Chairperson and Members
Commission on Water Resource Management
State of Hawaii
Honolulu, Hawaii

Gentlemen:

Waialua Sugar Company
Voluntary Reduction of Permitted Water Use in the
Waialua Aquifer System, Waialua Ground Water Management Area

Waialua, Oahu

Background: Present authorized uses of ground water in the Waialua Aquifer System of the Waialua Ground Water Management Area (GWMA) total 43.114 mgd. The sustainable yield for the Waialua Aquifer System (formerly called the Waialua Subarea) was originally 60 mgd when the Board of Land and Natural Resources adopted the sustainable yield in July 1981. The Commission on Water Resource Management, in October 1991, accepted an updated table of sustainable yields for Oahu. Under the updated table, the sustainable yield for the Waialua Aquifer System was reduced from 60 mgd to 40 mgd. The new sustainable yield was formally adopted by the Commission on March 17, 1993. Authorized uses now exceed the sustainable yield by 3.114 mgd.

The Commission staff has reviewed the authorized uses versus the actual uses in the entire Waialua GWMA. Allocations in the Waialua Aquifer System are as follows:

<table>
<thead>
<tr>
<th>Allocations</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waialua Sugar Company</td>
<td>39.940 mgd</td>
</tr>
<tr>
<td>Honolulu BWS</td>
<td>2.730 mgd</td>
</tr>
<tr>
<td>Private Users</td>
<td>0.444 mgd</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>43.114 mgd</strong></td>
</tr>
</tbody>
</table>

Preliminary review of Waialua Sugar Company’s pumpage data indicates that they have used less than 30 mgd of their 40 mgd allocation over the last five years (see attached graph). Water use by the Honolulu BWS and private users has not changed significantly.

Waialua Sugar Company calculated their irrigation requirements using the same methodology that Oahu Sugar Company used to determine their irrigation requirements in the Pearl Harbor area. Irrigation requirements were calculated for dry years (1983 - 1986) and wet years (1988 - 1991). Pumping required was calculated to be about 46 to 48 mgd for dry years and about 35 to 36 mgd for wet years.

Waialua Sugar Company has reviewed their water use over the past 20 years and, based on historical water use, conversion to drip irrigation, and other factors, has voluntarily reduced its permitted water use in the Waialua Aquifer System from 39.9 mgd to 36.0 mgd effective June 1, 1993. This voluntary reduction reduces the allocations in the Waialua Aquifer System to 39.174 mgd, which is less than the sustainable yield of 40 mgd, and allows an additional 0.826 mgd to be allocated.

In voluntarily reducing its allocation, Waialua Sugar Company states that they “want to be on record that sugar production is highly dependent upon water; without adequate water, yields will suffer. We cannot afford to short ourselves of water. As we understand, we can exceed the permitted use during dry periods as may be required” (See attached letter).
Chairperson and Members
Commission on Water Resource Management

June 2, 1993

RECOMMENDATION:

That the Commission accept Waialua Sugar Company's voluntary reduction of permitted use in the Waialua Aquifer System, from 39.940 to 36.0 mgd. The 3.94 mgd reduction will be taken from sources in the Waialua Aquifer System presently being determined by Waialua Sugar Company. Staff will be working with them to determine the source-by-source reductions and will bring the results to the Commission for approval.

Respectfully submitted,

RAE M. LOUI
Deputy Director

Attach.

APPROVED FOR SUBMITTAL

KEITH W. AHUE, Chairperson
WAIALUA AQUIFER SYSTEM
WSCO. Use Vs. Allocation

WUP = 39.940 mgd
11.418 mgd

---- monthly use  ---- 12-mon mov ave
May 12, 1993

Ms. Rae Loui
Deputy Director
State Water Commission
P. O. Box 621
Honolulu, Hawaii 96809

Dear Ms. Loui:

We have had several meetings over the past months to discuss Waialua Sugar Company's permitted water use from the Waialua aquifer. Waialua Sugar has a permitted use of 39.9 million gallons per day. When you add the permitted use of the City Water Department, you have a combined use which is higher than the sustainable yield.

<table>
<thead>
<tr>
<th>Waialua Sugar Company</th>
<th>39.9</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board of Water Supply</td>
<td>3.2</td>
</tr>
<tr>
<td></td>
<td>43.1</td>
</tr>
</tbody>
</table>

Total Sustainable Yield
Over Permitted Use

We have reviewed our water use over the past 20 years and while we have peaked at times over our permitted use, it appears we could reduce the permitted use given recent historical water use, conversion to drip irrigation and other factors.

Before going further, we want to be on record that sugar production is highly dependent upon water; without adequate water, yields will suffer. We cannot afford to short ourselves of water. As we understand, we can exceed the permitted use during dry periods as may be required.

Based on the above discussions and research into this matter, Waialua Sugar Company is voluntarily reducing its permitted water use in the Waialua aquifer from our current 39.9 million gallons per day to 36.0 million gallons per day effective June 1/93.

Sincerely,

Michael F. O'Brien
President
Dole Food Hawaii

cc: M. Agader
    J. A. Russell
    G. Yim
MINUTES OF THE MAY 19, 1993 MEETING

Unanimously approved as submitted (Cox/Nakata).

OLD BUSINESS/REPORTS

Ms. Loui reported on two follow up items:

1) Guidelines for modification of the water use permits

   Staff finds that Administrative Rules 171-23 are clear regarding changes
   that require modification. Therefore, it was felt that guidelines are not
   necessary.

2) Guidelines for Emergency permits

   Still being worked on. Eventually, amendments to the Administrative
   Rules will be made to more clearly address emergency permits.

WAIALUA SUGAR COMPANY, VOLUNTARY REDUCTION OF
PERMITTED WATER USE IN THE WAIALUA GROUND WATER
MANAGEMENT AREA, WAIALUA, OAHU

Mr. Sakoda submitted amended recommendations for the Commission review and
action (see attached).

Mr. Cox had the following questions:

1) Are the statements regarding "dry years and "wet years" correct for that
   area and time?

   Rainfall data provided by Climate Center was utilized, it was jointly
determined that these were wet and dry years based on actual rainfall
information.

2) In terms of the water level in the aquifer, what has happened during the
   periods noted?

   The water level data for the Waialua Aquifer is not that good. No
problems have been expressed. USGS is drilling in that area to get more
data.

3) What length of time is being discussed in Waialua Sugar Company's
   (Waialua Sugar) statement: "We cannot afford to short ourselves of water.
   As we understand, we can exceed the permitted use during dry periods as
   may be required."

   No specifics have been set, it would be on a case by case basis.

Mr. Nakata asked:

1) Why was there a discrepancy in the amount of pumpage?

   Mr. Sakoda replied that Waialua Sugar was still in the process of
   converting from furrow to drip. During that time, fields lie fallow longer
   than normal.

2) What percentage of the acreage was under drip irrigation?
Milton Agadar, Waialua Sugar Irrigation Superintendent stated that approximately 90% is fed by drip irrigation from the Waialua Aquifer.

Mr. Martin provided testimony (see Commission file) urging the Commission to review all data presently available and consider imposing further allocation reductions. He also felt specific quantitative guidelines and protocols for administering dry period extractions need to be part of the State Water Resource Protection Plan and water use permit conditions.

Mr. Cox commented that unless more information was available he would be uncomfortable in trying set a time for the dry period because it would vary considerably from aquifer to aquifer. Mr. Sakoda agreed that a generalized guideline would be difficult to make because every situation would be different.

In regards to the word "voluntary", Mrs. Black suggested "agreement" because if there is no water, how could it be a "voluntary reduction". Mr. Sakoda stated that it is voluntary because the Water Code provides that a water user can voluntarily give up or reduce their allocation without going through the public hearing process.

Mr. Ing asked how the data was obtained for the graph and if all the active pumps were metered. Mr. Sakoda said data was submitted monthly by Waialua Sugar. Mr. Agadar responded that all the pumps are metered.

Mr. Ing asked why the 12-month moving average of pumping was used and if this was an industry practice. In Hawaii, 12-month moving averages have been used by the water industry.

Unanimously approved as amended (Cox/Nakata).

ITEM 4

HOUSING FINANCE AND DEVELOPMENT CORPORATION, APPLICATION FOR A WELL CONSTRUCTION PERMIT, KEOPU-HFDC WELL 1 (WELL NO. 3957-03), NORTH KONA, HAWAII

The following items were discussed:

1) The nearby Haseko Well is not being pumped but is proposed to be pumped at 700 gallons per minute.

2) This well would be required to follow the CWRM’s pump test protocol, which is a seven day test. The best data possible will be obtained for input into the Groundwater Model currently being developed jointly by USGS/CWRM.

3) If the HFDC wells interfere with the Haseko well, the Hawaii County BWS would not award the full amount of water commitments to the wells.

4) There have been mixed results of the testing of the high level wells. Some have stabilized quickly while others have not.

Mr. Martin expressed concerns regarding ceded lands, the effects on other wells due to a first come-first serve process, and requirements for a water license.

Mr. Tam said public lands are set aside by executive order for county and other state department uses. Setting aside or transferring water to a sub-agency of the state for public purposes is not a transfer to a private entity. Therefore, the use by the counties of state lands for providing municipal water supply does not require a license under the Land Board or the Commission.

Unanimously approved (Cox/Nakata).
State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Water and Land Development
Honolulu, Hawaii

September 11, 1981

Chairman and Members
Board of Land and Natural Resources
State of Hawaii
Honolulu, Hawaii

Gentlemen:

Certification of Ground Water Withdrawals and Uses,
Waialua Ground Water Control Area, Oahu

The Waialua Ground Water Control Area was designated by the Board of Land and Natural Resources on February 27, 1981 under authority of Chapter 177, ERS., and Chapter 186 of Title 13, Administrative Rules entitled "Rules for the Control of Ground Water Use in the State of Hawaii". The Department's regulatory procedures provide for water users to declare their existing water uses within a ninety-day period which ended June 4, 1981 and allows the Board 180 days to certify the declared uses.

The recommended certification of total annual, average daily, and maximum daily withdrawals for individual wells and/or well fields is tabulated in the attachment, "Certification of Ground Water Withdrawals and Uses, Waialua Ground Water Control Area", for the Waialua, Mokuleia, and Kawaiola Subareas. A comparison of the recommended quantity for certification and the sustainable yield adopted by the Board on July 24, 1981 is tabulated below:

<table>
<thead>
<tr>
<th>Subarea</th>
<th>Sustainable Yield (mgd)</th>
<th>Recommended Certification (mvd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waialua</td>
<td>60</td>
<td>31.612</td>
</tr>
<tr>
<td>Mokuleia</td>
<td>20</td>
<td>7.753</td>
</tr>
<tr>
<td>Kawaiola</td>
<td>10</td>
<td>5.269</td>
</tr>
</tbody>
</table>

The remaining ground water supplies may be withdrawn by obtaining permits from the Board of Land and Natural Resources.

RECOMMENDATION:

That the Board certify the existing withdrawals and uses for each well tabulated on the attached "Certification of Ground Water Withdrawals and Uses, Waialua Ground Water Control Area" dated September 11, 1981, subject to any special conditions and applicable laws, rules and regulations.

Respectfully submitted,

ROBERT T. CHUCK
Manager-Chief Engineer

APPROVED FOR SUBMITTAL:

SUZUMU OGO, Chairman

Approved by the Board of Land & Natural Resources at the meeting held on

ITEM 3-5

C8
### DECLAIMED EXISTING USE

<table>
<thead>
<tr>
<th>User/Source</th>
<th>State Well No.</th>
<th>Total Wells</th>
<th>Source Capacity (mgd)</th>
<th>5-yr. Ave Withdrawal (mgd)</th>
<th>Maximum Daily Withdrawal (mgd)</th>
<th>Total Annual Withdrawal (mgd)</th>
<th>Average Daily Withdrawal (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WAI'IALIA Subarea</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>Waialua Sugar Co.</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump 1</td>
<td>3407-04, 05, 06, 14, 15</td>
<td>5</td>
<td>Agr. 6.0</td>
<td>2.33 Agr.</td>
<td>6.0</td>
<td>850.45</td>
<td>2.33</td>
</tr>
<tr>
<td>Pump 2</td>
<td>3407-01 to 06, 06 to 10</td>
<td>9</td>
<td>Agr./ Dom. 10.0</td>
<td>4.37 Agr./ Dom.</td>
<td>10.0</td>
<td>1,595.05*</td>
<td>4.37*</td>
</tr>
<tr>
<td>Pump 2A</td>
<td>3407-07, 11 to 14</td>
<td>5</td>
<td>Agr./ Dom. 7.0</td>
<td>4.45 Agr./ Dom.</td>
<td>7.0</td>
<td>1,308.89</td>
<td>3.584</td>
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<tr>
<td>Pump 3</td>
<td>35-5-01 to 20</td>
<td>20</td>
<td>Agr./ Dom. 7.0</td>
<td>3.16 Agr./ Dom.</td>
<td>7.0</td>
<td>1,133.58</td>
<td>3.502</td>
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<tr>
<td>Pump 7</td>
<td>3407-11, 12, 16, 19</td>
<td>4</td>
<td>Agr./ Dom. 5.5</td>
<td>3.03 Agr./ Dom.</td>
<td>5.5</td>
<td>1,068.75</td>
<td>2.375</td>
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<tr>
<td>Pump 8</td>
<td>3506-02, 04</td>
<td>2</td>
<td>Agr./ Dom. 3.0</td>
<td>1.66 Agr./ Dom.</td>
<td>3.0</td>
<td>605.90*</td>
<td>1.66*</td>
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<tr>
<td>Pump 9</td>
<td>3406-02</td>
<td>1</td>
<td>Agr. 0.75</td>
<td>0.16 Agr.</td>
<td>0.75</td>
<td>58.4</td>
<td>0.16</td>
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<tr>
<td>Pump 10</td>
<td>3306-01 to 12</td>
<td>12</td>
<td>Agr. 12.0</td>
<td>6.62 Agr.</td>
<td>12.0</td>
<td>2,146.30</td>
<td>6.62</td>
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<tr>
<td>Pump 17</td>
<td>3404-02</td>
<td>1</td>
<td>Agr./ Dom. 15.0</td>
<td>8.63 Agr./ Dom.</td>
<td>15.0</td>
<td>2,992.37</td>
<td>0.198</td>
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<tr>
<td>Mill Pumps</td>
<td>3407-07 to 10, 16, 17, 20, 21</td>
<td>8</td>
<td>Agr. 10.0</td>
<td>4.63 Agr.</td>
<td>10.0</td>
<td>1,609.95</td>
<td>4.63</td>
</tr>
<tr>
<td>Pump 24</td>
<td>3102-02</td>
<td>1</td>
<td>Agr. 4.50</td>
<td>2.58 Agr.</td>
<td>4.50</td>
<td>941.70</td>
<td>2.58</td>
</tr>
<tr>
<td>Pump 25</td>
<td>2283-01</td>
<td>1</td>
<td>Agr. 4.50</td>
<td>2.10 Agr.</td>
<td>4.50</td>
<td>1,131.50</td>
<td>3.07</td>
</tr>
<tr>
<td>Pump 26</td>
<td>2283-02</td>
<td>1</td>
<td>Agr. 4.50</td>
<td>2.76 Agr.</td>
<td>4.50</td>
<td>1,007.40</td>
<td>2.76</td>
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<td><strong>Subtotal (Waialua Sugar Co.)</strong></td>
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<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
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<tr>
<td><strong>Board of Water Supply</strong></td>
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</tr>
<tr>
<td>Waialua Wells</td>
<td>3405-01, 02</td>
<td>2</td>
<td>Mun. 4.32</td>
<td>1.72 Mun.</td>
<td>4.32</td>
<td>631.45</td>
<td>1.73</td>
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<tr>
<td><strong>Private Users</strong></td>
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<td></td>
<td></td>
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<tr>
<td>Kawaguchi, Howard</td>
<td>3506-07</td>
<td>1</td>
<td>Agr. 0.180</td>
<td>0.058 Agr.</td>
<td>0.180</td>
<td>21.17</td>
<td>0.058</td>
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<tr>
<td>Kawamura, Kenji</td>
<td>3406-03</td>
<td>1</td>
<td>Agr. Nat. flow</td>
<td>No data Agr.</td>
<td>No data</td>
<td>36.5</td>
<td>0.1</td>
</tr>
<tr>
<td>Kunihito, Shizuo</td>
<td>3406-06, 3407-02</td>
<td>2</td>
<td>Agr. Nat. flow</td>
<td>No data Agr.</td>
<td>No data</td>
<td>73.0</td>
<td>0.2</td>
</tr>
<tr>
<td>Oceanic Properties</td>
<td>3405-03, 04</td>
<td>2</td>
<td>Mun. 2.016</td>
<td>No data Mun.</td>
<td>2.016</td>
<td>365.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Polynesian Shores</td>
<td>3406-03</td>
<td>1</td>
<td>Oth. 0.144</td>
<td>Oth.</td>
<td>0.144</td>
<td>52.56</td>
<td>0.144</td>
</tr>
<tr>
<td><strong>Subtotal (Private Users)</strong></td>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL - Waialua Subarea</strong></td>
<td>78</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*For Agr./Dom. uses, specific quantities for each use are to be promulgated when additional information becomes available.

C9
<table>
<thead>
<tr>
<th>User/Source</th>
<th>State Well No.</th>
<th>DECLARED EXISTING USE</th>
<th>PRESERVED USE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Total Wells</td>
<td>Source Capacity (mgd)</td>
<td>5-yr. Ave. Withdrawal (mgd)</td>
</tr>
<tr>
<td><strong>MOKULEIA Subarea</strong></td>
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<tr>
<td>Waialua Sugar Co.</td>
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</tr>
<tr>
<td>Pump 5</td>
<td>3411-06 to 11</td>
<td>8 Agr. 0.5</td>
<td>2.55</td>
</tr>
<tr>
<td>Pump 11</td>
<td>3409-13</td>
<td>1 Agr./Dom. 1.5</td>
<td>0.53</td>
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<tr>
<td>Subtotal (Waialua Sugar Co.)</td>
<td></td>
<td>9 10.0</td>
<td>3.08</td>
</tr>
<tr>
<td><strong>Private Users</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Army - Billingham</td>
<td>3412-02</td>
<td>1 Dom. 0.720</td>
<td>No data</td>
</tr>
<tr>
<td>Air Force - Kauai Pt.</td>
<td>3314-03</td>
<td>1 Util. 0.006</td>
<td>0.018</td>
</tr>
<tr>
<td>Mokuleia Assoc.</td>
<td>3409-16</td>
<td>1 Dom. No data</td>
<td>No data</td>
</tr>
<tr>
<td>Mokuleia Homesteads</td>
<td>3410-01</td>
<td>1 Agr./Dom. 0.5</td>
<td>Agr./Dom. 0.5</td>
</tr>
<tr>
<td>3410-03</td>
<td></td>
<td>1 Agr./Dom. 1.512</td>
<td>Agr./Dom. 1.5</td>
</tr>
<tr>
<td>3410-05</td>
<td></td>
<td>1 Agr. Nat. flow 0.1</td>
<td>To be sealed</td>
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<tr>
<td>3310-01</td>
<td></td>
<td>1 Agr./Dom. 1.5</td>
<td>No data</td>
</tr>
<tr>
<td>3310-02</td>
<td></td>
<td>1 Agr./Dom. 1.5</td>
<td>No data</td>
</tr>
<tr>
<td>Subtotal (Private Users)</td>
<td></td>
<td>8 5.316</td>
<td>2.118</td>
</tr>
<tr>
<td>TOTAL - Mokuleia Subarea</td>
<td></td>
<td>17 15.318</td>
<td>5.198</td>
</tr>
<tr>
<td><strong>KAWAILOA Subarea</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Waialua Sugar Co.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump 1</td>
<td>3505-02 to 11</td>
<td>9 Agr. 14.0</td>
<td>5.53</td>
</tr>
<tr>
<td>Private User</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Meadow Gold Farm</td>
<td>3704-01</td>
<td>1 Ind. 0.648</td>
<td>0.430</td>
</tr>
<tr>
<td>TOTAL - Kawailoa Subarea</td>
<td></td>
<td>10 14.648</td>
<td>5.96</td>
</tr>
</tbody>
</table>

*For Agr./Dom. uses, specific quantities for each use are to be prorated when additional information becomes available.
REPLY TO
ATTN OF: DE

SUBJECT: Declaration of Existing Water Withdrawal and Use

TO: State Dept of Land and Natural Resources
    P.O. Box 373
    Honolulu, HI 96809

Attached is the completed Declaration of Existing Water Withdrawal and Use form per your request. Hope you find everything in order.

KENNETH W. COWAN, Colonel, USAF
Director of Civil Engineering

Declaration Form w/Atch
State of Hawaii  
Department of Land and Natural Resources  

DECLARATION OF EXISTING WATER WITHDRAWAL AND USE  
Honolulu and Waialua Ground Water Control Areas  

Instructions: This form must be properly completed, signed, and submitted for each individual well or connected battery of wells on or before June 4, 1981, in accordance with Regulation 9 of the Department. Submit the form with any attachments to Department of Land and Natural Resources, P.O. Box 373, Honolulu, Hawaii 96809.

1. WATER USER: Name U.S. Air Force  
   Phone:  
   Mailing address 15 ABH/DE  
   Hickam AFB, Hawaii 96853  

2. WATER USER'S WELL CONNECTED BATTERY OF WELLS:  
   User's Well Name and Location Keawaula  
   Tax Map Key:  
   User's Well No. (s)  
   Pump or natural flow capacity (gpm) 60 gpm  
   Capacity determined by flowmeter, nameplate, orifice, etc. (specify) nameplate  
   Year pump inst./modified 1971  

3. BENEFICIAL USE OF WATER:  
   (a) Major Use:  
      □ Municipal  □ Agriculture  □ Military  □ Industrial  
      □ Domestic  □ other (specify) (specify)  
   (b) Minor Uses:  
      □ Other (specify)  
      total acreage irrigated  
      , and attach map showing acreage irrigated by the well source.  
   (c) For Agriculture Use only: list crop(s) and total acreage irrigated, and attach map showing acreage irrigated by the well source.  

4. BENEFICIALLY USED WATER WITHDRAWALS:  
   (a) All figures given in (b) are records of:  
      □ Metered flow  □ Nameplate pump capacity  
      □ Orifice  □ Weir  □ Other (specify)  
   (b) Records available (in million gallons per day, three decimal places):  

      |-------|------|------|------|------|------|------|
      | Est.  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | Jan.  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | Feb.  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | Mar.  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | Apr.  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | May   | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | June  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | July  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | Aug.  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | Sep.  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | Oct.  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | Nov.  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | Dec.  | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |
      | Yr. total | 6,480,000 | 6,480,000 | 6,480,000 | 6,480,000 | 6,480,000 | 6,480,000 |
      | Mo. Ave. | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 | 540,000 |

   (c) For Agriculture Use only: description of withdrawal schedule (include times of day and days of week):  

5. WELL DESCRIPTION:  
On the attached sheet, make corrections or additions thereon in red pencil as necessary and return with Declaration form. If information is readily available in another form, you may submit it in lieu of the corrected sheet.

Declaration: Under penalties provided in Regulation 9 of the Department of Land and Natural Resources, the undersigned declare and certify that this declaration has been examined, including accompanying statements, and to the best of our knowledge and belief, it is true, correct, and complete.

KENNETH W. COWAN, Col, USA  
Water User: Base Civil Engineer  
(print) (signature)  
(date) 4 June 1981  

Landowner of Well Site:  
(print) (signature)  

For Official Use: Last day to certify Date certified Amount certified WELL(S) No.
RECEIVED
8 JUN 9 A8: 36

IMP. OF WATER &
LAND DEVELOPMENT
**WELL INFORMATION SHEET**

Instructions: The following information is currently on file at the Department of Land and Natural Resources, Division of Water and Land Development. If there are any changes, please make the necessary corrections and return to the Department of Land and Natural Resources, P.O. Box 373, Honolulu, Hawaii 96809.

<table>
<thead>
<tr>
<th>Field</th>
<th>Information</th>
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<tbody>
<tr>
<td>Well Number</td>
<td>3314-03</td>
</tr>
<tr>
<td>Name or Location</td>
<td>Keawaula (VAIAUWA) LAIENA 17</td>
</tr>
<tr>
<td>Owner or User</td>
<td>U.S. Air Force</td>
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<tr>
<td>Year drilled</td>
<td>1971</td>
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<tr>
<td>Driller</td>
<td>Water Resources International</td>
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<tr>
<td>Ground Surface Elevation</td>
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<tr>
<td>Casing Diameter in inches</td>
<td>12</td>
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<tr>
<td>Total depth of well in feet</td>
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<td>Casing depth in feet</td>
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<tr>
<td>Major Use</td>
<td>Military</td>
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<tr>
<td>Static Water Level in feet</td>
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<tr>
<td>Chloride content of water in milligrams/liter</td>
<td>272 - 284</td>
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<tr>
<td>Installed pump capacity in million gallons per day</td>
<td>60 ppm (0.86 MGD)</td>
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<tr>
<td>Average annual draft in million gallons per day</td>
<td>60 ppm</td>
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</table>


RECEIVED
81 JUN 9  A 8: 36

DYN. OF WATER &
LAND DEVELOPMENT
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAII 96809

WAIALUA GROUND WATER CONTROL AREA
WELL MODIFICATION PERMIT
for
U.S. Air Force Well
State Well No. 3314-03
Kaena Point, Oahu

TO: Roscoe Moss Company
830 Ahua Street
Honolulu, Hawaii 96819

In accordance with Chapter 166 of Title 13, "Rules for the Control of Ground Water Use in the State of Hawaii", your application to replace the pump and deepen 50 feet, if necessary, State Well No. 3314-03 for military use is approved subject to the following conditions:

1. A Driller's Well Completion Report (enclosed) shall be submitted to the Division of Water and Land Development (P.O. Box 373, Honolulu, Hawaii 96809) within 60 days after completion of the work.

2. Pumping test data shall be submitted within 60 days after testing of the well.

3. Reports of pumpage shall be submitted monthly after the well is put into production.

4. An "as-built" drawing of the well shall be submitted upon completion of the well.

5. The applicant shall comply with all applicable laws, rules, and ordinances.

MAY 26 1987
Date of Issuance

Enc. (Driller's Report Form)
cc: USGS
Dept. of Health,
Drinking Water Program
Honolulu BWS
DIVISION OF WATER AND LAND DEVELOPMENT

FROM: [Signature] 
DATE: 5/7 
FILE IN: 

TO: INITIAL: 

PLEASE: 

REMARKS: 

- M. TAGOMORI See Me
- A. Ching Take Action By
- H. Sakai Route to Your Branch
- G. Morimoto Review & Comment
- D. Lum Draft Reply By
- S. Miyamoto Acknowledge Receipt
- S. Samuels Xerox copies
- G. Matsumoto Return
- P. Matsuo File
- N. Imada Mail
- N. Kaneshiro For Information
- L. Asari S. Kokubun
- L. Asari D. Hamada
- L. Nanbu L. Nanbu
- J. Siarot J. Siarot
APPLICATION FOR (check one)

☐ WELL DRILLING PERMIT  ☑ WELL MODIFICATION PERMIT

For Kaena Point Well

Instructions: Send completed application and attachments to Department of Land and Natural Resources, P.O. Box 373, Honolulu, Hawaii 96809.

Reference: Regulation 9, Dept. of Land & Natural Resources.

Is the well located in a Designated Ground Water Control Area? ☑ Yes  ❌ No, If "yes", application must be accompanied by a Water Use and/or Water Supply Permit and a non-refundable filing fee of $100 payable to the Department of Land & Natural Resources. However, if application is for minor modification of well, filing fee may be waived. If "no", no filing fee is required. Filing fee is waived for federal, state, and county government agencies.

1. WELL LOCATION: Island ☑ OAHU ☐ Tax Map Key __________. Attach a plot plan showing well location referenced to established property boundaries.

2. WATER USER Dept. of the Air Force Telephone 637-7312
   Address Dept. 6, AFSCF P.O. BOX 868 Wai‘anae
   Zip Code 96792

3. PROPOSED DRILLING COMPANY: ROOSE MOSS COMPANY

4. PROPOSED WORK: ☑ Drill new well  ☐ Deepen ☐ Redrill ☐ Alter ☐ Seal
   ☐ Abandon ☐ Install new pump ☐ Replace pump ☐ Modify pump

   Fill in the diagram and briefly describe the proposed work (use back of form if necessary):
   Drill additional open hole from 1205 ft. to 1255 ft. Open hole will be
   11" dia. casing depth is 1176 ft.

5. PROPOSED USE: ☑ Municipal ☐ Military ☐ Agriculture ☐ Industrial
   ☐ Domestic ☐ Disposal ☐ Other (specify) ___________

6. PROPOSED AMOUNT OF WITHDRAWAL: Check most appropriate box and fill in amount.
   ☑ Daily __________ gallons  ☐ Monthly __________ gallons  ☐ Yearly __________ gallons

7. PROPOSED PUMP OR FLOW CAPACITY: __________ gallons per minut

Signature: ___________________________ Date: ___________________________

Signature: ___________________________ Date: ___________________________

For Official Use:

State Well No. ___________________________
DLNR Permit No. ___________________________
DLNR Application No. ___________________________
Dept of the Air Force Kamp Knew Well

Steel Plate Newhead 1144' MSL
Conc. Base

16" Drilled Hole

12'75" Casing Exists.

4" Column Pipe Exists.

Drawdown Tubing, Probe & Power Cables

Approx. Water Level 40' MSL
(May Vary)

Sea Level
Approx. Top of Pump Assy.

Bottom of Casing

Approx. Limit New Grout 5'
8" Above G.C.

Bottom Exists Hole

Approx. 11" D New Hole
June 10, 1981

Colonel Kenneth W. Cowan  
Director of Civil Engineering  
Dept. of the Air Force  
Headquarters 15th Air Base Wing (PACAF)  
Hickam Air Force Base, Hawaii 96853

Dear Colonel Cowan:

Waialua Ground Water Control Area

We acknowledge receipt on ______, 1981, your Declaration of Existing Water Withdrawal and Use in the Waialua Ground Water Control Area. Our staff will review the data and may contact you for a field inspection of your well(s) before certification of your declared water use is made by the Board of Land and Natural Resources.

We appreciate your early filing of the declaration of existing water use.

Very truly yours,

[Signature]

ROBERT T. CHUCK  
Manager-Chief Engineer

ES: dh
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<tr>
<th>To</th>
<th>Initial</th>
<th>Name</th>
<th>Action</th>
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<tr>
<td></td>
<td></td>
<td>Robert T. Chuck</td>
<td>See Me</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Takeo Fujii</td>
<td>Take action by</td>
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<tr>
<td></td>
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<td>James Yoshimoto</td>
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<td>Manabu Tagomori</td>
<td>Review &amp; comment</td>
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<td>George Morimoto</td>
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<td>Hong Fong Chang</td>
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<tr>
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<td>Edwin Sakoda</td>
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*ACKNOWLEDGED:*
WELL INFORMATION SHEET

Instructions: The following information is currently on file at the Department of Land and Natural Resources, Division of Water and Land Development. If there are any changes, please make the necessary corrections and return to the Department of Land and Natural Resources, P.O. Box 373, Honolulu, Hawaii 96809.

Well Number: 8314-03

Name or Location: Keawaula

Owner or User: U.S. Air Force

Year drilled: 1971

Driller: Water Resources International

Ground Surface Elevation in feet referenced to mean sea level: 1146

Casing Diameter in inches: 12

Total depth of well in feet: 1178

Casing depth in feet: 1176

Major Use:

☐ Domestic ☐ Disposal
☐ Municipal ☐ Unused ☐ Lost
☐ Irrigation ☐ Sealed ☐ Recharge
☐ Industrial ☐ Observation ☐ Other (specify)

Static Water Level in feet: 12.8

Chloride content of water in milligrams/liter: 272 - 284

Installed pump capacity in million gallons per day: ______________________

Average annual draft in million gallons per day: ______________________