

US EPA ARCHIVE DOCUMENT

# Superfund



Del Monte plantation

*Del Monte Plantation  
Kunia, O'ahu, Hawaii*

**Site Background:** The Del Monte Corp. pineapple plantation site covers 3,000 acres in Kunia, West O'ahu. Following over 20 years of pesticide application on-site, a 1980 HDOH test of the groundwater extracted from the Kunia Well indicated the presence of Ethylene Dibromide (EDB) and 1,2-dibromo-3-chloropropane (DBCP) in excess of safe drinking water standards. The contamination resulted from a 495 gallon EDB spill in 1977 and smaller spills of pesticides in the storage and mixing area near the Kunia Well. Prior to testing, the well had been used to supply drinking water to approximately 700 nearby residents. The well was immediately shut down after the test. Soil and shallow groundwater in the vicinity of the Kunia Well were also found to be contaminated at much higher levels than the deeper drinking water aquifer.

**Summary:** In 2005 EPA negotiated a Remedial Design/Remedial Action Consent Decree requiring Del Monte to conduct both soil and groundwater remediation efforts on-site. As a result, a phytoremediation treatment system was installed by Del Monte to treat contaminated shallow groundwater. Deep groundwater is currently being treated using an air stripping and carbon filtration system. Contaminated soil in the source area will be treated using soil vapor extraction and then capped. The site remediation plan is expected to cost approximately \$13 million. In June 2007, the EPA completed negotiations on an Institutional Controls Consent Decree with James Campbell Company, LLC, owner of the Del Monte Site, aimed to reduce human exposure to contaminated soil and groundwater while allowing for site redevelopment.

**Reuse Facts:**

- Contaminant concentrations in shallow groundwater were significantly lowered as a result of phytoremediation extraction and treatment
- While no redevelopment projects have been finalized, several potential plans are currently being evaluated for their viability. Future projects under consideration include:
  - \* 5-acre ranchettes
  - \* continued use for farming operations
  - \* Schofield Barracks military base expansion



Phytoremediation treatment unit

Contact: Janet Rosati (415) 972-3165

# USTs *Underground Storage Tanks*



Former Love's Bakery

*Love's Bakery  
Honolulu, O'ahu, Hawaii*

**Background:** The Love's Bakery site comprises approximately 3 acres in Honolulu. For the site's 60 year service history it had been used for 59 years as a local bakery and 1 year for various commercial activities. Upon the site's commercial closure in 1991, significant levels of soil and groundwater beneath the site were found to be contaminated partly because of five underground storage tanks (USTs) formerly used to sustain operations on site. These USTs were as follows: one 2,000 gallon UST used to store gasoline; one 8,000 gallon UST and one 500 gallon UST used to store diesel fuel; one 500 gallon UST used to store oil; and one 500 gallon UST used to store bunker fuel. Waste oil, diesel fuel, petroleum hydrocarbons, and petroleum hydrocarbon related constituents were discovered at the project site.

**Summary:** EPA supported the development of the HDOH underground storage tank program and assisted in overseeing the removal and treatment of contaminated soil and groundwater. Approximately 2,500 cubic yards of petroleum contaminated soil and 1,200 cubic yards of contaminated coral were treated on site using bioremediation techniques.

**Reuse Facts:**

- Site to be used as part of a 79,000 square-foot Safeway Center retail complex hosting:
  - \* a 64,000 square foot Safeway supermarket
  - \* 15,000 square feet of retail space planned to be used for various street-front specialty shops



Redevelopment construction for new Safeway and retail complex

Contact: Laurie Amaro (415) 972-3364

# LAND REVITALIZATION IN HAWAI'I



## US EPA Cleanup Programs at Work



**LAND REVITALIZATION**  
*Restoring land for America's communities*



U. S. Environmental Protection Agency  
Region 9  
75 Hawthorne Street  
San Francisco, CA 94105

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# Introduction

The Vision: to restore the nation's contaminated land resources and enable communities to safely return these properties to beneficial economic, ecological, and societal uses.

**Revitalization-** putting formerly contaminated land to use-is a priority for all of EPA's cleanup programs. Whether the cleanup is performed as a Superfund removal action, remedial action, RCRA corrective action, a UST cleanup action, or under a Brownfields Grant, the end-use of the land is always kept in mind.

Focusing on land revitalization preserves Hawai'i's precious natural resources and is key to sustainable living within this island state. Incorporating efficient land and energy usage practices in EPA's revitalization projects helps to maintain Hawai'i's natural environment while simultaneously allowing for beneficial reuse.

**In Region 9** we are incorporating revitalization into each of our cleanup programs. Building partnerships with state, local, and private agencies is a high priority for Region 9 and a crucial part in implementing and developing programs necessary for successful site reuse. Joint ventures with the Hawai'i Department of Health (HDOH), Hawai'i Department of Business, Economic Development, and Tourism (HDEBT), and other state and local agencies have led to creative solutions for land revitalization challenges in Hawai'i.

The ongoing HDOH Brownfields Forum is an example of one way in which revitalization solutions have been encouraged in the State of Hawai'i. The Forum raises awareness about the Brownfields program and helps to build partnerships among the federal, state, and local agencies and other interested parties interested in developing land reuse solutions.



This brochure features just a few of the sites where EPA programs have resulted in successful land revitalization and significant benefit to the surrounding community.

# Federal Facilities



*Pearl Harbor Naval Complex:  
Mānana Storage Area  
Pearl Harbor, O'ahu, Hawai'i*

Mānana Storage Area site

Site History: The historic Pearl Harbor Naval Complex (PHNC), an active military installation, encompasses approximately 12,600 acres of land and water in Central O'ahu and has been used for a variety of Navy activities for several decades. Military activity on-site led to the contamination of 18 different geographic study areas requiring remediation.

## Former Mānana Storage Area:

**Background:** Spanning 109 acres in central O'ahu, the Mānana site was used to collect, stage, and transfer hazardous and non-hazardous materials recovered from Pacific Rim military facilities in the 1970s and 1980s. After the Navy ceased operations on-site, the State of Hawai'i was granted purchasing rights for the property through a legal agreement between the City and County of Honolulu (CCH), Navy, and the State of Hawai'i. This agreement allowed the property to be sold under the condition that the Navy would conduct a site remediation in accordance with the Comprehensive Environmental Response, Compensation, and Liability Act. Preliminary remediation surveys conducted by the Navy found the site's underlying soil to be contaminated with arsenic necessitating clean up. Purchasing rights then transferred to CCH, and in 1993 the property was sold for \$109 million.

**Summary:** The Navy worked with EPA in the development of cleanup goals and a Final Remedy. Since the completion of the soil removal remedy by the Navy in 1996, various CCH agencies have used the site for general warehouse and maintenance operations and as a small community park. In 2003, a comprehensive study of the groundwater was completed and Wal-Mart purchased a portion of the site. In 2006, a decision that no further remediation was required was issued.

## Reuse Facts:

- 24-hour Wal-Mart retail store constructed on a portion of the Mānana Storage Area in 2006:
  - \* approximately 148,000 square feet in area
  - \* created 620 jobs
- Remaining portions of PHNC are primarily zoned for light commercial and industrial reuse



Wal-Mart retail store on Mānana site

Contact: Sarah Kloss

(415) 972-3156

# RCRA

*Resource Conservation  
and Recovery Act*



Residual debris from  
Chem-Wood activity

**Background:** Chem-Wood operated as a wood treatment facility from 1975 through 1988. Wood processing operations involved pressure treatment of wood using chemical formulations such as copper chromated arsenic (CCA) and pentachlorophenol (PCP). After site inspections revealed contamination on-site due to improper chemical handling and spills, EPA issued a corrective action order in September 1988. As a requirement of the order, Chem-Wood installed an asphalt cap over contaminated soil at the adjacent Precision Wood property. In 1997, however, Chem-Wood ceased investigatory and remedial work at their facility due to financial constraints. The soil at Chem-Wood remains contaminated with arsenic, chromium, PCP, and dioxin above EPA's preliminary remediation goals. Groundwater at the Chem-Wood facility, Precision Wood, and former PC French properties nearby, is also contaminated with chromium, arsenic, and PCP at levels above HDOH's Environmental Action Levels.

**Summary:** In 2006, Kanani, LLC entered into a Prospective Purchaser Agreement (PPA) with the EPA and U.S. Department of Justice to purchase the Chem-Wood site. The agreement limits buyer liability, provides a benefit to the state and local community by facilitating the cleanup, and returns the site to productive use by the new purchaser's use of the property. The Final Remedy includes: removal and proper disposal of site debris; construction and long-term maintenance of an asphalt-concrete cap at Chem-Wood and Precision Wood; institutional controls to ensure long-term protection of the caps and limit the use of groundwater; and monitoring and removal of free floating chemicals from the groundwater.

## Reuse Facts:

- Kanani, LLC has entered into a PPA with the EPA that allows for future light industrial reuse of the Chem-Wood property after it is remediated.



Chem-Wood facility pre-redevelopment

Contact: Carmen Santos

(415) 972-3360

*Chem-Wood  
Campbell Industrial Park,  
O'ahu, Hawai'i*

**Background:** Chem-Wood operated as a wood treatment facility from 1975 through 1988. Wood processing operations involved pressure treatment of wood using chemical formulations such as copper chromated arsenic

# Brownfields

*East Kapolei Redevelopment Area  
Kapolei, O'ahu, Hawai'i*



Debris from former activity on site

**Background:** Located in East Kapolei, O'ahu, the 400 acre site had partially been used by former tenant, O'ahu Sugar Company, for agricultural chemical mixing, loading, and bulk storage causing significant contamination of the site's underlying soil. In 1995, the Hawai'i Department of Land and Natural Resources assumed jurisdiction over the site. Authority was then transferred to the Hawai'i State Department of Hawaiian Home Lands (HDHHL) for homestead housing development.

**Summary:** EPA's HDOH State Response Program Grant funded Phase I and Phase II environmental assessments on-site. Additionally, an EPA Brownfields Hazardous Substances grant enabled HDBEDT to conduct costly Phase II assessment work on a portion of the site heavily contaminated by pesticide mixing activity. The assessments significantly reduced the cost of redevelopment for Hawai'i state agencies involved with the project. EPA has worked in conjunction with HDBEDT, the City and County of Honolulu, HDHHL, and other local agencies to ensure affordable housing redevelopment on-site for native Hawaiian beneficiaries. Various site remediation plans are currently being evaluated by the aforementioned state agencies and community groups. Estimated site remediation costs range from \$1-\$1.5 million.

## Reuse Facts:

- Future redevelopment plans headed by HDHHL include 2,500 affordable single and multi family homes, two schools, and three parks
- As part of the Hawaiian Homes Commission Act of 1920, the single family homes constructed on site will be available to eligible native Hawaiian buyers for 60% less than current market value
- The estate of Joan Kroc has provided an \$80 million grant to the Salvation Army to build and operate a Community Recreation and Education Center on 15 acres of the site. Features of the Center will include a performing arts center, banquet facility, gymnasium, aquatic center, ball fields, and a preschool.



Future site of 2,500 single/multi-family homes

Contact: Wallace Woo

(415) 972-3270

# Removal

*Hilo Burrito  
Hilo, Big Island,  
Hawai'i*



Burrito site

**Background:** In 1960, a tsunami made landfall near the coastline town of Hilo, Hawai'i, destroying countless homes and businesses including

portions of Hilo Gas Company's gas manufacturing plant. The State of Hawai'i assumed control over the Hilo coastline property most affected by the tsunami, and converted the parcel into the Hilo Bayfront Recreation Area to serve as a "tsunami buffer zone" to shield downtown Hilo from future flooding. Construction adjacent to the site in 1997 revealed the soil underlying the site was found to be contaminated with Poly Aromatic Hydrocarbons (PAHs), Volatile Organic Compounds (VOCs), and sulfide compounds stemming largely from Hilo Gas Company's former activity on-site. In response, the US Army Corps of Engineers (USACE) encapsulated and removed the contaminated soil in a plastic liner resembling a "burrito." The burrito was left in a Temporary Storage Area near the site until 2003 when EPA was requested by HDOH to remove the contaminated soil collected both in the burrito and from a smaller portion of the site.

**Summary:** In 2004, EPA worked with the HDOH, USACE, and the County of Hawai'i to remove the extracted soil encapsulated in the burrito and the additional soil from the second portion of the site. EPA also worked to re-grade the side of a levee damaged by the weight of the burrito to maintain proper slope for flood control. Further, EPA worked with the HDOH to remove contaminants from a flood control pond located in close proximity to the site. Approximately 7,900 tons of PAH contaminated soil/waste was removed from the burrito site and transported to a landfill equipped to receive CERCLA waste.

## Reuse Facts:

- 8 acre site revitalized to serve as part of the Hilo Bayfront Recreation Area
- Site includes 2 community soccer fields



Soil removal at Hilo Burrito site

Contact: Craig Benson

(562) 986-6130