September 25, 2002

Ref: wup47&135.act

Mr. Yoshi Tanabe
Waialua Sugar Company
1116 Whitmore Avenue
Wahiawa, HI 96786

Dear Mr. Tanabe:

Notice of Action
Revocation of Water Use Permits

Pump 10 (Well Nos. 3306-01 to 12; WUP No. 135), TMK 6-5-1:002
Mill Pumps (Well Nos. 3407-02 to 10, 13, 16, 17, 20 & 21; WUP No. 47), TMK 6-7-01:5

Waialua Ground Water Management Area, Oahu

This letter serves as your official notice of action by the Commission on Water Resource Management (Commission) on the above-referenced water use permits.

By a unanimous vote of the Commission at their meeting on September 18, 2002, the Commission:

1. Revoked WUP Nos. 47 and 135.

2. Commended Waialua Sugar Company for their voluntarily actions to expend the effort and financial resources to seal former agricultural wells that are no longer needed and may pose water resource threats, and also for their voluntary relinquishment of unused water allocations so that new reasonable-beneficial uses may proceed.

If you have any questions, please contact Lenore Nakama at [redacted]

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

LN:ss
STAFF SUBMITTAL

for the meeting of the
COMMISSION ON WATER RESOURCE MANAGEMENT
September 18, 2002
Honolulu, Oahu

Waialua Sugar Company
REVOCATION OF WATER USE PERMITS
Pump 10 (Well Nos. 3306-01 to 12; WUP No. 135), TMK 6-5-1:002
Mill Pumps (Well Nos. 3407-07 to 10, 13, 16, 17, 20 & 21; WUP No. 47), TMK 6-7-01:5
Waialua Ground Water Management Area, Oahu

PERMITTEE: Waialua Sugar Company
1116 Whitmore Avenue
Wahiawa, HI 96786

LANDOWNER: Same

LOCATION MAP: See Exhibit 1

BACKGROUND:

On September 11, 1981, the Board of Land and Natural Resources approved the certification of Waialua Sugar Company's (WSCO) existing use of 6.620 mgd and 4.630 mgd from Pump 10 (Well Nos. 3306-01 to 12) and Mill Pumps (Well Nos. 3407-07 to 10, 13, 16, 17, 20 & 21), respectively. The water was used for sugarcane agriculture.

On June 2, 1993, the Commission on Water Resource Management (Commission) approved WSCO's voluntary reduction in permitted use from the Waialua Ground Water Management Area. This action resulted in the reduction of the allocation for Pump 10 from 6.620 mgd to 5.0 mgd (WUP No. 135). There was no change in the allocation for the Mill Pumps, which remained at 4.630 mgd (WUP No. 47).

On April 25, 2002, WSCO submitted an application to abandon/seal the Pump 10 battery of wells.

Item 6
On May 9, 2002, a Well Abandonment Permit was issued for the Pump 10 battery, and on August 5, 2002, Well Abandonment Reports were received and accepted by the Commission.

On August 12, 2002, WSCO submitted an application to abandon/seal the Mill Pump battery of wells.

On August 28, 2002, a Well Abandonment Permit was issued for the Mill Pump battery. The permit cover letter notified WSCO that the staff was planning to recommend that the CWRM revoke the water use permit for the source because the source was to be abandoned and sealed.

On or about August 30, 2002, the staff contacted the WSCO representative and confirmed that WSCO has no objections to these proposed revocations.

RECOMMENDATION:

Staff recommends that the Commission:

1. Revoke WUP Nos. 47 and 135.

2. Commend WSCO for their voluntarily actions to expend the effort and financial resources to seal former agricultural wells that are no longer needed and may pose water resource threats, and also for their voluntary relinquishment of unused water allocations so that new reasonable-beneficial uses may proceed.

Respectfully submitted,

LINNEL T. NISHIOKA
Deputy Director

Exhibit 1 (Location Map)
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:

| Waialua Sugar Company | 39.940 mgd |
| Honolulu BWS         | 2.730 mgd  |
| Private Users         | 0.444 mgd  |
| **Total**             | **43.114 mgd** |

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

months

1/80 1/82 1/84 1/86 1/88 1/90 1/92

mgd

0 10 20 30 40 50 60 70 80
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>
<tr>
<td><strong>Total Sustainable Yield</strong></td>
<td><strong>40.0</strong></td>
</tr>
<tr>
<td><strong>Over Permitted Use</strong></td>
<td><strong>(3.1)</strong></td>
</tr>
</tbody>
</table>

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
ITEM 1

MINUTES OF THE MAY 19, 1993 MEETING

Unanimously approved as submitted (Cox/Nakata).

ITEM 2

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.

ITEM 3

WAIALUALA SUGAR COMPANY, VOLUNTARY REDUCTION OF PERMITTED WATER USE IN THE WAIALUALA GROUND WATER MANAGEMENT AREA, WAIALUALA, 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 if 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 156 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 Kawaihae 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 (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Waialua</td>
<td>60</td>
<td>1.512</td>
</tr>
<tr>
<td>Mokuleia</td>
<td>20</td>
<td>7.753</td>
</tr>
<tr>
<td>Kawaihae</td>
<td>10</td>
<td>5.360</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. EVANS  
Manager-Chief Engineer  

APPROVED FOR SUBMITTAL:  

SUSUMU OTO, Chairman  

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

9/1/81  

ITEM 3-5  

C8
<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>Declar. Existing Use</th>
<th>Preserved Use</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>WAIALUA Subarea</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wailua Sugar Co.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump 1</td>
<td>3402-04, 05, 06,</td>
<td>5</td>
<td>Agr.</td>
<td>6.0</td>
<td>2.33</td>
<td>Agr.</td>
<td>6.0</td>
<td>850.45</td>
<td>2.33</td>
</tr>
<tr>
<td></td>
<td>14, 15</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump 2</td>
<td>3307-01 to 06, 08 to 10</td>
<td>9</td>
<td>Agr./Dom.</td>
<td>10.0</td>
<td>4.37</td>
<td>Agr./Dom.</td>
<td>10.0</td>
<td>1,595.05</td>
<td>4.37</td>
</tr>
<tr>
<td>Pump 2A</td>
<td>3307-07, 11 to 14</td>
<td>5</td>
<td>Agr./Dom.</td>
<td>7.0</td>
<td>4.65</td>
<td>Agr./Dom.</td>
<td>7.0</td>
<td>1,308.89</td>
<td>3.58</td>
</tr>
<tr>
<td>Pump 3</td>
<td>35-5-01 to 20</td>
<td>20</td>
<td>Agr./Dom.</td>
<td>7.0</td>
<td>3.16</td>
<td>Agr./Dom.</td>
<td>7.0</td>
<td>1,112.98</td>
<td>0.30</td>
</tr>
<tr>
<td>Pump 4</td>
<td>3407-12, 13, 18, 19</td>
<td>4</td>
<td>Agr./Dom.</td>
<td>5.5</td>
<td>3.93</td>
<td>Agr./Dom.</td>
<td>5.5</td>
<td>1,268.75</td>
<td>3.75</td>
</tr>
<tr>
<td>Pump 8</td>
<td>3506-03, 04</td>
<td>2</td>
<td>Agr./Dom.</td>
<td>3.0</td>
<td>1.66</td>
<td>Agr./Dom.</td>
<td>3.0</td>
<td>605.90</td>
<td>1.84</td>
</tr>
<tr>
<td>Pump 9</td>
<td>3406-02</td>
<td>1</td>
<td>Agr.</td>
<td>0.75</td>
<td>0.16</td>
<td>Agr.</td>
<td>0.75</td>
<td>58.4</td>
<td>0.16</td>
</tr>
<tr>
<td>Pump 10</td>
<td>3306-01 to 12</td>
<td>12</td>
<td>Agr.</td>
<td>12.0</td>
<td>6.62</td>
<td>Agr.</td>
<td>12.0</td>
<td>2,416.30</td>
<td>6.22</td>
</tr>
<tr>
<td>Pump 11</td>
<td>3404-02</td>
<td>1</td>
<td>Agr./Dom.</td>
<td>15.0</td>
<td>8.63</td>
<td>Agr./Dom.</td>
<td>15.0</td>
<td>2,592.37</td>
<td>6.19</td>
</tr>
<tr>
<td>Pump 12</td>
<td>3407-07 to 10, 16, 17, 20, 21</td>
<td>8</td>
<td>Agr.</td>
<td>10.0</td>
<td>4.63</td>
<td>Agr.</td>
<td>10.0</td>
<td>1,609.95</td>
<td>4.63</td>
</tr>
<tr>
<td>Mill Pumps</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump 13</td>
<td>3102-02</td>
<td>1</td>
<td>Agr.</td>
<td>4.50</td>
<td>2.58</td>
<td>Agr.</td>
<td>4.50</td>
<td>941.70</td>
<td>2.58</td>
</tr>
<tr>
<td>Pump 14</td>
<td>3203-08</td>
<td>1</td>
<td>Agr.</td>
<td>4.50</td>
<td>3.10</td>
<td>Agr.</td>
<td>4.50</td>
<td>1,131.50</td>
<td>3.10</td>
</tr>
<tr>
<td>Pump 15</td>
<td>3203-02</td>
<td>1</td>
<td>Agr.</td>
<td>4.50</td>
<td>2.76</td>
<td>Agr.</td>
<td>4.50</td>
<td>1,007.40</td>
<td>2.76</td>
</tr>
<tr>
<td><strong>Subtotal (Wailua Sugar Co.)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>89.75 48.38 89.75 17,058.70 48.38</td>
</tr>
<tr>
<td><strong>Board of Water Supply</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wailua Wells</td>
<td>3405-01, 02</td>
<td>2</td>
<td>Mun.</td>
<td>4.32</td>
<td>1.72</td>
<td>Mun.</td>
<td>4.32</td>
<td>631.45</td>
<td>1.73</td>
</tr>
<tr>
<td><strong>Private Users</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kawaguchi, Howard</td>
<td>3506-07</td>
<td>1</td>
<td>Agr.</td>
<td>0.180</td>
<td>0.058</td>
<td>Agr.</td>
<td>0.180</td>
<td>21.17</td>
<td>0.058</td>
</tr>
<tr>
<td>Kawamura, Kengo</td>
<td>3406-03</td>
<td>1</td>
<td>Agr. Nat. Flow</td>
<td>No data</td>
<td>Agr.</td>
<td>No data</td>
<td>36.5</td>
<td>0.1</td>
<td></td>
</tr>
<tr>
<td>Kunihiro, Shizuo</td>
<td>3406-06, 3407-02</td>
<td>2</td>
<td>Agr. Nat. Flow</td>
<td>No data</td>
<td>Agr.</td>
<td>No data</td>
<td>73.0</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>Oceanic Properties</td>
<td>3405-03, 04</td>
<td>2</td>
<td>Mun.</td>
<td>2.016</td>
<td>No data</td>
<td>Mun.</td>
<td>2.016</td>
<td>365.0</td>
<td>1.0</td>
</tr>
<tr>
<td>Polynesia Shores</td>
<td>3406-08</td>
<td>1</td>
<td>Other.</td>
<td>0.144</td>
<td>0.144</td>
<td>Other.</td>
<td>0.144</td>
<td>52.56</td>
<td>0.144</td>
</tr>
<tr>
<td><strong>Subtotal (Private Users)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.34 0.202 2.34 548.23 1.502</td>
</tr>
<tr>
<td><strong>TOTAL - Wailua Subarea</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>96.41 50.312 96.41 18,838.38 51.612</td>
</tr>
</tbody>
</table>

*For Agr./Dom. uses, specific quantities for each use arc to be provided when additional information becomes available.*
### Waialua GMCA

#### DECLARED EXISTING USE

<table>
<thead>
<tr>
<th>User/Source</th>
<th>State Well No.</th>
<th>Total Wells</th>
<th>Use</th>
<th>Source Capacity (mgd)</th>
<th>5-yr. Ave. Withdrawal (mgd)</th>
<th>Use</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>MOKULEIA Subarea</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Waialua Sugar Co.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump 5</td>
<td>3411-06, 06 to 11, 13</td>
<td>0 Agr.</td>
<td>0.5</td>
<td>2.55</td>
<td>Agr.</td>
<td>7.0</td>
<td>930.75</td>
<td>2.55</td>
<td></td>
</tr>
<tr>
<td>Pump 11</td>
<td>3609-13</td>
<td>1 Agr./ Dom.</td>
<td>1.5</td>
<td>0.53</td>
<td>Agr./ Dom.</td>
<td>1.5</td>
<td>152.20</td>
<td>0.42</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal (Waialua Sugar Co.)</strong></td>
<td></td>
<td>9</td>
<td></td>
<td>10.0</td>
<td>3.00</td>
<td>Agr.</td>
<td>8.5</td>
<td>1,124.20</td>
<td>3.00</td>
</tr>
<tr>
<td><strong>Private Users</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>♦ Army - Bellingham 3412-02</td>
<td>1 Dom.</td>
<td>0.720</td>
<td>No data</td>
<td>Dom.</td>
<td>0.720</td>
<td>20.08</td>
<td>0.55</td>
<td></td>
<td></td>
</tr>
<tr>
<td>♦ Air Force - Kauai Pt. 3314-03</td>
<td>1 Uti.</td>
<td>0.005</td>
<td>0.010</td>
<td>Uti.</td>
<td>0.005</td>
<td>0.17</td>
<td>0.11</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mokuleia Assoc. 3609-16</td>
<td>1 Dom.</td>
<td>No data</td>
<td>No data</td>
<td>Dom.</td>
<td>No data</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mokuleia Homestead 3618-01, 3619-03</td>
<td>1 Agr./ Dom.</td>
<td>1.512</td>
<td>1.5</td>
<td>Agr./ Dom.</td>
<td>1.5</td>
<td>162.5*</td>
<td>0.5*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>♦ 3619-05</td>
<td>1 Agr.</td>
<td>No.</td>
<td>0.5</td>
<td>To be sealed</td>
<td>No data</td>
<td>-</td>
<td>-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>♦ 3619-01, 3619-02</td>
<td>1 Agr./ Dom.</td>
<td>1.5</td>
<td>No data</td>
<td>Agr./ Dom.</td>
<td>1.5</td>
<td>333.25</td>
<td>1.05</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal (Private Users)</strong></td>
<td></td>
<td>8</td>
<td></td>
<td>5.310</td>
<td>2.110</td>
<td>Agr.</td>
<td>5.506</td>
<td>2.110</td>
<td>0.51</td>
</tr>
<tr>
<td><strong>TOTAL - Mokuleia Subareas</strong></td>
<td></td>
<td>17</td>
<td></td>
<td>15.310</td>
<td>5.190</td>
<td>Agr.</td>
<td>13.006</td>
<td>5.190</td>
<td>0.77</td>
</tr>
</tbody>
</table>

#### KAWAILOA Subarea

<table>
<thead>
<tr>
<th>User/Source</th>
<th>State Well No.</th>
<th>Total Wells</th>
<th>Use</th>
<th>Source Capacity (mgd)</th>
<th>5-yr. Ave. Withdrawal (mgd)</th>
<th>Use</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>Waialua Sugar Co.</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump 4</td>
<td>3605-02 to 04, 06 to 06, 11 to 12</td>
<td>9 Agr.</td>
<td>14.0</td>
<td>5.53</td>
<td>Agr.</td>
<td>14.0</td>
<td>2,019.45</td>
<td>5.53</td>
<td></td>
</tr>
<tr>
<td><strong>Private User</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>♦ Meadow Gold Farm 2704-01</td>
<td>1 Ind.</td>
<td>0.648</td>
<td>0.430</td>
<td>Ind.</td>
<td>0.648</td>
<td>156.95</td>
<td>0.430</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL - Kawailoa Subareas</strong></td>
<td></td>
<td>10</td>
<td></td>
<td>14.648</td>
<td>5.96</td>
<td>Ind.</td>
<td>14.648</td>
<td>2,175.40</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.

C10
January 13, 2003

Waialua Mill Battery wap

Mr. Yoshi Tanabe
Dole Food Company Hawaii
1116 Whitmore Avenue
Wahiawa, HI 96786

Dear Mr. Tanabe:

Well Abandonment Report for Well Nos. 3407-07 to 10, 13, 16, 17, 20, & 21

We received your Well Abandonment Report Part for the Waialua Sugar Mill Well Battery (Well Nos. 3407-07 to 10, 13, 16, 17, 20, & 21) on January 10, 2003 and acknowledge that it is complete. Thank you for your attention to this matter.

If you have any questions, please contact Lenore Nakama of the Commission staff at

Sincerely,

DEAN A. NAKANO
Acting Deputy Director

C: ss

C: William Moore, Beylik Drilling, Inc.
TO:  Linnel T. Nishioka  
DATE:  Dec. 30, 2002
Commission on Water Resource Management

FROM:  Yoshiaki Tanabe

MESSAGE:

Well closing reports as per attached
<table>
<thead>
<tr>
<th>Field</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. State Well No.</td>
<td>3407-07</td>
</tr>
<tr>
<td>2. Location / Address</td>
<td>KEALOHANUI AVENUE</td>
</tr>
<tr>
<td>3. Contractor</td>
<td>BEYLICK DRILLING, INC.</td>
</tr>
<tr>
<td>4. Type of Rig / Construction</td>
<td>PUMP PULLING RIG</td>
</tr>
<tr>
<td>Date of well sealing completion</td>
<td>10/24/02</td>
</tr>
<tr>
<td>Finished Grade Elevation</td>
<td>30 ft.</td>
</tr>
<tr>
<td>Measured Depth of Blank Casing</td>
<td>221 ft.</td>
</tr>
<tr>
<td>Measured Depth of Perforated Casing</td>
<td>N/A ft.</td>
</tr>
<tr>
<td>Measured Depth of Open Hole</td>
<td>53 ft.</td>
</tr>
<tr>
<td>Remarks:</td>
<td>NOTE: THIS WELL LOCATED IN THE MILL PUMP CHAMBER - WITH DEEPER OPEN HOLE. GROUT 1:1 21 CURIC YARDS</td>
</tr>
<tr>
<td>Contractor (print)</td>
<td>BEYLICK DRILLING, INC.</td>
</tr>
<tr>
<td>Signature</td>
<td>Williams C. Moore</td>
</tr>
<tr>
<td>Date</td>
<td>DECEMBER 9, 2002</td>
</tr>
<tr>
<td>Applicant (print)</td>
<td>WAIALUA SUGAR MILL CO.</td>
</tr>
<tr>
<td>Signature</td>
<td>Waialua Sugar Mill Co.</td>
</tr>
<tr>
<td>Date</td>
<td>12/12/02</td>
</tr>
</tbody>
</table>
State of Hawai‘i
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
WELL ABANDONMENT REPORT

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. The Commission may not accept incomplete reports. This form shall be submitted within 60 days of the completion of work. For assistance, please consult the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at  For further information and updates to this application form, visit http://www.state.hi.us/dlnr/cwrm.

1. State, Well No. 3407-08
2. Location / Address KEALOHANUI AVENUE
3. Contractor BEYLIK DRILLING, INC.
4. Type of Rig / Construction PUMP PULLING RIG

Well Name WAIALUA SUGAR MILL WELL BATTERY
Island OAHU
TMK 6-7-01-5
Name of driller who performed work JOHN MOLE
Date of well sealing completion 10/12/02

Finished Grade Elevation 30 ft.
Casing Diameter 12 in.

Check Material Used
Grout Seal: □ Cement
□ Sand/Cement Ratio 1:1

Measured Depth of Blank Casing 234 ft

Measured Depth of Perforated Casing N/A ft

Measured Depth of Open Hole 58 ft

Total Measured Depth 292 ft

Remarks:
NOTE: THIS WELL LOCATED IN THE TUNNEL PORTAL OPENING AND ACCESSED THROUGH THE 30" HEADER. ALL MEASUREMENTS ARE HAND SOUNDING - MAY CONTAIN SMALL ERRORS.
FILL - 1:1 GROUT 23 CUBIC YARDS

Well Abandonment
Contractor (print) BEYLIK DRILLING, INC.
C-57 Lic. No. AC-21896

Signature

Applicant (print) WAIALUA SUGAR CO.

Signature

Date DECEMBER 9, 2002

Date 12/1/02

Amended for 11/03 k/cmm w/b. Moore, LN.
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
WELL ABANDONMENT REPORT

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. The Commission may not accept incomplete reports. This form shall be submitted within 60 days of the completion of work. For assistance, please consult the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at For further information and updates to this application form, visit http://www.state.hi.us/dlnr/cwrm.

1. State Well No. 3407-09
   Well Name: WAIALUA SUGAR MILL WELL BATTERY

2. Location / Address
   KEALOHANUI AVENUE
   Island: OAHU
   TMK: 6-7-01-5

3. Contractor
   BEYLIK DRILLING, INC.
   Name of driller who performed work: JOHN MOLE

4. Type of Rig / Construction
   PUMP PULLING RIG
   Date of well sealing completion: 10/25/02

Finished Grade Elevation: 30 ft
Casing Diameter: 10 in

Check Material Used
Grout Seal:
Cement
Sand/Cement Ratio: 1/1

Total Measured Depth: 294 ft

Measured Depth of Blank Casing: 235 ft
Measured Depth of Perforated Casing: N/A ft
Measured Depth of Open Hole: 59 ft

Remarks:
THIS WELL LOCATED IN THE ACCESS TUNNEL UNDER THE CARPENTER SHOP.
SEGMENTED TREMIE PIPE USED WITH GROUT PUMP. GROUT PRESSURIZED TO
THE SURFACE. VERY DIFFICULT PROCESS.
FILL - 1:1 GROUT 21 CUBIC YARDS

Well Abandonment
Contractor (print): BEYLIK DRILLING, INC.
C-57 Lic. No.: AC-21896

Signature: ____________________________ Date: DECEMBER 9, 2002

Applicant (print): WAIALUA SUGAR MILL

Signature: ____________________________ Date: 12/16/02

*Amended by 1/16/03, signed by W. Moore.
WELL ABANDONMENT REPORT

1. State Well No. 3407-10
2. Well Name WAIALUA SUGAR MILL WELL BATTERY
3. Location / Address KEALOHA AVENUE
   Island OAHU
   TMK 6-7-01-5
4. Contractor BEYLIK DRILLING, INC.
   Name of driller who performed work JOHN MOLE
5. Type of Rig / Construction PUMP PULLING RIG
   Date of well sealing completion 10/25/02

Finished Grade Elevation 30 ft.
Casing Diameter 10 in.

Check Material Used
Grout Seal: □ Cement
       ✗ Sand/Cement Ratio 1/1

Total Measured Depth 294 ft.
Measured Depth of Blank Casing 231 ft.
Measured Depth of Perforated Casing N/A ft.
Measured Depth of Open Hole 63 ft.

Remarks:
THIS WELL LOCATED UNDER AN OLD FOUNDATION. ACCESS THROUGH SITE
EXCAVATION VERY DIFFICULT. SEGMENTED TREMIE PIPE USED WITH GROUT
PUMP. GROUT PRESSURIZED TO THE SURFACE.
FILL - 1:1 GROUT 27 CUBIC YARDS

Well Abandonment
Contractor (print) BEYLIK DRILLING, INC.
C-57 Lic. No. AC-21896
Signature
Date DECEMBER 9, 2002

Applicant (print) WAIALUA SUGAR MILL
Signature
Date 12/12/02

Amended on 1/10/03 W/B. Moore, W
State of Hawai‘i
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
WELL ABANDONMENT REPORT

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 521, Honolulu, Hawaii 96809. The Commission may not accept incomplete reports. This form shall be submitted within 60 days of the completion of work. For assistance, please consult the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at 808-587-1070. For further information and updates to this application form, visit http://www.state.hi.us/dlnr/cwrm.

1. State Well No. 3407-13
2. Location / Address KEALOHANUI AVENUE
3. Contractor BEYLK DRILLING, INC.
4. Type of Rig / Construction PUMP PULLING RIG

Well Name WAIALUA SUGAR MILL WELL BATTERY
Island OAHU
TMK 6-7-01-5
Date of well sealing completion 10/23/02

Finished Grade Elevation 34 ft.
Casing Diameter 12 in.

Check Material Used
Grout Seal:
☐ Cement
☒ Sand/Cement Ratio 1 / 1

Total Measured Depth 280 ft.

Measured Depth of Blank Casing 234 ft.
Measured Depth of Perforated Casing N/A ft.
Measured Depth of Open Hole 46 ft.

Remarks:

NOTE: OPEN HOLE PORTION SOMEWHAT LESS POROUS THAN ADJACENT WELL.
GROUT 1:1 CUBIC YARD USED ☐

Well Abandonment
Contractor (print) BEYLK DRILLING, INC.
Signature
Applicant (print) WAIALUA SUGAR MILL
Signature

C-57 Lic. No. AC-21896
DECEMBER 9, 2002
12/26/02

* called Bill Moore 1/10/03. He said it's a typo, should be 14 cubic yards, not 1. Also, included...
1. State Well No. 3407-16  
2. Location / Address KEALOHANUI AVENUE  
3. Contractor BEYLICK DRILLING, INC.  
4. Type of Rig / Construction PUMP PULLING RIG  

Well Name: WAIALUA SUGAR MILL WELL BATTERY  
Island: OAHU  
TMK: 6-7-01-5  

Date of well sealing completion: 11/6/02  
Casing Diameter: 12 in.  
Finished Grade Elevation: 33 ft.  
Grout Seal: 
- Cement  
- Sand/Cement Ratio 1/1  

Measured Depth of Blank Casing: 232 ft.  
Total Measured Depth: 296 ft.  
Measured Depth of Perforated Casing: N/A ft.  
Measured Depth of Open Hole: 64 ft.  

Remarks:  
THIS WELL ACCESSIBLE FROM THE SURFACEM STANDARD TREMIE METHODS USED  
ALTHOUGH THE OPEN HOLE WAS NOT AS POROUS AS OTHER ADJACENT WELLS.  
FILL - 1:1 GROUT 18 CUBIC YARDS  

Applicant (print): WAIALUA SUGAR MILL  
Signature:  
Date: DECEMBER 9, 2002  

Contractor (print): BEYLICK DRILLING, INC.  
C-57 Lic. No. AC-21896  
Signature:  
Date: 12/2/02
State of Hawaii  
COMMISSION ON WATER RESOURCE MANAGEMENT  
Department of Land and Natural Resources  
WELL ABANDONMENT REPORT

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. The Commission may not accept incomplete reports. This form shall be submitted within 60 days of the completion of work. For assistance, please consult the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at . For further information and updates to this application form, visit http://www.state.hi.us/dlnr/cwrm.

<table>
<thead>
<tr>
<th>1. State Well No.</th>
<th>3407-17</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Location / Address</td>
<td>KEALOHANUI AVENUE</td>
</tr>
<tr>
<td>Island</td>
<td>OAHU</td>
</tr>
<tr>
<td>TMK</td>
<td>6-7-01-5</td>
</tr>
<tr>
<td>3. Contractor</td>
<td>BEYLIK DRILLING, INC.</td>
</tr>
<tr>
<td>Name of driller who performed work</td>
<td>JOHN MOLE</td>
</tr>
<tr>
<td>4. Type of Rig / Construction</td>
<td>PUMP PULLING RIG</td>
</tr>
<tr>
<td>Date of well sealing completion</td>
<td>11/5/02</td>
</tr>
</tbody>
</table>

Finished Grade Elevation: 34 ft.
Check Material Used
Grout Seal:  
Cement:  
Sand/Cement Ratio: 1/1

Total Measured Depth: 297 ft.
Casing Diameter: 12 in.
"C"

Measured Depth of Blank Casing: 231 ft.
Measured Depth of Perforated Casing: 66 ft.
Measured Depth of Open Hole: N/A

Remarks:

THIS WELL ACCESSIBLE FROM THE SURFACE. STANDARD TREMIE METHODS USED.
OPEN HOLE NOT AS POROUS AS OTHER ADJACENT WELLS.
FILL - 1:1 GROUT 19 CUBIC YARDS

<table>
<thead>
<tr>
<th>Well Abandonment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contractor (print)</td>
</tr>
<tr>
<td>C-57 Lic. No.</td>
</tr>
<tr>
<td>Signature</td>
</tr>
<tr>
<td>Date</td>
</tr>
<tr>
<td>Applicant (print)</td>
</tr>
<tr>
<td>Signature</td>
</tr>
<tr>
<td>Date</td>
</tr>
</tbody>
</table>

*Amended for 1/10/03 by comm w/B. Moore (w)*
1. State Well No. 3407-20
2. Location / Address KEALOHANUI AVENUE
   Island OAHU
   TMK 6-7-01-5
3. Contractor BEYLIK DRILLING, INC.
   Name of driller who performed work JOHN MOLE
4. Type of Rig / Construction PUMP PULLING RIG
   Date of well sealing completion 10/23/02

Finished Grade Elevation 54 ft.
Casing Diameter 12 in.

Measured Depth of Blank Casing 230 ft.
Measured Depth of Perforated Casing N/A ft.
Measured Depth of Open Hole 41 ft.

Total Measured Depth 271 ft.

Check Material Used
Grout Seal: 0 Cement
  0 Sand/Cement Ratio 1/1

Remarks:
THIS WELL ACCESSIBLE FROM THE SURFACE. STANDARD TREMIE METHODS USED
AGAIN. THIS WELL NOT AS POROUS AS OTHERS.
FILL - 1:1 GROUT 17 CUBIC YARDS

Well Abandonment
Contractor (print) BEYLIK DRILLING, INC
Signature
Applicant (print) WAIALUA SUGAR MILL WELL BATTERY
Signature

Applicant's Signature Date DECEMBER 9, 2002
Contractor's Signature Date 10/23/02

For further information and updates to this application form, visit http://www.state.hi.us/dlnr/cwrm.
1. State, Well No. 3407-21  
2. Well Name WAIALUA SUGAR MILL WELL BATTERY  
3. Location / Address KEALOHANUI AVENUE  
   Island OAHU  
   TMK 6-7-01-5  
4. Contractor BEYLICK DRILLING, INC.  
   Name of driller who performed work JOHN MOLE  

5. Type of Rig / Construction PUMP PULLING RIG  
   Date of well sealing completion 10/30/02  

6. Finished Grade Elevation 33 ft.  

7. Casing Diameter 12 in.  

8. Total Measured Depth 270 ft.  


10. Measured Depth of Perforated Casing N/A ft.  


Remarks:  
THIS WELL ACCESSIBLE FROM THE SURFACE. STANDARD TREMIE METHODS USED.  
FILL - 1:1 GROUT 18 CUBIC YARDS  

Well Abandonment  
Contractor (print) BEYLICK DRILLING, INC.  
C-S7 Lic. No. AC-21896  
Signature  
Date DECEMBER 9, 2002  
Applicant (print) WAIALUA SUGAR MILL  
Signature  
Date 12/10/02  

For Official Use Only:  
For further information and updates to this application form, visit http://www.state.hi.us/dlnr/cwrm.
RECORDS OF DRILLED WELLS ON OAHU

Meter test—Well 316 (Continued)

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Revolutions per minute</th>
<th>Depth (ft.)</th>
<th>Revolutions per minute</th>
<th>Depth (ft.)</th>
<th>Revolutions per minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>140</td>
<td>184</td>
<td>250</td>
<td>234</td>
<td>400</td>
<td>286</td>
</tr>
<tr>
<td>160</td>
<td>184</td>
<td>260</td>
<td>240</td>
<td>420</td>
<td>286</td>
</tr>
<tr>
<td>170</td>
<td>200</td>
<td>280</td>
<td>248</td>
<td>440</td>
<td>280</td>
</tr>
<tr>
<td>180</td>
<td>200</td>
<td>300</td>
<td>252</td>
<td>480</td>
<td>290</td>
</tr>
<tr>
<td>190</td>
<td>210</td>
<td>310</td>
<td>254</td>
<td>470</td>
<td>290</td>
</tr>
<tr>
<td>200</td>
<td>210</td>
<td>320</td>
<td>272</td>
<td>478</td>
<td>288</td>
</tr>
<tr>
<td>220</td>
<td>210</td>
<td>340</td>
<td>276</td>
<td>480</td>
<td>290</td>
</tr>
<tr>
<td>230</td>
<td>214</td>
<td>360</td>
<td>268</td>
<td>485</td>
<td>290</td>
</tr>
<tr>
<td>240</td>
<td>222</td>
<td>380</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>250</td>
<td>222</td>
<td>400</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>260</td>
<td>222</td>
<td>420</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>270</td>
<td>222</td>
<td>440</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>280</td>
<td>222</td>
<td>460</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>290</td>
<td>222</td>
<td>480</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>300</td>
<td>222</td>
<td>500</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>310</td>
<td>222</td>
<td>520</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>320</td>
<td>222</td>
<td>540</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>330</td>
<td>222</td>
<td>560</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>340</td>
<td>222</td>
<td>580</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>350</td>
<td>222</td>
<td>600</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>360</td>
<td>222</td>
<td>620</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>370</td>
<td>222</td>
<td>640</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>380</td>
<td>222</td>
<td>660</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>390</td>
<td>222</td>
<td>680</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>400</td>
<td>222</td>
<td>700</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>410</td>
<td>222</td>
<td>720</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>420</td>
<td>222</td>
<td>740</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>430</td>
<td>222</td>
<td>760</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>440</td>
<td>222</td>
<td>780</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>450</td>
<td>222</td>
<td>800</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>460</td>
<td>222</td>
<td>820</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>470</td>
<td>222</td>
<td>840</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>480</td>
<td>222</td>
<td>860</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>490</td>
<td>222</td>
<td>880</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
<tr>
<td>500</td>
<td>222</td>
<td>900</td>
<td>290</td>
<td>500</td>
<td>315</td>
</tr>
</tbody>
</table>


317-1 (no old number). In Waialua about 300 yd. north of highway to Kawaihapai about 1 mile west of Andrew Cox School. In large depression in cane field. Owner, Waialua Agricultural Co. Drilled, 1891 by McCandless Bros. Altitude, about 8 ft. Drillers did not strike solid rock, and as there was no flow of water, casing withdrawn and well abandoned.


<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Revolutions per minute</th>
<th>Depth (ft.)</th>
<th>Revolutions per minute</th>
<th>Depth (ft.)</th>
<th>Revolutions per minute</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>34</td>
<td>60</td>
<td>42</td>
<td>110</td>
<td>42</td>
</tr>
<tr>
<td>20</td>
<td>38</td>
<td>70</td>
<td>43</td>
<td>120</td>
<td>43</td>
</tr>
<tr>
<td>30</td>
<td>36</td>
<td>80</td>
<td>36</td>
<td>130</td>
<td>36</td>
</tr>
<tr>
<td>40</td>
<td>37</td>
<td>90</td>
<td>37</td>
<td>130</td>
<td>37</td>
</tr>
<tr>
<td>50</td>
<td>43</td>
<td>100</td>
<td>34</td>
<td>139 (obstruction)</td>
<td>34</td>
</tr>
</tbody>
</table>

Waialua Sugar Mill Well Battery
State Nos. 3407-07 to 10, 13, 16, 17, 20, & 21
(Old 319A thru I)

<table>
<thead>
<tr>
<th>State No.</th>
<th>Old Designation</th>
<th>Year Drilled</th>
<th>Diameter (Inches)</th>
<th>Ground Elevation (Ft MSL)</th>
<th>Depth (Feet)</th>
<th>Depth of Casing (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3407-07</td>
<td>B</td>
<td>1899</td>
<td>10</td>
<td>30</td>
<td>261</td>
<td>244</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>274</td>
<td>Not Known</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>274</td>
<td>Not Known</td>
</tr>
<tr>
<td>3407-08</td>
<td>C</td>
<td>1899</td>
<td>12</td>
<td>30</td>
<td>292</td>
<td>Not Known</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>292</td>
<td>Not Known</td>
</tr>
<tr>
<td>3407-09</td>
<td>D</td>
<td>1899</td>
<td>10</td>
<td>30</td>
<td>294</td>
<td>245</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>294</td>
<td>Not Known</td>
</tr>
<tr>
<td>3407-10</td>
<td>E</td>
<td>1900</td>
<td>10</td>
<td>30</td>
<td>296</td>
<td>Not Known</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>296</td>
<td>Not Known</td>
</tr>
<tr>
<td>3407-13</td>
<td>A</td>
<td>1920</td>
<td>12</td>
<td>34</td>
<td>280</td>
<td>234</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>280</td>
<td>234</td>
</tr>
<tr>
<td>3407-16</td>
<td>F</td>
<td>1923</td>
<td>12</td>
<td>33</td>
<td>296</td>
<td>232</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>296</td>
<td>232</td>
</tr>
<tr>
<td>3407-17</td>
<td>G</td>
<td>1923</td>
<td>12</td>
<td>34</td>
<td>297</td>
<td>231</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>297</td>
<td>231</td>
</tr>
<tr>
<td>3407-20</td>
<td>H</td>
<td>1933</td>
<td>12</td>
<td>34</td>
<td>271</td>
<td>230</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>271</td>
<td>230</td>
</tr>
<tr>
<td>3407-21</td>
<td>I</td>
<td>1933</td>
<td>12</td>
<td>33</td>
<td>270</td>
<td>231</td>
</tr>
</tbody>
</table>

Note: Information from Records of the Drilled Wells on the Island of Oahu, Bulletin 4, Division of Hydrography, Territory of Hawaii.
In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the abandonment/sealing of Waialua Sugar Mill Wells (Well No. 3407-07 to 10, 13, 16, 17, 20 & 21) at 67-106 Kealohanui Street, Oahu, TMK 6-7-01:5, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809, shall be notified in writing before any work covered by this permit commences.

2. The owner or operator of any well which has been determined by the department or voluntarily declared by the owner or operator to be abandoned as defined in §13-168-2, after written notification, shall be required, at owner's or operator's expense, to re-case, cement, plug back, cap, or otherwise repair the well or fill and seal the well with cement in a manner approved by the commission.

3. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (January 23, 1997; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

4. The Well Abandonment Report form (attached) shall be submitted to the Commission on Water Resource Management within sixty (60) days after completion of the work.

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

6. The sealing shall be completed within two (2) years.

7. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

Date of Approval: August 12, 2002
Expiration Date: None

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day.

Permittee's Signature: ___________________________ Date: 08/12/02
Printed Name: YOSHIAKI TANabe
Firm or Title: VICE PRESIDENT, Waialua Sugar
Contractor's Signature: ___________________________ Date: 08/30/02
Printed Name: William C. Hook
License #AC-21890
Firm or Title: BEYLIK DRILLING, INC.

Please sign both copies of this permit, return one to the Chairperson, and retain the other for your records.

Attachment
C:
USGS
Department of Health/ Safe Drinking Water, Wastewater, and Clean Water Branches
Honolulu Board of Water Supply
Yoshi Tanabe, Waialua Sugar Company
August 28, 2002

Mr. Bill Moore
Beylik Drilling, Inc.
91-259-A Olai Street
Kapolei, HI 96707

Dear Mr. Moore:

Well Abandonment Permit
Waialua Sugar Mill Wells (Well No. 3407-07 to 10, 13, 16, 17, 20 & 21)

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) which authorizes well abandonment/sealing activities. As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 7:

**Special Conditions**

1. A separate Well Abandonment Report shall be filed for each well.

To validate your permit, please sign and have the landowner sign both permit originals and return one for our files.

**IMPORTANT** - The well owner is responsible for all conditions of the permit. This includes ensuring that your licensed contractor, submits a completed Well Abandonment Report form (enclosed) within sixty (60) days after the well construction work is completed. Be advised that you may be subject to fines of up to $1000 per day for any violations of your permit conditions.

Because these wells will be sealed, we are planning to recommend that the Commission revoke the water use permit for this source (WUP No. 47). We will send you a copy of the staff submittal approximately six days prior to the September 18, 2002 meeting, at which this matter has been tentatively scheduled for disposition.

If you have any questions, please call Lenore Nakama of the Commission staff at

Aloha,

GILBERT S. COLOMA-AGARAN
Chairperson

Enclosures

c: Yoshi Tanabe, Waialua Sugar Company
WELL CONSTRUCTION PERMIT TO ABANDON/SEAL

Waialua Sugar Mill Wells, Well No. 3407-07 to 10, 13, 16, 17, 20 & 21

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the abandonment/sealing of Waialua Sugar Mill Wells (Well No. 3407-07 to 10, 13, 16, 17, 20 & 21) at 67-106 Kealahonui Street, Oahu, TMK 6-7-01:5, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809, shall be notified in writing before any work covered by this permit commences.

2. The owner or operator of any well which has been determined by the department or voluntarily declared by the owner or operator to be abandoned as defined in §13-168-2, after written notification, shall be required, at owner's or operator's expense, to re-case, cement, plug back, cap, or otherwise repair the well or fill and seal the well with cement in a manner approved by the commission.

3. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (January 23, 1997; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

4. The Well Abandonment Report form (attached) shall be submitted to the Commission on Water Resource Management within sixty (60) days after completion of the work.

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

6. The sealing shall be completed within two (2) years.

7. Special conditions in the attached cover transmittal letter are incorporated herein by reference.

Date of Approval: August 12, 2002
Expiration Date: None

I have read the conditions and terms of this permit and understand them. I accept and agree to meet these conditions as a prerequisite and underlying condition of my ability to proceed. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day.

Permittee's Signature: ___________________________ Date: ______________
Printed Name: ___________________________________ Firm or Title: ___________________________

Contractor's Signature: ________________________ License #: ______________ Date: ______________
Printed Name: ________________________________ Firm or Title: _____________________________

Please sign both copies of this permit, return one to the Chairperson, and retain the other for your records.

Attachment

USGS
Department of Health/ Safe Drinking Water, Wastewater, and Clean Water Branches
Honolulu Board of Water Supply
Yoshi Tanabe, Waialua Sugar Company
<table>
<thead>
<tr>
<th>F</th>
<th>YR</th>
<th>APP</th>
<th>D</th>
<th>SRC/OBJ</th>
<th>COST</th>
<th>CTR</th>
<th>PROJECT</th>
<th>PH</th>
<th>ACT</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>03</td>
<td></td>
<td>326</td>
<td>C</td>
<td>1026</td>
<td>0752</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>25.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL** 25.00

**REMARKS:**
- LINE (1) Well No. 3407-07 to 10, 13, 16, 17, 20, & 21
- LINE (2) 
- LINE (3) 
- LINE (4) 

---

**TNWRE INC.**
**DBA TOM NANCE WATER RESOURCE ENGINEERING**
880 ALA MOANA BLVD. STE 406
HONOLULU, HI 96813

**PAY** 25.00

**TO THE ORDER OF** Dept. of Land & Natural Resources

**DATE** August 9, 2002

---

**Bank of Hawaii**
WARD PLAZA BRANCH
HONOLULU, HAWAII 96814

**2756**

**PAY** 25.00

**TO THE ORDER OF** Dept. of Land & Natural Resources

**DATE** August 9, 2002
<table>
<thead>
<tr>
<th>Taxkey</th>
<th>Subdiv/Condo</th>
<th>Tnr Property Address</th>
<th>Owner/Lessee</th>
<th>Beds</th>
<th>Baths</th>
<th>Land area</th>
<th>Living area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-6-7-1-5</td>
<td>Waialua</td>
<td>F</td>
<td>WAIALUA SUGAR CO INC</td>
<td>0</td>
<td>0</td>
<td>143.13 ac</td>
<td>75128</td>
</tr>
</tbody>
</table>

This information has been supplied by third parties and has not been independently verified by Hawaii Information Service and is, therefore, not guaranteed.
Ms. Linnel T. Nishioka - Deputy Director
Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii
P. O. Box 621
Honolulu, Hawaii  96809

Dear Ms. Nishioka:

Permit Application to Seal the
Waialua Sugar Mill Wells (State Well Nos. 3407-07 to 10,
13, 16, 17, 20, and 21) - Waialua, Oahu, Hawaii

Attached is the Well Abandon/Seal Permit application, filing fee, and other relevant information on the Waialua Sugar Mill Wells (State Well Nos. 3407-07 to 10, 13, 16, 17, 20, and 21) on Oahu. All nine wells in the battery will be sealed with 1:1 sand-cement tremied into place. If you have any questions, feel free to call me, Bill Moore at Beylik Drilling or Yoshi Tanabe of Waialua Sugar Company.

Sincerely,

Tom Nance

Attachments

cc:   Bill Moore
      Yoshi Tanabe
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
APPLICATION FOR PERMIT

Instructions: Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96809. Application must be accompanied by 5 copies and a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 887-5225.

For further information and updates to this application form, visit http://www.state.hi.us/dlnr/cwrm.

APPLICANT INFORMATION: (Fill out all three, if applicable, and place a check next to the primary contact)

1. (a) WELL OWNER: Waialua Sugar Company
Mailing Address: 1116 Whitmore Avenue
Waialua, Hawaii 96786
Contact Person: Yoshi Tanabe
Phone: _____________________ 
Fax: _____________________ 
E-mail: _____________________
(b) LAND OWNER: Waialua Sugar Company
Mailing Address: 1116 Whitmore Avenue
Waialua, Hawaii 96786
Contact Person: Yoshi Tanabe
Phone: _____________________ 
Fax: _____________________ 
E-mail: _____________________
(c) CONTRACTOR: Velik Drilling, Inc.
Mailing Address: 91-259-A Olai Street
Kapolei, Hawaii 96707
Contact Person: Bill Moore
Phone: _____________________ 
Fax: _____________________ 
E-mail: _____________________

WELL & PUMP INFORMATION: (Please fill in the diagram on the back of this form.)

2. WELL NAME: Waialua Sugar Mill Wells
Island: Oahu
Address: 67-106 Kealahonui Street
Waialua 96791
Tax Map Key: 6 7 01 5
Attach: (a) portion of a 7.5-Minute Series USGS topographic map (scale 1:24,000) with well location labeled and include the name of the quad map
(b) a property tax map, showing well location referenced to established property boundaries

3. PROPOSED WORK: (check all that apply)
☐ Construct New Well
☐ Modify Existing Well*
☐ Abandon/Seal*
☐ Install New Pump*
☐ Modify Pump*

3407-07 to 10, 13,
(If unknown, please call Commission at: _____________________ )

4. CONSTRUCTION:
☐ Drilled
☐ Dug
☐ Shaft
☐ Tunnel

Is this well part of a battery of wells? ☐ Yes ☐ No (Please describe)

5. PROPOSED PUMPING RATE: N/A gallons per minute

6. PROPOSED USE: (check all that apply)
☐ Municipal (including hotels, stores, etc.)
☐ Domestic (individual, noncommercial water system)
☐ Industrial
☐ Irrigation (crop)
☐ No. of Acres:
☐ Military
☐ Other (explain): _____________________ 

7. (a) PROPOSED AMOUNT OF WITHDRAWAL: N/A gallons per day
(b) METHOD OF FLOW MEASUREMENT:
☐ Flowmeter
☐ Open-pipe
☐ Weir
☐ Orifice
☐ Other (explain): _____________________

OTHER IMPORTANT INFORMATION:

8. LEGAL REQUIREMENTS: If required, these permits must be obtained before the Commission can legally issue a permit.

☐ Conservation District Use Permit (CDUP) To find out if a CDUP is necessary, call DLNR Land Division at: _____________________
☐ Not Required
☐ Environmental Impact Statement (EIS) or Environmental Assessment (EA) To determine if an EIS or EA is necessary, call OEGC at: _____________________
☐ Not Required
☐ If required, date approved _____________________
☐ Special Management Area Permit (SMAP) To determine if a SMAP is necessary, call OEGC on Oahu, call: _____________________ on Hawaii, call: _____________________ for Maui
☐ Not Required
☐ If required, date approved _____________________

9. REMARKS, EXPLANATIONS: All nine wells in the battery will be filled with 1:1 sand-cement.

(Note: If more space is needed, please attach additional sheet)

For official use only
Latitude _____________________
State Well No. _____________________

WCPIPA Form 82101
10. PROPOSED WELL SECTION (Please attach schematic if different from diagram provided below)

Elevation at top of casing _______ ft., msl*

Hole Diameter: _______ in.

Cement Grout: _______ ft.
(min. 70% of distance from ground elevation to top of water surface or 200 ft., whichever is less.)

Annular space between hole and casing (min.3"): _______ in.

Rock or Gravel Packing: _______ ft.
Material: □ Crushed Basalt □ Rounded Gravel

Estimated Water Level Elevation: _______ ft., msl*

Minimum of 2’ Radius & 4’ Thick Concrete Pad (to contain benchmark surveyed to nearest 0.01 ft.)

Ground Elevation: _______ ft., msl*

Solid Casing: (≥ 90% x (Ground Elev.-Water Level Elev))
Total Length: _______ ft.
Nominal Diameter: _______ in.
Wall Thickness: _______ in.
Bottom Elevation: _______ ft., msl*

Open Casing: □ Perforated □ Screen
Total Length: _______ ft.
Nominal Diameter: _______ in.
Wall Thickness: _______ in.
Bottom Elevation: _______ ft., msl*

note: Neither bentonite nor mud should be used in extended zone during drilling.

Solid Casing Material:
Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
And compliant with (check one or more): □ ASTM A242 □ Type E □ Type S □ Grade B □ Other
Stainless Steel: (check one): □ ASTM A409 (production welds) □ ASTM A312 (monitor welds)
ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one) □ Schedule 40 □ Schedule 80
PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one): □ Schedule 40 □ Schedule 80 □ Schedule 120
Thermoset Plastic: (check one) □ Filament Wound Resin Pipe conforming to ASTM D2997 □ Centrifugally Cast Resin Pipe conforming to ASTM D2997 □ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517 □ Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950 □ PTFE Fluorocarbon Tubing conforming to ASTM D3296 □ FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:
Carbon Steel: compliant with (check one or more): □ ANSI/AWWA C200 □ API Spec. 5L □ ASTM A53 □ ASTM A139
And compliant with (check one or more): □ ASTM A242 □ Type E □ Type S □ Grade B □ Other
Stainless Steel: (check one): □ ASTM A409 (production welds) □ ASTM A312 (monitor welds)
ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one) □ Schedule 40 □ Schedule 80
PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one): □ Schedule 40 □ Schedule 80 □ Schedule 120
Thermoset Plastic: (check one) □ Filament Wound Resin Pipe conforming to ASTM D2996 □ Centrifugally Cast Resin Pipe conforming to ASTM D2997 □ Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517 □ Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950 □ PTFE Fluorocarbon Tubing conforming to ASTM D3296 □ FEP Fluorocarbon Tubing conforming to ASTM D3296

* The approximate elevation must be referenced to mean sea level (msl) at the time of application filing. Final elevations of well components shall be submitted in the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.

For non-salt water Basal Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or,
Bottom Elevation of Well Limit = (Water Elevation + 2 x Water Level Elev) / 4

Example: Estimated + 2 ft. Water Level Elev. → Bottom Elevation of Well Limit = (2.41 + 2) / 4 = 18.8 ft.
## Waialua Sugar Mill Well Battery

State Nos. 3407-07 to 10, 13, 16, 17, 20, & 21
(Old 319A thru I)

<table>
<thead>
<tr>
<th>State No.</th>
<th>Old Designation</th>
<th>Year Drilled</th>
<th>Diameter (Inches)</th>
<th>Ground Elevation (Ft MSL)</th>
<th>Depth (Feet)</th>
<th>Depth of Casing (Feet)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3407-07</td>
<td>B</td>
<td>1899</td>
<td>10</td>
<td>30</td>
<td>274</td>
<td>Not Known</td>
</tr>
<tr>
<td>3407-08</td>
<td>C</td>
<td>1899</td>
<td>12</td>
<td>30</td>
<td>292</td>
<td>Not Known</td>
</tr>
<tr>
<td>3407-09</td>
<td>D</td>
<td>1899</td>
<td>10</td>
<td>30</td>
<td>294</td>
<td>Not Known</td>
</tr>
<tr>
<td>3407-10</td>
<td>E</td>
<td>1900</td>
<td>10</td>
<td>30</td>
<td>296</td>
<td>Not Known</td>
</tr>
<tr>
<td>3407-13</td>
<td>A</td>
<td>1920</td>
<td>12</td>
<td>34</td>
<td>280</td>
<td>234</td>
</tr>
<tr>
<td>3407-16</td>
<td>F</td>
<td>1923</td>
<td>12</td>
<td>33</td>
<td>296</td>
<td>232</td>
</tr>
<tr>
<td>3407-17</td>
<td>G</td>
<td>1923</td>
<td>12</td>
<td>34</td>
<td>297</td>
<td>231</td>
</tr>
<tr>
<td>3407-20</td>
<td>H</td>
<td>1933</td>
<td>12</td>
<td>34</td>
<td>271</td>
<td>230</td>
</tr>
<tr>
<td>3407-21</td>
<td>I</td>
<td>1933</td>
<td>12</td>
<td>33</td>
<td>270</td>
<td>231</td>
</tr>
</tbody>
</table>

**Note:** Information from Records of the Drilled Wells on the Island of Oahu, Bulletin 4, Division of Hydrography, Territory of Hawaii.
WAIALUA SUGAR MILL WELL D (STATE NO. 3407-09)
JULY 24, 2002

CONDUCTIVITY (MICROSIEMENS/CM)

DEPTH INTO WATER (FEET)

TEMPERATURE (DEG F)

CONDUCTIVITY
TEMPERATURE
WAIALUA SUGAR MILL WELL B (STATE NO. 3407-07)  
JULY 24, 2002

CONDUCTIVITY (MICROSIEMENS/CM)

TEMPERATURE (DEG F)

DEPTH INTO WATER (FEET)