



DEPARTMENT OF THE NAVY

COMMANDER  
NAVY REGION HAWAII  
850 TICONDEROGA ST STE 110  
PEARL HARBOR HI 96860-5101

5090 00334  
Ser. N45/  
28 NOV 2005

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

SUBJECT: RED HILL TANK COMPLEX  
THIRD QUARTER 2005 GROUNDWATER SAMPLING REPORT  
FACILITY I.D. NO. 9-102271/RELEASE I.D. NOS. 990051, 010011 AND  
020028

Dear Mr. Takaba:

We are submitting the Third Quarter 2005 Groundwater Sampling Report of the Red Hill Fuel Storage Facility dated November 2005 as required.

Our next groundwater sampling is scheduled for December 2005. The Navy will provide the Fourth Quarter 2005 Groundwater Sampling Report to the Department of Health upon receipt.

If there are any questions regarding this matter, or if more information is needed, please contact Ms. Raelynn Della Sala at (808) 473-4137, extension 229.

Sincerely,

R. M. WAKUMOTO  
Division Head, Compliance  
Regional Environmental Department  
By direction of  
Commander, Navy Region Hawaii

Enclosure: 1. Third Quarter 2005 Groundwater Sampling Red Hill Fuel Storage Facility, Hawaii dated November 2005 prepared by Dawson Group, Inc. Contract Number N62742-01-D-1806, CTO 0013

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Ser N45/ 00012  
13 JAN 2006

Red Hill Tank Inspections have been tentatively scheduled as follows:

FY2005 - Tanks 1, 6, 15 & 16 (Currently on-going)  
FY2006 - Tanks 11, 17, 18 & 20  
FY2007 - Tanks 4 & 5  
FY2008 - Tanks 2, 3 & 19

If there are any questions regarding this matter, or if more information is needed, please contact Ms. Raelynn Della Sala at (808) 473-4137, extension 229. The next quarterly progress report will be provided in April 2006.

Sincerely,



R. M. WAKUMOTO  
Division Head, Compliance  
Regional Environmental Department  
By direction of  
Commander, Navy Region Hawaii

- Enclosures:
1. Accutest Technical Report, Accutest Job Number F32936, Sampling Date 06/28/05 (30 pages)
  2. Accutest Preliminary Data, Accutest Job Number F32936, Sampling Date 06/28/05 (9 pages)
  3. Accutest Preliminary Data, Accutest Job Number F33091, Sampling Date 07/05/05 (13 pages)
  4. Accutest Preliminary Data, Accutest Job Number F33228, Sampling Date 07/12/05 (13 pages)
  5. Accutest Preliminary Data, Accutest Job Number F35042, Sampling Date 09/19/05 (7 pages)
  6. Accutest Technical Report, Accutest Job Number F35058, Sampling Date 09/19/05 (39 pages)
  7. Accutest Technical Report, Accutest Job Number F35102, Sampling Date 09/19/05 (89 pages)
  8. Accutest Preliminary Data, Accutest Job Number F35102, Sampling Date 09/19/05 (7 pages)
  9. Accutest Technical Report, Accutest Job Number F35142, Sampling Date 09/20/05 (319 pages)

there is a multiplicity of extremely small holes or porosities in the welds, and that rate of permeation of the weld, concrete, and rock exists regardless of pressure, and that the varying or constant leak rates at different heads is due to a temporary plugging or opening of some of the holes by sediment in the water or fine rust from the tank steel or by delayed wetting action. This porosity theory would also account for the fact that no oil leaked back into the tank when empty, which would be due to absence of the head required to force oil back through the holes. When the tank is empty there may be practically no oil pressure behind the liner because, due to individual slow leak rates, the oil has then had time to permeate the surrounding structure, thus dividing itself into a number of minute streams which may or may not join after a time. The structure outside of the concrete is a vesicular basalt and probably would, under a slow distributed leakage, absorb a large quantity of oil which it would not release.

(d) Tests on Tank 14

At Tank 14 oil seepages appeared near and on the face of the lateral tunnel under the tank. These were minor and appeared in the cold joints. It was decided to empty this tank and thoroughly inspect the bottom. Some traces of oil were observed under the steel liner, but it was not possible to find a defective weld or to locate the source of any leak. The bottom plate was in good condition. There were some minor pits which it was believed were caused by the corrosive action of salt water which settles out of the oil. A standing water test with the level at the bottom spring gave no indication of leakage.



## DEPARTMENT OF THE NAVY

COMMANDER  
NAVY REGION HAWAII  
850 TICONDEROGA ST STE 110  
PEARL HARBOR HI 96360-5101

5090 00300  
Ser N45/  
12 OCT 2005

Mr. Richard Takaba  
Project Officer  
Solid & Hazardous Waste Branch  
Environmental Management Division  
State of Hawaii Department of Health  
919 Ala Moana Boulevard Room 212  
Honolulu HI 96814

SUBJECT: RED HILL TANK COMPLEX QUARTERLY PROGRESS REPORT  
(OCTOBER 2005) FACILITY I. D. NO. 9-102271/RELEASE I. D.  
NOS. 990051, 010011 AND 020028

Dear Mr. Takaba:

In response to the State of Hawaii Department of Health (DOH) Letter, U08023RT, dated August 12, 2004, Navy Region Hawaii is providing the following quarterly progress report as required.

Groundwater and Drinking Water Sampling

The Second Quarter 2005 Groundwater Sampling Report of the Red Hill Fuel Storage Facility dated August 2005 was provided to the DOH on September 7, 2005.

The Third Quarter 2005 Groundwater Sampling Event for the Red Hill Fuel Storage Facility was conducted on September 8, 2005. The Third Quarter 2005 Groundwater Sampling Report will be provided to the DOH upon receipt by Navy Region Hawaii.

Risk Assessment

No change from previous Quarterly Progress Report (July 2005).

Navy Region Hawaii provided DOH the Final Work Plan and Health and Safety Plan for the Red Hill Bulk Fuel Storage Facility on June 7, 2005.

Tank Inspections

Red Hill Tank Inspections have been tentatively scheduled as follows:

FY2005/2006 - Tanks 1, 6, 15 & 16 (Currently on-going)  
FY2007 - Tanks 11, 17, 18 & 20  
FY2008 - Tanks 4 & 5  
FY2009 - Tanks 2, 3 & 19

LINDA LINGLE  
GOVERNOR OF HAWAII



**COPY** RECEIVED SEP 01 2005

CHIYOME L. FUKINO, M.D.  
DIRECTOR OF HEALTH

STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P. O. BOX 3378  
HONOLULU, HAWAII 96801-3378

In reply, please refer to:  
EMD/SRWB

August 25, 2005

U08045RT

Mr. Darren Uchima  
Navy Region Hawaii  
Regional Environmental Department, N465  
517 Russell Avenue, Suite 110  
Pearl Harbor, Hawaii 96860-1884

Dear Mr. Uchima:

SUBJECT: Red Hill Tank Complex  
Facility ID 9-102271 / Release IDs 990051, 010011 & 020028


The Department of Health (DOH) has reviewed the report, "First Quarter 2005 Groundwater Sampling," dated April 2005, and prepared by NAVFAC Pacific. Please note the document has been placed with the public record.

DOH notes that total dissolved lead was detected at concentrations higher than DOH Tier 1 action levels for drinking water threatened in monitoring well MW-VD1. Analytical results of 12 parts per billion (ppb) were found vs. the DOH action level of 5.6 ppb. All other analyses for BTEX and PAHs were non-detectable or well below DOH Tier 1 action levels. Please continue quarterly groundwater monitoring of the existing monitoring wells in the facilities with progress reports sent to this office every 90 days.

DOH has also received the report titled, "Red Hill Bulk Fuel Storage Facility Work Plan," dated June 2005. The report will be reviewed by a DOH risk assessor for comment.

If you have any questions regarding this letter, please contact Mr. Richard Takaba of our Underground Storage Tank Section at (808) 586-4226.

Sincerely,



STEVEN Y.K. CHANG, P.E., CHIEF  
Solid and Hazardous Waste Branch



## DEPARTMENT OF THE NAVY

COMMANDER  
NAVY REGION HAWAII  
850 TICONDEROGA ST STE 110  
PEARL HARBOR HI 96880-5101

5090 00199  
SER N45/  
12 JUL 2005

Mr. Richard Takaba  
Project Officer  
Solid & Hazardous Waste Branch  
Environmental Management Division  
Hawaii Department of Health  
919 Ala Moana Boulevard Room 212  
Honolulu HI 96814

SUBJECT: RED HILL TANK COMPLEX QUARTERLY PROGRESS REPORT  
(JULY 2005) FACILITY I.D. NO. 9-102271/RELEASE I.D.  
NOS. 990051, 010011 AND 020028

Dear Mr. Takaba:

In response to the State of Hawaii Department of Health (DOH) Letter, 008023RT, dated August 12, 2004, Navy Region Hawaii is providing the following quarterly progress report as required.

Groundwater and Drinking Water Sampling

The First Quarter 2005 Groundwater Sampling Report of the Red Hill Fuel Storage Facility taken February 17, 2005, was provided to Department of Health on June 1, 2005.

The Second Quarter 2005 Groundwater Sampling Event for the Red Hill Fuel Storage Facility was conducted on June 28, 2005. The Second Quarter 2005 Groundwater Sampling Report will be provided to the DOH upon receipt by Navy Region Hawaii.

Risk Assessment

Navy Region Hawaii provided DOH the Final Work Plan and Health and Safety Plan for the Red Hill Bulk Fuel Storage Facility on June 7, 2005.

Tank Inspections

Red Hill Tank Inspections have been tentatively scheduled as follows:

FY2005 - Tanks 1, 6, 15 & 16 (Currently on-going)  
FY2006 - Tanks 11, 17, 18 & 20  
FY2007 - Tanks 4 & 5  
FY2008 - Tanks 2, 3 & 19

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13 APR 2005

fuel tank facility. The contractor will measure groundwater gradient in the area beneath the tank farm to better evaluate the direction of groundwater flux through the area.

The Navy and contractor has also agreed to install a groundwater monitoring well upgradient of the Red Hill Facility to establish background conditions, calibration point for the groundwater model, and to meet the requirements of the Monitored Attenuation Policy of the State of Hawaii DOM and the EPA.

The contractor will conduct pilot of soil vapor monitoring to evaluate presence of volatile organic compounds in the basalt flows under the USTs. Evaluate potential to use the soil vapor monitoring system as temporal monitoring devices to assist in detecting releases from the USTs.

The contractor will develop a GIS three dimensional spatial database incorporating data from existing data (drawings, logs, etc.), and drilling activities.

#### Tank Inspections

Red Hill Tanks have been tentatively scheduled as follows:

FY2005 - Tanks 1, 6, 15 & 16 (Currently on-going)  
FY2006 - Tanks 11, 17, 18 & 20  
FY2007 - Tanks 4 & 5  
FY2008 - Tanks 2, 3 & 19

If there are any questions regarding this matter, or if more information is needed, please contact Mr. Darren Uchima at (808) 471-1171, extension 217. The next quarterly progress report will be provided in July 2005.

Sincerely,



R. M. WAKUMOTO  
Director  
Regional Environmental Department  
By direction of  
Commander, Navy Region Hawaii

5090  
Ser N465/

00013

13 JAN 2005

We will be using a FeFlow model to simulate contaminant transport of light non-aqueous phase liquid and contaminants of concern. The FeFlow model for Red Hill will be developed by the same contractor who just completed the development of the groundwater model of Oahu for the Honolulu Board of Water Supply to evaluate saltwater intrusion of the Oahu basal aquifer.

Tank Inspections

Red Hill Tanks have been tentatively scheduled as follows:

FY2004 - Tanks 1 & 15 (Currently on-going)  
FY2005 - Tanks 17 & 18  
FY2006 - Tanks 11 & 20  
FY2007 - Tanks 4 & 5  
FY2008 - Tanks 2, 3 & 19

If there are any questions regarding this matter, or if more information is needed, please contact Mr. Darren Uchima at (808) 471-1171, extension 217. The next quarterly progress report will be provided in April 2005.

Sincerely,



R. M. WAKUMOTO  
Director  
Regional Environmental Department  
By direction of  
Commander, Navy Region Hawaii

Enclosure: 1. Draft Work Plan and Field Sampling Plan for Groundwater Sampling at the Red Hill Fuel Storage Facility, Hawaii dated December 2004



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08 OCT 2004

The contractor has begun his project management activities. Will be scheduling a meeting in Hawaii to discuss plan of action with various point of contacts in early November 2004. A meeting with Hawaii Department of Health risk assessment personnel will be scheduled by the end of November 2004. Risk Assessment activities are scheduled to commence by the end of January 2005.

#### Tank Inspections

Red Hill Tanks have been tentatively scheduled as follows:

FY2004 - Tanks 1 & 15 (Currently on-going)  
FY2005 - Tanks 17 & 18  
FY2006 - Tanks 11 & 20  
FY2007 - Tanks 4 & 5  
FY2008 - Tanks 2, 3 & 19

If there are any questions regarding this matter, or if more information is needed, please contact Mr. Darren Uchima at (808) 471-1171, extension 217. The next quarterly progress report will be provided in January 2005.

Sincerely,



R. M. WAKUMOTO

Director

Regional Environmental Department

By direction of

Commander, Navy Region Hawaii



## DEPARTMENT OF THE NAVY

COMMANDER  
NAVY REGION HAWAII  
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5090 00520  
Ser N469/  
08 OCT 2004

CERTIFIED MAIL NO. 7002 3150 0003 9288 5751

Mr. Richard Takaba  
Project Officer  
Solid & Hazardous Waste Branch  
Hawaii Department of Health  
919 Ala Moana Boulevard Room 212  
Honolulu HI 96814

SUBJECT: RED HILL TANK COMPLEX QUARTERLY PROGRESS REPORT  
(OCTOBER 2004) FACILITY I.D. NO. 9-102271/RELEASE I. D.  
NOS. 220051, 010011 AND 020028

Dear Mr. Takaba:

In response to the State of Hawaii Department of Health Letter, U08023PT, dated August 12, 2004, we are providing the following quarterly progress report as required.

Groundwater and Drinking Water Sampling

The Groundwater and Drinking Water Sampling contract was awarded on June 9, 2004. The scope of work includes the following:

1. Preparation of a sampling protocol for collecting samples from the vertical monitoring well (MW-V1D) and from the stilling basin at the PWC potable water infiltration tunnel at Red Hill.
2. Collecting of samples in accordance with the sampling protocol from the vertical monitoring well (MW-V1D) and the stilling basin at the PWC potable water infiltration tunnel at Red Hill. The samples will be analyzed for TPH-d and TPH-g (EPA 8015B); total lead (EPA 6020); BTXE, MTBE and 1, 2-Dichloroethane (EPA 5030B/6260B); PAHs (EPA 8270C); Ethylene Dibromide (EPA 8011). Fluoranthene will be sampled as part of PAHs. The contract covers 4 sampling events at 3 month intervals.

The draft health and safety plan and work plan is tentatively scheduled to be submitted to the Navy by the end of October 2004. Upon receipt of the draft plans, the Navy will forward to the State of Hawaii Department of Health Solid and Hazardous Waste Branch for review and comment as recommended.

Drinking water sampling and analyses for specific petroleum contaminants performed at a higher frequency than once every three years is currently being discussed with Public Works Center.



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P. O. BOX 3378  
HONOLULU, HAWAII 96801-3378

In reply, please refer to:  
EMDYSHWB

August 12, 2004

U08023RT

Mr. Darren Uchima  
Navy Region Hawaii  
Regional Environmental Department, N465  
517 Russell Avenue, Suite 110  
Pearl Harbor, Hawaii 96860-1884

Dear Mr. Uchima:

SUBJECT: Red Hill Tank Complex  
Facility ID 9-102271 / Release IDs 990051, 010011, 020028

The Department of Health (DOH) has reviewed the following reports:

1. *Statement of Work – Long Term Monitoring/Remedial Action*, dated April 29, 2004, and prepared by Navy Region Hawaii;
2. *Statement of Work for A-E Services for Planning Documents and Related Technical Services*, dated May 4, 2004, and prepared Navy Region Hawaii;
3. Email update from Darren Uchima dated May 6, 2004;
4. Letter report dated July 8, 2004, and prepared by Navy Region Hawaii.

Regarding the *Statement of Work* dated April 29, 2004, DOH requests that fluoranthene be added to the list of chemical analyses to be performed on quarterly groundwater samples obtained from the facility.

Regarding the *Statement of Work* dated May 4, 2004, DOH has no objections. DOH notes that PACDIV is preparing a scope of work to conduct the comprehensive risk assessment for the Red Hill Tank Complex. As the comprehensive risk assessment is critical to our understanding of site conditions and contamination found at your facility, please complete it as soon as possible.

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Ser N465/  
08 JUL 2004 00360

On May 6, 2004, the Navy sent an e-mail to the DOH to provide an update of events with respect to the DOH letter dated October 10, 2003.

On June 2, 2004, the Navy provided DOH scale drawings of the Red Hill Tank Complex piping as requested in your letter dated October 10, 2003.

On June 4, 2004, the Navy e-mailed the scope of work of the risk assessment for the Red Hill Tank Complex to DOH as requested.

On June 8, 2004, the Navy awarded a contract to Dawson Group Inc. to prepare sampling protocols and to collect samples from the vertical monitoring well (MW-V1D) and from the stilling basin at the PWC potable water infiltration tunnel at Red Hill.

On June 24, 2004, DOH response letter U06010RT required the Navy to provide quarterly progress reports beginning in July 2004.

On June 25, 2004, DOH commented on the scope of work of the risk assessment by e-mail.

The next quarterly progress report will be provided to the DOH in October 2004.

In response to your request for information of documentation requested in your letter of October 10, 2003, we have the following information to provide.

- Item 1. The Navy is in process of awarding a contract to have a consultant prepare a risk assessment. Proposals are due July 26, 2004.
- Item 2. Scale drawings identifying the precise location and distance of the groundwater extraction points to the tanks and the piping of the Red Hill Tank Complex were transmitted to the DOH on June 3, 2004. These drawings are for "Official Use Only".
- Item 3. On June 9, 2004, The Navy awarded a contract to (1) have a contractor prepare a sampling protocol for collecting samples from the vertical monitoring well (MW-V1D) and from the stilling basin at the PWC potable water infiltration tunnel at Red Hill and (2) collect samples in accordance with the sampling protocols from the vertical monitoring well and the stilling basin. The samples will be analyzed for TPH-d and TPH-g (EPA 8015B); total lead (EPA 6020); BTXE, MtBE and 1, 2-Dichloroethane (EPA 5030B/8260B); PAHs (EPA 8270C); Ethylene Dibromide (EPA 8011). The contractor will prepare



DEPARTMENT OF THE NAVY

COMMANDER  
NAVY REGION HAWAII  
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5090 00360  
Ser N465/  
08 JUL 2004

CERTIFIED MAIL NO. 7001 2510 0007 4418 7856

Mr. Richard Takaba  
Project Officer  
Solid and Hazardous Waste Branch  
Hawaii Department of Health  
919 Ala Moana Boulevard Room 212  
Honolulu HI 96814

SUBJECT: RED HILL TANK COMPLEX  
FACILITY I.D. NO. 9-102271/RELEASE I.D. NOS. 990051,  
010011 AND 020028

Dear Mr. Takaba:

In response to the State of Hawaii Department of Health Letter, U06010RT, we received on June 24, 2004, we are providing the following information as requested.

The first confirmed underground storage tank (UST) release for the Red Hill facility was reported on October 28, 1998. From October 1998 through November 2002, the Navy was in process of securing funds, preparing the scope of work, awarding a contract for site investigation, and finalizing the site investigation report. While no actual response actions had started, the Navy had verbal communications with the DOH. In response to Hawaii Administrative Rules (HAR) section 11-281-80.1, the Navy will be providing the DOH formal quarterly progress reports beginning with this report.

The following items of work have been documented.

In March 1998, the Navy authorized AMEC Earth and Environmental Inc. (AMEC) to proceed with engineering services. The site characterization was conducted in two phases: Phase I - Research Activities and Phase II - Investigation Activities.

In April 1998 AMEC conducted the research activities which included site reconnaissance and data gathering activities.

From October through November 1998 the first of two tasks of the Phase II portion was conducted. This included a limited investigation of two of the twenty tanks.

SECTION VI--APPENDIX

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1. Copies of Letters	
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Mr. Darren Uchima  
June 10, 2004  
Page 3

DOH appreciates your prompt attention to this request for information. If you have any questions regarding this letter, please contact Mr. Richard Takaba of our Underground Storage Tank Section at (808) 586-4226.

Sincerely,

  
STEVEN Y.K. CHANG, P.E., CHIEF  
Solid and Hazardous Waste Branch

Enclosure

c: Matt Small, U.S. EPA Region 9  
Barbara Brooks, Hazard Evaluation and Emergency Response Office  
Clarence Callahan, Hazard Evaluation and Emergency Response Office  
William Wong, Safe Drinking Water Branch



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P. O. BOX 3378  
HONOLULU, HAWAII 96807-3378

June 10, 2004

U06010RT

**CERTIFIED MAIL NO. 7002 2410 0003 0561 1622  
RETURN RECEIPT REQUESTED**

**NOTICE OF VIOLATION  
REQUEST FOR INFORMATION**

Mr. Darren Uchima  
Navy Region Hawaii  
Regional Environmental Department, N465  
517 Russell Avenue, Suite 110  
Pearl Harbor, Hawaii 96860-1884

Dear Mr. Uchima:

**SUBJECT:** Red Hill Tank Complex  
Facility ID 9-102271 / Release IDs 990051, 010011 & 020028

During the telephone conference between representatives of the Department of Health (DOH) and the Navy on December 11, 2003, a number of issues were discussed, including the documentation requested in DOH's letter of October 10, 2003. To date, DOH has not received the requested documentation from the Navy, or the required quarterly progress reports.

The first confirmed underground storage tank (UST) release for the Red Hill facility was reported on October 28, 1998. Since that time, two additional confirmed releases have been reported and logged. Under the UST laws, the Navy should have submitted twenty-one (21) quarterly progress reports. DOH has received none.

Hawaii Administrative Rules (HAR) section 11-281-80.1 requires owners and operators to submit quarterly progress reports that set forth all response actions taken in response to the release and a plan for future response actions. Failure to submit the reports is considered a violation of the UST laws and could lead to the assessment of penalties by DOH pursuant to Hawaii Revised Statutes (HRS) sections 11-281-8 and 11-281-10. In light of the Navy's failure to submit the progress reports, DOH is requesting that the Navy submit the progress reports pursuant to the authority of Hawaii Revised Statutes (HRS) section 342L-7(a) which provides:

For the purpose of developing or assisting in the development of any rule, conducting any study, taking any release response action, or enforcing this chapter, any owner or operator of an underground storage tank or tank system,





STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P. O. BOX 3378  
HONOLULU, HAWAII 96801-3378

In reply, please refer to:  
EMD/S-WB

October 10, 2003

U10018RT

Mr. Darren Uchima  
Navy Region Hawaii  
Regional Environmental Department, N465  
517 Russell Avenue, Suite 110  
Pearl Harbor, Hawaii 96860-1884

Dear Mr. Uchima:

SUBJECT: Red Hill Tank Complex  
Facility ID No. 9-102271 / Release ID Nos. 990051, 010011 and 020028

The Department of Health (DOH) would like to thank you for the presentation and tour of the Red Hill Tank Complex on August 12, 2003. As stated in our letter of July 21, 2003, a comprehensive Tier III Risk Assessment is requested for the Red Hill Tank Complex in accordance with 5.4.4 of our *Technical Guidance Manual for Underground Storage Tank Closure and Release Response, 2<sup>nd</sup> Edition (TGM)*, and Appendix 5-H of the TGM, *Format for a Risk Assessment Report*. We recommend that your consultant contact toxicologist Barbara Brooks or ecological risk assessor Clarence Callahan of DOH's Hazard Evaluation and Emergency Response Office to ensure that your Tier III Risk Assessment is prepared according to DOH standards.

Due to the uncertainties regarding petroleum releases from the facility, the following is also strongly recommended:

1. Comprehensive site conceptual model, including a fate and transport model for contamination from the facility, flow modelling to receptors, and contingency plan to protect the Navy's Halawa Adit No. 3 Drinking Water Pumping Station.
2. As stated in our letter of July 21, 2003, scale maps and figures identifying the precise location and distance of the groundwater extraction points to the tanks and piping of the Red Hill Tank Complex are required in your next quarterly progress report. Your e-mail message sent on July 7, 2003 stated that Figure 1-2 of the submitted *Red Hill Bulk Fuel Storage Facility Investigation Report, Volume I of III*, would satisfy this request. Unfortunately, Figure 1-2 does not indicate the location or presence of piping connected to the 20 underground storage tanks (USTs) of the Red Hill Tank Complex in relation to the groundwater extraction points, or the Red Hill Adit No. 3 Water Pumping Station, or the pipelines which connect the facility to Pearl Harbor, Hickam Air Force Base, the former Barbers Point Naval Air Station,



STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P. O. BOX 3378  
HONOLULU, HAWAII 96801-3378

In reply, please refer to:  
EMD/SHWB

July 21, 2003

U07026RT

Mr. Darren Uchima  
Navy Region Hawaii  
Regional Environmental Department, N465  
517 Russell Avenue, Suite 110  
Pearl Harbor, Hawaii 96860-1884

Dear Mr. Uchima:

SUBJECT: Red Hill Tank Complex  
Facility ID No. 9-102271 / Release ID Nos. 990051, 010011 & 020028

The Department of Health (DOH) has reviewed the following documents:

1. Your e-mail correspondence dated July 7, 2003;
2. "Safe Drinking Water Branch Chain of Custody & Inorganic Chemicals Report," for Red Hill Adit No. 3 Water Pumping Station dated November 21, 2002;
3. "Navy Public Works Center Environmental Laboratory," documentation for water sampling at Red Hill Adit No. 3 Water Pumping Station dated July 26, 2002;
4. "Navy Public Works Center Environmental Laboratory," documentation for water sampling at Red Hill Adit No. 3 Water Pumping Station dated August 9, 2001; and
5. "Safe Drinking Water Branch Chain of Custody & Synthetic Organic Chemicals Report," for Red Hill Adit No. 3 Water Pumping Station dated May 17, 2001.

These documents were received on July 7, 2003. Please note that the documents now reside with the public record for the subject facility.

DOH's letter to you dated April 4, 2003 requested scale maps and figures identifying the precise location and distance of the groundwater extraction points to the tanks and piping of the Red Hill Tank Complex. The e-mail message sent on July 7, 2003 stated

The reports were received on November 26, 2002. Please note that the aforementioned documents now reside with the public record for the subject facility.

Thank you for visiting with DOH on February 5, 2003 to discuss the confirmed underground storage tank releases of the United States Navy in the State of Hawaii. DOH requests clarification on the following issues:

1. Statement found in Section 2.10, page 2-6 of Volume I, Part 1:  
"Until recently, ground-water quality on the islands of Hawaii has been of high quality. Realizing the importance of fresh potable drinking water, Hawaii has effectively used land management practices as a safeguard to protect ground-water quality."

Please provide an explanation for the stated, "until recently," with references and actual dates.

2. Statement found in Section 2.11, page 2-7 of Volume I, Part 1:  
"The closest known ground water extraction point intersecting the basal aquifer is located in the Red Hill water supply tunnel in Adit #3. Approximately 8 to 12 mgd are withdrawn from this location and account for 10% of Honolulu's water supply (USGS, 1991)."

Please provide scale maps and figures identifying the precise location and distance of the ground water extraction point to the tanks and piping of the Red Hill Tank Complex.

3. Statement found in Section 2.11, page 2-7 of Volume I, Part 1:  
"The basal aquifer is tapped as a source of drinking water by the Navy PWC and supplies the drinking water for the Pearl Harbor Naval Complex. The pumping station is located within the lower tunnel system and approximately 0.5 miles to the west of the bulk fuel storage tanks. Regular testing of the basal aquifer is conducted through the PWC pump station by the PWC and by the Hawaii Department of Health (DOH) to ensure that the water is maintained within drinking water standards."

Please provide scale maps and figures identifying the precise location and distance of the pumping station to the tanks and piping of the Red Hill Tank Complex. In addition, please provide analytical data on all groundwater monitoring conducted at the pump station by PWC and DOH during 2001 and 2002, including dates, staff performing the sampling, laboratory, analytical method, detection limits, and reported results.

4. The reports state that a monitoring well was installed within the Red Hill Tank Complex which penetrated the drinking water aquifer. Please provide scale maps and figures identifying the precise location and distance of this groundwater



DEPARTMENT OF THE NAVY

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IN REPLY REFER TO:  
5090  
Ser N465/ 0033D

26 NOV 2002

CERTIFIED MAIL NO. 7001 1940 0006 1626 4357

Mr. Steven Y. K. Chang, P. E., Chief  
Solid and Hazardous Waste Branch  
State of Hawaii  
Department of Health  
P. O. Box 3378  
Honolulu HI 96801

SUBJECT: RED HILL TANK COMPLEX FACILITY ID NOS.: 9-100994, 9-102257,  
9-102259, 9-102260, 9-102261, 9-102262, 9-102263, 9-102264,  
9-102265, 9-102266, 9-102267, 9-102268, 9-102269, 9-102270,  
9-102271, 9-102272, 9-102273, 9-102274, 9-102275,  
9-102978/RELEASE ID NOS. 990051, 010011, 020028

Dear Mr. Chang:

In response to your letter, U09003RT of September 5, 2002, the Final Report of the Red Hill Bulk Fuel Storage Facility Investigation is being provided as enclosures 1 through 3 for your concurrence.

We apologize for not providing the final report within 30 days, but additional time was required by our customer (DESC-PAC) to allow their Headquarters to review and comment on the final document submittal. DESC-PAC and the Naval Petroleum Office concurs with the recommendation in the report to conduct a risk assessment in conjunction with fate and transport modeling. The next phase of work will not be scoped until the State Department of Health comments are received/reviewed by DESC. The next phase of work is currently planned for execution in FY04.

If you should have any questions, please contact Mr. Darren Uchima of our Regional Environmental Department at 471-1171 extension 217.

Sincerely,

M. T. WOLFERSBERGER  
Lieutenant, CEC, U. S. Navy  
Director  
Regional Environmental Department  
By direction of  
Commander, Navy Region Hawaii

- Enclosures: 1. Red Hill Bulk Fuel Storage Facility Investigation Report (Final) of August 2002 Volume I of III.  
2. Red Hill Bulk Fuel Storage Facility Investigation Report (Final) of August 2002 Volume II of III.  
3. Red Hill Bulk Fuel Storage Facility Investigation Report (Final) of August 2002 Volume III of III.



DEPARTMENT OF THE NAVY

COMMANDER  
NAVY REGION HAWAII  
517 RUSSELL AVENUE, SUITE 110  
PEARL HARBOR, HAWAII 96860-4884

IN REPLY REFER TO:

5090  
Ser N465/ 00222

17 JUL 2002

CERTIFIED MAIL NO. 7001 1940 0006 1626 3077

Hawaii State Department of Health  
Environmental Management Division  
Solid and Hazardous Waste Branch  
Underground Storage Tank Section  
919 Ala Moana Boulevard Suite 212  
Honolulu HI 96814

SUBJECT: CONFIRMED RELEASE NOTIFICATION FOR RELEASE AT RED HILL TANK  
COMPLEX, FLEET AND INDUSTRIAL SUPPLY CENTER (FISC) PEARL  
HARBOR

Gentlemen:

In accordance with Subchapter 7, Chapter 281, Title 11 of the Hawaii Administrative Rules, and as discussed during the meeting at the State of Hawaii DOH on July 2, 2002, enclosure (1) is submitted. The suspected releases were discovered during a preliminary site investigation of the Red Hill Tank Complex. The final report should be completed shortly, and will be forwarded to your office as soon as it is available. We are submitting a single Confirmed Release Notification form for the entire Red Hill Tank Complex, even though previous notifications were made for suspected releases at tanks 6 and 16. This is because any response or remedial actions from now on will likely be directed at the Complex as a whole instead of at individual tanks. We will notify your office of follow on actions at a later date.

If there are any questions regarding this matter, please contact Mr. John T. Muraoka at (808) 471-1171, extension 214.

Sincerely,

R. M. WAKUMOTO  
Director (Acting)  
Regional Environmental Department  
By direction of  
Commander, Navy Region Hawaii

Enclosure: 1. State of Hawaii Confirmed Release Notification Form for  
Red Hill Tank Complex, FISC Pearl Harbor

Copy to: Commanding Officer, Fleet Industrial Supply Center, Pearl  
Harbor (Code 700)

Mr. John Muraoka  
December 7, 2000  
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4. **Quarterly Release Response Report** - If release response has not been completed within 90 days of identifying the release, submit this report within 180 days of the release date and every 90 days thereafter until release response actions have been completed (HAR, 11-281-80.1).

Please initiate release response activities as soon as practicable and please note that we do not require prior approval of plans for response activities at UST release sites. Therefore, you may be relying heavily on the recommendations of your environmental consultant.

Selection of a qualified consultant is of great importance. The consultant you select should be capable of performing all necessary environmental services and providing all necessary reports and documentation to demonstrate compliance with the UST release response requirements and all other environmental laws applicable to the response activities at your facility.

We appreciate your cooperation and prompt attention to this matter. Please include your UST Facility ID number and Release ID number on all future correspondence regarding this release. If you have any questions regarding this letter, please contact me at the Underground Storage Tank Section, (808) 586-4226.

Sincerely,



RICHARD TAKABA  
Environmental Health Specialist  
Underground Storage Tank Section  
Solid and Hazardous Waste Branch