DEPARTMENT OF THE NAVY
PACIFIC DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
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DEPARTMENT OF HEALTH
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13 MAY 2004

Dr. Keith Kawaoka
Hazard Evaluation and Emergency
Response Office
State of Hawaii, Department of Health
919 Ala Moana Blvd., 2nd Floor
Honolulu, HI 96814

Dear Dr. Kawaoka:

SUBJ: REQUEST NO FURTHER ACTION DETERMINATION FOR THE RED HILL OILY WASTE DISPOSAL FACILITY

Our letter of April 13, 2004 requested your concurrence with a No Further Action (NFA) determination for unrestricted use at the Red Hill Former Oily Waste Disposal Facility (OWDF) site. However, Mr. Michael Miyasaka of your staff indicated that neither of the tables enclosed with our letter included information specifically pertinent to the Removal Action performed for the Stilling Basin at the OWDF site and that information must be included for an unrestricted use NFA determination in accordance with the requirements of Hawaii Administrative Rules (HAR), Chapter 11-451: Hawaii State Contingency Plan (SCP) (DOH 1997) and the Technical Guidance Manual (TGM) (DOH 2000).

The attached Table 1 has been revised to include information on the Stilling Basin Removal Action. The Site-Specific Response column includes the Total Petroleum Hydrocarbon (TPH) cleanup goal of 100 mg/kg for the Stilling Basin soil Removal Action. A large majority of the TPH confirmation soil samples collected after the Removal Action were below 100 mg/kg. All samples were below the 5,000 mg/kg TPH DOH Tier I Action Level as required by the SCP.

Table 2, which addresses TGM Section 9 criteria for closure of sites impacted by petroleum hydrocarbons, and describe the site conditions that justify closure with respect to each criterion, is unchanged. As indicated in Tables 1 and 2, the combined investigation results demonstrate that the SCP and TGM closure criteria have been met. Therefore, the Navy requests that the DOH concur on a NFA determination for unrestricted use at the Red Hill Former OWDF site in accordance with the requirements of HAR, Chapter 11-451: SCP and the TGM.

Should you have any questions regarding this letter, please contact Mr. Wesley Ching of our Environmental Restoration Division at (808) 472-1422.

Sincerely,

107878

LEIGHTON G. M. WONG
Head
Environmental Engineering Department

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Encl:
(1) Site Map
(2) Table 1 – State Contingency Plan Criteria
(3) Table 2 – Technical Guidance Manual Criteria

Copy to:
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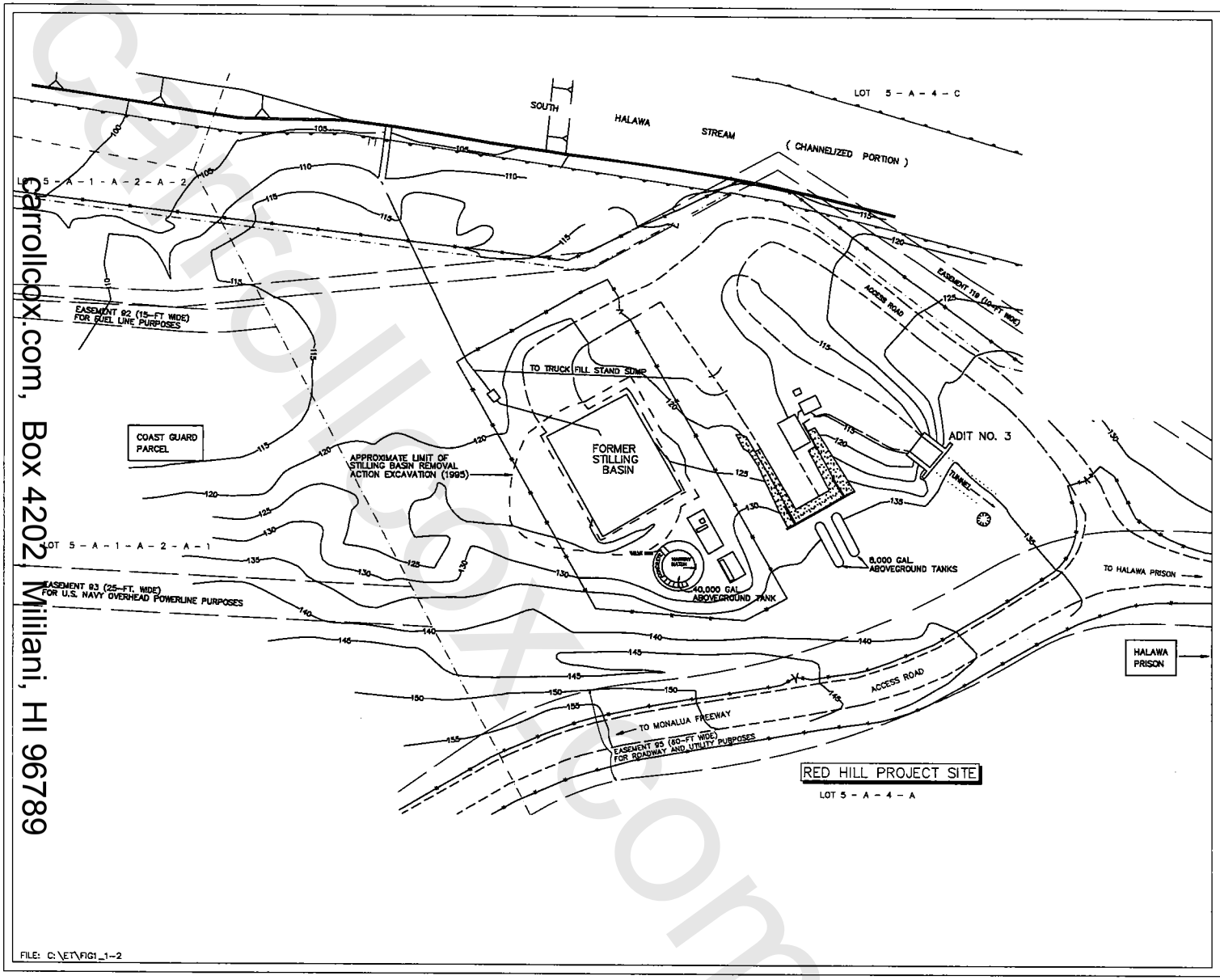

LEGEND

- PROPERTY LINE
- UTILITY EASEMENT
- CHAIN LINK FENCE
- NO ACCESS BOUNDARY
- 135 ELEVATION CONTOUR (FEET,MSL)

NOTES

SOURCES

TOPOGRAPHIC SURVEY MAP, RED HILL OILY WASTE DISPOSAL PIT PROJECT, AT HALAWA, OAHU, HAWAII
BY PARK ENGINEERING, HAWAII: DATED MARCH 6 1992

TITLE

SITE MAP
RED HILL OILY WASTE DISPOSAL FACILITY

FEET 0 25 50
SCALE 1"=50' (APPROXIMATE)

EARTHTECH

FIGURE 1.1-2

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ENCLOSURES (1)

Table 1. Hawaii State Contingency Plan Criteria for Site Closure and Site-Specific Responses, Red Hill Former OWDF

Criterion	Description	Site-specific Response
11-450-10(a) Criteria for No Further Action	"A facility… shall no longer be subject to response actions… when the department determines that no further response action appears appropriate based on all of the information that may then be reasonably obtained. In making such a determination, the department shall consider [a]ny appropriate information to determine whether the facility does not meet any of the minimum threshold criteria contained in 11-450-9(b)(2) [see below] and therefore, taking appropriate response action is not appropriate; or if response actions taken have been sufficient to address the release or threat of release in accordance with the requirements of these rules."	The TPH (gasoline or diesel) cleanup goal specified for the Stilling Basin soil Removal Action was conservatively set at 100 mg/kg (OHM 1995). This cleanup goal was not based upon technical criteria such as potential risks to receptors or possible leaching to groundwater; these levels are significantly greater than this goal. Fifty-three confirmation soil samples were collected after excavation of soil from the Stilling Basin (OHM 1995). TPH concentrations above the 100 mg/kg cleanup goal were detected in only 12 of the confirmation soil samples. The maximum TPH concentration detected among the confirmation samples (4,200 mg/kg) is below the 5,000 mg/kg DOH Tier I Action Level required by the State of Hawaii in the State Contingency Plan. The combined findings of the Removal Action (OHM 1995), both RI phases (Ogden 1996, Earth Tech 2000), and the TPH characterization investigation (Earth Tech 2002) indicate that the remaining chemicals (petroleum hydrocarbons) at the site are limited in both concentration and extent, and that additional response action is therefore not warranted.
11-450-9(2)(b) Minimum Hazard Threshold Criteria	A. Actual or probable release to groundwater which is a drinking water supply	Hydrogeologic conditions prevent site constituents from reaching the deep basal (potable) aquifer that underlies the site. Hydrogeologic data presented in the Phase I and Phase II RI reports indicate that the petroleum hydrocarbons detected in the (non-potable) on-site perched groundwater cannot migrate vertically downward through the three low-permeability confining formations that overlie the basal aquifer (Ogden 1996, Earth Tech 1999). No TPH or PAHs were detected in any of the basal groundwater samples collected during Phase II groundwater sampling (Earth Tech 1999).
	B. Actual or probable release to surface water which is a drinking water supply	The Phase II RI Report (Earth Tech 1999) presented strong evidence (based on groundwater monitoring data representing the upper level perched groundwater) supporting the conclusion that petroleum hydrocarbons detected in the perched groundwater are naturally attenuating, and will not migrate to the basal aquifer. Note also that surface waters in the vicinity of the site are not suitable for use as drinking water supplies (Earth Tech 1999).
	C. Actual or probable release to air that poses a threat to public health	The Phase I RI Report (Ogden 1996) characterized the nature and extent of volatile organic compounds (VOCs) in soil, conducted a preliminary risk evaluation, and concluded that chemicals potentially released to the air pose no significant threat to human health.
	D. Actual or probable release to and extensive contamination of soil that poses a direct contact hazard due to uncontrolled facility access	Results of the Phase I RI (Ogden 1996), Phase II RI (Earth Tech 2002), and TPH characterization investigation (Earth Tech 2002) indicate that the distribution of chemicals in soil is characterized by isolated discrete occurrences. The Phase I and Phase II RI risk assessments demonstrated that direct contact with surface and near surface soils that may occur due to uncontrolled facility access does not pose significant risks.
	E. Actual or probable existence of uncontrolled hazardous substances, pollutants, or contaminants, such as leaking containers or impoundments, that poses a direct contact hazard due to uncontrolled facility access.	The Phase I and Phase II RIs (Ogden 1996, Earth Tech 2000) have demonstrated that current chemical concentrations at the site pose no direct contact hazards due to uncontrolled facility access.
	F. Actual or probable adverse impact to natural resources;	The Phase I and Phase II RI reports (Ogden 1996, Earth Tech 2000) provide strong evidence that site-related chemicals have not impacted on-site natural resources or wetlands, and that future impact is extremely unlikely, because (a) the petroleum constituents in soil are remaining onsite and decreasing in concentration due to natural attenuation and (b) the perched groundwater does not discharge to surface water.
	G. Actual or probable imminent danger of fire or explosion.	No free product has been detected in groundwater (Ogden 1996, Earth Tech 2000) and the levels of petroleum constituents remaining in soil (Earth Tech 2002) are well below levels that could pose fire or explosion hazards.

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ENCLOSURES (2)

Table 2: Technical Guidance Manual Criteria for Petroleum-Impacted Sites and Site-Specific Responses, AST, Red Hill Former OWDF

Criterion No.	Criterion	Site-Specific Response
1	The contaminant source area has been characterized, and the extent of the impact has been defined.	TPH-diesel was detected at isolated discrete soil sampling locations, indicating that the lateral and vertical extent of TPH-diesel in soil is not continuous. A TPH-diesel concentration above the DOH Tier 1 SAL was detected in only one sample (at 10 feet bgs) at the Former AST Area. The investigation results indicate that TPH-diesel concentrations above the site-specific characterization level requested by the DOH (25 mg/kg) are limited to depths between approximately 5 and 25 feet bgs.
2	The impacted soil does not create nuisance problems (odor).	The investigation results indicate that TPH concentrations above 25 mg/kg are limited to depths of 5 feet bgs or deeper, and no odors or other nuisance problems have been observed around the area.
3	The facility ensures that residual petroleum does not migrate off site (i.e., via groundwater) and negatively impact adjacent properties, groundwater extraction wells, or surface water bodies.	The investigation results indicate that TPH concentrations greater than 25 mg/kg in soil are limited to depths between approximately 5 and 25 feet bgs in the Former AST Area, away from the site perimeter. No surface water exists at the site, and potential for surface runoff from the site is low (Earth Tech 2000). Results of the hydrogeologic investigation (Earth Tech 2000) strongly support the conclusion that there is little or no potential for downward transport of constituents to the basal aquifer. This conclusion is supported by the groundwater monitoring data (Earth Tech 2000): No sheen, product, TPH, or fuel-related constituents have been detected in the basal groundwater, and no sheen or product has been detected in the perched groundwater at the OWDF (Earth Tech 2000).
4	The following TPH values are not exceeded: 5,000 mg/kg for TPH as oil or TPH as diesel, and 2,000 mg/kg for TPH as gasoline.	With the exception of one sample (collected at 10 feet bgs in the Former AST Area) TPH concentrations detected in all soil samples collected during the investigation were below the DOH criteria (Earth Tech 2002a).
	Based on recent discussions between the Navy, DOH, and EPA, it was agreed that the TPH concentrations listed in Criterion 4 should be used as screening criteria for delineation of petroleum contamination, but that cleanup to these levels is not required if the following criteria are met: The contaminant source area has been characterized, and the vertical and lateral extent of contamination has been delineated in accordance with an agreed-upon SAP.	The following evidence demonstrates that each criterion has been met: The vertical and lateral extent of TPH contamination has been characterized and delineated according to the DOH Tier 1 SALs, the site-specific TPH-diesel characterization level requested by the DOH (25 mg/kg), and the agreed-upon SAP (which documents the investigation approach and data quality objectives) (Earth Tech 2002b).
	Free-phase product is removed from the water table to the extent practicable in accordance with the TGM SCP (DOH 1997).	No free-phase product was detected in the borings for monitoring wells RH-MW08, RH-MW06 and RH-MW09 or any of the other borings advanced in the Former AST Area during the Phase II RI and TPH-diesel characterization investigations. No sheen or free-phase product was observed in any of the groundwater samples collected from existing monitoring wells after the OHM remedial action in 1995 (Ogden 1996, Earth Tech 2000).
	Risk assessments conducted in support of site characterization are consistent with DOH Tier 1, 2, or 3 RBCA methodology, consider both the direct contact pathway and potential threats to groundwater or surface water bodies, and demonstrate that no unacceptable risks to human health or the environment are associated with the TPH	Human health and ecological risk assessments were conducted for both RI phases in accordance with USEPA methodology (EPA 1989a, 1989b, 1991, 1997) to evaluate the potential threats represented by detected soil and groundwater concentrations. The risk assessments demonstrated that no unacceptable risks to human health or the environment are associated with the petroleum hydrocarbon compounds or any of the other chemicals detected at the OWDF

bgs below ground surface
EPA Environmental Protection Agency, United States
mg/kg milligram per kilogram
RBCA risk-based corrective action
SAL soil-action level
SAP sampling and analysis plan

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