STATE OF HAWAII
COMMISSION ON WATER RESOURCE MANAGEMENT
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF WATER RESOURCE MANAGEMENT

REGISTRATION OF WELL
AND
DECLARATION OF WATER USE

INSTRUCTIONS: Please type or print. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and file form with the Division of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96809. Phone 548-5048 or 548-7543 for assistance.

BATTERY OF WELLS: For a battery of wells, on the surface, in a tunnel, or in a shaft, submit a registration form for each well together with a single map or plot plan showing layout of wells.

STATE WELL NO.: 1729-01
WELL NAME OR DESIGNATION: Makakupu Tunnel
ISLAND: Hawaii

A. WELL OPERATOR
Firm name: Kapapala Ranch
Contact person: J. Gordon Cran
Address: P. O. Box 1639
Hilo, Hawaii
Zip: 96721 Phone: (808) 928-8403

B. OWNER OF WELL SITE
Firm name: Kapapala Ranch
Contact person: J. Gordon Cran
Address: P. O. Box 1639
Hilo, Hawaii
Zip: 96721 Phone: (808) 928-8403

C. WELL LOCATION
Tax Map Key: 9-7-01:1 Town, Place, District: Wood Valley, Ka'u, Hawaii
Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

D. WELL DATA
For Drilled Wells, submit "as-built" drawing, driller's log, and pump test results, and complete items below.
For Tunnels and Shafts, submit construction drawings, plot plan, or sketch map.

Ground elevation (Mean sea level): 3,750 ft.
Reference point (Used to measure depth to water):
Elevation: ft.
Description: See map and diagram.

Depth to water (Below reference point): ft.
Maximum recorded chloride: ______ ppm
Minimum recorded chloride: ______ ppm
Maximum chloride in 1987: ______ ppm

E. INSTALLED PUMP DATA
Not Applicable
Pump type: [ ] Vertical shaft [ ] Submersible [ ] Centrifugal [ ] Other (specify):
Power: [ ] Diesel, ______ HP [ ] Gas, ______ HP [ ] Electric, ______ HP [ ] Other (specify):
Pump capacity: ______ gallons per minute
Pump installation contractor:

For Official Use Only:
Date received: 4-17-89 Date accepted: ____________
Field checked by: ______ Date: ____________
Latitude: 19° 17' 11" Hydrologic Unit:
Longitude: 156° 29' 55" State Well No.: 1729-01

References: Hawaii Revised Statutes, Chapter 174C.
Hawaii Administrative Rules, Chapters 13-167 to 13-171.
F. DECLARATION OF WATER USE

NOTE: The purpose of the Declaration of Water Use is to obtain information necessary for the management of the State's water resources. The Declaration does not confer a legal right to water or its use.

Water use data are recorded: Daily Weekly Monthly Other (Describe:)

Method of measurement: Flow Meter Orifice Other (Describe: ) Time collection - G.P.M. Only measured during long drought periods when flow is less than required for livestock. Water must be rationed to livestock during long droughts.

Quantity of Use (Report metered or estimated monthly water use from the well described on the reverse side of this form, for the calendar years 1983 through 1987. For a battery of wells which are not individually metered, but which are connected to a single meter or other measuring device, report total use from the battery):

<table>
<thead>
<tr>
<th>WATER USE, IN GALLONS x 1000</th>
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<tbody>
<tr>
<td>February</td>
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<td>December</td>
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<td>ANNUAL</td>
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Minimum day's use: 37,440 gallons Maximum day's use: 86,400 gallons

Typical times of usage: Constant Flow

Type of Use (Check all category boxes that apply and provide additional information as indicated):

- Category
  - Municipal (including resorts, hotels, businesses)
  - Domestic ( systems serving 25 people or less)
  - Irrigation
  - Industrial
  - Military
  - Other

- Additional Information
  - Water for entire ranch. More water would be used if original pipe had been larger. Future plan is to increase 8000' of pipe from 14" pipe to 20". This will increase cattle water for additional 1000 head.
  - Acres Irrigated:
    - Sugar
    - Pineapple
    - Non-Crop:
      - Landscape
      - Golf Course
    - Method:
      - Drip
      - Furrow
      - Sprinkler
  - Cooling
  - Manufacturing
  - Mill
  - Other (specify):

  Specify (livestock, aquaculture, etc.): Livestock

I declare that the contents of the above Declaration of Water Use are, to the best of my knowledge and belief, true, correct, and complete.

Water User's Signature: J. Gordon Chan
Printed Name: J. Gordon Chan
Firm or Title (Well Operator, etc.): Kapapala Ranch

Date: 4/12/89
Mr. Manabu Tagomori, Deputy Director  
Department of Land & Natural Resources  
Commission on Water Resource Management  
P. O. Box 621  
Honolulu, Hawaii 96809

Dear Mr. Tagomori:

Registration of Wells and Stream Diversion Works  
and Declaration of Water Use

Enclosed are Form 8810-1 and a map of our water source. Makakupu Tunnel is #65 as listed in Geology and Ground-Water Resources of the Island of Hawaii, by H. T. Stearns and G. A. Macdonald, 1946.

The tunnels you identified on the map you sent seem to be Weda Tunnels #70 and #71. These tunnels were used to flume cane, but haven't been used since. They tend to be undependable except during rainy seasons.

The Makakupu (#65) Tunnel was damaged in the 1983 Earthquake. We re-dug the outer tunnel at the intake. The branch on the north side of the intake is very seasonal so has been left until such time as additional water is required. The south branch is the most dependable water source (shown in blue on the map enclosed).

If additional information is required, please advise.

Sincerely,

J. Gordon Cran

J. GORDON CRAN

Enclosures

CERTIFIED - RETURN RECEIPT REQUESTED