Marine Corps Base Hawaii: MILCON Housing Projects
Pesticide Soil Management Fact Sheet

May 2014

Marine Corps Base (MCB) Hawaii is committed to ensuring our families are safe while their service members are serving our country at home or overseas. The purpose of this fact sheet is to provide Navy & Marine Corps families with an overview of the use of pesticides in Hawaii, history of the family housing areas constructed under the Military Construction (MILCON) program and a summary of how pesticide soil, if present, was managed to ensure the safety of MCB Hawaii residents. Family housing at MCB Hawaii was constructed under MILCON and through Public-Private Venture. Seven neighborhoods constructed under MILCON are discussed in this fact sheet: Mokapu Court, Kaluapuni, Pa Houua Phase 1 and Phase 2, Hawa’i Loa, Nani Ulupau, and Hana Like. Other Fact Sheets provide information for those neighborhoods that were demolished and reconstructed by Ohana Military Communities, LLC (OMC) through a Public-Private Venture (PPV) lease with the Navy.

Use of Pesticides in Hawaii
Chlordane and other similar pesticides are chemicals that were legally used to protect homes and businesses from termites throughout the United States from the late 1940s to 1988 when its use was banned by the United States Environmental Protection Agency because of concerns over damage to the environment and human health. Because Hawaii’s climate is very conducive to termite infestation, local pest control companies, homeowners, the state and military regularly used chlordane from 1992 and through 2006, 1999, and 2002, respectively. Chlordane and other similar pesticides are universally used in Hawaii; the City and County of Honolulu has stated that these pesticides can be found "universally" throughout the island. Even though it has been 26 years since the use of chlordane was banned, these pesticides tend to break down slowly in the environment, so residual amounts may be present near housing and businesses throughout the United States, both on and off military installations, including MCB Hawaii.

Background Information
MCB Hawaii (MCBH) Kaneohe Bay occupies the entire 2,951 acre Mokapu Peninsula which is in southeastern O‘ahu. It is bordered to the west by Kaneohe Bay, to the north by the Pacific Ocean, to the east by Kailua Bay, and to the south by fishponds. The seven neighborhoods discussed in this fact sheet are located at MCBH Kaneohe Bay. Mokapu Court, Kaluapuni, Pa Houua Phase 1 and Phase 2 were originally built in 1957, 1963, 1965, and 1966, respectively. These neighborhoods were replaced with new housing units in 2007, 2006, 1999, and 2002, respectively.

Hawaii Loa (built in 1999), Nani Ulupau (built in 1992) and Hana Like (built in 1992) Family Housing Areas were constructed on undeveloped land many years after chlordane had been banned by the EPA. Based on this information no soil samples were collected as part of the construction process for these communities, because it is highly unlikely that chlordane and other banned pesticides were applied to the soil near these homes.

Hawaii Loa (Location 5)
The Hawaii Loa Family Housing Area borders the southern and eastern edge of Pu‘u Hawaii Loa at MCBH Kaneohe Bay (Location 5). Hawaii Loa was originally constructed in 1999 on undeveloped land and consists of 277 housing units. In 2007 and 2008, the Hawaii Loa Family Housing Area underwent renovation and remodeling. There was no demolition and no soil was disturbed.

Nani Ulupau (Location 6)
The Nani Ulupau Family Housing Area is located between the Kaluapuni and Ulupau Family Housing Areas, encompassing approximately 8.4 acres (Location 6). Nani Ulupau was originally constructed in 1992 on undeveloped land and consisted of 40 housing units. In 2008, the Nani Ulupau Family Housing Area underwent remodeling. There was no demolition and no soil was disturbed.

Hana Like (Location 7)
The Hana Like Family Housing Area was originally constructed in 1992 on a former parade ground that did not have any buildings/structures and consists of 276 housing units (Location 7).

Hana Like (Section 802 Housing)
Hana Like (Section 802 Housing) was constructed on undeveloped land in 1992. It consists of 40 housing units.

FOR MORE INFORMATION
If you have any questions or concerns, please contact:

Hana Like (Section 802 Housing)
Forest City
Phone: (808) 257-1282
Email: mcbh.g4.fmly.hsg.fmb@usmc.mil
Please contact Forest City through their website at http://yourmcbh住房.com/contact/

More information on soil management for other Ohana Military Communities can be found at: Forest City:

http://yourmcbh住房.com/


Centers for Disease Control and Prevention (CDC) National Biomonitoring Program – Chlordane and Heptachlor Fact Sheets:
http://www.cdc.gov/biomonitoring/ChlordaneHeptachlor_FactSheet.html
http://www.cdc.gov/biomonitoring/ChlordaneHeptachlor_Biomonitoring_Summary.html

Agency for Toxic Substances & Disease Registry (ATSDR) Chlordane Fact Sheet:
http://www.atsdr.cdc.gov/toxinfo/factsheet.cfm?id=354&lid=62

Environmental Protection Agency (EPA):
Chlordane Hazard Summary Fact Sheet: http://www.epa.gov/region9/waste/sfund/chlordane.html
EPA Preliminary Remediation Goals (PRGs): (http://www.epa.gov/Region9/waste/sfund/chlordane.html)

http://www.epa.gov/ttn/atw/hlthef/chlordan.html
http://www.cdc.gov/biomonitoring/ChlordaneHeptachlor_Biomonitoring_Summary.html


In 2005, composite soil samples (a soil sample made up of multiple subsamples from different locations that are combined before submitting to the laboratory for testing) were collected at two of the original housing units. Chlordane was detected at 5.12 and 27.5 ppm, which also exceeded the 2002 EPA PRG of 1.6 ppm.

In May 2005, the 30 housing units at Kaluapuni were demolished and a soil sample was collected after demolition. Chlordane was detected at 0.75 ppm, which was less than the 2002 EPA PRG of 1.6 ppm.

In August 2005, composite soil samples were collected at the former location of two of the original housing units. Chlordane was not detected in the soil samples (all sampling results were less than the detection limit of 0.13 parts per billion). Based on these results, the residual concentrations of pesticides in the top six inches of soil were acceptable and did not require cleanup/remediation prior to construction of the new housing units.

In 2005, the 30 housing units at Kaluapuni were demolished and a soil sample was collected after demolition. Chlordane was detected at 2.37 ppm which exceeded the 2002 EPA PRG of 1.6 ppm.

Based on these results, the residual concentrations of pesticides in soil were acceptable and did not require cleanup/remediation prior to construction of the new housing units.

Based on this information it was decided that soil samples should be collected and analyzed for chlordane prior to construction of the new units in 2007. A comprehensive soil survey was performed in August 2005 at one of the nine buildings at Mokapu Court to determine if chlordane was present in soil. Soil samples were collected around and beneath an original building and were analyzed for chlordane. Chlordane was not detected in the soil samples (all sampling results were less than the laboratory detection limit of 0.13 parts per billion). Based on these results, the residual concentrations of pesticides in soil were acceptable and did not require cleanup/remediation prior to construction of the new housing units.

Chlordane was not detected in any of the 5 composite soil samples collected from the former location of two of the original housing units. In August 1995, in preparation for the construction to replace the existing housing units for the Pa Honua 1 Family Housing Area, environmental sampling was conducted in areas identified as potentially containing chlordane.

Chlordane was not detected in any of the 5 composite soil samples collected from the original housing units. Based on these results, the residual concentrations of pesticides in soil were acceptable and did not require cleanup/remediation prior to construction of the new housing units.

In April 1995, in preparation for the construction to replace the existing housing units for the Pa Honua 1 Family Housing Area, environmental sampling was conducted in areas identified as potentially containing chlordane. Chlordane was not detected in any of the 5 composite soil samples collected from the original housing units. Based on these results, the residual concentrations of pesticides in soil were acceptable and did not require cleanup/remediation prior to construction of the new housing units.

In January 2000, in preparation for the construction to replace the existing housing units for the Pa Honua 2 Family Housing Area, environmental sampling was conducted in areas identified as potentially containing chlordane. All 12 soil samples collected were found to have detectable levels of chlordane ranging from 0.068 to 2.0 ppm. Of the 12 samples, only 2 slightly exceeded the 2002 EPA PRG of 1.6 ppm (1.9 and 2.0 ppm) and the average concentration of all 12 samples was less than the 2002 EPA PRG. Based on these results (and the fact that the chlordane concentrations in soil would be further reduced during construction by mixing of soils), the residual concentrations of pesticides in soil were acceptable and did not require cleanup/remediation prior to construction of the new housing units.