MINUTES OF THE MEETING OF THE
COMMISSION ON WATER RESOURCE MANAGEMENT

DATE: January 16, 1992
TIME: 9:00 a.m.
PLACE: Kalanimoku Building
        Board Room, Room 132
        1151 Punchbowl Street
        Honolulu, Hawaii

ROLL Chairperson Paty called the meeting of the Commission on Water
CALL Resource Management to order at 9:09 a.m.

The following were in attendance:

MEMBERS:  Chairperson William Paty
Dr. Michael Chun
Mr. Robert Nakata
Mr. Richard Cox
Dr. John Lewin

EXCUSED  Mr. Guy Fujimura

STAFF:  Mr. Manabu Tagomori
Mr. George Matsumoto
Mr. Edwin Sakoda
Mr. Glenn Bauer
Ms. Sherrie Samuels
Mr. Roy Hardy
Mr. William Rozeboom
Ms. Sharon Kokubun

COUNSEL:  Mr. William Tam

OTHERS:

Mr. A. Morisako  Mr. Rick Fontaine
Mr. Jim Eychaner  Mr. Chester Lao
Mr. Barry Ching  Mr. David Martin
Mr. Tom Nance  Mr. Michael Burke
Mr. Dan Jenkins  Mr. Hugh Morita
Mr. Jim Wriston  Mr. Dan Lum
Mr. Max Shoura  Mr. Cheng Hsin Chang
Mr. Brian Burke  Mr. Tim Ayau
Mr. Shigeru Yoshizaki  Ms. Francine Duncan
Mr. Rich Pedrina  Mr. Raymond Pedrina
Ms. Helen Garrigan  Ms. Shari Berinobis
Mr. Samuel Keala, Jr.  Mr. Bob Imose
Mr. Gen Morita  Mr. Nama Morita
Mr. Futomu Kaji  Mr. Teoni Black
Mr. A. Locricchio  Ms. Clara Olds
Ms. Majorie Ziegler  Ms. Donna Wong
Ms. Mary Prothro  Ms. Shannon Wood

(Although items are shown in a numerical order, some items were moved up to
accommodate the applicants.)

ITEM 1
Mr. Sakoda revised the recommendation on the request of Oahu Sugar Company because they were not comfortable with the words "interim permits":

"That the Commission approve the reduction of OSCo's allocation by 9.76 mgd to 60.62 mgd subject to the condition that water use permits issued according to the proposed revised schedule shall be [interim permits] subject to review and adjustment by 1995."

Mr. Sakoda stated that staff's main concern was that the permits be reviewed by 1995.

Mr. Cox mentioned that this was a substantial decrease from what was given earlier. He understood OSCo still used a large amount of surface water licensed from the state and asked if that was lost would OSCo need to go back to their original approval for water use. He asked OSCo's representative for their comments.

Mr. Michael Burke said they could live with the reallocation as amended by staff. In the numbers on the pump by pump allocation, as the numbers become tighter there would be a need for flexibility between pump allocations. The possibility of the state withdrawing their water would remove substantial water from the Waiahole System.

Mr. Cox recalled that the BWS hasn't always followed their pump by pump allocations and asked Mr. Sakoda if formal or informal adjustments had been made. Mr. Hardy replied that allocations and needs were matched as much as possible but adjustments need to be made from time to time. The numbers are not absolute in the sense that in a month by month pumpage, the numbers given are yearly averages. Hopefully, within the time period the numbers would remain within the averages. When reviews were made of all the major water users, OSCo. stood out as having the most "cushion". In discussions with OSCo., they agreed upon the reduction to the present allocations.

Chairperson Paty asked where pumps 15 and 16 were located. These pumps had the biggest reduction from 19 to 10 mgd. Mr. Burke said those pumps were just mauka of H-1, between Waipahu and Makakilo. These pumps irrigate the Ewa plains, which partially supply the Kapolei City and Kapolei Village area. Pumps 3–8 all work together with 15 and 16 as one major system. As long as there is flexibility in the total amount it would be a workable number for OSCo.

Mr. Martin submitted testimony and recommendations (see attached). He asked for the Commission's view on the concerns expressed.

Chairperson Paty understood that they would like to see broader distribution of discussion. Mr. Martin replied that that was correct, a broader distribution of discussion and recognition of other rights that may need to be discussed.

Mr. Nakata asked if people are standing in line for this water. Mr. Hardy asked if Mr. Nakata meant as far as actual applications for water use, there were none at this time. Although staff has been asking for information regarding updates for future demands.

Mr. Nakata felt NHAC's recommendation was appropriate and that the Commission should look at it.
Dr. Lewin asked for the status of applications to the County regarding future water use in that area because the Commission has heard some concerns that there are applications for water exceed what can be provided. Mr. Hardy said he can't answer for the County in so far as what's available in the Hawaii Water Plan because that is more of a long-term plan.

Chairperson Paty recognized that by cutting the use down by 9 mgd does not mean there will be 9 mgd for someone else to use. New wells should be developed and utilized.

Mr. Tagomori commented that like the West Hawaii area, there have been numerous discussions with the BWS in terms of what kind of applications are being requested for their system. Discussions are also ongoing among the major landowners about their water needs. Much of this information is in the Oahu Water Use and Development Plan and it is being reviewed. If there is to be a reallocation, there will be a formal process through the Commission.

Chairperson Paty wanted to assure that Mr. Nakata's concern that NHAC's suggestion be incorporated in the Plan. Mr. Tagomori replied that public hearings and other processes will be followed.

Mr. Cox asked if the reduction of total approved uses to 185 mgd by 1995 was still being looked at. Mr. Tagomori said they are looking at such a plan.

Unanimously approved with the amendment proposed by Mr. Sakoda and with the understanding that there is some flexibility on individual pumps for OSeCo and that staff start looking at long-range plans as suggested (Cox/Chun).

**ITEM 7**

**STATE OF HAWAII DEPARTMENT OF TRANSPORTATION, APPLICATION FOR A STREAM CHANNEL ALTERATION PERMIT, UHELEKAWAWA STREAM, WAIPOULL, KAUAII**

Referring to the Division of Aquatic Resources preference for an overstream installation if possible, Dr. Lewin asked how it would affect the Commission's general policy in terms of the trade-offs in reducing construction costs to developers versus a policy which mitigates environmental effects that could occur.

Ms. Samuels stated that under the Instream Program a policy statement and management plan is currently being developed. A draft including recommended policy will be available for the Commission sometime this year.

Mr. Cox recalled approving the installation of the sewer system and asked if that project should be coordinated with this project so as not to cause disturbances to the stream at two different times. Mr. Matsumoto stated that the coordination is currently taking place. Mr. Cox stated that he did not notice any referral to coordination of projects in the recommendations. Ms. Samuels said it was not added because she was told the agencies involved were coordinating the matter.

Dr. Chun suggested the representative for the Department of Transportation (DOT) could possibly make a statement to that effect.

Mr. Harold Yoshizaki SEY Engineers, representing the applicant, responded to the DAR's preference for overstream utility lines coordination between
Chairperson and Members
Commission on Water Resource Management
State of Hawaii
Honolulu, Hawaii

Gentlemen:

Revision of Oahu Sugar Company's
Ground-Water Use Permits
Pearl Harbor Water Management Area, Oahu

Background

On May 17, 1989, the Commission on Water Resource Management (CWRM) approved adjustments to water use permits in the Pearl Harbor Water Management Area (PHWMA) to comply with the CWRM's April 19, 1989 revisions to the PHWMA sustainable yields. The adjustments provided for a 5-year reallocation plan which incorporated the conversion of sugar cane cultivation to urban development as well as the estimated Oahu Sugar Co. (OSCo.) optimum basal ground-water demand.

Staff Review of Existing Water Uses

Staff reviewed existing water use patterns and authorized uses for all major water users within the PHWMA. Additionally, the sugar cane land conversion to urban land schedule was reviewed. Discussions and meetings were held with all major users to verify information on water uses. Based upon staff review it is evident that additional water use reductions could be applied to OSCo.'s authorized uses. Under current operations, sugar cane land taken out of production has occurred as scheduled and as anticipated from the May 17, 1989 CWRM action. Under current crop conditions, which reflect the 1989 reallocation plan, OSCo. basal ground-water requirements are currently 60.62 million gallons per day (mgd). This is 9.76 mgd below OSCo.'s scheduled 1992 authorized use from the 1989 5-year plan. OSCo. has agreed that 60.62 mgd would be adequate for their uses in the foreseeable future.

A well-by-well reduction of water use permits has been discussed with OSCo. to achieve the least amount of negative impact to them. The attached table shows the readjusted allocations by wells.
Chairperson and Members  
Commission on Water Resource Management  
January 16, 1992

RECOMMENDATION:

That the Commission approve the reduction of OSCo.'s allocation by 9.76 mgd to 60.62 mgd subject to the condition that water use permits issued according to the proposed revised schedule shall be interim permits subject to review and adjustment by 1995.

Attachment

APPROVED FOR SUBMITTAL:

Respectfully submitted,

KAZUO G. AKITA
Manager-Chief Engineer

WILLIAM W. PATY, Chairperson
# DWRM Allocation Schedule (mgd)

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# Waianae Basal Aquifer

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# Total OOSCo.

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MINUTES OF THE MEETING OF THE
COMMISSION ON WATER RESOURCE MANAGEMENT

DATE: May 17, 1989
TIME: 2:00 P.M.
PLACE: Kalanikou Building
Board Room, Room 132
1151 Punchbowl Street
Honolulu, Hawaii

ROLL CALL
Chairperson Paty called the meeting of the Commission on Water Resource Management to order at 2:15 p.m.

The following were in attendance:

MEMBERS: Chairperson William W. Paty
Dr. Michael Chun
Mr. Richard Cox
Dr. John Lewin
Mr. Guy Fujimura
Mr. Robert Nakata

STAFF: Mr. Manabu Tagomori
Mr. George Matsumoto
Mr. Edwin Sakoda
Mr. Dan Lum
Ms. Sherrie Samuels
Mr. Sterling Chow
Mr. Roy Hardy

OTHERS:

Mr. William Tam
Mr. Bert Hatton
Mr. Mark Cramer
Mr. Sam Keala
Mr. Quentin Kawanakaoa
Mr. Kazu Hayashida
Mr. Hugh Morita
Mr. Linda Rosehill
Mr. Dean Anderson
Ms. JoAnn Yamada
Mr. Charlie Reppun
Mr. Williamson Chang
Ms. Lori Nishimura
Mr. Peter Nottage
Mr. Nelson Lee
Mr. O. K. Stender
Mr. Eric Onizuka
Mr. Ron Uemura
Mr. Rhanda Kim
Ms. Sallie Edmunds
Mr. Richard Porlocke
Mr. Dan Davidson
Ms. Mina Morita

Mr. David Oshiro
Mr. Brian Kim
Mr. Tats Fujimoto
Mr. Les Hoag
Mr. Clark Champion
Mr. Herbert Minakami
Mr. Jim Wriston
Mr. Michael Burke
Mr. Andy Yamaguchi
Ms. Cynthia Takahashi
Mr. Brad Mossman
Mr. Clarence Tanonaka
Ms. Meredith Ching
Mr. Miles Nishijima
Mr. Douglas W. MacDougal
Mr. Wally Miyashira
Mr. Matt Higashida
Ms. Patrice Tottori
Ms. Susan Miller
Ms. Carol Wilcox
Mr. Kelvin Kai
Ms. Elizabeth Martin
APPROVAL OF MARCH 19, 1989 MEETING MINUTES

Unanimously approved with the correction on page 5, "mdg" to mgd" and replacing "sustainable yield" with "water allocation" on page 8 (Chun/Fujimura).

ITEM 1

RESUBMITTAL: ADJUSTMENT TO PERMITTED USES, PEARL HARBOR WATER MANAGEMENT AREA, OAHU

Mr. Tagomori recommended the following amendments to the "Staff Analysis" and "Recommendation":

Staff Analysis

First paragraph, line 5: delete "October 1990", insert "December 1990".

Third paragraph, line 3: delete "coincides", insert "incorporates Oahu Sugar's current optimum water demand of 81 mgd".

Recommendation

Item 1, insert after the last word: "(for the Waianae Aquifer, the sustainable yield is 25 mgd)".

Delete Item 2 in its entirety.

Item 3: delete "reduction", insert "adjustments", delete "final termination of an Oahu Sugar lease or sub-lease, whichever occurs later", and insert "discontinuance of agricultural uses".

Item 4: after "adjustment" insert "for the Waianae Aquifer by December 1990 and the Koolau and Schofield High-Level Aquifers".

Mr. Tagomori introduced Roy Hardy to assist in answering the questions of the Commission.

Mr. Cox asked if the numbers for the million gallons per day shown on the exhibits is a limit each day or the average over the year. Mr. Hardy replied that it was on the average over the year. Mr. Tagomori added that this was consistent with the management of the Pearl Harbor Ground Water Management under Chapter 177.

With regard to the floor amendments, Mr. Fujimura asked if the concerns of the major users had been addressed. Mr. Tagomori replied discussions with the major users addressed all of the significant concerns.

Mr. Cox asked if the in-district sources should also be eliminated to reflect amendments made by the staff. Mr. Tagomori agreed that would be consistent with the amended recommendation and that all references (In-District Source, Export to Honolulu, Export to Ewa-Waianae) wherever they occur in the exhibits should also be deleted.

In regards to the Recommendation 1, Chairperson Paty asked if the 25 mgd, instead of the 17 mgd, was in keeping with the Commission's indication to reexamine the sustainable yield of the Waianae Aquifer. Mr. Tagomori agreed that the review by 1990 would allow for additional pumpages over 17 mgd for the interim. He also added that BWS will be allowed more flexibility to select wells to meet certain needs.

Mr. Fujimura asked if it would be possible that the amount of water used be higher at a given moment than the number staff has cultivation practices. Yes, replied Mr. Tagomori. Would it be possible to continue agricultural use
but with a lower water use crop, asked Dr. Chun. Mr. Tagomori answered that replacement crops would be permissible. Mr. Bert Hatton of Oahu Sugar Co. commented that although staff has worked with them on coming to agreeable numbers, there are still some concerns about Oahu Sugar and other plantations around the State because this is the first major reallocation decision that the Commission is making. He stated that they have preserved uses, existing uses, and that these should be protected beyond prospective uses and he did not believe they are being protected if the action is taken. He added he was also concerned with their allocations for the two pumps in the Waianae Aquifer which is proposed to go from 13 to 9.2 mgd. Their actual Waianae usage per day in 1988 was 11.5 mgd. They are currently refurbishing a booster pump in that area and planning to plant an additional 100 acres to cane to solve a tax problem. Therefore, if their allocation is raised to 25, they can plant the additional acreage. He is also concerned about the schedule over time of the take-downs of cane and would like to have the staff continue working with them on a regular basis.

Mr. Kazu Hayashida of the Board of Water Supply, in looking over the reduced pumpage figures for export to Waianae and Honolulu questioned if they could do that. He asked the staff to work with them to see if they can meet the 92.01 to 87.41 reduction. Chairperson Paty assured Mr. Hayashida that the staff would work with him.

Mr. Cox mentioned he understood that the pumpage from any one well could be adjusted provided the pumping did not interfere with nearby wells. Mr. Tagomori agreed that staff regularly evaluates pumpages to assure there is no interference to the surrounding wells.

Mr. Oz Stender of the Ewa Plain Water Development Corporation commended the staff and Commission with dealing with the issue. He also stated that although no one will be completely happy if the Commission adopts what is presented by the staff it will be a step in the right direction. Mr. Stender added that Oahu Sugar's remaining a viable operation is important and that withdrawals should dovetail with plantation operations. Ewa Plain Water Development will work with them on whatever problems occur. They would also like to work towards more precise information, therefore they propose additional studies be made to confirm or determine the aquifer limits and would like to offer their participation in that process.

Mr. Charlie Reppun stated that the allocations should be done under the Water Code – to allocate water someone should request the water, stating what the water is to be used for, criteria to be met, etc. He has not heard of BWS applying for a permit and whether all the changes are being done under the permit process (Mr. Reppun then quoted from the Water Code rules). He stated the Commission did not have the legal right to cut Oahu Sugar’s water back if no one applied for a permit and by turning the planning process to an agency of the City whose policy is "first come first served" it will be a "planning mess". Mr. Reppun added that by allocating up to the sustainable yield without a margin of error, the Commission is not following proper procedure.

Mr. Fujimura suggested the question be addressed to Mr. Tam.

Chairperson Paty stated registration questions would be answered on the registration item on the agenda, but Mr. Tam could comment.

Mr. Tam stated there are two laws that are in effect: Chapter 177 is in effect until July 1st. Under 177, whether preserved uses or permitted uses, under water shortage section there can be modifications of those permits. Section IV talks about interim permits that will be in existence under the Code and for new designated areas: there has to be applications but it is not clear under the statutes whether existing uses in an existing water
management area are deemed to be existing applications and therefore
given priority over a new decision.

Mr. Reppun commented that if allocation is cut back on one party it cannot
be given to another party without their coming in for a permit, especially no
if permit was formally requested. He asked what the BWS was going to use
the allocation for because under the Code a use will need to be stated.

Mr. Hayashida answered that the statement was not correct because by the
Code it would have to go by project to project and by looking at their
records, which are public records, whatever information is needed is
available.

Chairperson Paty intervened by saying the Commission would take
Mr. Reppun's comments into consideration on their deliberation of the item.

Mr. Reppun stated he knows BWS does not have to come on a project by
project basis, but also that it was not the intent of the Code to get a blanket
allocation. He would still like to know about the margin of error on
allocations. He would like answers to these two questions.

Mr. Cox asked for clarification if the BWS allocation is going up or down in
the proposal and that if there is a reduction they would have to come in for
a permit for additional water. Mr. Tagomori, referring to the tables, replied
that there is a reduction in the allocation and that the Board would have to
come for a permit for new withdrawals.

Mr. Tagomori added that in 1984 Oahu Sugar's allocation (115 to 92.5 mgd,
a 22.5 mgd. reduction over a three-year period) was reallocated under
Chapter 177 by the Board of Land and Natural Resources due to reduction in
plantation size from 18,000 acres to 14,000 acres and change in irrigation
method from furrow to drip.

Mr. Reppun commented that the bulk of the reallocation is coming from
Oahu Sugar, almost 30 mgd. He then asked if that 30 mgd. is automatically
transferred to BWS because theoretically it is available for someone else to
claim since everyone is not cut back equally.

Dr. Chun replied he did not see it that way. Dr. Lewin added that the
overall water use is being reduced over a period of time and that everyone
except the military is gradually reduced; Oahu Sugar is where the bulk of
the reduction is coming from.

Chairperson Paty said the staff is trying to come up with the best balance
and intend to do everything they can to assure that Oahu Sugar will not
suffer any reduction in yields on lands that they are currently farming. The
Ewa Plains people, the staff, all involved are trying to take care of the
situation.

Mr. Hayashida wanted to clarify his statement "first come, first served" is
made on the basis of the Land Use planning by the City Council, so your land
is properly zoned before water is given to you. It is not a haphazard
decision, it's tied into the Land Use Plan. The actual allocations given to
the BWS will be through a water use or withdrawal permit system.

Mr. Hatton added that withdrawal of water from Waiahole Ditch would
create a water shortage and Oahu Sugar would need to pump more water. It
is not a problem at the moment but it may be in the future.

Dr. Chun moved to accept staff recommendations as amended. Mr. Nakata
asked to amend Recommendation 1 to add "subject to review by December
1990" at the end of the recommendation.

Unanimously approved as amended (Chun/Fujimura).
RESUBMITTAL
Adjustments to Water Use Permits
Pearl Harbor Water Management Area, Oahu

Changes in ground water conditions, irrigated acreage, irrigation practice, and the recent downward revision of sustainable yield in the Pearl Harbor Water Management Area (PHWMA), has resulted in the need for adjustments to existing permitted use.

Staff Analysis

On April 19, 1989, the Commission revised the sustainable yields for the Koolau basal aquifer and the Schofield High-Level aquifers downward to 165 mgd and 13 mgd, respectively by the year 1995. Action on the recommended 17 mgd sustainable yield for the Waianae basal aquifer was deferred to further study until no later than October of 1990. Until the sustainable yield of the Waianae basal aquifer is revised, the Commission will manage the permitted uses of water in the PHWMA within the recommended total sustainable yield of 195 mgd targeted for 1995.

As a result, staff has prepared a schedule of adjustments to existing water use permits to meet current and projected changes in water use. Numerous meetings and discussions were held with the major water users to formulate this schedule, in an effort to avoid and minimize undue hardship to existing water users and planned developments.

The proposed schedule of reduction of existing water use permits on a well source basis, was developed from information supplied by the major water users. The schedule coincides with anticipated changes in water use resulting from reduction in Oahu Sugar Co.'s irrigated acreage in Ewa plain caprock area and planned urban growth throughout the PHWMA.

Prior to the Water Code, existing water use permits were conditional and subject to review. Also, it is not clear whether the water use permits allocated under Chapter 177 HRS, for ground water control areas, are valid to continue as new water use permits because of the due process in awarding permits under a water management area. It is additionally unclear, through comments of major water users, as to what constitutes an existing use based on previous permits under Chapter 177 HRS. Therefore, water use permits granted under the proposed schedule should be issued as interim permits in accordance with the Water code and Administrative Rule 13-171-20(b).
Chairperson and Members
Commission on Water Resource Management

May 17, 1989

The proposed schedule of permitted water use for the Pearl Harbor Water Management Area are summarized below from the details of Exhibits 1, 2, and 3.

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RECOMMENDATION:

That the Commission adopt the proposed schedule of permitted water use tabulated in Exhibits 1, 2, and 3 by user, well source, and aquifer for the Pearl Harbor Water Management Area, subject to the following conditions:

1. That within each aquifer the total permitted use shall not exceed the sustainable yield, as calculated from the sustainable yield for the aquifer as of December 1990.

2. That any water available for allocation shall be for in-district use.

3. That scheduled reductions to Oahu Sugar Co. permitted use shall be initiated upon final termination of an OSCo lease or sub-lease, whichever occurs later.

4. That permits for water use issued in accordance with the proposed schedule shall be interim permits subject to review and adjustment by 1995.

Respectfully submitted,

MANABU TAGOMORI
Deputy Director

Attatch.

APPROVED FOR SUBMITTAL

WILLIAM W. RATY, Chairperson
## PROPOSED SCHEDULE OF INTERIM WATER USE PERMIT

### KOOLAU BASAL AQUIFER

### WELLS

<table>
<thead>
<tr>
<th></th>
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<td>WP1A, 4B</td>
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</tr>
<tr>
<td>WP7A, 7B, &amp; 7C</td>
<td>12.600</td>
<td>13.000</td>
<td>13.000</td>
<td>13.000</td>
<td>13.000</td>
<td>13.000</td>
<td>13.000</td>
<td>13.000</td>
</tr>
</tbody>
</table>

Subtotal (OSCE) 78.451
68.800
45.749
44.295
44.295
64.923
50.725

### MINOLLU AQUIFER

#### [In-District Sources]

- **Kaiwa Wells II**: 1.260 1.260 1.260 1.260 1.260
- **Valmire Wells**: 6.000 6.000 6.000 6.000 6.000
- **Vanua Ana Wells**: 0.323 0.323 0.323 0.323 0.323
- **Pearl City Shaft**: 1.320 1.320 1.320 1.320 1.320
- **Pearl City Wells I**: 0.310 0.310 0.310 0.310 0.310
- **Pearl City Wells II**: 2.190 2.190 2.190 2.190 2.190
- **Haliwai Wells**: 0.970 0.970 0.970 0.970 0.970
- **Maunalei Wells**: 1.500 1.500 1.500 1.500 1.500
- **Kamahina Wells**: 0.000 0.000 0.000 0.000 0.000
- **Aina Guch**: 0.790 0.790 0.790 0.790 0.790
- **Aina Wells**: 0.320 0.320 0.320 0.320 0.320
- **Haliwai Mts**: 1.000 1.000 1.000 1.000 1.000
- **Haliwai Mts II**: 0.000 0.000 0.000 0.000 0.000
- **Pearl City Mts II**: 2.000 2.000 2.000 2.000 2.000
- **Mamana Wells**: 0.500 0.500 0.500 0.500 0.500
- **Mamana Wells II**: 2.700 2.700 2.700 2.700 2.700

Subtotal (In-District) 24.580
24.580
24.580
24.580
24.580
24.580
24.580
24.580
24.580
24.580

#### [Export to Honolulu]

- **Waiawa Shaft**: 14.200 11.320 11.320 11.320 11.320
- **Keelelo Wells**: 1.970 1.970 1.970 1.970 1.970
- **Keelelo Wells II**: 11.750 11.750 11.750 11.750 11.750
- **Pananae Wells**: 11.970 11.970 11.970 11.970 11.970
- **Pananae Mts II**: 1.110 1.110 1.110 1.110 1.110
- **Lahaina Mts**: 0.000 0.000 0.000 0.000 0.000
- **Pananae Mts II**: 2.000 2.000 2.000 2.000 2.000
- **Kamehame Mts II**: 0.500 0.500 0.500 0.500 0.500
- **Mamana Wells**: 2.700 2.700 2.700 2.700 2.700

Subtotal (Export to Honolulu) 41.100
38.100
38.100
38.100
38.100
38.100
38.100
38.100
38.100
38.100

#### [Export to Ewa-Oahu]

- **Makaha Wells**: 6.610 6.610 6.610 6.610 6.610

Subtotal (Export to Ewa-Oahu) 12.610
10.967
10.967
10.967
10.967
10.967
10.967
10.967
10.967
10.967

#### [New Sources since 977]

- **Mamana III**: 1.970 1.970 1.970 1.970 1.970
- **Valmire II**: 2.190 2.190 2.190 2.190 2.190
- **Vanua Ana Mts III**: 0.050 0.050 0.050 0.050 0.050
- **Mamana III**: 0.110 0.110 0.110 0.110 0.110

Subtotal (New Sources) 4.670
4.750
4.750
4.750
4.750
4.750
4.750
4.750
4.750
4.750

Subtotal (TOTAL) 83.200
78.437
78.437
78.437
78.437
78.437
78.437
78.437
78.437
78.437

EXHIBIT 1
**STATE OF HAWAII**
**COMMISSION ON WATER RESOURCE MANAGEMENT**
**DEPARTMENT OF LAND AND NATURAL RESOURCES**
**DIVISION OF WATER RESOURCE MANAGEMENT**

**REGISTRATION OF WELL AND DECLARATION OF WATER USE**

**INSTRUCTIONS:** Please type or print. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and file the form with the Division of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96809. Phone 548-3948 or 548-7542 for assistance.

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

<table>
<thead>
<tr>
<th>STATE WELL NO.: 2203-65</th>
<th>ISLAND: OAHU</th>
</tr>
</thead>
<tbody>
<tr>
<td>WELL NAME OR DESIGNATION: Honouliuli P5</td>
<td></td>
</tr>
<tr>
<td>SOURCE OR STATION NAME (For a battery of wells): Naipahu Pump 5 (WP5)</td>
<td></td>
</tr>
</tbody>
</table>

**A. WELL OPERATOR**

Firm name: Oahu Sugar Company, Ltd.
Contact person: W. D. Balfour, Jr.
Address: P.O. Box "O"
Waipahu, Hawaii 96797
Zip: 96797 Phone: 677-3577

**B. OWNER OF WELL SITE**

Firm name: The Estate of James Campbell
Contact person: Samuel L. Keala, Jr.
Address: 828 Fort Street Mall, Suite 500
Honolulu, Hawaii 96813-4380
Zip: 96813 Phone: 536-1961

**C. WELL LOCATION**

Tax Map Key: 9-2-02:1 Town, Place, District: Near Puu Kapuaui, Ewa District
Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

**D. WELL DATA**

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

<table>
<thead>
<tr>
<th>Ground elevation (Mean sea level): 285.4 ft.</th>
<th>Year drilled or constructed: 1900</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference point (used to measure depth to water): 21.3 ft.</td>
<td>Well contractor: N/A</td>
</tr>
<tr>
<td>Description: centerline of pump</td>
<td>Casing diameter: 12 in.</td>
</tr>
<tr>
<td>Depth to water (below reference point): N/A ft.</td>
<td>Solid casing depth (below ground): N/A ft.</td>
</tr>
<tr>
<td>Maximum recorded chloride: 324 ppm</td>
<td>Perforated casing depth (below ground): N/A ft.</td>
</tr>
<tr>
<td>Minimum recorded chloride: 159 ppm</td>
<td>Total depth of well: 69/3 ft.</td>
</tr>
<tr>
<td>Maximum chloride in 1987: 178 ppm</td>
<td>Minimum chloride in 1987: 159 ppm</td>
</tr>
</tbody>
</table>

**E. INSTALLED PUMP DATA**

2 pumps drawing from connected battery of wells

Pump type: □ Vertical shaft □ Submersible □ Centrifugal □ Other (specify):
Power: □ Diesel, ___ HP □ Gas, ___ HP □ Electric, ___ HP □ Other (specify):
Pump capacity: 5550 gallons per minute
Pump installation contractor: Oahu Sugar Company

... (continued over)
STATE OF HAWAII
COMMISSION ON WATER RESOURCE MANAGEMENT
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF WATER RESOURCE MANAGEMENT

REGISTRATION OF WELL AND DECLARATION OF WATER USE

INSTRUCTIONS: Please type or print. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and file form with the Division of Water Resource Management, P.O. Box 375, Honolulu, Hawaii 96820. Phone: 548-3646 or 548-7543 for assistance.

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

STATE WELL NO.: 2203-
WELL NAME OR DESIGNATION: Honouliuli P5
SOURCE OR STATION NAME (For a battery of wells): Waipahu Pump 5 (WP5)

A. WELL OPERATOR
Firm name: Oahu Sugar Company, Ltd.
Contact person: W. D. Balfour, Jr.
Address: P.O. Box "O"
Waipahu, Hawaii 96797
Zip: 96797 Phone: 677-3577

B. OWNER OF WELL SITE
Firm name: The Estate of James Campbell
Contact person: Samuel L. Keala, Jr.
Address: 828 Fort Street Mall, Suite 500
Honolulu, Hawaii 96813-4380
Zip: 96813 Phone: 536-1961

C. WELL LOCATION
Tax Map Key: 9-2-02:1
Near Puu Kapuai,
Ewa District

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

Ground elevation (Mean sea level): 285.4 ft.
Reference point (used to measure depth to water):
Elevation: 21.3 ft.
Description: centerline of pump
depth to water (below reference point): N/A ft.
Maximum recorded chloride: 334 ppm
Minimum recorded chloride: 159 ppm
Maximum chloride in 1987: 178 ppm
Year drilled or constructed: 1900
Well contractor: N/A
Casing diameter: 12 in.
Solid casing depth (below ground): N/A ft.
Perforated casing depth (below ground): N/A ft.
Total depth of well: 500 ft.
Minimum chloride in 1987: 159 ppm

E. INSTALLED PUMP DATA
2 pumps drawing from connected battery of wells
Pump type: Vertical shaft
Submersible
Centrifugal
Other (specify):
Power: Diesel
Gas, 0 HP
Electric, 0 HP
Other (specify):
Pump capacity: 5550 gallons per minute
Pump installation contractor: Oahu Sugar Company

... (continued over)
**STATE OF HAWAII**  
**COMMISSION ON WATER RESOURCE MANAGEMENT**  
**DEPARTMENT OF LAND AND NATURAL RESOURCES**  
**DIVISION OF WATER RESOURCE MANAGEMENT**

**REGISTRATION OF WELL AND DECLARATION OF WATER USE**

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

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### STATE WELL NO.: 2203-e3

**WELL NAME OR DESIGNATION:** Honouliuli P5 C  
**ISLAND:** OAHU  
**SOURCE OR STATION NAME** (for a battery of wells): Waipahu Pump 5 (WP5)

---

**A. WELL OPERATOR**

- **Firm name:** Oahu Sugar Company, Ltd.  
- **Contact person:** W. D. Balfour, Jr.  
- **Address:** P.O. Box "O"  
  Waipahu, Hawaii 96797  
- **Zip:** 96797  
- **Phone:** 677-3577

**B. OWNER OF WELL SITE**

- **Firm name:** The Estate of James Campbell  
- **Contact person:** Samuel L. Kea1a, Jr.  
- **Address:** 828 Fort Street Mall, Suite 500  
  Honolulu, Hawaii 96813-4380  
- **Zip:** 96613  
- **Phone:** 536-1961

**C. WELL LOCATION**

- **Tax Map Key:** 9-2-021  
- **Town, Place, District:** Near Puu Kapuai,  
  Ewa District  
- **Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.**

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**D. WELL DATA**

**For Drilled Wells:** Submit "as-built" drawing, driller’s log, and pump test results, and complete items below.  
**For Tunnels and Shafts:** Submit construction drawings, plot plan, or sketch map.

- **Ground elevation (mean sea level):** 285.45 ft.  
- **Reference point (Used to measure depth to water):** 21.3 ft.  
  **Elevation:**  
  **Description:** Centerline of pump  
  **Depth to water (below reference point):** N/A ft.  
  **Maximum recorded chloride:** 334 ppm  
  **Minimum recorded chloride:** 159 ppm  
  **Maximum chloride in 1987:** 159 ppm  
  **Year drilled or constructed:** N/A  
  **Well contractor:** N/A  
  **Casing diameter:** 12 in.  
  **Casing depth (Below ground):** N/A ft.  
  **Perforated casing depth (Below ground):** 630 ft.  
  **Total depth of well:** 630 ft.  
  **Minimum chloride in 1987:** 159 ppm

**E. INSTALLED PUMP DATA**

2 pumps drawing from connected battery of wells  
**Pump type:** ✔ Vertical shaft ☐ Submersible ☑ Centrifugal ☐ Other (specify):  
**Power:** ☑ Diesel, 700 HP ☐ Gas, 700 HP ☑ Electric, 700 HP ☐ Other (specify):  
**Pump capacity:** 5550 gallons per minute  
**Pump installation contractor:** Oahu Sugar Company

---

**For Official Use Only:**

- **Date received:**  
- **Date accepted:**  
- **Field checked by:**  
- **Date:**  
- **Latitude:**  
- **Longitude:**  
- **Date:**  
- **Hydrologic Unit:**  
- **State Well No.**

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**References:** Hawaii Revised Statutes, Chapter 174.  
Hawaii Administrative Rules, Chapters 13-167 to 13-171.
STATE WELL NO.: 2203-0

WELL NAME OR DESIGNATION: Honouiuli P5.2

SOURCE OR STATION NAME (For a battery of wells): Waipahu Pump 5 (WP5)

A. WELL OPERATOR

Firm name: Oahu Sugar Company, Ltd.

Contact person: W. D. Balfour, Jr.

Address: P.O. Box "O"
Waipahu, Hawaii: 96797

Zip: 96797 Phone: 677-3577

B. OWNER OF WELL SITE

Firm name: The Estate of James Campbell

Contact person: Samuel L. Keala, Jr.

Address: 828 Fort Street Mall, Suite 500
Honolulu, Hawaii: 96813-4380

Zip: 96813 Phone: 536-1961

C. WELL LOCATION

Tax Map Key: 3-2-02-1 Near Puu Kapuai,

Town, Place, District: Ewa District

Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

D. WELL DATA

For Drilled Wells, submit "as-built" drawing, diller's log, and pump test results, and complete items below.

For Tunnels and Shafts, submit construction drawings, plot plan, or sketch map.

Ground elevation (mean sea level): 285.45 ft.

Reference point (used to measure depth to water): Elevation: 21.3 ft.

Description: Centerline of pump

Depth to water (below reference point): N/A ft.

Maximum recorded chloride: 334 ppm

Minimum recorded chloride: 159 ppm

Maximum chloride in 1987: 159 ppm

Year drilled or constructed: N/A

Well contractor: Oahu Sugar Company

Casing diameter: 12 in.

Solid casing depth (below ground): N/A ft.

Perforated casing depth (below ground): N/A ft.

Total depth of well: 425 ft.

Minimum chloride in 1987:

E. INSTALLED PUMP DATA

2 pumps drawing from connected battery of wells

Pump type: □ Vertical shaft □ Submersible 43 Centrifugal □ Other (specify): □

Power: □ Diesel, ___ HP □ Gas, ___ HP □ Electric, 700 HP □ Other (specify): _______

Pump capacity: 5550 gallons per minute

Pump installation contractor: Oahu Sugar Company

... (continued over)
F. DECLARATION OF WATER USE

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

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

Method of measurement: ☐ Flow Meter ☐ Orifice ☐ Other (describe): 

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

WATER USE, IN GALLONS x 1000

<table>
<thead>
<tr>
<th>Category</th>
<th>Additional Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>☑ Municipal (including resorts, hotels, businesses)</td>
<td></td>
</tr>
<tr>
<td>☐ Domestic (systems serving 25 people or less)</td>
<td></td>
</tr>
<tr>
<td>☐ Irrigation</td>
<td>Acres Irrigated: 467 acres</td>
</tr>
<tr>
<td></td>
<td>Crop(s): ☑ Sugar ☐ Pineapple</td>
</tr>
<tr>
<td></td>
<td>☐ Other (specify):</td>
</tr>
<tr>
<td></td>
<td>Non-Crop: ☐ Landscape ☐ Golf Course</td>
</tr>
<tr>
<td></td>
<td>☐ Other (specify):</td>
</tr>
<tr>
<td></td>
<td>Method: ☑ Drip ☐ Furrow ☐ Sprinkler</td>
</tr>
<tr>
<td></td>
<td>☐ Cooling ☐ Manufacturing ☐ Mill</td>
</tr>
<tr>
<td></td>
<td>☐ Other (specify):</td>
</tr>
<tr>
<td>☐ Industrial</td>
<td></td>
</tr>
<tr>
<td>☐ Military</td>
<td></td>
</tr>
<tr>
<td>☐ Other</td>
<td>Specify (livestock, aquaculture, etc.):</td>
</tr>
</tbody>
</table>

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

Water User's Signature: W. D. Balfour, Jr. Date: 5/5/89
Printed Name: W. D. Balfour, Jr. Firm or Title (Well Operator, etc.): Oahu Sugar Company, Ltd.

[certification signature]
STATE WELL NO.: 2203-01  
WELL NAME OR DESIGNATION: Honouliuli P5 A  
SOURCE OR STATION NAME (for a battery of wells): Waipahu Pump 5 (WP5)

A. WELL OPERATOR  
Firm name: Oahu Sugar Company, Ltd.  
Contact person: W. D. Balfour, Jr.  
Address: P.O. Box "O" Waipahu, Hawaii 96797  
Zip: 96797 Phone: 677-3577

B. OWNER OF WELL SITE  
Firm name: The Estate of James Campbell  
Contact person: Samuel L. Kea1a, Jr.  
Address: 828 Fort Street Mall, Suite 500 Honolulu, Hawaii 96813-4380  
Zip: 96813 Phone: 536-1961

C. WELL LOCATION  
Tax Map Key: 9-2-02:1  
Town, Place, District: Near Puu Kapuai, Ewa District  
Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

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

<table>
<thead>
<tr>
<th>Ground elevation (mean sea level):</th>
<th>285.49 ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reference point (used to measure depth to water):</td>
<td>21.3 ft.</td>
</tr>
<tr>
<td>Description:</td>
<td>centerline of pump</td>
</tr>
<tr>
<td>Depth to water (below reference point):</td>
<td>N/A ft.</td>
</tr>
<tr>
<td>Maximum recorded chloride:</td>
<td>334 ppm</td>
</tr>
<tr>
<td>Minimum recorded chloride:</td>
<td>159 ppm</td>
</tr>
<tr>
<td>Maximum chloride in 1987:</td>
<td>178 ppm</td>
</tr>
<tr>
<td>Year drilled or constructed:</td>
<td>1900</td>
</tr>
<tr>
<td>Well contractor:</td>
<td>N/A</td>
</tr>
<tr>
<td>Casing diameter:</td>
<td>12 in.</td>
</tr>
<tr>
<td>Solid casing depth (below ground):</td>
<td>N/A ft.</td>
</tr>
<tr>
<td>Perforated casing depth (below ground):</td>
<td>N/A ft.</td>
</tr>
<tr>
<td>Total depth of well:</td>
<td>680 ft.</td>
</tr>
<tr>
<td>Minimum chloride in 1987:</td>
<td>159 ppm</td>
</tr>
</tbody>
</table>

E. INSTALLED PUMP DATA  
2 pumps drawing from connected battery of wells  
Pump type: □ Vertical shaft □ Submersible □ Centrifugal □ Other (specify):  
Power: □ Diesel, ___ HP □ Gas, ___ HP □ Electric, ___ HP □ Other (specify):  
Pump capacity: 5559 gallons per minute  
Pump installation contractor: Oahu Sugar Company

... (continued over)
The Oahu Sugar Co., Ltd.
Waipahu, T.H.

Pump No. 5 & 58.
Plan Showing Location of Wells
scale 1' = 30'
CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 20-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL.
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS MEAN LOWER LOW WATER
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER.
THE MEAN RANGE OF TIDE IS APPROXIMATELY 2 FEET

THIS MAP COMPLIES WITH NATIONAL MAP ACCURACY STANDARDS.
ISSUED BY U.S. GEOLOGICAL SURVEY, DENVER, COLORADO 80225, OR WASHINGTON, D.C. 20242.
A FOLDER DESCRIBING TOPOGRAPHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST.

05 SCALE 1:24,000
04

CONTOUR INTERVAL 40 FEET
DOTTED LINES REPRESENT 20-FOOT CONTOURS
DATUM IS MEAN SEA LEVEL.
DEPTH CURVES AND SOUNDINGS IN FEET—DATUM IS MEAN LOWER LOW WATER
SHORELINE SHOWN REPRESENTS THE APPROXIMATE LINE OF MEAN HIGH WATER.
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**STATE WELL NO.: 2203-06**

**WELL NAME OR DESIGNATION:** Honolulu P5 F

**SOURCE OR STATION NAME (for a battery of wells):** Waipahu Pump 5 (WP5)

### A. WELL OPERATOR
- **Firm name:** Oahu Sugar Company, Ltd.
- **Contact person:** W. D. Balfour, Jr.
- **Address:** Waipahu, Hawai'i 96797
- **Zip:** 96797  **Phone:** 677-3577

### B. OWNER OF WELL SITE
- **Firm name:** The Estate of James Campbell
- **Contact person:** Samuel L. Keala, Jr.
- **Address:** 828 Fort Street Mall, Suite 500
  Honolulu, Hawai'i 96813-4380
- **Zip:** 96813  **Phone:** 536-1961

### C. WELL LOCATION
- **Tax Map Key:** 9-2-02:1  **Town, Place, District:** Ewa District
- **Near Puu Kapuai,**
- **Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.**

### D. WELL DATA
- **For Drilled Wells, submit "as-built" drawing, driller's log, and pump test results, and complete items below.**
- **For Tunnels and Shafts, submit construction drawings, plan, or sketch map.**
- **Ground elevation (mean sea level):** 285.45 ft.
- **Reference point (used to measure depth to water):** Elevation: 21.3 ft.
- **Description:** Centerline of pump
- **Depth to water (below reference point):** N/A ft.
- **Maximum recorded chloride:** 334 ppm
- **Minimum recorded chloride:** 159 ppm
- **Maximum chloride in 1987:** 159 ppm
- **Year drilled or constructed:** 1900
- **Well contractor:** N/A
- **Casing diameter:** 12 in.
- **Solid casing depth (below ground):** N/A ft.
- **Perforated casing depth (below ground):** N/A ft.
- **Total depth of well:** 464 ft.
- **Minimum chloride in 1987:** 159 ppm

### E. INSTALLED PUMP DATA
- **2 pumps drawing from connected battery of wells**
- **Pump type:** ☐ Vertical shaft  ☐ Submersible  ☑ Centrifugal  ☐ Other (specify):
- **Power:** ☐ Diesel, __ HP  ☐ Gas, __ HP  ☑ Electric, 700 HP  ☐ Other (specify):
- **Pump capacity:** 5550 gallons per minute
- **Pump installation contractor:** Oahu Sugar Company

---

For Official Use Only:
- **Date received:**
- **Date accepted:**
- **Field checked by:**
- **Date:**
- **Latitude:**
- **Longitude:**
- **Comments:**
- **Hydrologic Unit:**
- **State Well No.:**

References: Hawai'i Revised Statutes, Chapter 174C.
Hawai'i Administrative Rules, Chapters 13-167 to 13-171.
## WATER USE PERMIT INDEX REPORT 06/13/94

### ISLAND OF OAHU

<table>
<thead>
<tr>
<th>Aquifer System:</th>
<th>EWA-KUNIA</th>
<th>Sustainable Yield = 20 mgd</th>
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<tbody>
<tr>
<td>OAHU SUGAR CO., LTD.</td>
<td>2006-01</td>
<td>EP 10 01/16/92 5.010</td>
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<td>EP 10 01/16/92 0.000</td>
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<td>OAHU SUGAR CO., LTD.</td>
<td>2006-06</td>
<td>EP 10 01/16/92 5.010</td>
</tr>
</tbody>
</table>

17 Permits Totaling 5.010
Available Allocation = 14.990

OAHU has 17 Permits Totaling 5.010

STATEWIDE THERE ARE 17 PERMITS TOTALING 5.010
II. CONSENSUS RECOMMENDATIONS

The following recommendations were arrived at by full consensus of the multi-interest SPAM Task Force. These consensus recommendations represent only a portion of the list of ideas and suggestions provided over the past year by the various members of the Task Force, public meeting participants, invited speakers, staff and others. The ideas brought forth by SPAM Task Force members are included in the next section of this report.

A. STREAM PROTECTION AND MANAGEMENT SYSTEM

1. HERITAGE STREAMS

   a. Criteria

   (1) Those streams which are perennial as verified by the CWRM, DLNR-DAR or the USFWS and without existing and functioning diversion structures and which support viable populations of native amphidromous species as evidenced by significant recruitment or by significant spawning of ‘o’opu nakea, ‘o’opu alamo’o, ‘o’opu nopili, ‘o’opu naniha, ‘o’opu akupa, hiihiwai or ‘opae.

   Evidence of spawning may consist of the presence of numbers of eggs or observation of indicators of spawning behavior such as territorial displays or related behavior. Indicators of territorial displays for each species are available from DLNR-DAR. Evidence of recruitment may consist of the collection of numbers of recruits or identifiable peaks in size frequency distribution.

   b. Management Rules

   (1) Rights

   (a) Appurtenant rights are preserved in accordance with existing laws. However, the reduction of flows and degradation of water quality resulting from the exercise of these rights shall be minimized. When disputes do arise, the CWRM shall attempt to resolve them through appropriate dispute resolution processes.
December 6, 1991

Mr. Manabu Tagomori
Deputy Director
Commission on Water Resource Management
Department of Land and Natural Resources
P. O. Box 373
Honolulu, HI 96809

Dear Manabu:

Enclosed are a listing of fields actually withdrawn from Oahu Sugar Company's demise by Campbell Estate via Area and Rental Agreements and a list of basal well by well pumpage requirement to total 60.62 MGD when our present allocation is readjusted.

If any other information is required, please give me a call.

Very truly yours,

W. D. Balfour, Jr.
Vice President and Manager

WDB:yk

enclosures
OAHU SUGAR COMPANY, LTD.
Recommended Distribution of Revised 60.62 MGD Basal Groundwater Allocation

Koolau Sub-area:

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<tr>
<th>Area</th>
<th>Allocation (MGD)</th>
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<tr>
<td>EP2</td>
<td>0.000</td>
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<tr>
<td>EP3,4</td>
<td>3.304</td>
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<tr>
<td>EP5,6</td>
<td>8.000</td>
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<td>EP7,8</td>
<td>6.813</td>
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<td>EP15,16</td>
<td>12.154</td>
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<td>WP17A,17B</td>
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<td>WP2A,2B</td>
<td>5.594</td>
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<td>WP4A,4B</td>
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<tr>
<td>WP6A,6B</td>
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<tr>
<td>WP7A,7B,7C</td>
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<td><strong>Total</strong></td>
<td><strong>55.610</strong></td>
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Waianae Sub-area:

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<td>WP5</td>
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<td>EP10</td>
<td>5.010</td>
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<tr>
<td><strong>Total</strong></td>
<td><strong>60.620</strong></td>
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OAHU SUGAR COMPANY, LTD

Campbell Estate Sugarcane Acreage Withdrawals and Cessation of Cultivation on Lands Supplied With Water from the Pearl Harbor Water Management Area Basal Aquifer

<table>
<thead>
<tr>
<th>Rental Agrmt #</th>
<th>Effective Date</th>
<th>Field Number</th>
<th>Cane Area Withdrawn</th>
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<tbody>
<tr>
<td>61</td>
<td>5/31/88</td>
<td>57</td>
<td>0.197</td>
</tr>
<tr>
<td>62</td>
<td>5/26/88</td>
<td>48</td>
<td>33.95</td>
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<td>63</td>
<td>9/21/88</td>
<td>69</td>
<td>63.9</td>
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<td>64</td>
<td>4/16/89</td>
<td>80</td>
<td>4.571</td>
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<tr>
<td>65</td>
<td>5/1/89</td>
<td>77</td>
<td>114.65</td>
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<tr>
<td>66</td>
<td>11/10/88</td>
<td>76</td>
<td>40.195</td>
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<td></td>
<td></td>
<td>81</td>
<td>94.55</td>
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Pending Agreements:

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<tr>
<td>68</td>
<td>4/16/89</td>
</tr>
<tr>
<td>70</td>
<td>6/13/90</td>
</tr>
<tr>
<td>71</td>
<td>10/20/89</td>
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<td>73</td>
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<td>75</td>
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<td>79</td>
<td>5/2/89</td>
</tr>
<tr>
<td>80</td>
<td>5/1/90</td>
</tr>
<tr>
<td>81</td>
<td>10/19/90</td>
</tr>
<tr>
<td>83</td>
<td>10/12/90</td>
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</table>

NOVEMBER 19, 1991
WELL NO. 2203-01 606
DAHI SUGAR CO.
WP - 5
SALINITY PROFILE
BASED ON
FEB 21, 1985
Conductivity Data
by HONI BWS
WATER TEMP = 22.0°C B.O.D.

BETWEEN S.C. 0
0
100'
200'

DEPTH

200 ppm
300 ppm

CHLORIDES

Plotted 5/8/85
State of Hawaii
DEPARTMENT OF LAND AND NATURAL RESOURCES
Division of Water and Land Development
Honolulu, Hawaii

June 18, 1982

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

Gentlemen:

RESUBMITTAL
Terms of Water Withdrawal and Use Permits

The Department's Administrative Rules on ground water control require that the Board specify the period or duration of permits and the commencement and completion dates for the construction of ground water sources. After investigation and study of this matter, DOWALD is ready to make specific recommendations for adoption by the Board of Land and Natural Resources.

The Ground Water Use Law specifies that permits may be issued up to a maximum of 50 years and allows for extension of the permit after one-half of the permit period has lapsed. The staff is recommending that the duration of each permit be established at twenty (20) years with a review every five years by the Board to determine compliance with provisions of the permit. The staff feels that 20 years is a reasonable time for regulating ground water withdrawals and uses at this early stage of the program. As the Department gains experience in ground water regulation, the duration of the permits may be reviewed and adjusted as appropriate in the future.

On the commencement and completion dates, the staff recommends that a period of 24 months be established for completing the development of the ground water sources. This construction period is a reasonable time for drilling, testing, and for the installation of permanent pumps and controls to fully bring the ground water source into operation. The period may be extended upon a showing of good cause and good faith performance. The permit and construction dates should commence on the date the permit is issued by the Department.

It is recommended that the above terms be standardized for all water withdrawal and use permits issued by the Board, subject to adjustments required by the Board for any permit.

RECOMMENDATION:

That the Board establish the terms of ground water withdrawal and use permits at 20 years from the date of issuance of the permit with a five-year Board review to determine compliance with the provisions of the permit and that the development of the ground water source be completed within 24 months from the date of permit issuance for all permits issued by the Board, subject to adjustments required by the Board for any permit.

Respectfully submitted,

ROBERT T. CHUCK
Manager-Chief Engineer

APPROVED FOR SUBMITTAL

SUSAN INO, Chairman
RESUBMITAL
(Deferred Item D-2 of March 28, 1980 meeting)

Certification of Water Withdrawals and Uses
Pearl Harbor Ground Water Control Area, Oahu

The Pearl Harbor Ground Water Control Area (GWCA) which includes the Ewa and Wahiawa judicial districts, was designated for State regulation by the Board of Land and Natural Resources (BLNR) in September 1979 under authority of Chapter 177, HRS, and the Department of Land and Natural Resources (DLNR) Regulation 9. The regulatory procedures call for the BLNR to certify existing water withdrawals and uses and to issue permits for new ground water developments in the Pearl Harbor Ground Water Control Area.

The users of water within the Pearl Harbor Ground Water Control Area have submitted records of pumpage to the Department and from these submittals the annual withdrawals and maximum daily pumpage for individual wells and/or well fields are tabulated as shown in the attached "Certification of Water Withdrawals and Uses" which is made a part hereof. As a result, the following is recommended for certification of existing uses:

<table>
<thead>
<tr>
<th>User</th>
<th>Existing Use Average Annual (mgd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Board of Water Supply</td>
<td>78.950</td>
</tr>
<tr>
<td>U.S. Navy</td>
<td>21.350</td>
</tr>
<tr>
<td>U.S. Army</td>
<td>5.455</td>
</tr>
<tr>
<td>Private</td>
<td>5.858</td>
</tr>
<tr>
<td>Oahu Sugar Company</td>
<td>115.000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>224.413</strong></td>
</tr>
</tbody>
</table>

Oahu Sugar Company submitted figures which exceeded the 115 mgd listed above but because their submission represents unmeasured pumpages, the Department's staff is recommending that 115 mgd be certified. Oahu Sugar, in the meantime, will investigate the matter and if deemed necessary will request that the Board hold a hearing as is allowed under Section 4.4 of Regulation 9 of the Department of Land and Natural Resources.

RECOMMENDATION:

That the Board certify the existing uses and quantity of withdrawal for each well as indicated in the attached "Certification of Water Withdrawals and Uses" dated April 11, 1980 which reflects the recommended withdrawal quantity as follows: Board of Water Supply at 78.95 mgd; U.S. Navy, 21.35 mgd; U.S. Army, 5.455 mgd; Private, 5.858 mgd; and Oahu Sugar Company, 115.0 mgd; subject to the provisions of applicable laws and rules and regulations.

Respectfully submitted,
ROBERT T. CHUCK
Manager-Chief Engineer

APPROVED FOR SUBMITTAL:
SUSUMU ONO, Chairman
MOTION

Based on the submittal of the staff dated April 11, 1980, I move that the Board approve the issuance of conditional certification to the major users of the ground water who have filed the prescribed declarations, in the amounts recommended by the staff in its submittal dated April 11, 1980, subject to the following:

1. Submission by each user of a water use plan, meeting the management objectives and policies of the Board, within 3 months from the issuance of such objectives and policies by the Board in the State's water management plan.

2. Approval of the water use plans by the Board.

3. Review of the conditional certification within the next 3 years.

4. Reduction in the quantity of water conditionally certified in the event that such water is not being beneficially used as defined by law or that the water use plan is not being implemented effectively.

5. Adjustment in quantity, in the case of Oahu Sugar, upon the installation of a new and more accurate metering system, but in no event will said adjustment exceed the amount of the 1979 withdrawal as contained in the declared use attached to the submittal.
### STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

CERTIFICATION OF WATER WITHDRAWALS AND USES
Pearl Harbor Ground Water Control Area
April 11, 1986

<table>
<thead>
<tr>
<th>User/Source</th>
<th>State Well No.</th>
<th>Total Wells Withdrawal Use</th>
<th>DECLARED EXISTING USE</th>
<th>PRESERVED USE</th>
<th>Withdrawal Use</th>
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<tr>
<td></td>
<td></td>
<td></td>
<td>Source Capacity (mgd)</td>
<td>1-year Average (mgyr)</td>
<td>1978 Use (mgyr)</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td>13.287</td>
<td>13.499</td>
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<td></td>
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<td>Agr.</td>
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<td>22.700</td>
<td>15.184</td>
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<td>Agr.</td>
<td>17.001</td>
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<td></td>
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<td>13.200</td>
<td>9.320</td>
<td>9.026</td>
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<td>Agr.</td>
<td>14.900</td>
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<td>Agr. &amp; Dom.</td>
<td>15.000</td>
<td>15.160</td>
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<td></td>
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<td>Agr.</td>
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<td>1.721</td>
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<td>Agr.</td>
<td>3.180</td>
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<td>Agr.</td>
<td>12.129</td>
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<td>TOTAL (Gahua Sugar Co.)</td>
<td>120</td>
<td>103,528</td>
<td>123,368</td>
<td>123,978</td>
<td>294,692</td>
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<tr>
<td>In-District Sources</td>
</tr>
<tr>
<td>Kulaa Wells II</td>
</tr>
<tr>
<td>Waipahu Wells</td>
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<tr>
<td>Wai'iehili Wells</td>
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<tr>
<td>Pearl City Shaft</td>
</tr>
<tr>
<td>Pearl City Wells I</td>
</tr>
<tr>
<td>Pearl City Wells II</td>
</tr>
<tr>
<td>Waianae Wells</td>
</tr>
<tr>
<td>Newtons Wells</td>
</tr>
<tr>
<td>Weimalu Wells I</td>
</tr>
<tr>
<td>Kaahou Wells I</td>
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A7
<table>
<thead>
<tr>
<th>User/Source</th>
<th>State Wall No.</th>
<th>Total Walls</th>
<th>Use</th>
<th>Source Capacity (mgd)</th>
<th>3-year Average (mgd)</th>
<th>1770 Use</th>
<th>In-District</th>
<th>Maximum Daily Use (mgd)</th>
<th>Total Annual Use (mgd)</th>
<th>Average Daily Use (mgd)</th>
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</thead>
<tbody>
<tr>
<td>Hikawa Gulch</td>
<td>2335-01, 03</td>
<td>2 Munc.</td>
<td>2</td>
<td>5.00</td>
<td>0.650</td>
<td>0.780</td>
<td>Mun.</td>
<td>1.400</td>
<td>338.250</td>
<td>(0.790)</td>
</tr>
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<td>Hikawa Wells</td>
<td>2335-04, 07</td>
<td>2 Munc.</td>
<td>1</td>
<td>5.00</td>
<td>1.050</td>
<td>1.650</td>
<td>Mun.</td>
<td>1.770</td>
<td>375.550</td>
<td>(1.650)</td>
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<td>Hikawa Wells</td>
<td>2353-17 to 20</td>
<td>3 Munc.</td>
<td>1</td>
<td>6.40</td>
<td>1.070</td>
<td>1.200</td>
<td>Mun.</td>
<td>1.630</td>
<td>365.900</td>
<td>(1.000)</td>
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<tr>
<td>Waipio Hth. Walls I</td>
<td>2459-25, 34</td>
<td>3 Munc.</td>
<td>1</td>
<td>6.00</td>
<td>--</td>
<td>--</td>
<td>Mun.</td>
<td>--</td>
<td>--</td>
<td>(--)</td>
</tr>
<tr>
<td>Waipio Hth. Walls II</td>
<td>2500-01, 02</td>
<td>3 Munc.</td>
<td>1</td>
<td>6.00</td>
<td>--</td>
<td>--</td>
<td>Mun.</td>
<td>--</td>
<td>--</td>
<td>(--)</td>
</tr>
<tr>
<td>Pearl City (Palisades) Wells</td>
<td>2517-03</td>
<td>1 Munc.</td>
<td>1</td>
<td>0.00</td>
<td>0.720</td>
<td>2.000</td>
<td>Mun.</td>
<td>5.510</td>
<td>1,007.700</td>
<td>(2.950)</td>
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<tr>
<td>Waikoloa</td>
<td>2509-01 to 04</td>
<td>4 Munc.</td>
<td>2</td>
<td>5.00</td>
<td>3.500</td>
<td>2.570</td>
<td>Mun.</td>
<td>5.630</td>
<td>1,017.250</td>
<td>(2.570)</td>
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<tr>
<td>Subtotal (In-District)</td>
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<td>63</td>
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<td>Export to Honolulu</td>
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<tr>
<td>Hikawa Sheft</td>
<td>2364-01</td>
<td>1 Munc.</td>
<td>1</td>
<td>22.00</td>
<td>12.450</td>
<td>14.500</td>
<td>Mun.</td>
<td>18.070</td>
<td>8,233.900</td>
<td>(14.230)</td>
</tr>
<tr>
<td>Kamole Wells</td>
<td>2339-34, 36</td>
<td>2 Munc.</td>
<td>1</td>
<td>6.00</td>
<td>1.970</td>
<td>1.990</td>
<td>Mun.</td>
<td>2.160</td>
<td>728.350</td>
<td>(1.990)</td>
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<tr>
<td>Kanemoto Wells</td>
<td>2356-00 to 16</td>
<td>6 Munc.</td>
<td>1</td>
<td>12.00</td>
<td>10.500</td>
<td>11.750</td>
<td>Mun.</td>
<td>12.620</td>
<td>4,920.750</td>
<td>(11.750)</td>
</tr>
<tr>
<td>Kauhualu Wells</td>
<td>2457-22, 34</td>
<td>3 Munc.</td>
<td>1</td>
<td>5.00</td>
<td>8.000</td>
<td>1.139</td>
<td>Mun.</td>
<td>1.150</td>
<td>464.150</td>
<td>(1.150)</td>
</tr>
<tr>
<td>Waiakolu Wells II</td>
<td>2336-00, 03, 04</td>
<td>3 Munc.</td>
<td>1</td>
<td>1.14</td>
<td>0.570</td>
<td>0.900</td>
<td>Mun.</td>
<td>0.330</td>
<td>100.500</td>
<td>(0.330)</td>
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<tr>
<td>Kamoi Wells II</td>
<td>2515-01, 02, 03</td>
<td>3 Munc.</td>
<td>1</td>
<td>3.00</td>
<td>1.170</td>
<td>1.100</td>
<td>Mun.</td>
<td>0.600</td>
<td>60.100</td>
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<td>Subtotal (Export to Honolulu)</td>
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<td>Ewa-Waianae</td>
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<tr>
<td>Kuma Wall I</td>
<td>2503-01 to 04</td>
<td>6 Munc.</td>
<td>1</td>
<td>19.00</td>
<td>5.500</td>
<td>6.510</td>
<td>Mun.</td>
<td>19.750</td>
<td>1,775.550</td>
<td>(6.510)</td>
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<td>Kealoha Wells</td>
<td>2331-24 to 39</td>
<td>8 Munc.</td>
<td>1</td>
<td>14.45</td>
<td>8.500</td>
<td>8.510</td>
<td>Mun.</td>
<td>18.950</td>
<td>3,690.000</td>
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<td>TOTAL (Board of Water Supply)</td>
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<td>User/Source</td>
<td>State Well No.</td>
<td>Total Wells</td>
<td>Source Capacity (mpg)</td>
<td>Withdrawal 5-year Average (mpg)</td>
<td>1979 Usable (mpg)</td>
<td>Maximum Daily Withdrawal (mpg)</td>
<td>Total Annual Withdrawal (mgd)</td>
<td>Average Daily Withdrawal (mgd)</td>
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<tr>
<td><strong>MILITARY</strong></td>
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</tr>
<tr>
<td>Army</td>
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<tr>
<td>Schofield Barr. (2,3,4,5)</td>
<td>2001-02 to 04, 10</td>
<td>4 Mil.</td>
<td>19.846</td>
<td>4.833</td>
<td>5.655</td>
<td>Mil.</td>
<td>2.833</td>
<td>1,991.875</td>
<td>( 3.453)</td>
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<tr>
<td>Navy</td>
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</tr>
<tr>
<td>Waiakea Shaft</td>
<td>2158-18</td>
<td>1 Mil.</td>
<td>25.928</td>
<td>14.701</td>
<td>12.300</td>
<td>Mil.</td>
<td>25.130</td>
<td>4,818,060</td>
<td>( 3.300)</td>
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<tr>
<td>Red Hill Shaft</td>
<td>2154-01</td>
<td>1 Mil.</td>
<td>17.800</td>
<td>7.585</td>
<td>5.668</td>
<td>Mil.</td>
<td>17.500</td>
<td>2,948,920</td>
<td>( 6.000)</td>
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<tr>
<td>Barber Pt. Shaft</td>
<td>2153-03</td>
<td>1 Mil.</td>
<td>2.804</td>
<td>2.465</td>
<td>2.332</td>
<td>Mil.</td>
<td>9.000</td>
<td>211,140</td>
<td>( 3.355)</td>
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<tr>
<td>Waiakea Shaft</td>
<td>2155-22</td>
<td>1 Mil.</td>
<td>11.527</td>
<td>6.600</td>
<td>7.390</td>
<td>Mil.</td>
<td>11.500</td>
<td>219,950</td>
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<td><strong>TOTAL (Military)</strong></td>
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<td>6</td>
<td>19.704</td>
<td>30.145</td>
<td>26.805</td>
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<td>67.623</td>
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<td>Call Radiatory</td>
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<td>18P-1A</td>
<td>2215-25</td>
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<td>0.961</td>
<td>0.906</td>
<td>Ind.</td>
<td>2.024</td>
<td>220,690</td>
<td>( 0.964)</td>
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<td>18P-2B</td>
<td>2215-36</td>
<td>1 Ind.</td>
<td>2.169</td>
<td>0.961</td>
<td>0.769</td>
<td>Ind.</td>
<td>2.007</td>
<td>287,630</td>
<td>( 0.760)</td>
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<td>Dal Monte Corp.</td>
<td>2069-07</td>
<td>1 Agr.</td>
<td>6.000</td>
<td>—</td>
<td>—</td>
<td>Agr.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>( — )</td>
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<td>2069-08</td>
<td>1 Agr.</td>
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<td>3.717</td>
<td>7.221</td>
<td>Agr.</td>
<td>2.800</td>
<td>774,145</td>
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<td>2069-02</td>
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<td>0.154</td>
<td>Dom.</td>
<td>0.206</td>
<td>54,210</td>
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<td>Harris Bay</td>
<td>2201-14</td>
<td>1 Ind.</td>
<td>0.823</td>
<td>0.003</td>
<td>0.003</td>
<td>Ind.</td>
<td>0.007</td>
<td>1.605</td>
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<td>Hawaii Country Club</td>
<td>2250-9</td>
<td>1 Other</td>
<td>0.622</td>
<td>0.197</td>
<td>0.233</td>
<td>Other</td>
<td>0.423</td>
<td>50,300</td>
<td>( 0.233)</td>
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<tr>
<td>Kahuku Meat Co.</td>
<td>2235-92</td>
<td>1 Other</td>
<td>0.622</td>
<td>0.322</td>
<td>—</td>
<td>Other</td>
<td>—</td>
<td>2.630</td>
<td>( 0.022)</td>
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<td>Pearl Country Club</td>
<td>2356-54</td>
<td>1 Other</td>
<td>0.808</td>
<td>0.330</td>
<td>0.272</td>
<td>Other</td>
<td>0.330</td>
<td>61,030</td>
<td>( 0.232)</td>
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<td>Waimanalo Trg. School</td>
<td>190-1A, 1B</td>
<td>2 Other</td>
<td>0.915</td>
<td>0.145</td>
<td>0.134</td>
<td>Other</td>
<td>0.565</td>
<td>49,640</td>
<td>( 0.134)</td>
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<tr>
<td>Watanabe</td>
<td>2200-11</td>
<td>1 Agr.</td>
<td>6.944</td>
<td>0.743</td>
<td>0.800</td>
<td>Agr.</td>
<td>0.928</td>
<td>348,280</td>
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<td>2200-20</td>
<td>1 Agr.</td>
<td>6.978</td>
<td>0.437</td>
<td>0.800</td>
<td>Agr.</td>
<td>0.560</td>
<td>149,060</td>
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<td>Yoshimura, D.T.</td>
<td>2295-29</td>
<td>1 Agr.</td>
<td>0.006</td>
<td>0.006</td>
<td>0.006</td>
<td>Agr.</td>
<td>0.024</td>
<td>2.190</td>
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<td>Alipio, Sotomasa</td>
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<td>1 Dom.</td>
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<td>Dom.</td>
<td>—</td>
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<td>( — )</td>
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<td>2250-67</td>
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<td>Dom.</td>
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<td>( — )</td>
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<td>2250-30</td>
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<td>—</td>
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<td>—</td>
<td>Dom.</td>
<td>—</td>
<td>—</td>
<td>( — )</td>
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<td>2250-15</td>
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<td>—</td>
<td>Dom.</td>
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<td>( — )</td>
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<tr>
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<td>2455-03</td>
<td>1 Agr.</td>
<td>—</td>
<td>—</td>
<td>—</td>
<td>Agr.</td>
<td>—</td>
<td>—</td>
<td>( — )</td>
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<td>Dom.</td>
<td>—</td>
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<td>Dom.</td>
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<td>( — )</td>
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<td>Dom.</td>
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<td><strong>TOTAL (Private Users)</strong></td>
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<td>22</td>
<td>15.182</td>
<td>5.853</td>
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<td>401.460</td>
<td>51,918.745</td>
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*Withdrawal to be certified shall be equal to the existing pump capacity.