



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
COMMISSION ON WATER RESOURCE MANAGEMENT  
Stream Protection and Management Branch

## FIELD INVESTIGATION REPORT

FI2009062201 (Maui, Maui Land & Pineapple Company)

<b>Date of Field Investigation:</b>	June 22, 2009	<b>Time (24-hour):</b>	0800 - 1200
<b>CWRM Staff:</b>	Ken Kawahara, Ed Sakoda, Dean Uyeno, and Chui Ling Cheng		
<b>Individuals Present:</b>	Department of Agriculture – Duane Okamoto MLP Staff – Wesley Nohara (General Manager), Jeff Pearson (Water Manager), Stephen Nikaido, and Louis Lopes (Field Crew)		
<b>Hydrologic Unit:</b>			
<b>Stream Name:</b>			
<b>Findings:</b>	<p>CWRM staff departed Oahu for Maui at 0600 hours.</p> <p>The purpose of this field visit was to meet with representatives of the Maui Land &amp; Pineapple (ML&amp;P) Company to learn more about their water system and sources. At approximately 0800 hours, staff met with General Manager Wesley Nohara, Water Manager Jeffrey Pearson, and field crew Stephen Nikaido and Louis Lopes to discuss the schedule for the field visit. At time of the visit, ML&amp;P had approximately 2,250 acres of land - 1,250 acres were owned by ML&amp;P, 500 acres were leased from Alexander &amp; Baldwin (A&amp;B), and another 500 acres were subleased to another large scale farmer.</p> <p>Staff visited the ML&amp;P Kailiili Water System and the Kailiili Reservoir, which is a main storage system for surface water that is used in the company's pineapple fields. The reservoir receives water from Opana and Awalau Stream. Water from East and West Opana Stream are diverted by the East Maui Irrigation (EMI) Company intake structures. The diverted flow then passes through the Opana transmission tunnel into a concrete box that splits the water into three pipes. First, water is diverted into a 2.5 inch pipe for ML&amp;P use. Then, the water is diverted into a 10 inch pipe for Maui County Department of Water Supply (MDWS) use. Lastly, water is diverted into a 12 inch pipe for ML&amp;P use. A water meter is located about 25 feet makai of the transmission tunnel. Staff also saw a USGS staff gage inside the transmission tunnel to monitor the volume of water being diverted.</p> <p>Next, staff visited part of the Awalau diversion intake structure that diverts water from a development tunnel on Awalau Stream into the Kailiili Reservoir. A dam is located on West Awalau Stream, where water flows over the dam and into a 4 inch pipe that transmits the diverted water into the Kailiili Reservoir. Due to weather condition, staff was not able to hike to the West Awalau dam, but was able to see part of the 4 inch pipe located next to the road.</p> <p>Upon return, staff visited the intake structure at Hali`imaile that diverts water from EMI's Wailoa Ditch and gets pumped to the upper elevation fields. Next to the intake structure is the Hali`imaile well that is also an important source of water for the ML&amp;P Company.</p> <p>Staff left the ML&amp;P Company at 1200 hours and continued to Kula Agricultural Park.</p>		
<b>Image Listing:</b>	(Attach PDF of image contact sheet)		
<b>File Name:</b>	<b>Brief Description:</b>		
20090622001	Concrete box makai of the Opana transmission tunnel.		
20090622002	Makai of the Opana transmission tunnel.		
20090622003	Concrete box makai of the Opana transmission tunnel.		
20090622004	Makai of the Opana transmission tunnel.		
20090622005	Opana transmission tunnel. A USGS staff gage is located inside the tunnel.		
20090622006	Concrete box makai of the Opana transmission tunnel.		
20090622007	Makai of the Opana transmission tunnel.		
20090622008	Ken Kawahara standing on the concrete box makai of the Opana transmission tunnel.		
20090622009	Concrete box makai of the Opana transmission tunnel.		
20090622010	Concrete box makai of the Opana transmission tunnel.		
20090622011	Vegetation along the side of the mountain near the Opana transmission tunnel.		
20090622012	Opana transmission tunnel and concrete box that are part of the Kailiili Water System.		
20090622013	The 12-inch pipe that transmits water diverted at the Opana intake for ML&P use.		

20090622014	Another diversion off of the 2.5-inch pipe at the Opana intake.
20090622015	Another diversion off of the 2.5-inch pipe at the Opana intake.
20090622016	Opana transmission tunnel and concrete box that are part of the Kailiili Water System.
20090622017	Opana transmission tunnel and concrete box that are part of the Kailiili Water System.
20090622018	Culvert at the Awalau diversion intake.
20090622019	Culvert at the Awalau diversion intake.
20090622020	Culvert at the Awalau diversion intake.
20090622021	The 4-inch pipe that is part of the Awalau diversion intake.
20090622022	Culvert at the Awalau diversion intake.
20090622023	Culvert at the Awalau diversion intake.
20090622024	The 4-inch pipe that is part of the Awalau diversion intake.
20090622025	The 4-inch pipe that is part of the Awalau diversion intake.
20090622026	Culvert at the Awalau diversion intake.
20090622027	The 4-inch pipe that is part of the Awalau diversion intake.
20090622028	Kailiili Reservoir.
20090622029	Kailiili Reservoir.
20090622030	Kailiili Reservoir.
20090622031	Area surrounding the Kailiili Reservoir.
20090622032	Staff at the Kailiili Reservoir.
20090622033	Inflow at the Kailiili Reservoir.
20090622034	Inflow at the Kailiili Reservoir.
20090622035	Hali`imaile well and pump station.
20090622036	Hali`imaile well and pump station.
20090622037	Hali`imaile pump station.
20090622038	Hali`imaile pump station.
20090622039	Hali`imaile pump station.
20090622040	Hali`imaile pump station.
20090622041	Truck-wash at the Hali`imaile well and pump station.
20090622042	Intake structure at Hali`imaile that diverts water from EMI's Wailoa Ditch and gets pumped to the upper elevation fields.
20090622043	Intake structure at Hali`imaile that diverts water from EMI's Wailoa Ditch and gets pumped to the upper elevation fields.
20090622044	Wailoa Ditch at Hali`imaile intake.
20090622045	Kailiili Reservoir.

**GPS Listing:**

**Shapefiles:** (List file names of all shapefiles created and a brief description of each)

<u>File Name:</u>	<u>Brief Description:</u>
FI2009062201	Points of interest (ML&P)

**Waypoints:** (List all waypoints in decimal degrees and provide a brief description of each)

<u>WP No.</u>	<u>Latitude</u>	<u>Longitude</u>	<u>Brief Description:</u>
001	20.84238485	-156.29210019	Turn off from Piiholo Road to Waiahiwi Road.
002	20.84296404	-156.28941732	Turn off to unpaved road.
003	20.84612444	-156.28674961	First locked gate.
004	20.85046601	-156.27734939	Kailiili Reservoir, with inflow from 12-in. pipe.
005	20.84808120	-156.26835728	Outlet of Opana Transmission Tunnel, drops into junction box which divides water to ML&P and MDWS.

**Attachments:**

- Brief Description:**  
 1. Image Contact Sheet

**Recommendations:**

# IMAGE CONTACT SHEET



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# IMAGE CONTACT SHEET



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