**CHECKLIST**

- **WELL CONSTRUCTION PERMIT**
- **PUMP INSTALLATION PERMIT**

**WELL NAME or LOCATION:** Lualualei - PVT INC, ISLAND: Oahu

**WELL NUMBER:** 2308-03  **Tax Map Key:** 8-7-09:03

<table>
<thead>
<tr>
<th>OWNER/OPERATOR: Firm Name</th>
<th>V PVT-Holdings, Inc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Person</td>
<td>841 Bishop St., #1901</td>
</tr>
<tr>
<td>Address</td>
<td>Honolulu, Hawaii 96813</td>
</tr>
<tr>
<td>Phone</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>LANDOWNER: Firm Name</th>
<th>same</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contact Person</td>
<td>Address</td>
</tr>
<tr>
<td>Phone</td>
<td>Phone</td>
</tr>
</tbody>
</table>

Date application received: 4-22-92

Date acknowledged receipt/request more info: 4-17-92

Date application accepted: 4-17-92

Suspense date (90 days): 7-6-92

Date filing fee deposited: 4-22-92

Application sent to following:

<table>
<thead>
<tr>
<th>Department</th>
<th>Date sent</th>
<th>Comments received</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dept. of Hawn Home Lands</td>
<td>4-11-92</td>
<td></td>
</tr>
<tr>
<td>Dept. of Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Office of Hawn. Affairs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>State Hist Pres Div</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dept/Bd of Water Supply</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sierra Club L. D. F.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Koolauoa HW/20 (Oahu)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dept Pub. Water (Hawaii)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Additional List (Molokai)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Eric/Lyann</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Date agenda due: 6-1-92

Date submittal due: 6-1-92

Date submittal sent to applicant: 6-1-92

Date application approved or disapproved: 6-1-92

Date applicant notified of decision: 6-1-92

**REMARKS:**

______________________________

______________________________

______________________________

______________________________

______________________________

______________________________

______________________________

______________________________

______________________________

______________________________
Ms. Jennifer Kleveno Hernando
Mountain Edge Environmental, Inc.

Dear Ms. Hernando:

This is in response to your letter, which was faxed to us on December 11, 2003, requesting permission for temporary emergency use of Well No. 2308-04 for dust control at the PVT landfill. Well No. 2308-04 was recently completed, but a pump installation permit has not yet been approved. According to your letter, the pump in the existing dust control well (Well No. 2308-03) broke and will be repaired by December 19, 2003. Until the pump in Well No. 2308-03 is repaired, you are requesting emergency use of Well No. 2308-04 so that dust control at the landfill requirements can be met.

Although we do not have any rules for emergency pump installations, we find that the following extenuating circumstances apply: 1) no harm or threat to the ground-water resource or other existing legal uses should ensue because use of Well No. 2308-04 will replace the use of Well No. 2308-03 which are in close proximity to each other; 2) continued dust control at the landfill is needed for public health and safety reasons; and 3) the proposed use is temporary and will cease when the pump in Well No. 2303-03 is repaired on about December 19, 2003.

Based on the above, you may proceed with emergency use of Well No. 2308-04 for the duration of time that it takes for the pump in Well No. 2308-03 to be repaired and reinstalled, provided that the pumping rate at Well No. 2308-04 does not exceed that of Well No. 2308-03 and the use of Well No. 2308-04 ceases by the end of December.

Thank you for informing us of your emergency situation and for being mindful of our rules and regulations. Please do not forget to file the Well Completion Report Part II, if the pump in Well No. 2308-03 is replaced or reset at a different elevation.

We look forward to receiving the Well Completion Report Part I for Well No. 2308-04.

If you have any questions please contact Lenore Y. Nakama of the Commission staff at [redacted].

Sincerely,

[Signature]

ERNEST Y.W. LAU
Deputy Director

LYN:ss
COMMISSION ON WATER RESOURCE MANAGEMENT:

FROM: ______
DATE: ______
SUSPENSE DATE: ______

TO: ______ INIT: ______

R. LOUI
S. KOKUBUN
F. CHING
S. SUBIA
K. YODA
K. OSHIRO

SURVEY BRANCH

REGULATION BRANCH

TO: ______ INIT: ______

E. SAOKDA
R. HARDY
L. NAKAMA
D. HIGA
C. ICE

PLEASE:

See Me
Review & Comment
Take Action
Type Draft
Type Final
File
Xerox ______ copies
File: ______

PLANING BRANCH

TO: ______ INIT: ______

S. EDMUNDS
L. MIZUNO

PLEASE:

See Me
Review & Comment
Take Action
Type Draft
Type Final
File
Xerox ______ copies
File: ______

FIELD SERVICES & TECHNICAL SUPPORT

Y. SHIROMA
R. JINNAI
M. OHYE
I. KUNIMURA
S. SWANSON

PLEASE:

See Me
Review & Comment
Take Action
Type Draft
Type Final
File
Xerox ______ copies
File: ______

File: 2308-03

10/94

Pump 125 GPM INSTALLED on Jan. 10, 1995
Chairperson
State of Hawaii
Department of Land and Natural Resources
Commission on Water Resource Management
Honolulu, Hawaii

Gentlemen:

Lualualei - PVT Well
Well No. 2308-03
Lualualei, Oahu, Hawaii

Reference is made to the Commission’s letter of July 7, 1994 extending the
Pump Installation Permit for Well No. 2308-03. On behalf of PVT Land Company,
Owner of the well, please be informed that the pump was installed on January 10,
1995. An as-built sectional drawing of the installed pump and associated engineering
calculations are enclosed in accordance with the permit requirements.

Please contact us if there are any questions or additional documentation
required by the Commission. Thank you.

Very truly yours,

BELT COLLINS HAWAII LTD.

Cheryl Palesh

CP:cu

Enclosures

cc: Mr. Vernon Chock, PVT Land Co.
Mr. Sanford Ota, PVT Land Co.
Roscoe Moss Hawaii, Inc. Making Water Work For Hawaii Since 1965

Facsimile Transmittal

Date: January 12, 1995                  Pages: 2, including this cover sheet

From: Norman H. Messinger

To: Belt Collins Hawaii                  Attn: Cheryl Palesh

Subject: Nanakuli Landfill Well Facilities

Enclosed is the as-built pump installation dwg for the above project. As discussed, I can only provide well depth and SWL relative to the pump surface plate. Well depth was approximately 198' with SWL at 131'-2".

Regards,

[Signature]
CROWN

4 1/2" TO FACE OF FLANGE
- 3/4" THK
- 6 1/2" BASE TO 1/2" OF DISCHARGE

SURFACE PLATE *
- 4"
- O.D. OF COUPLING
- 6"
- I.D. OF WELL
- 3"
- COLUMN *GAUGE (1 x 3', 7 x 2', 1 x 10')
- 3/8"/4" POWER CONDUCTOR
- 1" AIRLINE

BOWL UNIT; SN # 42929
- 5KC - 1255555 ASSEMBLY
- 6 STAGE
- 5" O.D. OF BOWLS INCL. CONDUCTOR GUARD

MOTOR; SN # 180087
- F/E MFR. 10 H.P. 230 VOLTS
- 1 PH. 3540 R.P.M. 6" MOTOR O.D.

PUMP PERFORMANCE
- U.S.G.P.M.----- 185
- FT. TOTAL HD.- 175
- R.P.M.-------- 3540

PUMP NO.
PO NO.

AS: BUILT DWG
11/18/85
* = NOT BY CROWN PUMP
3G,000 GALLON TANK

OF = 146°

2" METER

3" GV

135. B

BLOW-OFF
ASSEMBLY
W/AIR & VACUUM VALVE

3" COLUMN PIPE

3" CHECK VALVE

AIR/VACUUM VALVE

PUMP INTAKE
EL = (-) 20.2

200' 8" SOLID CASING

3" CHECK VALVE

STATIC WATER
EL = (+) 3'

EL = (+) 16.3

80' 8" PERF. CASING

EL = (-) 4.2

NANAKULI LANDFILL WELL
DATE: 7/20/94

Tom Nance Water Resource Engineering
WELL PROJECT#: 93-64
DATE: 20-Jul-94

PUMP RATE = 125 GPM

WELL LIFT (WL)

<table>
<thead>
<tr>
<th>Ground EL. @ Pump Base</th>
<th>135.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Static Water Level EL</td>
<td>3</td>
</tr>
<tr>
<td>Drawdown EL. @ PUMP RATE</td>
<td>-12</td>
</tr>
<tr>
<td><strong>WELL LIFT</strong></td>
<td><strong>147.8</strong></td>
</tr>
</tbody>
</table>

ABOVE GROUND HEAD (AGH)

<table>
<thead>
<tr>
<th>Ground EL. @ Pump Base</th>
<th>135.8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Discharge EL. at Outlet</td>
<td>146</td>
</tr>
</tbody>
</table>

PIPE FRICTION LOSS TO DISCHARGE PT.

<table>
<thead>
<tr>
<th>Length (ft)</th>
<th>Dia. (in)</th>
<th>C</th>
<th>Q=flow (gpm)</th>
<th>V</th>
<th>V2/2G</th>
<th>Headloss (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>25</td>
<td>3</td>
<td>110</td>
<td>125</td>
<td>5.67</td>
<td>0.50</td>
<td>1.58</td>
</tr>
</tbody>
</table>

PIPE FITTINGS LOSS TO DISCHARGE PT.

Fitting Loss for Above Ground Piping @ 125 GPM

<table>
<thead>
<tr>
<th>Fitting</th>
<th>No.</th>
<th>K value</th>
<th>125 GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>3&quot;-90 BD</td>
<td>1</td>
<td>0.65</td>
<td>0.65</td>
</tr>
<tr>
<td>3&quot;-GV</td>
<td>1</td>
<td>0.15</td>
<td>0.15</td>
</tr>
<tr>
<td>3&quot; X 2&quot; RED</td>
<td>2</td>
<td>0.25</td>
<td>0.50</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Dia. (in)</th>
<th>Q=flow (gpm)</th>
<th>V</th>
<th>V2/2G</th>
<th>TOTAL</th>
<th>Total Headloss (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>125</td>
<td>5.67</td>
<td>0.50</td>
<td>1.30</td>
<td>0.65</td>
</tr>
</tbody>
</table>
WELL: NANAKULI LANDFILL WELL
PROJ. #: 93-64
DATE: 20-Jul-94

SPECIAL VALVE LOSS @ WELL

<table>
<thead>
<tr>
<th>Fitting</th>
<th>Headloss at rated flow (ft)</th>
<th>125.00 GPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>3&quot; Check Valve</td>
<td>1.90</td>
<td></td>
</tr>
<tr>
<td>2&quot; Turbine meter</td>
<td>4.60</td>
<td></td>
</tr>
</tbody>
</table>

TOTAL ABOVE GROUND HEAD LOSS =
(DISCHARGE EL - PUMP GRD. EL + PIPE LOSSES) = 18.93 ft

FIELD PUMPING HEAD (FPH)

WELL LIFT + AGH = 166.73 ft

COLUMN FRICTION LOSS:
ASSUME: 3.0 INCH SCHEDULE 40 PIPE

PUMP GRD ELEVATION = 135.8 ft
BOTTOM PUMP BOWL EL = -20.2 ft
TOTAL COLUMN LENGTH = 156 ft

<table>
<thead>
<tr>
<th>length (ft)</th>
<th>ID Dia. (in)</th>
<th>C</th>
<th>Q=flow (gpm)</th>
<th>V</th>
<th>V^2/2g</th>
<th>Headloss (ft)</th>
</tr>
</thead>
<tbody>
<tr>
<td>156</td>
<td>3</td>
<td>110</td>
<td>125</td>
<td>5.67</td>
<td>0.50</td>
<td>9.84</td>
</tr>
</tbody>
</table>

COLUMN CHECK VALVE = 1 1.9 ft
TOTAL COLUMN LOSS = 11.74 ft

TOTAL DYNAMIC HEAD = WL + AGH + CL = 178.47 ft

CALCULATED HORSEPOWER:

SELECT PUMP UNIT
PUMP UNIT: CROWN 5 HC-125
FT PER STAGE: 30
CALC NO. STAGES: 5.95
NO. OF STAGES: 6
PUMP EFF: 68 %

FLOW RATE: 125 GPM
TDH: 178 FT

CALCULATED HORSEPOWER => 8.28 HP
SAY => 10 HP

FILE: LFWELL  PAGE 2 OF 2.
The Commission (Commission on Water Resource Management), at its meeting on June 15, 1994, approved your request for a six-month extension of your Pump Installation Permit. The extension is subject to the conditions of the original permit (copy attached) issued on July 23, 1992, and to the following condition:

The permit may be revoked if work is not started within six months of the date of issuance or if work is suspended or abandoned for six months. The work shall be completed by January 31, 1995.

KEITH W. AHUE, Chairperson
Commission on Water Resource Management
JUL 15 1994
Date of Issuance
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.

Applicant's Signature: [Signature] Date: 7/14/94

Printed Name: VERNON CHOCK

Firm or Title: PRESIDENT

Please sign and return one copy of this permit to the Commission and retain a copy for your record.

Attach cc: USGS
Department of Health
Safe Drinking Water Branch
Wastewater Branch
Ground Water Protection Program
Honolulu Board of Water Supply
Belt Collins Hawaii Ltd.
TO: PVT-Holdings, Inc.

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to install a pump in Lualualei-PVT Well (Well No. 2308-03), for landscape irrigation and dust control, is approved subject to the following conditions:

1. The Commission on Water Resource Management staff (Commission staff), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, before any work covered by this permit commences.

2. The proposed use shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to pump water from the well shall not constitute a determination of correlative water rights. The permittee is notified and by this provision understands that the quantity of water taken from the well could be reduced by the Commission in the future. This permit is not a commitment that the pump capacity permitted here or even some lesser amount is guaranteed in the future.

3. The permit shall be for installation of a 200 gpm capacity pump in the well.

4. The following shall be submitted to the Commission staff within 30 days after completion of the work:
   a. Well Completion Report.
   b. As-built sectional drawing of the installed pump.
5. The applicant shall comply with all applicable laws, rules, and ordinances.

6. This permit may be revoked if work is not started within six months of the date of issuance or if work is suspended or abandoned for six months. The work proposed in the permit application shall be completed within two years from the date of permit issuance.

WILLIAM W. PATY, Chairperson
Commission on Water Resource Management

JUL 23 1992
Date of Issuance

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.

Applicant's Signature: [Signature] Date: 7/14/92
Printed Name: VERNON CHICK
Firm or Title: VICE-PRESIDENT

Please sign and return one copy of this permit to the Commission and retain a copy for your record.

cc: USGS
Department of Health
Safe Drinking Water Branch
Ground Water Protection Program
Honolulu Board of Water Supply
Testimony Presented to the Commission on Water Resource Management

6/15/94
Regular Commission Meeting

Aloha, and thank you for the opportunity to present testimony to the Commission concerning Agenda #1, items 5, 6, 8 and 9. I'm Toni Bissen with the Native Hawaiian Advisory Council.

Item 5 Extension - PVT Holdings, Inc. Pump Installation Permit, Lualualei-PVT Well, Well No. 2308-03, Lualualei, Oahu

NHAC QUESTIONS COWRM'S PRACTICE OF GRANTING PERMITS BEFORE ESTABLISHING WATER RESERVATIONS FOR HAWAIIAN HOME LANDS IN NON-DESIGNATED AREAS

PVT Holdings' pump installation permit request first came before the Commission on July, 15, 1992. Then, staff estimated the sustainable yield of the Lualualei aquifer system to be 4 mgd. PVT Holdings hopes to pump 100,000 gpd from this aquifer. Before permit approval, it is essential to know for planning purposes what the existing, planned and proposed uses of this aquifer are so that other uses can be accommodated. It is our position that water reservations on Hawaiian Home Land should be established before the continued allocation of the remaining balance of the 4 mgd. We understand that the Commission feels it cannot allocate water from non-designated areas but NHAC has consistently asserted that the Commission does possess the authority and the duty to make water reservations within non-designated water management areas. We believe Act 325 gives the Commission authority to reserve water from this aquifer, and as a practical matter the Department of Hawaiian Home Lands and the Water Commission should take action to reserve water from within the aquifer systems over which home lands are situated.
AGENDA
FOR THE MEETING OF THE
COMMISSION ON WATER RESOURCE MANAGEMENT

DATE: June 15, 1994
TIME: 9:00 a.m.
PLACE: Kalanimoku Building
        Board Room

1. Old Business/Announcements

2. Gentry Hawaii, Ltd., Request for Time Extension, Stream Channel Alteration Permit, Panakauahi Gulch, Waiawa, Oahu

3. Fletcher Pacific, Application for a Stream Channel Alteration Permit, Construction of Gabion Basket Retaining Wall and Drainage Outlet Structure, Waimano Stream, Pearl City, Oahu

4. The Reasor Residence, Application for a Stream Channel Alteration Permit, Construction of a Driveway Bridge, Unnamed Stream in Hanalei, Kauai

5. EXTENSION - PVT-Holdings, Inc., Pump Installation Permit, Lualualei-PVT Well, Well No. 2308-03, Lualualei, Oahu


7. Queen Liliuokalani Trust, Application for a Pump Installation Permit, Queen Liliuokalani Trust Well 1, Well No. 4057-01, Keahuolu, Hawaii

8. Island Shores, Inc., Application for a Pump Installation Permit, Kahakuloa Acres Well, Well No. 5832-03, Kahakuloa, Maui

9. State Division of Water and Land Development, Application for a Well Construction Permit, Puu Anahulu Exploratory Well, Well No. 5347-01, Puu Anahulu, Hawaii
10. Kauai Department of Water, Application for a Well Construction Permit, Hanamaulu Well No. 1, Well No. 0022-01, Hanamaulu, Kauai

11. Paul Bergstedt, Application for a Well Construction/Pump Installation Permit, Kahuku-Bergstedt Well, Well No. 0347-01, Kahuku, Kauai, Hawaii

12. Baldwin * Malama, After-the-Fact Application for a Well Construction/Pump Installation Permit, Waiohuli I Well, Well No. 4527-12, Waiohuli, Maui

13. Jeffrey Lindner, Application for a Well Construction/Pump Installation Permit, Pilaa-Lindner Well, Well No. 1222-01, Pilaa, Kula, Maui, Kauai


15. Other Business

Any person may testify or present information on the public hearing subject matter or meeting agenda items. If you have a legal interest that may be adversely affected, you have a right to request an administrative contested case hearing. However, you must make the request either orally or in writing by the close of this public hearing or meeting and file a written petition for a contested case hearing within 10 days after the date of this public hearing or meeting. If you do not make such a request or fail to file a timely written petition with the Commission, the consequence is that you will be precluded from later obtaining a contested case hearing, and seeking judicial review of the adverse decision. See Chapter 13-167, Hawaii Administrative Rules of the Department of Land and Natural Resources.

Also, disabled individuals planning to attend the public hearing or meeting are asked to contact the Commission (at the above address or phone number) to indicate if they have special needs which require accommodation.
NOTICE

Public Informational Meetings on the Waiahole Ditch

The Commission on Water Resource Management has scheduled two public informational meetings to discuss the issues related to the Waiahole Ditch.

June 22, 1994
6:30 p.m.
Waiahole Elementary School
48-215 Waiahole Valley Road

July 26, 1994
6:30 p.m.
Waipahu High School
94-1211 Farrington Highway

The meeting format has not been finalized but will include a summary of the requests currently before the Commission and the related issues. The requests are from the Waiahole Irrigation Company (water use permits for existing uses); the Department of Agriculture (reservation of water for agricultural uses); and the Kahaluu Neighborhood Board, Hakipuu Ohana and Waiahole Waikane Community Association (restoration of stream flows). The public will be invited to comment.

For more information, please call Sallie Edmunds at 123-4567.
State of Hawaii  
COMMISSION ON WATER RESOURCE MANAGEMENT  
Department of Land and Natural Resources  
Honolulu, Hawaii  
June 15, 1994

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

Gentlemen:

EXTENSION - PVT-Holdings, Inc.  
Pump Installation Permit  
Lualualei-PYT Well, Well No. 2308-03, Lualualei, Oahu

Applicant:  
PVT-Holdings, Inc.

Landowner:  
Same

Background:

November 24, 1989 - Well construction permit issued to Kyowa Building Co., Ltd.  
March 1990 - Drilling completed.  
July 23, 1992 - Pump Installation Permit issued to the applicant.  
April 28, 1994 - Request to extend the completion date of the permit from July 23, 1994 to January 31, 1995.

Action Requested: The applicant is requesting that the Commission approve a six-month extension for the pump installation permit (see attached).

Well Location/Tax Map Key: The well site is at Lualualei, Oahu, at Tax Map Key: 8-7-09: 3 (see attached map).

Well Description:

Ground elevation: 135.84 ft.
Casing diameter: 8 inches
Solid casing depth: 120 ft.
Screen casing depth: 200 ft.
Open hole: none
Total depth: 200 ft.
Grouted annulus: 0 to 120 ft.

The well develops slightly brackish (560 to 900 mg/l chlorides) basal water.

Analysis: Section 13-168-12(k) of the administrative rules states: "The commission may extend the completion dates of the activity prescribed in any permit upon a showing of good cause and good-faith performance".

RECOMMENDATION:

That the Commission, upon determination that the applicant has shown good cause and good-faith performance, approve a six-month extension of the pump installation permit, subject to the conditions of the original permit issued on July 23, 1992, and to the following condition:

1. The permit may be revoked if work is not started within six months of the date of issuance or if work is suspended or abandoned for six months. The work shall be completed by January 31, 1995.

Respectfully submitted,

[Signature]

Deputy Director

APPROVED FOR SUBMITTAL:

[Signature]

RAE M. LOUI
Deputy Director
State of Hawaii  
Department of Land and Natural Resources  
Commission on Water Resource Management

Gentlemen:

Well No. 2308-03 Pump Installation Permit  
Lualualei - PVT Well, Lualualei, Oahu

In follow-up to our letter 94E-0292 of March 24, 1994, we are hereby requesting an extension to the pump installation permit duration. We have been informed by PVT Land Company that due to the severe storms experienced in the area, the well access road has been obliterated and reconstruction is required. Based on their current equipment schedule, road reconstruction will not be completed until late June.

Also, in discussions with Hawaiian Electric Company (HECo) today, we were informed that they cannot provide us with a schedule for their work at this time. The minimum estimated time was six weeks, with a maximum of six months. Their work needs to be done after the access road is restored, and is contingent upon the availability of the transformers and personnel at that time. Due to the backlog in permit processing, resulting from the present government employees strike, HECo is only scheduling projects which currently have approvals.

Based on the schedule for the site improvements, we are requesting an extension of the permit duration until January 31, 1995. We respectfully ask your favorable consideration of this request. Should there be any questions regarding the request, please contact the undersigned at 533-3111. Thank you.

Very truly yours,

BELT COLLINS HAWAII LTD.

Cheryl Palesh

CP: cu

cc: Mr. Vernon Chock, PVT Land Company  
Mr. John Mink, Mink & Yuen  
Mr. Sanford Ota, Nanakuli Landfill
LUALUALEI—KYOWA BUILDING CO., LTD. WELL
(Well No. 2308—03)

Mapped, edited, and published by the Geological Survey
Control by USGS, USCEG, USCE, and Hawaii State Survey
Topography by photogrammetric methods from aerial photographs.
<table>
<thead>
<tr>
<th>TO:</th>
<th>INIT:</th>
<th>PLEASE:</th>
<th>REMARKS:</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td></td>
<td>See Me</td>
<td>Pump Init. Permit issued: 7/23/92</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Call</td>
<td>Expires: 7/23/94</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Review &amp; Comment</td>
<td>New address:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Take Action</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Investigate &amp; Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Draft Reply</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acknowledge Receipt</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Type Draft</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Type Final</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Xerox ___ copies</td>
<td></td>
</tr>
</tbody>
</table>

FOR YOUR:

<table>
<thead>
<tr>
<th></th>
<th>Approval</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Signature</td>
</tr>
<tr>
<td></td>
<td>Information</td>
</tr>
</tbody>
</table>
Ed:
Returning for your files
Well No. 2308-03 Pump Installation Permit
Lualualei - PVT Well, Lualualei, Oahu

In follow-up to our letter 94E-0292 of March 24, 1994, we are hereby requesting an extension to the pump installation permit duration. We have been informed by PVT Land Company that due to the severe storms experienced in the area, the well access road has been obliterated and reconstruction is required. Based on their current equipment schedule, road reconstruction will not be completed until late June.

Also, in discussions with Hawaiian Electric Company (HECo) today, we were informed that they cannot provide us with a schedule for their work at this time. The minimum estimated time was six weeks, with a maximum of six months. Their work needs to be done after the access road is restored, and is contingent upon the availability of the transformers and personnel at that time. Due to the backlog in permit processing, resulting from the present government employees strike, HECo is only scheduling projects which currently have approvals.

Based on the schedule for the site improvements, we are requesting an extension of the permit duration until January 31, 1995. We respectfully ask your favorable consideration of this request. Should there be any questions regarding the request, please contact the undersigned at 53__ Thank you.

Very truly yours,

BELT COLLINS HAWAII LTD.

Cheryl Palesh

CP:cu

cc: Mr. Vernon Chock, PVT Land Company
    Mr. John Mink, Mink & Yuen
    Mr. Sanford Ota, Nanakuli Landfill
State of Hawaii
Department of Land and Natural Resources
Commission on Water Resources Management

Pump Installation Permit
Lualualei-PVT Well
Well No. 2308-03
Lualualei, Oahu

Gentlemen:

This letter is to inform you that work on the pump installation has been delayed. Our efforts to supply power to the site are taking longer than planned. As a result, work will be completed no earlier than July 1994. We are hereby requesting an extension of time for the start of work, and will keep you informed of our progress.

If you have any question concerning this matter please call the undersigned at XXX-XXX.

We look forward to your favorable consideration of this request.

Thank you.

Very truly yours,

BELT COLLINS HAWAII

Cheryl Palesh P.E.

CP: hla

Telex of Cheryl 4/22/94: said letter requesting an extension.
Dear Mr. Paty:

Well Construction and Pump Installation Permits

Thank you for the opportunity to comment on the following applications:

Hualala'i Exploratory (4258-03)
Puu Anahulu-RVE (4950-02)
Puu Waawaa, Puu Lani (4650-01, 4850-01)
Puukapu Deep Well (6337-01)
Silversword Wells 1-3 (4426-04,05, 4526-01)
Keoneooio-Suda (3625-02)
Lanai Well 9 (4854-01)
Lualualei-PVT (2308-03)

The Puukapu Deep Well will directly benefit the Waimea Irrigation System serving Hawaiian home lands, by providing backup supply in periods of low stream flow, and we favor its approval.

The Silversword wells are downslope from Hawaiian home lands at Waiohuli and Keokea (Kula), and will draw from the same groundwater source. The distance between these wells and those that DHHL would drill to explore for domestic water is great enough to suggest that any potential relationship between them would be tenuous. Of course, the characteristics of this aquifer are not well known, and the impacts of these wells is therefore also unknown. This is one area we will eventually need to monitor carefully.
The Honorable William W. Paty, Chairperson  
Page 2  
July 7, 1992

The Lualualei-PVT well may have adverse effects on groundwater needed for Hawaiian home lands. The Department anticipates the substantial development in Nanakuli, and will need to produce additional domestic supply. A reserve of 0.5 Mgd will be required to serve this development.

The other proposed wells are not expected to impact Hawaiian home lands, and we have no comment at this time.

Warmest aloha,

Hoaliku H. Drake, Chairman  
Hawaiian Homes Commission

HLD: BH: CI/1639L.49
Dear Mrs. Loui:

Subject: Your Letter of June 1, 1992 Regarding Pump Installation Permit for Lualualei-PVT, Inc. Well (2308-03)

Thank you for the opportunity to comment on the application. We recommend that you defer action on the permit until you check with the State Department of Agriculture. The constructed well is located near our Lualualei Shaft source which has not been used for over 25 years but several years ago, we told the farmers of Lualualei Valley that they can use the shaft for maintaining and increasing the present level of farming. The well may affect the yield from the shaft.

If you have any questions, please contact Herbert H. Minakami at [Redacted].

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer
PUMP INSTALLATION PERMIT

for

Lualualei-PVT Well
Well No. 2308-03
Lualualei, Oahu

TO: PVT-Holdings, Inc.

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to install a pump in Lualualei-PVT Well (Well No. 2388-03), for landscape irrigation and dust control, is approved subject to the following conditions:

1. The Commission on Water Resource Management staff (Commission staff), [redacted], shall be notified, in writing, before any work covered by this permit commences.

2. The proposed use shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to pump water from the well shall not constitute a determination of correlative water rights. The permittee is notified and by this provision understands that the quantity of water taken from the well could be reduced by the Commission in the future. This permit is not a commitment that the pump capacity permitted here or even some lesser amount is guaranteed in the future.

3. The permit shall be for installation of a 200 gpm capacity pump in the well.

4. The following shall be submitted to the Commission staff within 30 days after completion of the work:
   a. Well Completion Report.
   b. As-built sectional drawing of the installed pump.
5. The applicant shall comply with all applicable laws, rules, and ordinances.

6. This permit may be revoked if work is not started within six months of the date of issuance or if work is suspended or abandoned for six months. The work proposed in the permit application shall be completed within two years from the date of permit issuance.

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.

Applicant's Signature: ___________________________ Date: __________

Printed Name: __________________________________________

Firm or Title: ____________________________________________

Please sign and return one copy of this permit to the Commission and retain a copy for your record.

cc: USGS
    Department of Health
    Safe Drinking Water Branch
    Ground Water Protection Program
    Honolulu Board of Water Supply
Dear Mr. Paty:

Well Construction and Pump Installation Permits

Thank you for the opportunity to comment on the following applications:

- Hualala'i Exploratory (4258-03)
- Puu Anahulu-RVE (4950-02)
- Puu Waawaa, Puu Lani (4650-01, 4850-01)
- Puukapu Deep Well (6337-01)
- Silversword Wells 1-3 (4426-04, 05, 4526-01)
- Keoneoio-Suda (3625-02)
- Lanai Well 9 (4854-01)
- Lualualei-PVT (2308-03)

The Puukapu Deep Well will directly benefit the Waimea Irrigation System serving Hawaiian home lands, by providing backup supply in periods of low stream flow, and we favor its approval.

The Silversword wells are downslope from Hawaiian home lands at Waiohuli and Keokea (Kula), and will draw from the same groundwater source. The distance between these wells and those that DHHL would drill to explore for domestic water is great enough to suggest that any potential relationship between them would be tenuous. Of course, the characteristics of this aquifer are not well known, and the impacts of these wells is therefore also unknown. This is one area we will eventually need to monitor carefully.
The Lualualei-PVT well may have adverse effects on groundwater needed for Hawaiian home lands. The Department anticipates the substantial development in Nanakuli, and will need to produce additional domestic supply. A reserve of 0.5 Mgd will be required to serve this development.

The other proposed wells are not expected to impact Hawaiian home lands, and we have no comment at this time.

Warmest aloha,

Ho'okane L. Drake, Chairman
Hawaiian Homes Commission

HLD:BH:CI/1639L.49
TO: Ed Sakoda  
FAX NO.: [redacted]

FROM: John Mink  
FAX NO.: [redacted]

DATE: July 7, 1992  
TIME: 0915

NUMBER OF PAGES INCLUDING COVER SHEET: 7

MESSAGE:

IF YOU DO NOT RECEIVE ALL PAGES, PLEASE CALL [redacted]

THANK YOU.

An accompanying map shows the locations of the two wells.
WELL 2308-03
LOWER LUALUALEI VALLEY, OAHU, HAWAII
Drilling and Testing Results

John F. Mink
April 7, 1990

Purpose of Well

The well (State no. 2308-03) was drilled for Kyowa Building Co. to test the groundwater resources in lower Lualualei Valley as a potential supply for irrigation of a golf course. The well was exploratory in nature but designed to be converted to a production well on proof of a useable groundwater resource. A pump test proved the existence of water acceptable for irrigation. The well has been cleaned, cased and grouted, and is ready for installation of a permanent pump.

Location

The well lies 0.8 miles inland of the coast in the lower part of Lualualei Valley. It was drilled from an elevation of 136 feet on the northern slope of Puu Heleakala Ridge, which separates Nanakuli from Lualualei Valley. An abandoned well (2308-02) is somewhere near the new well, probably within 500 feet, but it could not be located. The abandoned well was never used, but if it can be found and reclaimed, it may provide an additional source of water because it is within the Kyowa property. The tax map key for the property where the wells are is 8-7-09-3.

An accompanying map shows the locations of the two wells.
Local Geology and Hydrogeology

The well was sited a short distance downslope of the contact between the apron of hillside debris and parent rock of Heleakala ridge. The site is in the rift zone of the lower member of the Waianae volcanic series. The volcanic rock consists of layers of basalt and olivine basalt intruded by vertical dikes. Numerous dikes several feet wide are visible near the well. A wedge of limestone deposited during the Kaena Sea level Stand (100 feet above present sea level) covers the bedrock and in turn is mantled with colluvium.

A summary of the Driller log and its interpretation follows.

<table>
<thead>
<tr>
<th>Depth(ft)</th>
<th>Material</th>
<th>Interpretation</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 - 12</td>
<td>Boulders and mud</td>
<td>Colluvial (talus) debris</td>
</tr>
<tr>
<td>12 - 35</td>
<td>Hard rock</td>
<td>Boulder in colluvium</td>
</tr>
<tr>
<td>35 - 42</td>
<td>Limestone</td>
<td>Marine sediments</td>
</tr>
<tr>
<td>42 - 200</td>
<td>Rock</td>
<td>Waianae basalt</td>
</tr>
</tbody>
</table>

The Waianae basalt constitutes the aquifer. Neither the talus slope nor the limestone carry groundwater at the elevation of their occurrence, but in the valley the limestone is a separate aquifer.

The water table in the basalt is about 8 feet above sea level. At the abandoned well (2308-02) it was reported to be 3.7
feet. A survey was made to the new well and a pin at elevation 135.84 feet was nailed into a boulder at about ground level. The measured depth to water was probably accurate to within 1 foot.

**Well Configuration: Pump Tests**

The well bore is 12 inches in diameter and was drilled to a depth of 200 feet (65 feet below sea level). It is fitted with 8 inch diameter blank casing to depth 120 feet (15 feet above sea level) and 8 inch diameter louvered casing over the remaining 80 feet. The annulus is grouted along the depth of the blank casing.

**Step Drawdown and Sustained Tests**

On February 12 a step drawdown test was conducted at increments of 50 gpm, starting at a rate of 50 gpm and ending at 200 gpm. The maximum drawdown at 200 gpm was 26 feet, and salinity was 560 mg/l chloride. The water was warm, 83 F, which was expectable because an old Board of Water Supply station further up the valley exhibited the same temperature during its use three decades ago. Data for the test is included in an accompanying table.

A 48 hour sustained test was conducted between March 6 and March 9 at 250 gpm. Drawdown stabilized at 13 feet, which is half that experienced during the step drawdown test. Evidently conditions at the well bore improved at the higher pump rate, probably as a result of purging of loose material.

At the start of the sustained test the chloride content was 600 mg/l. It gradually increased to 700 mg/l on March 7, to 870
on March 8, and to 900 at the end of the test on March 9. These values were determined in the AECOS laboratory; the driller's field analyses using a Hach kit are erroneously high, by several hundred mg/l. A specific conductance reading at 13:15 March 7 showed 2600 siemens, equivalent to about 740 mg/l chloride, which is consistent with the AECOS analyses. The pump test results are included in the table.

Summary and Recommendations

The well was successful in proving that brackish water of 1000 mg/l chloride or less can be pumped at rates up to 250 gpm. Water in this salinity range is used in sugar cane irrigation and is normally acceptable for irrigation of grasses.

Salinity is correlated with pump rate and to a lesser extent with continuity of pumping. At 250 gpm salinity will be on the order of 1000 mg/l chloride, while at lesser rates it will be lower. In view of this relationship, the permanent pump should have a capacity of less than 250 gpm. A capacity of 200 gpm (288,000 gpd) is recommended.

A single 200 gpm well pumping continuously will be able to irrigate 50 acres at 1.5 inches water per week (5818 gallons per day per acre). This is a maximum rate for mature grass. Most golf courses use appreciably less water.
SUMMARY OF PUMP TEST RESULTS
Well 2308-03 Lower Lualualei Valley, Oahu

**Step Drawdown:** February 12, 1990

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Rate (gpm)</th>
<th>Drawdown (ft)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/12/90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0900</td>
<td>0</td>
<td>0</td>
<td>Start test.</td>
</tr>
<tr>
<td>0900</td>
<td>150</td>
<td>19</td>
<td>Clear water. T=83 °F</td>
</tr>
<tr>
<td>1200</td>
<td>150</td>
<td>7.5</td>
<td></td>
</tr>
<tr>
<td>1230</td>
<td>50</td>
<td>7.5</td>
<td>560 mg/l Cl (BWS)</td>
</tr>
<tr>
<td>1300</td>
<td>100</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>1330</td>
<td>100</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>1345</td>
<td>150</td>
<td>19</td>
<td></td>
</tr>
<tr>
<td>1435</td>
<td>200</td>
<td>24</td>
<td></td>
</tr>
<tr>
<td>1530</td>
<td>200</td>
<td>26</td>
<td>Stop test.</td>
</tr>
</tbody>
</table>

**Sustained:** March 6 - 9, 1990

<table>
<thead>
<tr>
<th>Date/Time</th>
<th>Rate (gpm)</th>
<th>Drawdown (ft)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/6/90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0800</td>
<td>0</td>
<td>0</td>
<td>Start test.</td>
</tr>
<tr>
<td>1030</td>
<td>250</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>1500</td>
<td>250</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>3/7/90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0800</td>
<td>250</td>
<td>12</td>
<td></td>
</tr>
<tr>
<td>1100</td>
<td>250</td>
<td>13</td>
<td>700 mg/l Cl (AECOS)</td>
</tr>
<tr>
<td>2100</td>
<td>250</td>
<td>13</td>
<td>Sp. Con. 2600 (JF Mink)</td>
</tr>
<tr>
<td>2400</td>
<td>250</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>3/8/90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0800</td>
<td>250</td>
<td>13</td>
<td>870 mg/l Cl (AECOS)</td>
</tr>
<tr>
<td>1100</td>
<td>250</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>2100</td>
<td>250</td>
<td>13</td>
<td></td>
</tr>
<tr>
<td>3/9/90</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0100</td>
<td>250</td>
<td>13</td>
<td>900 mg/l Cl (AECOS)</td>
</tr>
<tr>
<td>0800</td>
<td>250</td>
<td>13</td>
<td>End test.</td>
</tr>
</tbody>
</table>
Mapped, edited, and published by the Geological Survey.
Control by USGS, USC&GS, USCE, and Hawaii State Survey.
Topography by photogrammetric methods from aerial photographs taken 1952 and planeteble surveys 1927-1930.
Ms. Rae Loui, Deputy Director  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii

Dear Ms. Loui:

Subject: PUMP INSTALLATION PERMIT APPLICATION  
LUALUALEI-PVT INC. WELL  
STATE WELL NO. 2308-03  
LUALUALEI, OAHU

Thank you for the opportunity to review and comment on the subject document. We have examined the application and have the following comments to offer:

1. The application indicates that the well will be used for landscape irrigation and dust control. Thus, Hawaii Administrative Rules, Title 11, Chapter 20, Rules Relating to Potable Water Systems, will not be applicable. However, in the event that the proposed use of the well were to change, the Safe Drinking Water Branch must be notified.

2. The subject well is situated above the Underground Injection Control (UIC) line. Land areas above the UIC line are considered to contain underground sources of drinking water. Thus, it is essential that the well be designed and constructed to prevent the possibility of groundwater contamination. For example, the well should have a concrete well pad and full grouting to prevent seepage or floodwaters from migrating down the well shaft.

3. The operation of the well should not be allowed to adversely affect the water quality of nearby water wells. The map accompanying the application indicates that the well is located within 600 feet of state well no. 2308-02.
If you should have any questions, please contact Stuart Yamada of the Safe Drinking Water Branch at [insert contact information].

Sincerely,

THOMAS E. ARISUMI, P.E., Chief
Environmental Management Division

SY: la

c: Gary Yee
PVT-Holdings, Inc.
Mr. Gary Yee  
PVT-Holdings, Inc.

Dear Mr. Yee:

We have received your application and filing fee for a permit to install a pump in an existing well (Well No. 2308-03) at Lualualei, Oahu, (TMK 8-7-09:03). We are reviewing the application for completeness.

Should you have questions, please call the Commission on Water Resource Management staff at [redacted].

Sincerely,

RAE M. LOUI  
Deputy Director

NF:ky
Mr. Kazu Hayashida  
Manager and Chief Engineer  
Board of Water Supply  
City and County of Honolulu  

Dear Mr. Hayashida:  

Well Construction and Pump Installation Permit Application(s)  

Transmitted for your review and comment is a copy of the following permit application(s):  

<table>
<thead>
<tr>
<th>Island</th>
<th>Well Name</th>
<th>Well No.</th>
<th>Application Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oahu</td>
<td>Lualualei-PVT Inc. Well</td>
<td>2308-03</td>
<td>Pump Installation</td>
</tr>
</tbody>
</table>

Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.  

Should you have any questions, please contact the Commission on Water Resource Management staff at [Redacted].  

Sincerely,  

RAE M. LOUI  
Deputy Director  

NF:ky  
Enc.
Ms. Marjorie Ziegler  
Sierra Club Legal Defense Fund, Inc.  

Dear Ms. Ziegler:

Well Construction and Pump Installation Permit Applications

Transmitted for your information are copies of recent well permit applications:

<table>
<thead>
<tr>
<th>Island</th>
<th>Well Name</th>
<th>Well No.</th>
<th>Application Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>Hualalai Exploratory</td>
<td>4258-03</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Anahulu-RVE Well</td>
<td>4950-02</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puukapu Deep Well</td>
<td>6337-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Waawaa Well</td>
<td>4650-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Lani Well</td>
<td>4850-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 1</td>
<td>4426-04</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 2</td>
<td>4426-05</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 3</td>
<td>4526-01</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Keoneoio-Suda Well</td>
<td>3625-02</td>
<td>Well and Pump</td>
</tr>
<tr>
<td>Lanai</td>
<td>Lanai Well 9</td>
<td>4854-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Oahu</td>
<td>Lualualei-PVT Inc. Well</td>
<td>2308-03</td>
<td>Pump Installation</td>
</tr>
</tbody>
</table>

Should you have questions, please contact the Commission on Water Resource Management staff at [Contact Information]

Sincerely,

[Signature]
RAE M. LOUI  
Deputy Director

NF:ky  
Enc.
MEMORANDUM

TO:         Don Hibbard, Director
            Historic Preservation Program

FROM:       Rae M. Loui, Deputy Director
            Commission on Water Resource Management

SUBJECT:    Well Construction and Pump Installation Permit Applications

Transmitted for your review and comment are copies of the following permit applications:

<table>
<thead>
<tr>
<th>Island</th>
<th>Well Name</th>
<th>Well No.</th>
<th>Application Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>Hualalai Exploratory</td>
<td>4258-03</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Anahulu-RVE Well</td>
<td>4950-02</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puukapu Deep Well</td>
<td>6337-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Waawaa Well</td>
<td>4650-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Lani Well</td>
<td>4850-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 1</td>
<td>4426-04</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 2</td>
<td>4426-05</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 3</td>
<td>4526-01</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Keoneoio-Suda Well</td>
<td>3625-02</td>
<td>Well and Pump</td>
</tr>
<tr>
<td>Lanai</td>
<td>Lanai Well 9</td>
<td>4854-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Oahu</td>
<td>Lualualei-PVT Inc. Well</td>
<td>2308-03</td>
<td>Pump Installation</td>
</tr>
</tbody>
</table>

Please review the applications pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this memo.

Should you have any questions, please contact the Commission on Water Resource Management staff at [redacted]

Enc.
Mr. Thomas Arizumi, Chief  
Environmental Management Division  
State Department of Health  
Five Waterfront Plaza  

Attn: Mr. William Wong  

Dear Mr. Arizumi:

**Well Construction and Pump Installation Permit Applications**

Transmitted for your review and comment are copies of the following permit applications:

<table>
<thead>
<tr>
<th>Island</th>
<th>Well Name</th>
<th>Well No.</th>
<th>Application Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>Hualalai Exploratory</td>
<td>4258-03</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Anahulu-RVE Well</td>
<td>4950-02</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puukapu Deep Well</td>
<td>6337-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Waawaa Well</td>
<td>4650-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Lani Well</td>
<td>4850-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword1</td>
<td>4426-04</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword2</td>
<td>4426-05</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword3</td>
<td>4526-01</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Keoneio-Suda Well</td>
<td>3625-02</td>
<td>Well and Pump</td>
</tr>
<tr>
<td>Lanai</td>
<td>Lanai Well 9</td>
<td>4854-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Oahu</td>
<td>Lualualei-PVT Inc. Well</td>
<td>2308-03</td>
<td>Pump Installation</td>
</tr>
</tbody>
</table>

Please review the applications pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.

Should you have any questions, please contact the Commission on Water Resource Management staff at [phone number].

Sincerely,

RAE M. LOUI  
Deputy Director  

NF:ky  
Enc.
Mr. Clayton H. W. Hee  
Chairman & Trustee At Large  
Office of Hawaiian Affairs  

Attn: Ms. Linda Delaney, Land & Natural Resources Division  

Dear Mr. Hee:  

Well Construction and Pump Installation Permit Application(s)  

Transmitted for your review and comment is a copy of the following permit application(s):  

<table>
<thead>
<tr>
<th>Island</th>
<th>Well Name</th>
<th>Well No.</th>
<th>Application Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>Hualalai Exploratory</td>
<td>4258-03</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Anahulu-RVE Well</td>
<td>4950-02</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puukapu Deep Well</td>
<td>6337-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Waawaa Well</td>
<td>4650-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Lani Well</td>
<td>4850-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 1</td>
<td>4426-04</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 2</td>
<td>4426-05</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 3</td>
<td>4526-01</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Keoneio-Suda Well</td>
<td>3625-02</td>
<td>Well and Pump</td>
</tr>
<tr>
<td>Lanai</td>
<td>Lanai Well 9</td>
<td>4854-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Oahu</td>
<td>Lualualei-PVT Inc. Well</td>
<td>2308-03</td>
<td>Pump Installation</td>
</tr>
</tbody>
</table>

Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.
Should you have any questions, please contact Rae M. Loui, Deputy Director at [Redacted]

Very truly yours,

[Signature]

WILLIAM W. PATY

Enc.
 Honorable Hoaliku L. Drake  
Director  
Department of Hawaiian Home Lands  
State of Hawaii  

Dear Mrs. Drake:

Well Construction and Pump Installation Permit Application(s)

Transmitted for your review and comment is a copy of the following permit application(s):

<table>
<thead>
<tr>
<th>Island</th>
<th>Well Name</th>
<th>Well No.</th>
<th>Application Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hawaii</td>
<td>Hualalai Exploratory</td>
<td>4258-03</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Anahulu-RVE Well</td>
<td>4950-02</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puukapu Deep Well</td>
<td>6337-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Waawaa Well</td>
<td>4650-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Hawaii</td>
<td>Puu Lani Well</td>
<td>4850-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 1</td>
<td>4426-04</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 2</td>
<td>4426-05</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Silversword 3</td>
<td>4526-01</td>
<td>Well Construction</td>
</tr>
<tr>
<td>Maui</td>
<td>Keoneoio-Suda Well</td>
<td>3625-02</td>
<td>Well and Pump</td>
</tr>
<tr>
<td>Lanai</td>
<td>Lanai Well 9</td>
<td>4854-01</td>
<td>Pump Installation</td>
</tr>
<tr>
<td>Oahu</td>
<td>Lualualei-PVT Inc. Well</td>
<td>2308-03</td>
<td>Pump Installation</td>
</tr>
</tbody>
</table>

Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, ten (10) working days from date of this letter.
Should you have any questions, please contact Rae M. Loui, Deputy Director at [Redacted].

Very truly yours,

WILLIAM W. PATY

Enc.
APPLICATION FOR

WELL CONSTRUCTION PERMIT

X PUMP INSTALLATION PERMIT

WELL 2308-03 LUALUALEI, OAHU

INSTRUCTIONS: Please print or type and attach completed application with attachments to the Division of Water and Land Development. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Department of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone 733-9755, Hydrology/Geology Section for assistance.

1. WELL LOCATION

Island OAHU Tax Map Key 8-7-09-3

Address

(Attach a USGS map (scale 1"=2000') and property tax map showing well location referenced to established property boundaries.)

2. WELL OWNER

Firm Name PVT-HOLDINGS, INC

Contact Person GARY YEE

Phone (808) 947-3979

3. PROPOSED CONTRACTOR FOR:

☐ Well Drilling ☑ Pump Installation

Name NOT SELECTED YET Phone

Address ____________________________ Contractor's License No. __________________________

4. PROPOSED WORK

☐ Drill New Well ☐ Deepen ☐ Seal

☐ Alter ☐ Install New Pump ☐ Replace Pump

☐ Redrill ☐ Abandon ☐ Modify Pump

(Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE

☐ Municipal (including hotels, stores, etc.) ☐ Military

☐ Domestic (individual, noncommercial water systems) ☐ Industrial

☐ Irrigation (specify) LANDSCAPE ☐ Other (specify) DUST

6. PROPOSED AMOUNT OF WITHDRAWAL 100,000 gallons per day

☐ Submersible ☐ Centrifugal

☐ Vertical Turbine ☐ Electric: 10 to 15 Rated Horsepower

☐ Diesel ☐ Gas

Rated Pump Capacity 200 gallons per minute (gpm)

7. PROPOSED PUMP INFORMATION

Well Owner (print) PVT-HOLDINGS

Signature __________________ Date APRIL 21, 1992

Landowner (print) PVT-HOLDINGS

Signature __________________ Date APRIL 21, 1992

For Official Use Only:

Field Checked By __________________ Latitude ___________ Hydrologic Unit ___________

Date __________________ Longitude ___________ State Well No. 3-2308-03
Briefly describe the proposed work:

THE WELL WILL BE USED TO CONTROL DUST AT THE LANDFILL SITE (SEE MAP) AND FOR IRRIGATING LANDSCAPING. THE WELL WAS SUCCESSFULLY TESTED AT 250 gpm. A 200 gpm PUMP WILL BE INSTALLED. PUMPING TIME PER DAY WILL VARY, BUT NORMALLY WILL NOT EXCEED 4 to 8 HOURS.

PROPOSED SECTION OF WELL

Elevation at top of casing

Cement Grout 120 ft.

Hole Dia. 12 in.

Total Depth 200 ft.

Rock Packing 80 ft.

Ground Elev. 135.84 ft., msl*

Solid Casing: Material STEEL

Length 120 ft.

Diameter 8 in.

Wall thickness 0.25 in.

Casing: / /Perforated / /Screen

Material STEEL LOUVER

Length 80 ft.

Diameter 8 in.

Wall thickness 0.25 in.

Openings 108 sq. in./L.F.

Open Hole:

Length 0

Diameter in.

*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
PAY TO THE ORDER OF
PVT INC.
DAVIES PACIFIC CENTER
HAWAII NATIONAL BANK
59-177/1213
4/21/92

DEPARTMENT OF LAND AND NATURAL RESOURCES

$ 25.00

Twenty-five and 00/100 DOLLARS

MEMO
FILING FEE-WELL APPLICATION

Well 2308-03
Lualualei-PVT Well
(Well No. 2308-03)
M, the Geological Survey
Control by USGS, USC&GS, USCE, and Hawaii State Survey
Topography by photogrammetric methods from aerial photographs taken 1952 and planetable surveys 1927-1930

Mapped, edited, and published by the Geological Survey

Pacific Ocean

Nanakuli

90,000 FEET

150,000 FEET

25
24
23
22
**DESCRIPTION**

Date of report: March 12, 1990  
Person filing report: L.H. Runnells

A. **OWNER**: KYOWA BLDG. CO.  
**NAME**: LUALUALEI 2308-03  
**WELL**  
**ISLAND**: OAHU

B. **GENERAL LOCATION**: LUALUALEI

C. **DRILLING COMPANY**: ROSCOE MOSS COMPANY

D. **TYPE OF RIG**: Cable Tool  
**DRILLING COMPLETED**: 03/30/90  
**DRILLER**: Hal Fenton

**Height of drilling platform above ground surface**: 0 ft.  
**Bench mark and method used to determine which elevation**: ...

F. **HOLE SIZE**: 12 inch dia. to 200 ft. below drilling platform.

G. **CASING INSTALLED**: 12 in. I.D. x 250 in. wall solid section to 120 ft. below drilling platform.

H. **ANNULUS**: Grouted 0 ft. to 120 ft. below drilling platform.

I. **PERMANENT PUMP INSTALLATION**:
   - **Pump type, make, serial no.**: Capacity g.p.m.
   - **Motor type, H.P., voltage, r.p.m.**: ...
   - **Depth of pump intake setting**: ft. below ground surface which elevation is...
   - **Depth of bottom of airlift**: ft. below drilling platform which elevation is...

**HYDROLOGY**

J. **INITIAL WATER LEVEL**: 12 ft. below drilling platform.  
**Date of measurement**: 02/06/90

K. **INITIAL CHLORIDE**: ppm, total depth of well ft. below drilling platform

L. **PUMPING TESTS**:
   - **Reference point (R.P.) used**: which elevation is...
   - **Sampling Date**

   **Date**  
   **Start water level ft. below R. P.**  
   **End water level ft. below R. P.**  
   **Depth of well ft. below R. P.**  
   **Elapsed Time (hours)**  
   **Rate (gpm)**  
   **Draw-down (ft.)**  
   **Cl- (ppm)**  
   **Temp. °F**

   **Date**  
   **Start water level ft. below R. P.**  
   **End water level ft. below R. P.**  
   **Depth of well ft. below R. P.**  
   **Elapsed Time (hours)**  
   **Rate (gpm)**  
   **Draw-down (ft.)**  
   **Cl- (ppm)**  
   **Temp. °F**

M. **DRILLER’S LOG**:

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>0. to 12</td>
<td>Boulders &amp; Mud</td>
<td>to</td>
<td>to</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>12. to 35</td>
<td>Hard Rock</td>
<td>to</td>
<td>to</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>35. to 42</td>
<td>Lime Stone</td>
<td>to</td>
<td>to</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>42. to 132</td>
<td>Very hard rock</td>
<td>to</td>
<td>to</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>132. to 142</td>
<td>A.A. Weathered</td>
<td>to</td>
<td>to</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>142. to 160</td>
<td>Hard A.A.</td>
<td>to</td>
<td>to</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>160. to 186</td>
<td>Pahoehoe Weathered</td>
<td>to</td>
<td>to</td>
<td>to</td>
<td></td>
</tr>
<tr>
<td>186. to 200</td>
<td>Hard A.A.</td>
<td>to</td>
<td>to</td>
<td>to</td>
<td></td>
</tr>
</tbody>
</table>

N. **REMARKS**: ...

---

**FOR OFFICIAL USE**

Latitude: 21°43'47"  
Longitude: 158°08'33"

**FOR DRILLER’S USE**

Job Name:  
Job No.:  
Well No.: 2308-03

---

**INSTRUCTIONS**: Send three (3) copies to: Manager-Chief Engineer, Division of Water and Land Development, P.O. Box 373, Honolulu, Hawaii 96809.

**PUMPING TEST RECORD**

for

WAWALE

(Name)

Well

(Project or Job No. 89-89-29)

Island CAHU

Description of Well:

1. Elevation: ground surface ft., top of casing ft., rotary table ft., referenced to benchmark.
2. Total depth of well ft.; or ft. elevation, msl
3. 8 in. solid casing to ft. depth, perforated to ft. depth
4. Static water level on ft. below ground surface, top of casing; or ft. elevation msl measured method

Description of Pump and Pump Setting:

5. 4” type pump with stage bowl assembly
6. Gasoline diesel, electric, power with horsepower
7. Shaft speed: 2,500 rpm at gpm flow
8. Depth of pump intake: ft. below; or ft. elev. msl
9. Depth of airline bottom: ft. below; or ft. elev. msl
10. Center of gage: ft. elev., msl. Flow measured with meter
11. Test conducted by

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Sample No.</th>
<th>Pumping rate (gpm)</th>
<th>Airline (feet)</th>
<th>Drawdown (feet)</th>
<th>Chlorides (ppm)</th>
<th>Temp. (°F)</th>
<th>Cond. (mmhos 25°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>12:30 AM</td>
<td>1</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>400</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30 PM</td>
<td>2</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:30 PM</td>
<td>3</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:15 PM</td>
<td>4</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:00 PM</td>
<td>5</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00 PM</td>
<td>6</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00 PM</td>
<td>7</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:00 PM</td>
<td>8</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00 PM</td>
<td>9</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 PM</td>
<td>10</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00 PM</td>
<td>11</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00 PM</td>
<td>12</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>800</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00 PM</td>
<td>13</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>700</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 AM</td>
<td>14</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>900</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00 AM</td>
<td>15</td>
<td>250</td>
<td>250</td>
<td>30</td>
<td>800</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Sheet No. 1 of 3 Sheets**
### PUMPING TEST RECORD

**for**

**LUWAHELE** *(WAIAWA)*

**Well (No.)**

**Island** OAHU

**Project or Job No.** 2987 R 1970

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Sample No.</th>
<th>Pumping rate (gpm)</th>
<th>Airline (feet)</th>
<th>Drawdown (feet)</th>
<th>Chlorides (ppm)</th>
<th>Temp. (°F)</th>
<th>Cond. (mmhos 25°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4/1/74</td>
<td>15</td>
<td>250</td>
<td>19.01</td>
<td>5.42</td>
<td>1240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00 AM</td>
<td>16</td>
<td>250</td>
<td>19.01</td>
<td>5.01</td>
<td>1240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 PM</td>
<td>17</td>
<td>250</td>
<td>19.01</td>
<td>5.01</td>
<td>1240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00 PM</td>
<td>18</td>
<td>250</td>
<td>19.01</td>
<td>5.01</td>
<td>1240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00 PM</td>
<td>19</td>
<td>250</td>
<td>19.01</td>
<td>5.01</td>
<td>1240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:00 PM</td>
<td>20</td>
<td>250</td>
<td>19.01</td>
<td>5.01</td>
<td>1240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00 PM</td>
<td>21</td>
<td>250</td>
<td>19.01</td>
<td>5.01</td>
<td>1240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00 PM</td>
<td>22</td>
<td>250</td>
<td>19.01</td>
<td>4.91</td>
<td>1200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:00 PM</td>
<td>23</td>
<td>250</td>
<td>19.01</td>
<td>5.01</td>
<td>1200</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00 PM</td>
<td>24</td>
<td>250</td>
<td>19.01</td>
<td>5.01</td>
<td>1240</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 PM</td>
<td>25</td>
<td>250</td>
<td>19.01</td>
<td>4.86</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00 PM</td>
<td>26</td>
<td>250</td>
<td>19.01</td>
<td>4.80</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00 PM</td>
<td>27</td>
<td>250</td>
<td>19.01</td>
<td>4.80</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00 PM</td>
<td>28</td>
<td>250</td>
<td>19.01</td>
<td>4.80</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 PM</td>
<td>29</td>
<td>250</td>
<td>19.01</td>
<td>4.80</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00 PM</td>
<td>30</td>
<td>250</td>
<td>19.01</td>
<td>4.80</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00 PM</td>
<td>31</td>
<td>250</td>
<td>19.01</td>
<td>5.00</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:00 PM</td>
<td>32</td>
<td>250</td>
<td>19.01</td>
<td>4.80</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00 PM</td>
<td>33</td>
<td>250</td>
<td>19.01</td>
<td>4.80</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00 PM</td>
<td>34</td>
<td>250</td>
<td>19.01</td>
<td>4.80</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:00 PM</td>
<td>35</td>
<td>250</td>
<td>19.01</td>
<td>5.00</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00 PM</td>
<td>36</td>
<td>250</td>
<td>19.01</td>
<td>5.00</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 PM</td>
<td>37</td>
<td>250</td>
<td>19.01</td>
<td>5.00</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9:00 PM</td>
<td>38</td>
<td>250</td>
<td>19.01</td>
<td>5.00</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10:00 PM</td>
<td>39</td>
<td>250</td>
<td>19.01</td>
<td>5.00</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11:00 PM</td>
<td>40</td>
<td>250</td>
<td>19.01</td>
<td>5.00</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 PM</td>
<td>41</td>
<td>250</td>
<td>19.01</td>
<td>5.00</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00 PM</td>
<td>42</td>
<td>250</td>
<td>19.01</td>
<td>5.00</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00 PM</td>
<td>43</td>
<td>250</td>
<td>19.01</td>
<td>5.00</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:00 PM</td>
<td>44</td>
<td>250</td>
<td>19.01</td>
<td>5.00</td>
<td>___</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date &amp; Time</td>
<td>Sample No.</td>
<td>Pumping rate (qpm)</td>
<td>Airline Drawdown (feet)</td>
<td>Chlorides (ppm)</td>
<td>Temp. (°F)</td>
<td>Cond. (mmhos 25°C)</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>------------</td>
<td>---------------------</td>
<td>-------------------------</td>
<td>-----------------</td>
<td>-----------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td>3/19/90</td>
<td></td>
<td>250</td>
<td>19.15</td>
<td>50.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4:00 AM</td>
<td></td>
<td>250</td>
<td>19.15</td>
<td>49.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5:00 AM</td>
<td></td>
<td>250</td>
<td>19.15</td>
<td>50.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6:00 AM</td>
<td></td>
<td>250</td>
<td>19.15</td>
<td>50.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7:00 AM</td>
<td></td>
<td>250</td>
<td>19.15</td>
<td>50.15</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8:00 AM</td>
<td></td>
<td>250</td>
<td>19.15</td>
<td>50.15</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

END 48 HR. TEST
Pumping Test Record

for

Location: _______ (Name)

Well: _______ (No.)

Oahu Island Project or Job No. 39-89R19

Description of Well--
1. Elevation: ground surface 129 ft., top of casing _______ ft., rotary table _______ ft., referenced to _______ benchmark.
2. Total depth of well _______ ft.; or _______ ft. elevation, msl
3. 8 in. solid casing to 120 ft. depth, perforated to _______ ft. depth
4. Static water level on 2-9-1990: _______ ft. below ground surface, top of casing; or _______ ft. elevation msl measured _______ method

Description of Pump and Pump Setting--
5. _______ type pump with _______ stage bowl assembly
6. Gasoline diesel, electric, power with _______ horsepower
7. Shaft speed: _______ rpm at _______ gpm flow
8. Depth of pump intake: _______ ft. below _______ ; or _______ ft. elev. msl
9. Depth of airline bottom: _______ ft. below _______ ; or _______ ft. elev. msl
10. Center of gage: _______ ft. elev., msl. Flow measured with _______ meter

<table>
<thead>
<tr>
<th>Date &amp; Time</th>
<th>Sample No.</th>
<th>Pumping rate (gpm)</th>
<th>Airline (feet)</th>
<th>Drawdown (feet)</th>
<th>Chlorides (ppm)</th>
<th>Temp. (OF)</th>
<th>Cond. (mmhos 25°C)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-12 9:00 AM</td>
<td>Static</td>
<td>150</td>
<td>20 PSI</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:00 AM</td>
<td>water cleared up</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12:30 PM</td>
<td></td>
<td>50</td>
<td>12.75</td>
<td>7.5</td>
<td>600</td>
<td>83</td>
<td></td>
</tr>
<tr>
<td>12:45</td>
<td></td>
<td>50</td>
<td>12.75</td>
<td></td>
<td>600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:00</td>
<td></td>
<td>50</td>
<td>12.75</td>
<td></td>
<td>600</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:15</td>
<td></td>
<td>100</td>
<td>14.75</td>
<td>1</td>
<td>660</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:30</td>
<td></td>
<td>100</td>
<td>15.0</td>
<td>1</td>
<td>660</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1:45</td>
<td></td>
<td>100</td>
<td>15.0</td>
<td>1.5</td>
<td>660</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:00</td>
<td></td>
<td>150</td>
<td>11.75</td>
<td></td>
<td>660</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:15</td>
<td></td>
<td>150</td>
<td>11.75</td>
<td></td>
<td>660</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:30</td>
<td></td>
<td>150</td>
<td>11.75</td>
<td></td>
<td>660</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2:45</td>
<td></td>
<td>200</td>
<td>9.75</td>
<td>23.7</td>
<td>660</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:00</td>
<td></td>
<td>200</td>
<td>9.75</td>
<td></td>
<td>660</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:15</td>
<td></td>
<td>200</td>
<td>8.75</td>
<td>26.0</td>
<td>660</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3:30</td>
<td></td>
<td>200</td>
<td>8.75</td>
<td></td>
<td>660</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Sheet No. 1 of
CHECKLIST

✓ WELL CONSTRUCTION PERMIT  ___ PUMP INSTALLATION PERMIT

WELL NAME or LOCATION: Lualualei - Kyowa Building Co., Ltd. Well
WELL NUMBER: 2308-03

OWNER or OPERATOR: Kyowa Building Co., Ltd.

TELEPHONE (contact person): John Mink / E. Ma

Date application received: 9/26/89
Date acknowledged receipt/request more info: 10/27/89
Date application accepted: 11/15/89
Suspense date (90 days): 12/24/89
Date filing fee deposited: 11/27/89

Application sent to following:

<table>
<thead>
<tr>
<th>Dept. of Health</th>
<th>Date sent</th>
<th>Comments received</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10/6/89</td>
<td>10/12/89</td>
</tr>
<tr>
<td>County water board/dept</td>
<td>10/3/89</td>
<td>11/6/89</td>
</tr>
<tr>
<td></td>
<td></td>
<td>10/19/89</td>
</tr>
</tbody>
</table>

Date agenda due: 11/12/89
Date submittal due: 11/15/89
Date submittal sent to applicant: 11/24/89
Date application approved or disapproved: 11/15/89
Date applicant notified of decision: 11/24/89

REMARKS: ________________________________

______________________________
______________________________
______________________________


Dear Mr. Tagomori:

Subject: Well Construction Permit for Lualualei Well No. 2308-03

We have no objections to the construction of the well.

We request that you send us copies of the as-built drawings, geologic logs, and any hydrologic data that are collected during construction of the well.

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer
In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", your application to construct and test Well No. 2308-03 within Tax Map Key: 8-7-09:7 for golf course irrigation use is approved, subject to the following conditions:

1. The Division of Water and Land Development (DOWALD), Geology-Hydrology Section, shall be notified at 548-7619, before any work covered by this permit commences.

2. The permit shall be for construction and testing only. No permanent pump may be installed and no water used from the well without the necessary pump installation permit from the Commission.

3. The grouted annulus shall be a minimum of from 0 to 120 ft. instead of from 0 to 50 ft. as proposed. An annular space of at least 3 inches all around the casing shall be provided.

4. The following shall be submitted to DOWALD within 30 days after completion of the well:
   a. Well Completion Report.
   b. Elevation (referenced to mean sea level) survey by a Hawaii-licensed surveyor.
   c. As-built sectional drawing of the well.
   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test record; including time, pumping rate, drawdown, chloride content, and water quality data.
5. The applicant shall comply with all applicable laws, rules, and ordinances.

6. This permit may be revoked if work is not started within six months of date of issuance or if work is suspended or abandoned for six months. The work shall be completed within two years of the date of issuance.

WILLIAM W. PATY, Chairperson
Commission on Water Resource Management

NOV 24 1989
Date of Issuance
cc: USGS
Department of Health,
Drinking Water Branch
Ground Water Protection Program
Honolulu Board of Water Supply
November 7, 1989

Kyowa Building Co., Ltd.

Gentlemen:

The Commission on Water Resource Management will be acting on your permit application for Lualualei-Kyowa Building Co., Ltd. Well at their regular monthly meeting on November 15, 1989, on the Island of Hawaii at 9:30 a.m. in the University of Hawaii Campus Center, Conference Rooms 306 and 307 located at Kawili Street entrance, Hilo, Hawaii.

Your application will be included on the agenda as Item 8 (attached).

You or your representative are invited to attend the meeting.

Sincerely,

MANABU TAGOMORI
Deputy Director

ES:bm
Enc.
The Honorable William W. Paty, Chairperson
Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii

Dear Mr. Paty:

Subject: WELL CONSTRUCTION PERMIT APPLICATION
LUALUALEI-KYOWA BUILDING CO., LTD. WELL
STATE WELL NO. 2308-03
LUALUALEI, OAHU

Thank you for the opportunity to comment on the well drilling permit for the proposed well. We offer the following comments:

1. The permit application indicates that the well will be for golf course irrigation. Because the well will not be used to served potable water, then the applicant will not be subject to Department's Administrative Rules, Title 11, Chapter 20, "Potable Water Systems".

2. The proposed well lies above the UIC line. Land areas above the UIC line are considered to contain underground sources of drinking water. Thus, it is essential that the proposed well be designed and constructed to prevent the possibility of groundwater contamination. For example, the well should have a concrete well pad and full grouting to prevent seepage or floodwaters from migrating down the well shaft.

3. There are many golf course activities which might contribute to groundwater contamination. Among the activities which should not be allowed to contaminate groundwater are the following:
a. Application of biocides, and fertilizers

b. Storage of fuel for vehicles (especially underground storage)

c. Maintenance of vehicles and equipment (cleaning, refueling, lubrication, etc.)

If any of these activities is planned, mitigative measures to assure that groundwater contamination will not occur must be included.

4. As a precautionary measure, monitoring wells should be installed throughout the golf course, especially in areas downgradient of effluent irrigation and areas following drainage ways. The design and siting of the monitoring wells should be reviewed by the Department of Health. The monitoring wells should be periodically sampled and tested for compounds associated with effluent irrigation, fertilizers, and biocides. If any detrimental compounds are found, the owners must be made responsible to immediately correct the situation or face the possibility of a shutdown.

5. Wastewater disposal activities must comply with all pertinent rules and regulations in the event that the project does not connect to an existing, approved wastewater treatment works.

Should you have any questions, please contact the Safe Drinking Water Branch at [redacted]

Very truly yours,

JOHN C. LEWIN, M.D.
Director of Health

cc: John Mink/F. Mau
Kyowa Building Co.
October 13, 1989

Mr. Manabu Tagomori
Deputy Director
Commission on Water
Resource Management
Department of Land and Natural Resources

Dear Mr. Tagomori:

Subject: Your Letter of October 3, 1989 Regarding Well Construction Permit Applications

Thank you for the opportunity to review the proposed well drilling applications.

We have the following comments on proposed Well No. 2812-04:

1. If basaltic bedrock is encountered during the drilling of the well, we recommend that the well construction permit stipulate that drilling shall cease and the well shall be backfilled with cement to a depth that will assure that only alluvial water will be pumped from the wells.

2. The map should indicate the location of the third alluvial well.

We have no comments on proposed Well No. 2308-03.

If you have any questions, please contact Chester Lao at

Very truly yours,

KAZU HAYASHIDA
Manager and Chief Engineer

Pure Water ... man's greatest need – use it wisely
Honorable John C. Lewin, M.D.
Director of Health
Department of Health

Attention: Mr. Thomas Arizumi, Drinking Water Branch

Dear Dr. Lewin:

Well Construction Permit Application

In accordance with the Department of Land and Natural Resources Administrative Rules, Section 13-168-12(c), we are sending you a copy of the following permit applications:

- Waikaha Valley Country Club Well 3 (Well No. 2812-04)
- Lususaki-Kyowa Building Company, Ltd. Well (Well No. 2308-03)
- Cull Well 2 (Well No. 6048-03)
- Aliomanu Well (Well No. 1019-04)

Please submit your comments to us, orally or in writing, within three weeks from the date of this letter.

If you have any questions, please contact Mansbu Tagomori at

Very truly yours,

WILLIAM M. PATY

Enc.
October 3, 1989

Mr. Kazu Hayashida
Manager and Chief Engineer
Board of Water Supply
City and County of Honolulu

Dear Mr. Hayashida:

Well Construction Permit Applications

We are sending you a copy of the following permit applications for your review and comments:

Makaha Valley Country Club Well 3 (Well No. 2812-04)
Lualualei-Kyowa Building Company, Ltd. Well (Well No. 2308-03)

Please submit any comments to us, orally or in writing, within three weeks from the date of this letter.

If you have any questions, please contact Ed Sakoda at

Sincerely,

MANABU TAGOMORI
Deputy Director

ES:ko
Enc.
KYOWA BUILDING COMPANY, LTD.
Davies Pacific Center

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

$25.00

- Twenty Five and 00/100 DOLLARS

HAWAII NATIONAL BANK
Nanakuli HAWAII
LUALUALEI-KYOWA BLDG. CO., LTD. WELL (WELL NO. 2309-03)
FILING FEE
LUALUALEI—KYOWA BUILDING CO., LTD. WELL

(Well No. 2308—03)

September 28, 1989

Kyowa Building Company, Ltd.

Gentlemen:

We acknowledge receipt of your application and filing fee for Lualualei-Kyowa Building Company, Ltd Well (Well No. 2308-03) at Tax Map Key: 8-7-09:7, Lualualei, Oahu.

My staff is processing the application and will call your staff should there be any questions.

Sincerely,

[Signature]

MANABU TAGOMORI
Deputy Director

ES:bm
APPLICATION FOR

X WELL CONSTRUCTION PERMIT
PUMP INSTALLATION PERMIT

INSTRUCTIONS: Please print or type and send completed application with attachments to the Division of Water and Land Development. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Department of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone Division of Hydrology/Geology Section for assistance.

1. WELL LOCATION
Island Oahu Tax Map Key 8-7-09-3
Address _________________________________________________________
(Attach a USGS map (scale 1"=2000') and property tax map showing well location referenced to established property boundaries.)

2. WELL OWNER LANDOWNER
Firm Name Kyowa Building Co. Firm Name Kyowa Building Co.
Contact Person John Mink/P. Mau Contact Person John Mink/P. Mau

3. PROPOSED CONTRACTOR FOR: ❑ Well Drilling ❑ Pump Installation
Name _____________________________ Phone _____________________________
Address ___________________________ Contractor's License No. _____________________________

4. PROPOSED WORK
❑ Drill New Well ❑ Deepen ❑ Alter ❑ Seal ❑ Redrill
❑ Alter New Pump ❑ Install New Pump ❑ Replace Pump ❑ Abandon
❑ Modify Pump
(Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE
❑ Municipal (including hotels, stores, etc.) ❑ Military
❑ Domestic (individual, noncommercial water systems) ❑ Industrial
❑ Irrigation (specify) Golf Course ❑ Other (specify) _____________________________

6. PROPOSED AMOUNT OF WITHDRAWAL 288000 gallons per day

7. PROPOSED PUMP INFORMATION
Pump Type: ❑ Vertical Turbine ❑ Submersible ❑ Centrifugal
Motor: ❑ Diesel ❑ Gas ❑ Electric: _____________________________
Rated Pump Capacity 200 gallons per minute (gpm)
(See Pump)

Well Owner (print) Ben M. Yamamoto Landowner (print) Ben M. Yamamoto
Signature _____________________________ Signature _____________________________
Date 09/19/89 Date 09/19/89

For Official Use Only:
Field Checked By __________ Latitude __________ Hydrologic Unit _____________________________
Date __________ Longitude __________ State Well No. 2308-03
Briefly describe the proposed work:
Drill exploratory well near well #2308-02 (abandoned) in Nanakuli.

PROPOSED SECTION OF WELL

Elevation at top of casing: 130 ft., msl.

Ground Elev. 129 ft., msl*

Cement Grout 50 ft.

Hole Dia. 10 in.

Total Min. 180 ft.
Max. 260 ft.

Rock Packing 80 ft.

Solid Casing:
Material: Steel
Length 130 ft.
Diameter 8" I.D. in.
Wall thickness 0.25 in.

Casing: / /Perforated /X/Screen
Material
Length Min. 30 Max. 75 ft.
Diameter 8" I.D. in.
Wall thickness 0.25 in.
Openings 10% sq. in./L.F.

Open Hole:
Length probably 25 to 50 ft.
Diameter 6 in.

*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
APPLICATION FOR

X WELL CONSTRUCTION PERMIT

PUMP INSTALLATION PERMIT

INSTRUCTIONS: Please print or type and send completed application with attachments to the Division of Water and Land Development. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Department of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone Hydrology/Geology Section for assistance.

1. WELL LOCATION

Island Oahu Tax Map Key 8-7-09-3

Address _______________________________________________________________________

(Attach a USGS map (scale 1"=2000') and property tax map showing well location referenced to established property boundaries.)

2. WELL OWNER

Firm Name Kyowa Building Co.
Contact Person John Mink/F. Mau

3. PROPOSED CONTRACTOR FOR: ☐ Well Drilling ☐ Pump Installation

Name To be determined later Phone ________________________________

Address ________________________________ Contractor's License No. ________________________________

4. PROPOSED WORK

☐ Drill New Well ☐ Deepen ☐ Alter ☐ Redrill
☐ Install New Pump ☐ Replace Pump ☐ Seal ☐ Abandon
☐Modify Pump

(Briefly describe the proposed work and fill in the diagram on the back of this form.)

5. PROPOSED USE

☐ Municipal (including hotels, stores, etc.) ☐ Military
☐ Domestic (individual, noncommercial water systems) ☐ Industrial
☐ Irrigation (specify) Golf Course
☐ Other (specify) ________________________________

6. PROPOSED AMOUNT OF WITHDRAWAL 288000 gallons per day

7. PROPOSED PUMP INFORMATION

Pump Type: ☐ Vertical Turbine ☐ Submersible ☐ Centrifugal
Motor: ☐ Diesel ☐ Gas ☐ Electric: __________________ Rated Horsepower
Rated Pump Capacity 200 gallons per minute (gpm)
(Test Pump)

Well Owner (print) Ben M. Yamamoto
Signature ________________________________ Date 09/19/89

Landowner (print) Ben M. Yamamoto
Signature ________________________________ Date 09/19/89

For Official Use Only:
Field Checked By ________________________________ Latitude ________________ Hydrologic Unit ________________________________
Date ________________________________ Longitude ________________ State Well No. ________________________________
Briefly describe the proposed work:

Drill exploratory well near well #2308-02 (abandoned) in Nanakuli

PROPOSED SECTION OF WELL

Elevation at top of casing 130 ft., msl.

Ground Elev. 129 ft., msl*

Cement Grout 50 ft.

Hole Dia. 10 in.

Total Min. 180 ft. Max. 260 ft.

Rock Packing 80 ft.

Solid Casing:
- Material: Steel
- Length: 130 ft.
- Diameter: 8" I.D. in.
- Wall thickness: 0.25 in.

Casing: / Perforated K Screen
- Material
- Length: Min. 30 Max. 75 ft.
- Diameter: 8" I.D. in.
- Wall thickness: 0.25 in.
- Openings: 10% sq. in./L.F.

Open Hole:
- Length: probably 25 to 50 ft.
- Diameter: 6 in.

*Approximate elevation at time of filing application. Final elevation (msl) by a surveyor licensed by the State must be submitted at start of construction.
Mapped, edited, and published by the Geological Survey
Control by USGS, USC&GS, USCE, and Hawaii State Survey
Topography by photogrammetric methods from aerial photographs taken 1952 and planetable surveys 1927-1930
Field checked 1953 - Revised 1967
Control by USGS, USC&GS, USCE, and Hawaii State Survey

Topography by photogrammetric methods from aerial photographs taken 1952 and planetary surveys 1927-1930

Field checked 1963 Revised 1967