



DEPARTMENT OF THE NAVY

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

AUG - 3 2018 *MA*

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Ser N45/0572

August 2, 2018

CERTIFIED NO: 7016 0910 0001 0891 9158

Mr. Richard Takaba
Hawaii State Department of Health
Environmental Management Division
Solid and Hazardous Waste Branch
Underground Storage Tank Section
2827 Waimano Home Road
Pearl City, Hawaii 96872

Dear Mr. Takaba:

SUBJECT: RED HILL TANK COMPLEX
JULY 2018 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 25, 2018. No free product was observed in the wells. No measurements were taken from August 2017 – February 2018 due to transducer installed for synoptic water level study.

A summary of the oil/water interface measurements from January 2014 through July 2018 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) 471-3869.

Sincerely,

CORY K. WAKI
Acting Director
Regional Environmental Department
By direction of the
Commander

Enclosure: 1. Red Hill Oil/Water Interface Measurements, January 2014 through Jun 2018

Copy to: Ms. Joanna Seto, DOH Safe Drinking Water Branch
Mr. Omer Shalev, U.S. EPA Region 9, Underground Storage Tank Program Office
Mr. John Floyd, NAVSUP FLC Pearl Harbor
Mr. Ed Gunthrie, DLA Energy Pacific

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
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 ²	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
23-Aug-16	83.27	19.00	0	85.96	18.80	0	102.20	18.86	0	82.63	18.92	0
21-Sep-16	83.13	19.14	0	85.74	19.02	0	102.06	19.00	0	82.44	19.11	0
19-Oct-16	83.01	19.26	0	85.69	19.07	0	101.95	19.11	0	82.39	19.16	0
17-Nov-16	82.92	19.35	0	85.56	19.20	0	101.82	19.24	0	82.24	19.31	0
20-Dec-16	82.67	19.60	0	85.36	19.40	0	101.61	19.45	0	82.01	19.54	0
31-Jan-17	82.45	19.82	0	85.13	19.63	0	101.46	19.60	0	82.04	19.51	0
22-Feb-17	82.37	19.90	0	85.01	19.75	0	101.31	19.75	0	81.72	19.83	0
24-Mar-17	82.49	19.78	0	85.19	19.57	0	101.45	19.61	0	81.84	19.71	0
20-Apr-17	82.59	19.68	0	85.25	19.51	0	101.5	19.56	0	81.94	19.61	0
26-May-17	82.45	19.82	0	85.13	19.63	0	101.39	19.67	0	81.80	19.75	0
22-Jun-17	82.94	19.33	0	85.59	19.17	0	101.89	16.17	0	82.30	19.25	0
21-Jul-17	83.43	18.84	0	86.5	18.26	0	Transducer Installed	NT	NT	82.81	18.74	0
20-Mar-18	83.56	18.71	0	86.24	18.52	0	102.55	18.51	0	82.89	18.66	0
25-Apr-18	83.47	18.80	0	86.14	18.62	0	102.38	15.68	0	82.86	18.69	0
22-May-18	83.61	18.66	0	86.28	18.47	0	102.56	15.68	0	82.86	18.69	0
20-Jun-18	83.63	18.64	0	86.28	18.47	0	102.57	18.49	0	82.99	18.56	0
25-Jul-18	83.55	18.72	0	86.33	18.43	0	102.58	18.48	0	82.90	18.65	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 the monitoring well (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