

## **EARTHWATCH INSTITUTE 2005 FIELD REPORT**

**Project Title:** Human Ecology of Sugar Plantations in Hawai'i

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**Position/Affiliations:** Delle - Assistant Professor, Kutztown University  
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Pennsylvania

**Research Site:** Pāhala, the District of Ka'ū, Island of Hawai'i - Latitude: 19°07'30"N to 19°15'00"N. Longitude: 155°22'30"W to 155°30'00"W.

**Local Management Status of the Research Site:** privately owned

### **Key Research Objectives:**

- Obtain spatial data on changes in camp layout and land use over time
- Identify and map, extant invasive flora associated with the site
- Recover material culture (artifacts) associated with camp life to better understand the complex social relations between various ethnic groups
- Use artifacts recovered to identify changes in cultural practices overtime
- Identify and collect soil samples from areas/features likely containing preserved botanical specimens
- Collect oral histories about camp life from former camp residents still living in Pāhala and the surrounding area
- Engage in Public Archaeology by having an open site policy and inviting local residents and others to tour the site

**Date this report was completed:** November 14 2005

### **Data Collection and Results**

The team collected a tremendous amount of spatial data on both the botanical and architectural remains associated with the occupation of the Japanese Camp c. 1890-1996, and the associated, adjacent Japanese graveyard. Based on preliminary findings from the 2004 University of Hawai'i-Hilo field school, we selected an area down slope from the southernmost row of camp houses.

The area selected contained two, very distinct architectural features: Feature 1 is the cement foundation of a "modern" plantation-era outbuilding; Feature 2 (see Figure 1) is a large, well-defined circular pile of rocks with a platform-like top. For spatial data cohesion we used the primary datum established in summer 2004 in the northeast corner of the camp and tied our 2005 excavation units to this grid. We began with a

pedestrian survey of the targeted area flagging all artifacts visible on the ground. We next mapped in the exact location of each artifact with a laser total station (theodolite) and then conducted a surface collection of all portable artifacts for later analysis.

After the surface collection was complete we opened up several one-meter excavation units beginning on the south side of Feature 1. In addition to a wide range of artifacts recovered from the 22, one-meter, excavation units opened up during the course of the summer, the team also collected soil samples which likely contain charred botanicals from a fire box/hearth in Feature 1. These samples will be “floated” at a future date and botanical remains recovered will be sent to UH Mānoa for analysis.

In addition to collecting material culture, the team also engaged to various degrees in recording oral histories from several forthcoming individuals who once resided in Japanese camp. Two of these interviews provided information on the introduction and proliferation of both mango trees (*Mangifera indica*) within Japanese camp and the intentional propagation of Guinea grass (*Panicum maximum*) as fodder for plantation cattle. Local informants proved invaluable in interpreting other aspects of camp life and infrastructure.



**Figure 1: a representation of feature 2 described in the Data Collection and Results section**

## *Progress*

By examining the changes in the orientation of the camp and the use of yard and peripheral spaces first by Japanese and later by Filipino immigrants the Earthwatch team was able to collect data that will allow us to better understand shifts in social relations overtime. For example, the numerous modifications made to the Japanese camp by the plantation, including improvements to sanitation – including traditional Japanese style bathhouses or *ofuro*, the construction of a Japanese School (where Japanese culture and language could be taught) and Hongwanji (where traditional Japanese religion (Buddhism) could be practiced). All this and their superior position in the landscape speak to how valued these workers were prior to the introduction of Filipino labourers to Pāhala in 1906. Pearl Harbour also had a tremendous impact on the infrastructure of both Japanese camp and the plantation workers living there – many of which were by this time second and third generation Japanese-Americans. According to an oral history recounted by former camp resident, George Yokota, US military guards were posted at the entrance of the camp to monitor the comings and goings of the Japanese, while the Japanese workers themselves, fearing another attack, constructed flimsy communal bomb shelters dug in the common areas between camp houses and reinforced with wood and tin.

## *Summary of Results*

Preliminary results indicate that over time, yard and peripheral areas underwent dramatic shifts in use. Oral history supports the hypothesis that this area was a “Potter’s Field” or unmarked burial area for the Issei – the first generation of Japanese immigrants. The Issei were young men with no families, and it has hypothesized that Feature 2 may indeed be a mass grave. Sometime around the turn of the 19<sup>th</sup>-20<sup>th</sup> century the plantation created formal cemeteries, and this “Potter’s Field,” would come to be used to raise food for both human and animal consumption, as well as to cultivate ornamental flora. Interestingly, this area was never developed as the camp expanded overtime. The yard spaces between camp houses also underwent transmogrification with the introduction of new flora, such as mango (there are over 110 trees in Japanese camp alone), and improvements in infrastructure such as sewage lines. In 1996, the Ka`ū Sugar Company closed its doors in Pāhala and in 1999 the camp was demolished. Today, what remains of the camp is used as a junkyard and the ground is littered with modern detritus.

Several pig skulls were found concentrated in one area and were tied via oral history to the Sumida house. Clifford Sumida was born and raised in Japanese camp in the house immediately upslope from Feature 1. Mr. Sumida was able to confirm that his father raised pigs in the area behind their house in order to supplement the family income. According to Clifford the pigs were sold to individuals living in the camps as well as to the plantation itself. A large patch of taro (*Colocasia antiquorum*) was identified by Clifford in the area immediately to the north of where the pig skulls were found. We were told by Clifford that this type of taro, or “pig taro” as he referred to it, had to be cooked and peeled before the pigs could easily digest it. This peripheral area was also identified as having been used in the more recent past to raise Anthurium for commercial resale.

### Feature 1:

The excavation around feature 1 revealed layers of architectural stratigraphy and indicated multiple uses for the building over time, including a single family bathroom with single toilet, *ofuro* and fire box (used to heat bath water). Some time before 1949, the out building was plumbed with 6" cast iron sewage pipes. Blueprints recovered from an abandoned sugar warehouse adjacent to the camp, indicate that Japanese camp went from having privies and washhouses which emptied into open ditches that were periodically flushed with water from "flush tanks located at the top of the camp, to having flush toilets with 6" iron sewage pipes and washhouses with 2" cast iron pipes sometime after these plans were drawn in 1926. In 1949, the building underwent further modification. The toilet aperture was capped; a new cement floor was floated over the pre-existing masonry which boasts the date November 5, 1949. This is consistent with oral histories identifying the building as a washhouse not a bathhouse. Although a new floor had been floated the original fire box remained intact indicating that as late as 1949, individuals in the Japanese camp were still burning wood (likely eucalyptus an invasive species cultivated and sold by the plantation to the workers) to heat wash and bath water. Analysis of artifacts recovered from the building trenches associated with the both the foundation and the lying of the iron pipes will likely provide tighter dates for the building sequence.

### Feature 2:

A large well-organized pile of rock just to the south of Feature 1, known as feature 2 was identified as a grave by several locals, including Native Hawaiian paraprofessional, archaeologist and recent University of Hawai'i-Hilo graduate, Ron Barbosa. Dr. Peter Mills of the UH-Hilo also visited the site and made a similar determination as to the feature's function based on the homogenous nature of the artifacts covering the feature, including numerous old bottles, and the presence of polychrome porcelain. According to Dr. Mills this is likely an early grave dating to around 1880-90 likely containing two or more bodies. Using the laser total station (theodolite) the Earthwatch team piece provenienced and digitally photographed every artifact associated with Feature 2 making sure to leave each piece in its "original" position. Several informants recounted how they used to play in this area and that varieties of Anthurium had been grown under the shade of the mango trees surrounding Feature 2. The area immediately down slope and to the southeast of Feature 2 appears to have been terraced and portions of a well-defined retaining wall were identified and mapped in. This area was littered with pig skulls and other more modern detritus. Interestingly, only one individual we spoke remembered Feature 2 as being a grave and thought it was a mass burial of young Japanese immigrants who died during an influenza outbreak in the camp. This story has not yet been corroborated. The fact that several informants remember playing in and around Feature 2 but don't remember the structure's function makes sense given the hypothesized early date of construction.

### Feature 3:

Following the trajectory of the sewage pipes leading out of and down slope of Feature 2 we were able to locate a subterranean feature, Feature 3, which appears to be a settling tank for wastewater and raw sewage. Feature three appears to be a modern structure clearly associated with Feature 2. It is capped with cement aggregate and articulates with the 6" cast iron sewage pipe running from Feature 2. Excavation defined the extent

of the cement cap indicating a regular, rectangular shape approximately 5 X 6 meters. Although there was a opening in the north end of the tank, at this time we made no attempt to ascertain the original depth of the feature or to recover any artifacts it may contain.

### **Significance/Benefits of Research**

Historical archaeologists have long been interested in excavating and interpreting plantation sites. The vast majority of those studies have focused on the African Diaspora, on the mainland US and the Caribbean. This project is the first plantation archaeology project ever conducted on the Island of Hawai'i, and among the first (if not the first) such project to be located in the Pacific Rim.

The local community greatly benefited from its first exposure to an historical archaeology project focusing on plantation life. By taking part in our research, local informants were able to take part in the creation of their own narrative. A long-time resident of Maui, Janet Six has already made a number of public presentations about the project to community, school groups, as well as and at professional conference throughout the state.

This project not only raised local awareness about the historical significance of plantation village sites throughout the islands, but also is raising awareness within the discipline of the importance of such sites. Plantation sites across the state are under constant threat of destruction from development and Pāhala is one such site in particular. Traditionally these sites have been view as having no historic value and are rarely preserved or excavated. Over the past summer we used this site to focus attention on the importance the plantation village system had to the evolution of Hawai'i's society and culture.

The results of this study have greatly contribute to our understanding of the paternal capitalism model and how under this type of plantation system, people from diverse cultural backgrounds came together to create new social systems and political ecologies under a range of circumstances.

### *Contributions to Sustainability*

At present Janet Six is on the Steering Committee for the Sustainable Living Institute of Maui (SLIM). SLIM has adopted the three interconnected concepts developed by American green architect cum eco-efficiency expert William McDonough and German chemist Michael Braungart (founder of Greenpeace) for the Hanover Conference on Sustainable Development. According to McDonough and Braungart in order to achieve true sustainability one must address not only ecology, but also economy and social equity. Our project incorporated aspects of all three concepts. By examining a failed export economy (sugar) and our nearly total dependence on imported food (90% comes off-island) our work underscores the USDA's urgent call for agricultural diversification throughout the state. Our work also has clear implication on the local ecology, as our spatial data can be used to look changes is land use over time including the introduction and proliferation of invasive species while informing future issues regarding development and heritage. But it is under the rubric Social Equity that our project has had the greatest impact. Hawai'i in general and the District of Ka'ū in particular, is undergoing rapid change. When sugar shuts down, development soon follows. Hawai'i's plantation

heritage is not revered; former mills and camps are regularly torn down and/or converted to shopping malls (Lahaina Cannery Mall on Maui is one of many examples). Under the parental capitalism model when plantation which provided everything for its workers shuts its doors and moves its operations to the Philippines there is a sense of betrayal and abandonment. By working with plantation descendants living in Pāhala our research is giving their legacy validity.

### **Dissemination of Results**

At present, Janet Six is working with UH-Hilo archaeologist Dr. Peter Mills and one of his undergraduate students, Liz Hauani`o. Ms. Hauani`o is working with Keola Lindsey and the Big Island (Hawai`i) Burial Sites program to come up with a preservation plan for Feature 2. Six met with Ms. Hauani`o on November 11, 2005 to tour the site and discuss the report Ms. Hauani`o is generating as part of her Directed Studies in anthropology. The report and recommendations will be forthcoming.

On October 9, 2005, Janet Six presented a paper entitled *Sticky Situation: Sugar, Archaeology and the Ahupua`a of Hīlea* at the Society for Hawaiian Archaeology, Lihue, Kauai. There were approximately 75 people in attendance, the majority of which are archaeologists/heritage specialists.

Janet Six gave a talk at the Hawai`i Island Seniors' Institute on the University of Hawai`i-Hilo campus entitled *Sticky Situation: Sugar, Archaeology and the Ahupua`a of Hīlea*. There were approximately 60 people in attendance, the majority of which were seniors many of whom had past ties to the plantation industry in Hawai`i.

January 2006, Earthwatch staff and University of Pennsylvania students Jill Bennett-Gaieski, Jordan Pickrell and Chana Kraus-Friedberg along with Co-PIs James Delle and Janet Six will present a yet-to-be-titled poster at the Society for Historical Archaeology's annual meeting in Sacramento, CA. This conference has approximately 1,000 attendees, the majority of which are historical archaeologists.

Popular articles or films (in progress or completed): working with Local Productions, and Director Danny Miller, the Earthwatch crew took part in the filming of an upcoming documentary on the District of Ka`ū. This yet-to-be-titled documentary is targeted to be released in 2006 on Hawai`i PBS.