### CHECKLIST

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

**WELL NAME or LOCATION:** Makaiwa Monitor Test Hole 2

**WELL NUMBER:** 2007-02

**OWNER or OPERATOR:** Campbell Estate

**ADDRESS:** 828 Fort Street, Suite 500
Honolulu, HI 96813

**TELEPHONE (contact person):** 536-1961 Sam Keala

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**Date application received:** 2-7-90

**Date acknowledged receipt/request more info:**

**Date application accepted:**

**Date filing fee deposited:**

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Application sent to following:

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<th>Dept. of Health</th>
<th>Date sent</th>
<th>Comments received</th>
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<td>County water board/dept</td>
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**Date agenda due:**

**Date submittal due:**

**Date submittal sent to applicant:**

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**Date application ** approved or **disapproved:** Issued 2-15-90

**Date applicant notified of decision:**

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**REMARKS:** For Chairman's signature only

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Mr. John Higham  
Aina Nui Corporation  
Kapolei Property Development LLC  
1001 Kamokila Boulevard, Suite 250  
Kapolei, HI 96707

Dear Mr. Higham:

Makaiwa Monitor Test Holes 1-3  
(Well Nos. 2006-16, 2007-02 & 03)

Thank you for the letter from Chuck Hill dated May 3, 2010, responding to our July 30, 2009 letter requesting additional information on the captioned wells. It is our understanding that you intend to continue the use of Wells 1 & 2 (Well Nos. 2006-16 and 2007-02) as monitor wells and seal Well 3 (Well No. 2007-03).

We requested well completion reports for Wells 2 & 3 (Well Nos. 2007-02 & 03), as required by your permits, which are not in our records. You have noted that all three wells were drilled in 1990 by a company no longer in business, and you have provided minimal information about the construction of these wells. Photos of the wellheads show severe cracking around the casing. It is apparent that all these wells might be candidates for sealing and abandonment.

Please file an application to seal Well 3 (Well No. 2007-03) as you have planned (attached: well construction permit application, see Item #7). At the same time, we are concerned that the other two wells may serve as conduits for potential contamination of the underlying basal aquifer. Please respond in writing how you plan to continue safe monitoring use at Wells 1 & 2.

If you have any questions, please contact Charley Ice of our staff at (808) 587-0218.

Sincerely,

LENORE N. OHYE
Acting Deputy Director
May 3, 2010

Mr. Ken C. Kawahara, PE
Deputy Director
Commission on Water Resource Management
P.O. Box 621
Honolulu, Hawaii  96809

Dear Mr. Kawahara:

Makaiwa Monitor Test Holes 1, 2 and 3
(Well Nos. 2006-16, 2007-02 and 2007-03)

I wanted to provide an update on the status of the rehabilitation of Makaiwa Monitor Test Hole 3 (hereinafter referred to as “Well 3”). In our September 25, 2009 letter to you we indicated that Well 3 would be repaired and used to monitor non-potable water levels. Since September, we have determined that it is not feasible to rehabilitate Well 3 and consequently, it will be sealed in accordance with accepted industry practices. We have a proposal from Geolabs Inc. to perform the work and anticipate starting construction in the near future. The status of Wells 1 and 2 has not changed and they will continue to be used in the manner outlined in our earlier correspondence.

If you require any further information or clarification, please contact John Higham who will be your new contact person regarding this matter. Please do not hesitate to contact him at 674-3229 or email johnh@kapolei.com.

Very truly yours,

Chuck Hill
Vice President

cc: Craig Arakaki
    Tom Nance
    Steve Kelly
    John Higham
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<th>FROM: Denise</th>
<th>DATE: 6/24/09</th>
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Perhaps only 2006-10 in of value for monitoring. Makaiwa 2 & 3 are cased down to near the bottom or have caved-in and covered above with respective. There are other wells we can use for monitoring as Diane pointed out.

Ryan - fix before sending out.

Ronnie, any value in CWM working on something with landowner so that we could monitor these wells? Valuable for our understanding about Makaiwa? Can we afford to monitor?

Diane, see which wells we can recommend to: (1) Seal (2) Videolog then seal (3) Leave open for future monitoring, short term vs long term.
Mr. Clinton Churchill  
James Campbell Company, LLC  
James Campbell Building, Suite 200  
1001 Kamokila Boulevard  
Kapolei, HI 96700-2014

Dear Mr. Churchill:

Additional Information Request for  
Makaiwa Monitor Test Holes 1, 2, and 3 (Well Nos. 2006-16, 2007-02 and 2007-03)

On May 26, 2009, we received information for the subject wells from Tom Nance, of Tom Nance Water Resource Engineering, as requested in our March 16, 2009 letter to you. The subject wells were constructed between 1989 and 1990 for The Estate of James Campbell. Mr. Nance provided the following information in response to our request:

...Wells 1 and 3 are simply small (6") diameter open holes with 6" steel conductor pipes cemented in place and with locking caps. Well 2 has the same conductor pipe and locking cap but also has 4" PVC casing to about 200 feet (its total depth is 205 feet). Well 3 caved in above the water table shortly after its completion and was not cleared.

We are concerned about the condition of Well 3 (Well No. 2007-03); it is clearly not in a condition that allows it to be used for monitoring or any other purpose. Based on the description, we are concerned that the well casing or annular seal could be damaged so as to be ineffective for preventing contaminant migration within the well bore itself. Therefore, the well should be permanently sealed in accordance with the Hawaii Well Construction & Pump Installation Standards, as revised in 2004, unless it can be safely repaired and you present a plan that shows your intent to use the well for monitoring purposes in the future.

Although Well Nos. 2006-16 and 2007-02 appear to be in satisfactory condition (based on recent photographs provided by Tom Nance), we are concerned that they are no longer being used for their original purpose. For this reason, these wells should also be permanently sealed, unless you can present evidence that shows that they have recently been used for monitoring or that you intend to resume monitoring at these well locations.
Mr. Clinton Churchill
Page 2
July 30, 2009

Please respond within 60 days of the date of this letter. Your response should include either: (1) an application for a well abandonment permit for all three wells and an estimated schedule for this work; or (2) evidence showing that you are still collecting water level and/or water quality data from Well Nos. 2007-02 and -03, and that you intend to repair Well No. 2006-16 and also use it for monitoring. Failure to respond within 60 days may result in enforcement action and could be subject to fines of up to $5,000 per day, as authorized by the State Water Code (HRS Chapter 174C).

If you have questions, please contact Ryan Imata of the Commission staff at 587-0255.

Sincerely,

KEN C. KAWAHARA, P.E.
Deputy Director

DEM:ss

c: Tom Nance
Denise:

A while back, there was an inquiry from CWRM about the three Makaiwa monitor wells. All three were drilled in 1990 by PR Drilling, long since out of business. The attached map shows their locations (by hand held GPS) and their casing elevations and total depths. Wells 1 and 3 are simply small (6") diameter open holes with 6" steel conductor pipes cemented in place and with locking caps. Well 2 has the same conductor pipe and locking cap but also has 4" PVC casing to about 200 feet (its total depth is 205 feet). Well 3 caved in above the water table shortly after its completion and was not cleared.

They were drilled to better define the boundary between the Ewa-Kunia aquifer (14-foot heads) and what was subsequently named the Makaiwa aquifer (4 foot heads). Prior wells (T4 in the Ewa Kunia and T5 in the Makaiwa aquifer were widely spaced). As it turned out, Makaiwa 1 and 2 have 14 foot heads, with Makaiwa 2 always being less then 0.1 foot lower than Makaiwa 1. Makaiwa 3 had a 4 foot head.

Tom

---

Tom Nance Water Resource Engineering
680 Ala Moana Boulevard - Suite 406
Honolulu, Hawaii 96813

Tel: 808-537-1141 / Fax: 808-538-7757

Response to request for information dated March 16, 2009.
No well completion reports - but some info.
Sent reply asking for GPS coordinates, whether there is any info data.
Denise:

Coordinates in NAD 83 by hand held GPS are as follows:

Makaiwa 1: 21 deg 20.605 min; 158 deg 6.654 min
Makaiwa 2: 21 deg 20.674 min; 158 deg 6.885 min
Makaiwa 3: 21 deg 20.698 min; 158 deg 7.206 min

Photos of all three wells are attached. No salinity data, but I might make salinity profiles in 1 and 2 when I have time (No. 3 is caved in above the water).

Tom

On Wed, May 27, 2009 at 10:10 AM, <Denise.E.Mills@hawaii.gov> wrote:

Tom,

Thank you for following up on this.
You sent one photo-- which well is it? Is there any salinity, chloride or EC data?
Also, can you send the GPS coordinates?
We will follow up with James Campbell Company, if we need additional information.

--Denise

Denise:

A while back, there was an inquiry from CWRM about the three Makaiwa monitor wells. All three were drilled in 1990 by PR Drilling, long since out of business. The attached map shows their locations (by hand held GPS) and their casing elevations and total depths. Wells 1 and 3 are simply small (6") diameter open holes with 6" steel conductor pipes cemented in place and with locking caps. Well 2 has the same conductor pipe and locking cap but also has 4" PVC casing to about 200 feet (its total depth is 205 feet). Well 3 caved in above the water table shortly after its completion and was not cleared.
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Tom

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Honolulu, Hawaii 96813

Tel: 808-537-1141 / Fax: 808-538-7757

---
Tom Nance Water Resource Engineering
680 Ala Moana Boulevard - Suite 406
Honolulu, Hawaii 96813

Tel: 808-537-1141 / Fax: 808-538-7757
Makaiwa #3
Makaiwa Monitor Test Hole 2
(Well No. 2007-02)

MAKAIWA MONITOR TEST HOLE
(Well No. 2006-16)
March 16, 2009

Mr. Clinton Churchill  
James Campbell Company, LLC  
James Campbell Building, Suite 200  
1001 Kamokila Boulevard  
Kapolei, HI 96700-2014

Dear Mr. Churchill:

Request for Information  
Makaiwa Monitor Test Holes 2 and 3 (Well Nos. 2007-02 and -03)

We recently found while reviewing our records for the subject wells, located within TMK (1) 9-2-003:002, that we never received a well completion report for either well. We issued the well construction permit for Well No. 2007-02 on February 15, 1990 and for Well No. 2007-03 on March 26, 1990; both permits were issued to The Estate of James Campbell.

During a recent conversation between our staff and Tom Nance, the consultant who assisted with the project, we learned that the wells were constructed and monitored for a period of time. We are writing, therefore, to request copies of any information you may have for these wells so that we can update our hard copy and database records.

Thank you for your assistance. Please call Denise Mills of the Commission staff at 587-0251 if you have any questions.

Sincerely,

KEN C. KAWAHARA, P.E.  
Deputy Director

DEM:ss

c: Tom Nance
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Roy, It looks like T.H. 3 (2007-03) omission from the database was probably an oversight. T.H. 1 & 2, permitted around the same time, were entered. I have not put this one in the database.

Denise, updated DB. We should arrange about Monroe TH 2 & 3 if they were ever drilled.

Denise 3/27/09
TO: The Estate of James Campbell
828 Fort Street Mall, Suite 500
Honolulu, HI 96813

REQUEST FOR WELL CONSTRUCTION STATUS REPORT
for
Makaiwa Monitor Test Hole 2
Well No. 2007-02
Honouliuli, Ewa, Oahu

On February 15, 1990, the Commission on Water Resource Management issued you a permit to construct and test a monitor test hole within Tax Map Key 9-2-03:2. The permit was valid for two years from the date of issuance, required that a well completion report be submitted within 30 days after completion of the well, and that a permit be obtained to seal the well upon completion of monitoring operations.

As of this date, no well completion report or other evidence has been received by the Commission which indicates whether the subject well was ever constructed. Before concluding that the well was not constructed within the allowable period, which has now expired, we request that you provide a status report to confirm what, if any, construction activity was performed under the permit.

Thank you for your time and cooperation.

Sincerely,

RAE M. LOUI
Deputy Director

BR:ky
PEARL HARBOR WATER MANAGEMENT AREA

WELL CONSTRUCTION PERMIT

for

Makaiwa Monitor Test Hole 2
Well No. 2007-02
Honolulu, Ewa, Oahu

TO: The Estate of James Campbell
828 Fort Street Mall, Suite 500
Honolulu, Hawaii 96813

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 a monitor test hole within Tax Map Key: 9-2-03:2 (see attached map) is approved, subject to the following conditions:

1. The Division of Water and Land Development (DOWALD), Geology-Hydrology Section, shall be notified at 548-7543, before any work covered by this permit commences.

2. The well shall be used for monitoring and testing only.

3. The following shall be submitted to DOWALD, P.O. Box 373, Honolulu, Hawaii 96809, 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.
4. The applicant shall comply with all applicable laws, rules, and ordinances.

5. 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.

6. Upon completion of monitoring operations, the applicant shall obtain a well construction permit to seal the well with cement grout in a manner approved by the Department.

[Signature]

WILLIAM W. PATTY, Chairperson
Commission on Water Resource Management

FEB 15 1990

Date of Issuance

Enc. (Well Completion Report form)
cc: USGS
Department of Health,
   Drinking Water Branch
   Ground Water Protection Program
Honolulu Board of Water Supply
P.R. Drilling Co., Inc.
Tom Nance Water Resources Engineering
APPLICATION FOR

WELL CONSTRUCTION PERMIT

PUMP INSTALLATION PERMIT

INSTRUCTIONS: Please print or type and send completed application with attachments to Division of Water and Land Development, P.O. Box 373, Honolulu, Hawaii 96808. 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 548-7242. Hydrology/Geology Section for assistance.

1. WELL LOCATION

Island    Oahu    Tax Map Key    9-2-03:2
Address    Opposite Ko Olina Resort Entrance Along Farrington Highway

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

2. WELL OWNER

Firm Name    Campbell Estate
Contact Person    Sam Keala
Address    828 Fort Street, Suite 500
Honolulu, Hawaii 96813
Phone    536-1961

LANDOWNER

Firm Name    Campbell Estate
Contact Person    Sam Keala
Address    828 Fort Street, Suite 500
Honolulu, Hawaii 96813
Phone    536-1961

3. PROPOSED CONTRACTOR FOR:

Well Drilling    Pump Installation

Name    PR Drilling Company, Inc.
Address    235 Kellog Street
Wahiawa, Oahu, Hawaii 96786
Phone    622-2631

Contractor's License No.    C-9627

4. PROPOSED WORK

[ ] Drill New Well    [ ] Deepen
[ ] Alter    [ ] Seal
[ ] 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)    [ ] Other (specify) Observation

6. PROPOSED AMOUNT OF WITHDRAWAL

None    gallons per day

7. PROPOSED PUMP INFORMATION

None

Pump Type:    [ ] Vertical Turbine    [ ] Submersible
[ ] Gas    [ ] Centrifugal
[ ] Electric:    [ ] Rated Horsepower

Rated Pump Capacity    gallons per minute (gpm)

Well Owner (print)    ___________    Landowner (print)    ___________

Signature    ___________    Signature    ___________

Date    ___________    Date    ___________

For Official Use Only:

Field Checked By    ___________    Latitude ___________

Date    ___________    Longitude ___________

Hydrologic Unit

State Well No.    2007-02
Briefly describe the proposed work:

Test hole will be drilled solely for observation purposes. To clean the hole and obtain a representative water sample, a 60+ GPM submersible pump will be installed and run several hours.

PROPOSED SECTION OF WELL

Elevation at top of casing 111 ft., msl.

Cement Grout 20 ft.

Hole Dia. 4 in.

Total Depth 155 ft.

Rock Packing None ft.

Ground Elev. 110 ft., msl*

Solid Casing:
- Material: Steel (ASTM A-53)
- Length: 20 ft.
- Diameter: 6 in.
- Wall thickness: 0.3125 in.

Casing: / /Perforated / /Screen
- Material: None
- Length:
- Diameter:
- Wall thickness:
- Openings sq. in./L.F.

Open Hole:
- Length: 135 ft.
- Diameter: 4 (min.) 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.
SAMUEL L. KEALA, JR. OR
JALNA S. KEALA
5019 Poola Street, Phone 373-3013
Honolulu, Hawaii 96821

PAY TO THE ORDER OF
Fifty and No/100

DOLLARS

First Hawaiian Bank
HONOLULU, HAWAI'I

Samuel L. Keala

2/7 1990