WAIKOLOA
DESTINATION RESORT COMMUNITY
South Kohala, Island of Hawaii
Tom Nance Water Resource Engineering

Facsimile Header

To: RAY HAVY - CWRM

Original □ will □ will not be mailed to you.

Fax No.: 6

Date: Dec. 31, 2000

From: Tom Nance

No. of Pages: 9 (including header)

Subject: SOUTH KOREAN WATER WELDS GROUP

(1) Copy of the Signed Memorandum of Understanding (pp. 2-5)

(2) Unsigned copy of Policies and Procedures (pp. 6-9)

680 Ala Moana Boulevard, Suite 406 - Honolulu, Hawaii 96813-3411 - Phone: (808) 537-1141 - Fax: (808) 538-7757

Ryan - found this. Should put copies in relevant Big Island well folders.
MEMORANDUM OF UNDERSTANDING BETWEEN MAUNA
KEA PROPERTIES, INC., MAUNA LANI RESORT, INC.,
NAKAY HAWAII, INC. AND WAIKOLOA LAND COMPANY
ON COOPERATIVE REGIONAL WATER DEVELOPMENT

Mission Statement

To work jointly and cooperatively in developing and
implementing a regional water plan which best serves the
collective water needs of the parties and others within the
region in a manner acceptable to relevant governmental
authorities.

Objectives

The parties to this Memorandum of Understanding
(collectively referred to as "South Kohala Water Study
Group" or "Group") acknowledge and agree that it is in their
long-term best interests to achieve the Mission set forth
above in the following manner:

• Reach agreement on a regional plan for the
development of sources and distribution systems
for potable, non-potable water and effluent
reuse;

• Form and establish, as equity participants, a
private, regional water company or companies
for the development, production, distribution
and sale of potable, non-potable and effluent
reuse resources serving the parties and others
within the region;

• Reach bilateral and multilateral agreements
achieving the staged implementation of the
regional water plan;

• Publicly support and consider the commitment to
the conditional, partial funding of the County
of Hawaii Department of Water Supply's (DWS)
development of its planned North Kohala
Pipeline;

• Develop a Water Commitment Policy, which is
incorporated herein by reference, containing
guidelines and requirements for each Group
Member securing a sufficient supply of water
for actual use in accordance with a realistic
timetable;
Coordinate the activities of the Water Study Group with all relevant State of Hawaii authorities, including but not limited to its Water Commission, in a manner which promotes and preserves the Group's ability to deal with regional water issues on a collective basis;

Communicate, where appropriate, with other interested parties within the region;

Enter into subsequent joint agreements intended to implement the objectives adopted herein.

Governance

The activities of the Group shall be governed and coordinated through an Executive Committee comprised of a designated representative of each signatory to this Memorandum of Understanding.

The Group Executive Committee shall:

- Approve all policies, agreements and expenditures made on behalf of the Group; provided, that if the representative of any Group member specifically disapproves of any such expenditure, that Group member shall be excused from its pro rata share of such expenditure;

- Approve the inclusion of additional members to and approve, except member in question, for the exclusion of existing members from the Water Study Group;

- Approve public statements and testimony regarding Water Study Group activities;

- Develop and approve an annual operating budget, project budgets and the individual party's obligations to fund the operations and the development of these planned projects;

- Be kept informed of all agreements entered into between Water Study Group members affecting the Group's Mission and Objectives;

- Coordinate all contact regarding the activities of the Water Study Group with governmental agencies;
Direct and approve the activities of all consultants retained by the Water Study Group relating to its stated Mission and Objectives.

All decisions of the Group shall be by the majority of the members of the Executive Committee except for "key decisions" which require unanimous approval. Key decisions include approval of the annual operating budget and individual members' obligation to fund operations or make contributions to the development of planned projects, expenditures which are outside of the approved budget in excess of $5,000 in any single case or $25,000 in the aggregate and the addition of any new member to the Executive Committee.

Dispute Resolution

It is acknowledged that from time to time, disputes and disagreements may arise between the parties to this Memorandum of Understanding regarding regional water issues and that it is in their long-term collective best interests that such disputes be resolved without resort to governmental or judicial involvement.

The parties agree that they shall use their individual and collective best efforts to resolve any and all outstanding issues covered by this Memorandum. The parties further agree that in the event negotiations fail to result in acceptable agreement or resolution, they may voluntarily submit outstanding issue(s) to binding or nonbinding arbitration pursuant to terms agreed to by the parties.

North Kohala Pipeline

The parties agree to support the concept of a North Kohala pipeline transporting potable water to South Kohala being pursued by the Department of Water Supply, County of Hawaii.

In the event that the parties are reasonably satisfied that the North Kohala pipeline will be built, but no later than the start of construction, individual signatories to this agreement shall commit, on a fair and equitable basis, to the partial funding of said pipeline under acceptable terms and conditions to be negotiated.
Termination/Withdrawal

A majority of the members of the Group may terminate the Group and joint obligations contained in this Memorandum of Understanding. Individual Group members may withdraw from the South Kohala Water Study Group upon written notice to other members; provided, that members shall remain liable for their or its pro-rata share of costs of operations per the approved budget or amendments thereto, incurred during their membership or prior to withdrawal, as the case may be.

This Memorandum of Understanding is entered into this 9th day of February, 1998.

MAUNA KEA PROPERTIES, INC.  NANSAY HAWAII, INC.

By ____________________________  By ____________________________

Its ________________  Its ________________

MAUNA LANI RESORT, INC.  WAIKOLOA LAND COMPANY

By ____________________________  By ____________________________

Its ________________  Its ________________
DRAFT
Water Commitment Policies and Procedures
of the
South Kohala Water Users' Group
Revised: [February 4, 1993]
March 9, 1993

The South Kohala Water Users Group ("Group") recognizes the need to develop a coherent set of policies and procedures for the development of groundwater to ensure maximum beneficial use of this limited resource, avoid conflicts among users, and facilitate the timely development of water tied to actual use. The parties to this document agree to abide by the policies and procedures it contains and encourage the State Commission on Water Resource Management ("Commission") to evaluate all drilling and pump installation permits received from other water users in the basin by the same criteria.

POLICIES

1. The group recognizes that all parties need assurance of the availability of water for their developments. The group further recognizes that such assurances can occur only if it is agreed to by all parties.

   1. All drilling, well modification, and pump installation permits will be formulated to conform to the intent of the then current version of the Group's approved South Kohala Water [Master] Resource Plan.

2. All drilling, well modification, and pump installation permits will be submitted to the Group for its approval prior to submittal to the Commission. The Group's approval shall be based on the applicant's conformance with these policies, and the procedures listed below. The Group's approval shall not be unreasonably withheld if such conformance is demonstrated.

3. To minimize excessive use of groundwater, all effluent from sewage treatment plants shall be reused for irrigation unless it can be conclusively demonstrated to be physically and/or economically impractical for the developer of the irrigation supply or the ultimate user of the water.
4. All new landscaping, including golf course turfgrass, will be designed and implemented to minimize irrigation use. Efforts toward this end shall include choosing appropriate plant materials, use of proper soil types and thickness, and avoiding excessive turfgrass areas. Any new 18-hole golf course shall not use more than 0.75 MGD on year-round average nor more than 1.00 MGD over any seven-day period.

5. All new hotel, residential, commercial, and industrial development shall be designed to minimize water use and shall include appropriate water saving devices.

6. **Drilling permits should be supported if consistent with the Water Resource Plan as they provide much needed information about this region's aquifer.**

7. (Drilling and) Pump installation permits shall not be sought more than two years in advance of actual need [to avoid creating false shortages of supply and inappropriate positioning for the resource, potentially denying others their fair and equitable use].

8. Members of the Group agree to devise water use standards for consumption of potable and irrigation water use in order to implement these policies.

9. It is recognized that agreements between two or more parties may be necessary to facilitate respective water development. [Such agreements shall be consistent with these policies and procedures.]

**PROCEDURES**

1. All applications for drilling, well modification, and pump installation permits, including extensions of these permits, will be submitted for review and approval by the Group to ensure conformance with the intent of the Group's policies and [master] water resource plan prior to submittal to the Commission.

2. To initiate the Group's review, application will be submitted with the following supporting information:

   a. Quantity [and timing] of potable and/or non-potable supply requirements, including the basis for these projections (unit counts, acreage, etc.).
b. Measures taken to avoid excessive potable and/or non-potable water use.

c. Exact location of the water uses, including land use plans, TMKs, etc.

d. Approved State land use designation; County General Plan designation; County zoning; use permit for district use; and the prospective land use approvals, including subdivision, needed to achieve the desired land use.

e. The project's site specific water master plan for potable and not potable water shall be submitted.

f. Exact location, dimensions, and pump capacity of the well (or wells) to be developed to meet these supply requirements.

[g. A development schedule indicating the date of actual water use.]

3. The Group's review and response to the application shall be completed within 45 days. The response shall judge the application's conformance with these policies, and with the South Kohala Water [Master] Resource Plan, [the appropriateness of the timing of the application.] and the [Unless there are compelling reasons otherwise, the timing of an application shall be deemed inappropriate unless all land use approvals through and including County zoning have been received and the actual use of water, based on a firm schedule, is to begin within two years.] Listed below are specific criteria of the Group's review of applications.

a. If conformance with these policies and procedures is demonstrated [and the timing of the application is appropriate.] the Group's approval shall not be unreasonably withheld.

b. If the application fails to meet the standards for acceptability set out herein, no submittal of the application to the Commission shall be made until revisions satisfactory to the Group are made.

c. The Group's approval for a pump installation permit shall be given only after tentative subdivision approval for the project to be served has been given.

d. If a proven water source is a condition of County zoning or use permit approvals, the Group's approval of a well construction permit shall be given only if evidence of the actual water use within two years is provided.]
These Water Commitment Policies and Procedures are entered into this day of ____________, 1993.

Mauna Kea Properties, Inc.

By: ______________________
   Its

Nanseey Hawai'i, Inc.

By: ______________________
   Its

Mauna Lani Resort, Inc.

By: ______________________
   Its

Waikoloa Land Company

By: ______________________
   Its
If you do not receive all pages, please telephone immediately.

Following are sections of the Anahapuu and Pun Anaei geotandatory maps on which I've located Workdau Resort irrigation wells. I've given them i.d. numbers based on the chronological sequence of their development. If there don't match yours, please let me know. Some data:

<table>
<thead>
<tr>
<th>Well No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5452-01</td>
<td>An open pit next to the minor resort nursery; excavated with bulldozer years ago; outfitted with a 750 gpm pump and run continuously.</td>
</tr>
<tr>
<td>5452-02</td>
<td>8 diameter vertical shaft, dug with jackhammers to a depth of 55 feet; outfitted with a 280 gpm pump and run continuously.</td>
</tr>
<tr>
<td>5452-03</td>
<td>Drilled well by Fred Pepe several years ago; has a 350 gpm pump which runs 90% of the time.</td>
</tr>
<tr>
<td>5558-01</td>
<td>Also drilled by Fred Pepe; 200 gpm pump runs continuously.</td>
</tr>
<tr>
<td>5551-01</td>
<td>Recent well by Fred Pepe; in the process of being outfitted with a 275 gpm pump.</td>
</tr>
</tbody>
</table>

680 Ala Moana Boulevard, Suite 200 • Honolulu, Hawaii 96813 • Phone: (808) 521-8361 • Fax: (808) 538-7819
A Belt Collins & Associates Company
May 18, 1989

The Honorable William W. Paty, Chairperson
Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii
P.O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Paty:

SUBJECT: WELL CONSTRUCTION PERMIT APPLICATIONS
WAIKOLEA WELLS
STATE WELL NOS. 5446-01 AND 5546-01
WAIKOLEA, HAWAII

Thank you for the opportunity to review the subject documents. We have reviewed the applications and have the following comments to offer:

1. Both permit applications indicate that in addition to golf course irrigation, these wells will be for municipal (including hotels, stores, etc.) use. If either well is to serve 25 or more individuals at least 60 days per year or will have a minimum of 15 service connections, the applicant will be required to comply with the Department’s Administrative Rules, Title 11, Chapter 20, "Potable Water Systems."

2. Section 11-20-29 of Chapter 20 requires that a new source of potable water serving public water systems be approved by the Director of Health prior to its use. Such an approval is based primarily upon the submission of a satisfactory engineering report which addresses the requirements set in Section 11-20-29.

If you should have any questions, please contact the Drinking Water Program at 548-2235.

Very truly yours,

[Signature]

JOHN C. LEWIN, M.D.
Director of Health
TO: Waikoloa Water Co.
P.O. Box 3028
Waikoloa, Hawaii 96743

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. 5446-01 for municipal use and golf course irrigation within Tax Map Key: 6-8-02:2 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 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. Ground elevation (referenced to mean sea level) determined by 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 other 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.

MAY 25, 1989

WILLIAM W. PATY

Date of Issuance

cc: USGS
    Department of Health
        Drinking Water Program
        Ground Water Protection Program
    Hawaii Department of Water Supply
May 8, 1989

MR MANABU TAGOMORI
DEPUTY DIRECTOR
DEPT OF LAND & NATURAL RESOURCES
PO BOX 621
HONOULU HI 96809

SUBJECT: WELL CONSTRUCTION PERMIT APPLICATION
Waikoloa Well (State Well No. 5446-01)
Waikoloa Well (State Well No. 5546-01)
Kawaihae Exploratory Well (State Well No. 6448-01)

We have reviewed the subject application and have no objections to the proposed well construction.

ROBERT K. YANABU, Division Chief Engineering Division

STT:jjs
May 2, 1989

Mr. Manabu Tagomori
Deputy Director
Commission on Water Resource Management
State of Hawaii
P. O. Box 621
Honolulu, HI 96809

WELL CONSTRUCTION PERMIT APPLICATIONS
WAIKOLOA WELL (STATE WELL NO. 5446-01)
WAIKOLOA WELL (STATE WELL NO. 5546-01)
KAWAIHAE EXPLORATORY WELL (STATE WELL NO. 6448-01)

The proposed well sites are not in close proximity to our existing Lalamilo Well Field. Therefore, we do not anticipate any adverse impact on our existing well field.

We have no objections to the subject well permit applications.

H. William Sewake
Manager

...Water brings progress...
Honorable John C. Lewin, M.D.
Director of Health
Department of Health
1250 Punchbowl Street
Honolulu, Hawaii 96813

Attention: Mr. Thomas Arizumi, Drinking Water Program

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 application:

Walkoala Well (State Well No. 5446-01)
Walkoala Well (State Well No. 5546-01)
Kawahae Exploratory Well (State Well No. 6448-01)

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 Nanabu Tagomori at 548-7533.

Very truly yours,

WILLIAM W. PATY

MT:ES:ko
Enc.
April 21, 1989

Mr. William Sewake, Manager
Department of Water Supply
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Sewake:

Well Construction Permit Application

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

Waikoloa Well (State Well No. 5446-01)
Waikoloa Well (State Well No. 5546-01)
Kawaihae Exploratory Well (State Well No. 6448-01)

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 Dan Lum at 548-7643.

Sincerely,

MANABU TAGOMORI
Deputy Director

ES:ko
Enc.
April 21, 1989

Mr. Hugh Y. Ono
Chief Engineer
Department of Public Works
County of Hawaii
25 Aupuni Street
Hilo, Hawaii 96720

Dear Mr. Ono:

Well Construction Permit Application

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

Waikoloa Well (State Well No. 5446-01)
Waikoloa Well (State Well No. 5546-01)
Kawaihae Exploratory Well (State Well No. 6448-01)

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 Dan Lum at 548-7643.

Sincerely,

MANABU TAGOMORI
Deputy Director

Enc.
April 21, 1989

Waikoloa Water Co.
P.O. Box 3028
Waikoloa, Hawaii 96743

Gentlemen:

We acknowledge receipt of your applications and filing fees to drill two wells (State Well Nos. 5446-01 and 5546-01) at Waikoloa.

My staff is reviewing the applications and will contact you should there be any questions.

Sincerely,

MANABU TAGOMORI
Deputy Director

ES:ko
REGISTRATION OF WELL AND DECLARATION OF WATER USE

INSTRUCTIONS: Please type or print. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and file form with the Division of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96809. Phone 548-3948 or 548-7543 for assistance.

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

STATE WELL NO.: 545.0-01  ISLAND: Hawaii
WELL NAME OR DESIGNATION: Nursery Well
SOURCE OR STATION NAME: (For a battery of wells):

A. WELL OPERATOR
Firm name: Waikoloa Resort Utilities
Contact person: Stephen Green
Address: P.O. Box 3028 WVS, Kamuela
Zip: 96743 Phone: 883-9661

B. OWNER OF WELL SITE (by easement)
Firm name: Waikoloa Resort Utilities
Contact person: Stephen Green
Address: P.O. Box 3028 WVS, Kamuela
Zip: 96743 Phone: 883-9661

C. WELL LOCATION
Tax Map Key: 6-8-001-032 Town, Place, District: Waikoloa, Dist. of South Kohala
Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

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

Ground elevation (mean sea level): 40 ft.
Reference point (used to measure depth to water):
Elevation: unknown ft.
Description: 

Depth to water (below reference point): unknown ft.
Maximum recorded chloride: 950 ppm
Minimum recorded chloride: 860 ppm
Maximum chloride in 1987: 920 ppm

E. INSTALLED PUMP DATA
Pump type: ☐ Vertical shaft ☐ Submersible ☐ Centrifugal ☐ Other (specify):
Power: ☐ Diesel, ___ HP ☐ Gas, ___ HP ☐ Electric, 15 HP ☐ Other (specify):
Pump capacity: 900 gallons per minute
Pump installation contractor: Waikoloa Resort Utilities

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

Comments: ____________________________

References: Hawaii Revised Statutes, Chapter 174C.
Hawaii Administrative Rules, Chapters 13-157 to 13-171.
F. DECLARATION OF WATER USE

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

Water use data are recorded:  □ Daily  □ Weekly  □ Monthly  □ Other (Describe):

Method of measurement:  □ Flow Meter  □ Orifice  □ Other (Describe): estimated by pump rating and estimating by flow from pipe measuring water-drop

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

WATER USE, IN GALLONS x 1000
ESTIMATED FROM PUMP OPERATION TIME - NOT METERED.

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<td>ANNUAL</td>
<td>446,760</td>
<td>446,760</td>
<td>446,760</td>
<td>446,760</td>
<td>446,760</td>
</tr>
</tbody>
</table>

Minimum day's use: 1,224,000 gallons  Maximum day's use: 1,224,000 gallons

Typical times of usage: continuous

Type of Use (check all category boxes that apply and provide additional information as indicated):

- □ Municipal (including resorts, hotels, businesses)
- □ Domestic (systems serving 25 people or less)
- □ Irrigation
- □ Industrial
- □ Military
- □ Other

Additional Information

- Number of service connections:
- Acres irrigated: ± 400 acres
- Crop(s):  □ Sugar  □ Pineapple  □ Other (specify):
- Non-Crop:  □ Landscape  □ Golf Course
- Method:  □ Drip  □ Furrow  □ Sprinkler  □ Cooling  □ Manufacturing  □ Mill  □ Other (specify):

- Specify (livestock, aquaculture, etc.):

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

Water User's Signature:  Stephen C. Green  Date: 4/15/89
Printed Name:  Stephen C. Green  Firm or Title (Well Operator, etc.): Project Engineer
# Registration of Well and Declaration of Water Use

**STATE OF** Hawaii

**COMMISSION ON WATER RESOURCE MANAGEMENT**

**DEPARTMENT OF LAND AND NATURAL RESOURCES**

**DIVISION OF WATER RESOURCE MANAGEMENT**

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

**INSTRUCTIONS:** Please type or print. If information is not available or not applicable, indicate as N.A. Fill out as completely as possible; sign, and file form with the Division of Water Resource Management, P.O. Box 373, Honolulu, HI 96809. Phone: 548-6268 or 548-7543 for assistance.

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

**STATE WELL NO.: 5452-02**

**WELL NAME OR DESIGNATION:** Fifty-One Foot Well (STP)

**SOURCE OR STATION NAME (For a battery of wells):**

<table>
<thead>
<tr>
<th>A. WELL OPERATOR</th>
<th>B. OWNER OF WELL SITE BY LEASE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Firm name: Waikoloa Resort Utilities</td>
<td>Firm name: Waikoloa Resort Utilities</td>
</tr>
<tr>
<td>Contact person: Stephen Green</td>
<td>Contact person: ________</td>
</tr>
<tr>
<td>Address: P.O. Box 3028 WVS, Kamuela, HI</td>
<td>Address: P.O. Box 3028 WVS, Kamuela, HI</td>
</tr>
<tr>
<td>Zip: 96743 Phone: 883-9661</td>
<td>Zip: 96743 Phone: 883-9661</td>
</tr>
</tbody>
</table>

**C. WELL LOCATION**

Tax Map Key: 6-8-001-29 Town, Place, District: Waikoloa

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

**D. WELL DATA**

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

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

| Ground elevation (Mean sea level): | 51 ft. |
| Reference point (Used to measure depth to water): | |
| Elevation: unknown | ft. |
| Description: | |
| Depth to water (Below reference point): | 100 ft. |
| Maximum recorded chloride: 300 ppm | |
| Minimum recorded chloride: | 850 ppm |
| Maximum chloride in 1987: | 900 ppm |

**Year drilled or constructed:** 1980

**Well contractor:** Transcontinental Development Co.

| Casing diameter: | 72 in. |
| Solid casing depth (Below ground): | 10 ft. |
| Perforated casing depth (Below ground): | none ft. |
| Total depth of well: | 53 (approx) ft. |
| Minimum chloride in 1987: | 860 ppm |

**E. INSTALLED PUMP DATA**

| Pump type: | □ Vertical shaft □ Submersible □ Centrifugal □ Other (specify): |
| Power: | □ Diesel, ___ HP □ Gas, ___ HP □ Electric, ___ HP □ Other (specify): |
| Pump capacity: | 350 gallons per minute |
| Pump installation contractor: | Transcontinental Development Co. |

... (continued over)

**For Official Use Only:**

Date received: ________ Date accepted: ________

Field checked by: ________ Date: ________ Latitude: ________ Hydrologic Unit: ________

Longitude: ________ State Well No.: ________

**References:** Hawaii Revised Statutes, Chapter 174C

Hawaii Administrative Rules, Chapters 13-167 to 13-171
F. DECLARATION OF WATER USE

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

Water use data are recorded: □ Daily □ Weekly □ Monthly
□ Other (Describe):

Method of measurement: □ Flow Meter □ Orifice
□ Other (Describe): estimated by grab and pump hours

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

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</tbody>
</table>

ANNUAL 183,960 183,960 183,960 183,960 183,960

Minimum day's use: 504,000 gallons Maximum day's use: 504,000 gallons

Typical times of usage: continuous

Type of Use (check all category boxes that apply and provide additional information as indicated):

- □ Municipal (including resorts, hotels, businesses)
- □ Domestic (systems serving 25 people or less)
- □ Irrigation
- □ Industrial
- □ Military
- □ Other

Additional Information

Number of service connections:

Acres Irrigated: 400 acres

Crop(s): □ Sugar □ Pineapple
□ Other (specify):

Non-Crop: □ Landscape □ Golf Course
□ Other (specify):

Method: □ Drip □ Furrow □ Sprinkler
□ Other (specify):

□ Cooling □ Manufacturing □ Mill
□ Other (specify):

Specify (fracture aquifer, etc.):

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

Water User's Signature: __________ Date: 4/15/89
Printed Name: Stephen C. Green
Firm or Title (Well Operator, etc.): Project Engineer
STATE OF HAWAII
COMMISSION ON WATER RESOURCE MANAGEMENT
DEPARTMENT OF LAND AND NATURAL RESOURCES
DIVISION OF WATER RESOURCE MANAGEMENT

REGISTRATION OF WELL
AND DECLARATION OF WATER USE

INSTRUCTIONS: Please type or print. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and file form with the Division of Water Resource Management, P.O. Box 373, Honolulu, Hawaii 96806. Phone: 548-3348 or 548-7543 for assistance.

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

STATE WELL NO.: 5452-01
ISLAND: Hawaii

WELL NAME OR DESIGNATION: Resort Irrigation Well Number One

SOURCE OR STATION NAME (For a battery of wells):

A. WELL OPERATOR
Firm name: Waikoloa Resort Utilities
Contact person: Stephen Green
Address: P.O. Box 3028
WVS, Kamuela
Zip: 96743 Phone: 883-9661

B. OWNER OF WELL SITE (by easement)
Firm name: Waikoloa Resort Utilities
Contact person: Stephen Green
Address: P.O. Box 3028
WVS, Kamuela, HI
Zip: 96743 Phone: 883-9661

C. WELL LOCATION
Tax Map Key: 6-8-001-005 Town, Place, District: Waikoloa, Dist. of South Kohala
Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

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

Ground elevation (Mean sea level): 51 ft.
Reference point (Used to measure depth to water): Elevation: unknown
Description: 

Depth to water (Below reference point): 50 ft.
Maximum recorded chloride: 720 ppm
Minimum recorded chloride: 660 ppm
Maximum chloride in 1987: 720 ppm
Year drilled or constructed: 1988
Well contractor: Fred Page
Casing diameter: 12 in.
Solid casing depth (Below ground): 50 ft.
Perforated casing depth (Below ground): 62 ft.
Total depth of well: 62 ft.
Minimum chloride in 1988: 660 ppm

E. INSTALLED PUMP DATA
Pump type: Vertical shaft
Power: Diesel, __ HP Gas, __ HP Electric, ___ HP
Pump capacity: 350 gallons per minute
Pump installation contractor: Roscoe Moss Company

For Official Use Only:
Date received: __________ Date accepted: __________
Field checked by: __________________ Date: ________ Latitude: __________ Hydrologic Unit: __________
Comments: ____________ Longitude: __________ State Well No.: __________

References: Hawaii Revised Statutes, Chapter 174C
Hawaii Administrative Rules, Chapters 13-157 to 13-171.
F. DECLARATION OF WATER USE

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

Water use data are recorded: [ ] Daily [ ] Weekly [ ] Monthly [ ] Other (Describe): __________________________

Method of measurement: [ ] Flow Meter [ ] Orifice [ ] Other (Describe): __________________________

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

WATER USE, IN GALLONS x 1000

<table>
<thead>
<tr>
<th>Category</th>
<th>Additional Information</th>
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<td>[ ] Municipal (including resorts, hotels, businesses)</td>
<td>__________________________</td>
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<tr>
<td>[ ] Domestic (systems serving 25 people or less)</td>
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<tr>
<td>[ ] Irrigation</td>
<td>__________________________</td>
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</tbody>
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<th>Type of Use (Check all category boxes that apply and provide additional information as indicated):</th>
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<td>[ ] Irrigation</td>
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<td>[ ] Domestic</td>
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<td>[ ] Municipal</td>
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<tr>
<td>[ ] Industrial</td>
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<td>[ ] Military</td>
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</tbody>
</table>

Acres Irrigated: [ ] 400 acres
Crop(s): [ ] Sugar [ ] Pineapple
Other (specify): __________________________
Non-Crop: [ ] Landscape [ ] Golf Course
Other (specify): __________________________
Method: [ ] Drip [ ] Furrow [ ] Sprinkler

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

Water User's Signature: ______________ Date: __________
Printed Name: ______________
Firm or Title (Well Operator, etc.): ______________
ROAD CLASSIFICATION

Primary highway, hard surface

Light duty road, hard or improved surface

Secondary highway, hard surface

Unimproved road

State Route

ANAEHOMALU, HAWAII

N1952 5-W15552 5/7 5

1982

Mapped, edited, and published by the Geological Survey in cooperation with Hawaii Dept. of Transpor
ted by USGS and NOS NOAA

Topography by photogrammetric methods from aerial photographs

Field checked 1954 Revised from aerial photograph

1957 Revised field check 1981 Map edited 1982

Selected hydrographic data compiled from NOS NOAA charts 414

and 4187 (1952) This information is not intended for navigations

purposes

Asteroids and T1,000 foot grid ticks - Hawaii coordinate system

snw 4 transverse Mercator Clarke (1866)

Hawaii Department of Transportation Mercator grid ticks, nearly the

edges International (1954) to place on the predicted Next

Version, 1984 on the projection from 1864 meridians next
TO: INITIAL:

☑ D. LUM
☐ E. Sakoda
☐ D. Nakano
☐ P. Haraguchi
☐ R. Jinnai
☐ M. Ohye
☐ D. Hamada
☐ K. Oshiro
☐ M. Tagomori
☐ G. Matsumoto
☐ G. Akita
☐ L. Chang
☐ S. Kokubun


PLEASE:

☐ See Me
☐ Call
☐ Review & Comment
☐ Take Action
☐ Investigate & Report
☐ Draft Reply
☐ Acknowledge Receipt
☐ Type Draft
☐ Type Final  cc: ___ Xerox ___ copies
☐ File
☐ Mail

REMARKS:

Kirk Changstone of Waikoloa called to notify us of their
work (as we requested in their
well drilling permit). They
started drilling about 3 weeks ago
a plan to pump test next week.

Well is for golf course irrig.

885-5982

(121)2883-9664
Date __________ Time _______

PHONE CALL RECORD
COMPLIMENTS OF
Fisher Printing Co., Inc.
Ph. 537-3966

Mr./Mrs./Miss KIRK CHAGATI
of 7 Big Island WAILUKU
(808) 773-7661

Message Taken By

Message Ke: We're drilling
STARTED 3 WKS

DNR FORD PAGE

Important — next week

☑️ Phone Him ☐ Returned Your Call
☐ Urgent Call at Once ☐ Stop by to See Him
☐ Will Call Again ☐ Called in Person
TO: Atpac Land Company  
1001 Bishop Street  
Pauahi Tower, Suite 2610  
Honolulu, Hawaii 96813

In accordance with Chapter 166 of Title 13, "Rules for the Control of Ground Water Use in the State of Hawaii", your application to drill State Well No. 5452-01 for golf course irrigation at Tax Map Key: 5-8-01:5 is approved subject to the following conditions:

1. The Division of Water and Land Development (DOWALD), Geology-Hydrology Section, shall be notified at 548-7643, before any work covered by this permit commences.

2. The following shall be submitted to DOWALD, P.O. Box 373, Honolulu, Hawaii 96809, within 60 days after completion of the well:
   b. Ground elevation (mean sea level) of well by a surveyor licensed by the State.
   c. Water level elevation, salinity, and pumping test data.
   d. As-built sectional drawing of the well.
   e. Map showing the exact location of the well.

3. The installed pump capacity and pumpage of this well shall be set after consideration of all effects of this well may have on existing sources.

4. Reports of pumpage shall be submitted to DOWALD monthly after the well is put into production.
WELL DRILLING PERMIT
State Well No. 5452-01

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.

APR 13 1988
Date of Issuance

Enc. (Driller's Report form)
cc: USGS
    Department of Health,
    Drinking Water Program
    Ground Water Protection Program
    Hawaii Dept. of Water Supply

WILLIAM W. PATY, Chairperson
Board of Land and Natural Resources
<table>
<thead>
<tr>
<th>TO</th>
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<td><strong>Take Action By</strong></td>
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<td>G. Matsumoto</td>
<td>Route to Your Branch</td>
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**Remarks:**

Let's act quickly on them.
Mr. Manabu Tagomori
Water & Land Development Division
Department of Land & Natural Resources
State of Hawaii
P. O. Box 373
Honolulu, Hawaii 96809

Dear Manabu:

Application for a Well Drilling Permit in
Waikoloa, South Kohala, Hawaii

The enclosed well drilling permit is submitted on behalf of Atpac Land Company. The proposed well is required as a supplemental irrigation source for the new Waikoloa Beach Resort golf course. The golf course is presently under construction and the new source is needed as soon as practical.

Ground elevation at the well site is 52 feet. The well depth will be kept as shallow as possible to limit salinity of its water. Fred Page Drilling International will be the driller. Your prompt action will be appreciated.

Sincerely,

Tom Nance

cc: Bob Diffley
    Dick Winn

Enclosure
STATE OF HAWAI'I
DEPARTMENT OF LAND AND NATURAL RESOURCES
P. O. BOX 621
HONOLULU, HAWAI'I 96809

DEPARTMENT MASTER APPLICATION FORM

(Print or Type)

I. LANDOWNER/WATER SOURCE OWNER
(If State land, to be filled in by Government Agency in control of property)
Name: Atpac Land Company
Address: 1001 Bishop Street
Pauahi Tower, Suite 2610
Honolulu, HI 96813
Telephone No.: 545-3220

II. APPLICANT (Water Use, omit if applicant is landowner)
Name: ____________________
Address: ____________________
Telephone No.: ____________________
Interest in Property: ____________________

*SIGNATURE: ____________________  N/A
Date: ____________________

III. TYPE OF PERMIT(S) APPLYING FOR
( ) A. State Lands
( ) B. Conservation District Use
( ) C. Withdraw Water From A Ground Water Control Area
( ) D. Supply Water From A Ground Water Control Area
(X) E. Well Drilling/Modification

IV. WELL OR LAND PARCEL LOCATION REQUESTED
District: South Kohala
Island: Hawaii
County: Hawaii
Tax Map Key: 6-8-01:5
Area of Parcel: 3049.994

Term (if lease) ____________________

- 1 -
V. ENVIRONMENTAL REQUIREMENTS

A. Identification of the Application.

The enclosed application is to drill a well to the brackish basal lens in the vicinity of Waikoloa Beach Resort, South Kohala, Hawaii.

B. Description of Proposed Use and Statement of Objectives.

The well will be finished with a 12-inch casing and a pump of 350 to 700 GPM capacity would be installed. Choice of the pump size will depend on pump test results. Brackish water of 700 to 800 MGL chloride concentration is expected. This water will be combined with existing sources (sewage treatment plant effluent and other brackish wells) to provide irrigation supply for two golf courses at the Waikoloa Beach Resort. One of the courses is currently in use; construction will begin in March 1988 on the second course.

The intent of the well and pump design is to limit the rate of withdrawal to keep the chloride level to about 800 MGL. This well will be used on a supplemental basis to augment supply from the other, existing sources.

C. Description of the Affected Environment

The well site is just mauka of Queen Kaahumanu Highway, just south of the Kaniku lava flow (a landmark a'a flow in the region), and right next to the access road to the Resort's sewage treatment plant (refer to the enclosed sketch). The site consists of unweathered lava which is devoid of vegetation and has been previously disturbed by earthwork for the State highway and for the treatment plant access road. The only nearby utility is a potable water pipeline buried beneath the access road. The closest electric power is at the sewage treatment plant. There are no known
archaeological/historical sites which would be disturbed by the well drilling or the subsequent installation of a pump and connecting pipeline.

D. General Description of the Technical, Economic, Social, and Environmental Characteristics.

The need for the Resort's second golf course is based on the September 1988 opening of the 1244-room Hyatt Waikoloa Hotel. A substantial influx of hotel visitors and others is anticipated. This volume of people cannot all be accommodated on the existing golf course.

With two golf courses in operation, maximum irrigation requirements will be about 2.0 million gallons per day. The two brackish wells now in operation, together with treated sewage effluent, cannot provide this maximum requirement. A third well, the one which is the subject of this application, is required.
APPLICATION FOR (check one)

X WELL DRILLING PERMIT  ___ WELL MODIFICATION PERMIT

Instructions: Send completed application and attachments to the Department of Land and Natural Resources, P.O. Box 621, Honolulu, Hawaii 96809.

Reference: Chapter 166, Department of Land and Natural Resources.

Is the well located in a Designated Ground Water Control Area?  ___ Yes  X No

If "yes", application must be accompanied by a Water Use and/or Water Supply Permit and a non-refundable filing fee of $100 payable to the Department of Land and Natural Resources. However, if application is for minor modification of well, filing fee may be waived. If "no", no filing fee is required. Filing fee is waived for federal, state, and county government agencies.

1. WELL NAME AND/OR LOCATION: __________________________ . Attach a plot plan showing well location referenced to established property boundaries.

2. PROPOSED DRILLING COMPANY: ________________________.

3. PROPOSED WORK:  _X_ Drill new well ___ Deepen ___ Redrill ___ Alter ___ Seal  ___ Abandon ___ Install new pump ___ Replace pump ___ Modify pump

Fill in the diagram and briefly describe the proposed work (use back of form if necessary).

PROPOSED SECTION OF WELL

Elevation at top of casing 54 ft., msl.

Cement Grout 30 ft.

Hole Dia. 16 (min.) in.

Total Depth 77 ft.

Rock Packing None ft.

Ground Elev. 52 ft., msl.  

Solid casing: Steel (ASTM A53)

Length 52 ft.

Diameter 12 (10) in.

Wall thickness 0.3125 in.

Casing: 0 Perforated 0 Scru :

Material Steel (ASTM A53)

Length 52 ft.

Diameter 12 (10) in.

Wall thickness 0.3125 in.

Openings sq.in./L.F

Open Hole:

Length 10+ ft.

Diameter 10+ in.

*Approximate elev. at filing. Final elev. (msl) by a surveyor licensed by the State must be submitted at start of construction.
4. PROPOSED USE: _____ Municipal _____ Military _____ Agricultural _____ Industrial
    _____ Domestic _____ Disposal  X Other (specify) _____ Golf Course Irrigation

5. PROPOSED AMOUNT OF WITHDRAWAL: Check most appropriate box and fill in amount.
   
   Daily _____ Gallons.  Monthly _____ Gallons.  X Yearly 100 to 200,000 Gallons.

6. PROPOSED PUMP OR FLOW CAPACITY 350 to 700 Gallons per minute