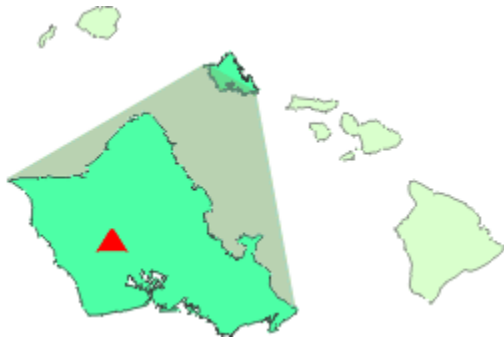


Del Monte Corp (Oahu Plantation)



[Map this site in Cleanups in My Community](#)

EPA #: HID980637631

State: Hawaii(HI)

County: Honolulu

City: Village of Kunia

Congressional District: 02

Other Names:

Bulletin Board

Links

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Description and History

NPL Listing History

NPL Status: Final

Proposed Date: 05/10/93

Final Date: 12/16/94

Deleted Date:

The Del Monte Corp. (Oahu Plantation) site covers 3,000 acres in Honolulu County, on the Island of Oahu. The surrounding area is mostly agricultural and military. Del

Monte began growing pineapple on the plantation in the 1940s. Fumigants, such as ethylene dibromide (EDB), 1,2-dibromo-3-chloropropane (DBCP) and 1,2-dichloropropane (DCP) were used from the early 1940s until 1983 to control nematodes that infest the pineapple root. On April 7, 1977, there was an accidental spill of approximately 495 gallons of ethylene dibromide (EDB) within approximately 60 feet of the Kunia Well, which provided drinking water to about 700 people. The well was tested one week after the spill and no contamination was detected.

In 1980, the Hawaii Department of Health (HDOH) initiated an investigation to determine whether the fumigants used in pineapple agriculture had contaminated drinking water wells on Oahu. As part of the investigation, the Del Monte Kunia well was sampled. The results indicated the presence of EDB and 1,2-dibromo-3-chloropropane (DBCP). The HDOH ordered the well removed from service.

Groundwater occurs within two distinct zones in the Kunia Village Area; the perched (shallow) aquifer and the basal (deep) aquifer. The perched groundwater is not used for any purpose, but water from the perched zone does infiltrate down to the basal aquifer. The basal groundwater is used for drinking water and irrigation. The perched zone is a localized aquifer that exists in the vicinity of the Kunia Well. It extends to approximately 100 feet below ground surface. The basal groundwater begins at approximately 850 feet below ground surface. As a result of the spill as well as the storage and mixing of pesticides in the vicinity of the Kunia Well, both soil and perched groundwater in this area contain high levels of fumigants. The basal aquifer contains much lower levels of contaminants; however, the levels are above safe drinking water levels.

A Remedial Design/Remedial Action Consent Decree (CD) with Del Monte Fresh Produce (Hawaii), Inc. was filed in the United States District Court, District of Hawaii on September 27, 2005. The CD requires Del Monte to design and construct a vegetated soil covering (cap) and soil vapor extraction system in the Kunia Well spill area.

An Institutional Controls Consent Decree with James Campbell Company (JCC) LLC. was entered with the District Court on September 18, 2007. The CD requires JCC to take measures to protect the public from exposure to contaminated soil and groundwater and restricts land use in the Kunia Village Area, the source of the contamination. The CD establishes a "well restriction area" where application for a Water-Use Permit is restricted without prior written approval from EPA. The CD also insures that EPA will have access to monitoring and treatment equipment and

facilities while the cleanup is progressing.

Del Monte Corp. leased the farm from James Campbell Company (JCC) LLC. On November 17, 2006, Del Monte announced they would cease all production, operations and shipments of pineapple out of Hawaii, effective immediately. Their lease expired in December 2008. While Del Monte has vacated the site, they still provide for the operation and maintenance of the treatment systems. JCC has sold all parcels. The majority of the former farm was sold to the US Army to expand housing for Schofield Barracks.

EPA delisted the Poamoho section of the Site from the NPL list on January 13, 2004 based on investigation results which indicated that the Poamoho section of the site poses no significant threat to human health or the environment.

On June 14, 2010, EPA finalized the Five Year Review Report for Del Monte. The purpose of the Five Year Review is to evaluate the implementation and performance of the selected remedy in order to determine if the remedy is or will be protective of human health and the environment. The Five Year Review concluded that although recent groundwater data shows that the groundwater in the basal aquifer has "background" levels of ethylene dibromide, 1,2-dibromo-3-chloropropane, 1,2-dichloropropane, and 1,2,3-trichloropropane above Hawaii maximum contaminant levels (MCLs) due to the historical application of pesticides in the area, the remedy for the Del Monte Superfund Site is found to be protective of human health and the environment because there is no exposure to untreated perched or basal aquifer groundwater.

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Contaminants and Risks

Contaminated Media

- Groundwater
- Soil and Sludges

Soil and shallow groundwater at the site have been contaminated with the fumigants EDB, DBCP and DCP, the solvents TCP and benzene and the pesticide lindane. Deep groundwater is contaminated with EDB, DBCP and TCP. People who touch or ingest contaminated groundwater or soil could be at risk.

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Who is Involved

The site is being addressed by Federal, State and potentially responsible party actions,

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Investigation and Cleanup Activities

This site is being addressed in two stages: initial actions and a long-term remedial phase focusing on the cleanup of the entire site.

Initial Actions

Initial Actions: In 1980, the State ordered the Kunia well removed from service for drinking water purposes. In 1981, Del Monte excavated 2,000 tons of soil from the spill area and spread it on a nearby field. In 1983, an additional 16,000 tons of soil was excavated from the spill area and spread on a nearby field. From 1980 to 1994, Del Monte pumped deep groundwater from the Kunia Well and shallow groundwater from the three extraction wells. The contaminated groundwater was used to control dust on roads and sprayed on unplanted pineapple fields. In 1994, EPA requested that Del Monte discontinue this practice since it is an unlawful disposal of a hazardous substance under the Resource Conservation and Recovery Act (RCRA) and the Superfund statute. Del Monte complied.

Site Studies

Entire Site: Field investigative activities began in March 1997 to address the contaminated soil and groundwater at the site. Soil, groundwater, surface water and sediment testing was conducted during 1997 and 1998. The majority of testing occurred in the spill area, however other areas of potential contamination were also investigated. Under an agreement with the EPA, Del Monte Fresh Produce (Hawaii), Inc. completed the part of the Superfund cleanup process called the Remedial Investigation (RI). The November 1998 RI is a detailed technical study of the nature and extent of contamination for all chemicals known to have been used/released at the site. Del Monte also completed a Baseline Human Health Risk Assessment (May 2000), an Addendum to the Remedial Investigation Report (April 5, 2002) and a Phytoremediation Treatability Study (May 9, 2002). The Baseline Human Health Risk Assessment evaluated the risks to human health from potential exposure to contamination from the site identified in the RI. The RI Addendum describes additional soil and groundwater sampling conducted in the spill area. The Phytoremediation Treatability Study evaluated the successful use of plants to break down chemical contamination in the perched groundwater into non-toxic compounds. The Feasibility Study, which evaluates cleanup alternatives, was published in February 2003.

Poamoho Section: The results of additional investigations in the Poamoho Section of the site were published in the March 17, 2003 Remedial Investigation Technical Memorandum 02-02, Investigation Results for Additional Other Potential Source Areas. Based on these additional investigation which indicated that the Poamoho section of the site poses no significant threat to human health or the environment, EPA de-listed the Poamoho section of the Site from the NPL list on **January 13, 2004**.

Remedy Selected

EPA issued a Proposed Plan in March 2003 describing the alternatives analyzed in the Feasibility Study and outlining EPA's preferred cleanup alternative. A public hearing on the Proposed Plan was held on April 2, 2003 in the Wahiawa Middle School Library. EPA issued a Record of Decision describing the selected remedy in September 2003.

The remedy for the perched aquifer and deep soil in the Kunia Well source area is:

Pumping contaminated water from the perched aquifer for treatment

Treating the contaminated groundwater using phytoremediation. Perched groundwater near the Kunia Well is extracted and delivered to a closed loop treatment cell planted with Koa haole plants. The plants degrade toxic compounds to non-toxic compounds.

Placing a vegetated soil covering (cap) over the contaminated soil in the spill area to reduce the amount of rainwater that moves through the soil and carries contaminants down to the basal aquifer

Removing soil contaminants using a soil vapor extraction system

Restricting land use to prevent damage to the cap

The remedy for the deep, basal groundwater is:

Pumping and Treating contaminated groundwater in a phased manner, starting at the Kunia Well (the source area)

Installing monitoring wells to 1) characterize the extent of contaminated groundwater, 2) determine the effectiveness of pumping groundwater, and 3) evaluate whether natural processes (referred to as natural attenuation) are effective at reducing contaminant concentrations in the remainder of the aquifer to drinking water standards.

If there is no evidence of natural breakdown, add pumping wells to ensure the entire plume is being captured and treated.

Treat contaminated groundwater to drinking water standards using air stripping and carbon filtration

Use treated water for irrigation

Restrict land use to prevent activities that may interfere with groundwater extraction and monitoring wells.

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Cleanup Ongoing

Since 1998, Del Monte has operated and maintained two phytoremediation treatment units in the source area. Contaminated perched groundwater is extracted and delivered to two closed loop treatment cells planted with Koa haole plants. The plants degrade toxic compounds to non-toxic compounds.

Since 2005, Del Monte has operated and maintained a basal groundwater treatment system. Contaminated groundwater from the Kunia Well is extracted and treated using air stripping and carbon adsorption. Groundwater is treated to below safe drinking water standards and used for irrigation.

In 2008, Del Monte completed construction of a dual phase soil vapor extraction system (SVE) and soil cap in the source area to compliment the perched groundwater extraction system. The two small phytoremediation systems were removed in order for SVE wells and the cap to extend to this area. The large phytoremediation unit near the basal groundwater treatment system continues to operate.

If the phytoremediation treatment system becomes overloaded during heavy storm events, perched groundwater can be re-directed to the basal groundwater treatment system.

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Cleanup Results to Date

The removal of the Kunia well from service and the removal of 18,000 tons of soil have reduced immediate threats to human health and the environment. Since 1998, Del Monte has been operating a phytoremediation treatment system in the Kunia Village area. Contaminated perched groundwater is extracted and delivered to a closed loop treatment cell planted with Koa haole plants. The plants degrade toxic compounds to non-toxic compounds. Contaminant concentrations have decreased in the shallow groundwater from **hundreds of parts per billion to tens of parts per billion**. The basal groundwater treatment system has been successfully treating contaminated deep groundwater to below safe drinking water standards since 2005. The SVE system has been successfully removing contaminant mass since August of 2008.

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Potentially Responsible Parties

Potentially responsible parties (PRPs) refers to companies that are potentially responsible for generating, transporting, or disposing of the hazardous waste found at the site.

Del Monte Fresh Produce is the PRP and will maintain responsibility for site cleanup after the farm is sold and redeveloped. The James Campbell Company, LLC, the owner of the Del Monte farm, has sold all parcels

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Documents and Reports

Administrative Records

[Remedial Action](#)

Fact Sheets

09/01/95 [Del Monte Corporation \(Oahu Plantation\) Added to Superfund National Priorities List\(English/Ilocano\)](#)
04/01/97 [Cleanup Investigation To Begin](#)
01/01/99 [Cleanup Investigation Completed](#)
03/01/03 [U.S. EPA Proposed Final Remedy for Site \(English/Ilocano\)](#)
10/01/03 [Poamoho Section Proposed for Removal from Superfund List / Insayungkat Ti Poamoho Section Iti Pannakaikkat Na Diay Superfund List \(English and Ilokano\)](#)
04/01/05 [EPA SELECTS FINAL REMEDY - CONSTRUCTION UNDERWAY](#)
08/01/05 [Public Comments Requested for Del Monte Cleanup Proposed Settlement](#)
06/01/07 [Public Comments Requested for Proposed Settlement With James Campbell Company LLC](#)
03/01/10 [The United States Environmental Protection Agency Begins First Five-Year Review of Cleanup at the Del Monte Corporation \(Oahu Plantation\) Superfund Site](#)
10/19/10 [EPA Finds Del Monte Site Remedy Protective](#)

Records of Decision

09/25/03 [Record of Decision, Del Monte Corporation, Oahu Plantation Superfund Site](#)

Technical Documents

09/08/08 [Preliminary Close Out Report](#)

06/14/10 [Five-Year Review Report](#)

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Community Involvement

Public Meetings:

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Public Information Repositories

The public information repositories for the site are at the following locations:

Wahiawa Public Library,
820 California Avenue,
Wahiawa, HI 96786
(808) 621-6331

The most complete collection of documents is the official EPA site file, maintained at the following location:

Superfund Records Center
Mail Stop SFD-7C
95 Hawthorne Street, Room 403
San Francisco, CA 94105
(415) 820-4700

Enter main lobby of 75 Hawthorne street, go to 4th floor of South Wing Annex.

Additional Links

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EPA Public Information Center

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Community Contact**Other Contacts****After Hours (Emergency Response)**

US EPA
(800) 424-8802

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