	NT	82.88	18.67	0
3-Feb-14	83.54	18.73	0	86.20	18.56	0	NT	NT	NT	82.91	18.64	0
4-Feb-14	83.54	18.73	0	86.20	18.56	0	NT	NT	NT	82.89	18.66	0
10-Feb-14	84.49	17.78	0	86.16	18.60	0	102.47	18.59	0	82.83	18.72	0
24-Feb-14	83.54	18.73	0	86.24	18.52	0	102.47	18.59	0	82.97	18.58	0
4-Mar-14*	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
13-Mar-14*	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
28-Mar-14	83.76	18.51	0	86.42	18.34	0	102.65	18.41	0	83.18	18.37	0
7-Apr-14*	83.42	18.85	0	86.43	18.33	0	NT	NT	NT	83.21	18.34	0
21-Apr-14	83.93	18.34	0	86.58	18.18	0	102.80	18.26	0	83.27	18.28	0
8-May-14*	84.03	18.24	0	86.68	18.08	0	NT	NT	NT	83.46	18.09	0
22-May-14*	83.81	18.46	0	86.47	18.29	0	NT	NT	NT	83.15	18.40	0
27-May-14	83.91	18.36	0	86.60	18.16	0	102.85	18.21	0	83.31	18.24	0
10-Jun-14*	83.93	18.34	0	86.55	18.21	0	NT	NT	NT	83.34	18.21	0
23-Jun-14	84.06	18.21	0	86.72	18.04	0	103.99	17.07	0	83.54	18.01	0
21-Jul-14	84.13	18.14	0	86.80	17.96	0	102.98	18.08	0	83.49	18.06	0
27-Aug-14	84.01	18.26	0	86.65	18.11	0	102.87	18.19	0	83.04	18.51	0
25-Sep-14	84.64	17.63	0	87.27	17.49	0	103.51	17.55	0	84.10	17.45	0
28-Oct-14	83.79	18.48	0	86.51	18.25	0	102.78	18.28	0	83.21	18.34	0
20-Nov-14	83.87	18.40	0	86.56	18.20	0	102.78	18.28	0	83.35	18.20	0
23-Dec-14	83.67	18.60	0	86.37	18.39	0	102.64	18.42	0	83.05	18.50	0
28-Jan-15	83.63	18.64	0	86.35	18.41	0	102.63	18.43	0	83.03	18.52	0
27-Feb-15	83.68	18.59	0	86.28	18.48	0	102.52	18.54	0	83.06	18.49	0
26-Mar-15	83.83	18.44	0	86.04	18.72	0	102.79	18.27	0	83.24	18.31	0
21-Apr-15	84.33	17.94	0	86.97	17.79	0	103.18	17.88	0	83.72	17.83	0
28-May-15	84.29	17.98	0	86.97	17.79	0	103.24	17.82	0	83.95	17.60	0
25-Jun-15	84.58	17.69	0	87.28	17.48	0	103.57	17.49	0	83.75	17.80	0
21-Jul-15	84.58	17.69	0	87.24	17.52	0	103.44	17.62	0	83.76	17.79	0
27-Aug-15	84.44	17.83	0	87.13	17.63	0	103.41	17.65	0	83.69	17.86	0
23-Sep-15	84.26	18.01	0	86.91	17.85	0	103.21	17.85	0	83.63	17.92	0
20-Oct-15	84.00	18.27	0	86.38	18.38	0	103.38	17.68	0	Obstructed	NT	NT
18-Nov-15	84.25	18.02	0	86.93	17.83	0	103.24	17.82	0	84.62 <sup>2</sup>	16.93	0
17-Dec-15	83.76	18.51	0	86.36	18.40	0	102.56	18.50	0	83.18	18.37	0
20-Jan-16	83.31	18.96	0	85.97	18.79	0	102.21	18.85	0	Obstructed	NT	NT
17-Feb-16	83.17	19.10	0	85.81	18.95	0	102.10	18.96	0	Obstructed	NT	NT
15-Mar-16	82.89	19.38	0	85.60	19.16	0	101.82	19.24	0	82.26	19.29	0
20-Apr-16	82.97	19.30	0	85.63	19.13	0	101.91	19.15	0	82.31	19.24	0
23-May-16	83.14	19.13	0	85.81	18.95	0	102.03	19.03	0	82.50	19.05	0
21-Jun-16	83.16	19.11	0	85.77	18.99	0	10.03	111.03	0	82.54	19.01	0
20-Jul-16	83.32	18.95	0	85.99	18.77	0	102.31	18.75	0	82.63	18.92	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 No. N47408-04-D-8514, Task Order 54, dated April 15, 2010.

2 - Dedicated groundwater pump was obstructing the path of the interface meter probe. Depth measured was based on the elevation of water when pump was removed from RHMW05.

Measurements recorded by Environmental Science International from January 2014 to August 2015, unless otherwise noted.

Measurements recorded by Element Environmental, LLC from September 2015.

\* - Measurements recorded by NAVFAC HI.

All units in feet (ft).

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

LNAPL - light non-aqueous phase liquid

NT - measurement not taken

SWL - static water level

ENCLOSURE(1)