CHECKLIST

✔ WELL CONSTRUCTION PERMIT

WELL NAME or LOCATION: Kuku Res. Irr. (K1-3) ISLAND: HAWAII

WELL NUMBER: 4759-03 Tax Map Key: 7-2-04-05

OWNER/OPERATOR:
Firm Name: HUEHUE RANCH ASSOC. L.P.
Contact Person: CARL CARLSON
Address: 75-5722 KUKUWI HAU, #107
Phone: 329-4466

LANDOWNER:
Firm Name: HUEHUE RANCH ASSOC. L.P.
Contact Person: CARL CARLSON
Address: 75-5722 KUKUWI HAU, #107
Phone: 329-4466

Date application received: 2-6-91
Date acknowledged receipt/request more info: 2-19-91
Date application accepted: 
Suspense date (90 days): 2-25-91
Date filing fee deposited: 

Application sent to following:

- Dept. of Health Date sent: 2/21/91
- Dept. of Hawn Home Lands Date sent: 2/21/91
- Dept./Bd of Water Supply Date sent: 2/20/91
- Historic Preserv. Prog. Date sent: 2/19/91
- Koolauloa NB #28 (Oahu) Date sent: 2/19/91
- Dept. Pub. Wrks (Hawaii) Date sent: 2/19/91
- Office of Hawaiian Affairs Date sent: 2/19/91

Date agenda due: 
Date submittal due: 
Date submittal sent to applicant: 

Date application approved or disapproved decision: 

Well Const./Pump Inst. Permits

0 4000 sq. ft. all on 1st fl. 4 bed
0 Maps as is
0 sewer check
4 Comments by 2-28-91
# WELL TEST DATA FORM

**WELL** 4759-03  
**DATE** 5/14/92  
**COMMISSION ON WATER RESOURCE MANAGEMENT**

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WELL TEST DATA FORM

WELL  KE-3

DATE  5/14/92

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Elevation: 594.25 EL NW, STEEL PLATE TOP
11" NEW LEVEL OF CONSTRUCTION

A: Line - Intake:
604.15' BELOW STEEL PLATE
4.5' POS

W.L.:
0.5' above ELNW.
To: Ed Sakoda

Fr: John Stubbari

Re: Commencement of Work on Wells HR4 No. 4559-02

KI3 No. 4759-03

Date: 19 Sep 91

This is to notify you that the two wells mentioned above are under construction. The General Contractor is Kajima-Taisho Joint Venture. I will list the sub-contractors doing the drilling below.

Well HR4 No. 4559-02. The well project started 12 Sep 91 with site access and pad construction by KKRC Water Source Development. KKRC will be using air hammer drilling technology to drill the pilot hole.

Well KI3 No. 4759-03. The well project started 12 Sep 91 with site clearing and the commencement of drilling with a small air hammer by Roscoe Moss Drilling Co.

Copies of the specifications will be forwarded to your office. Please contact me if you require any other data at this time.
WELL COMPLETION REPORT

INSTRUCTIONS: Please print or type and submit completed report within 30 days of well completion. A sketch of well and chemical analysis, if available, should also be submitted. If necessary, phone 548-7543, Hydrology, Geology Section for assistance.

A. STATE WELL NO. 4759-03  WELL NAME KI-3

B. LOCATION Kona

C. WELL OWNER KAJIMA/TAISEI JOING VENTURE

D. DRILLING OR PUMP INSTALLATION CONTRACTOR ROSCOE MOSS HAWAII, INC.

E. TYPE OF RIG 36L

F. DATE OF WELL COMPLETION May 1992  DATE OF PUMP INSTALLATION

G. GROUND ELEVATION (ma.s.l.) 594.25 ft.
   Top of Drilling Platform (ma.s.l.) ft.
   Height of drilling platform above ground surface ft.
   Bench mark and method used to determine ground elevation ft.

H. TOTAL DEPTH OF WELL BELOW GROUND 618

I. HOLE SIZE:
   20 inch dia. from 0 ft. to 180 ft. below ground
   16 inch dia. from 180 ft. to 618 ft. below ground

J. CASING INSTALLED:
   16 in. I.D. x .312 in. wall solid section to 598 ft. below ground
   16 in. I.D. x .312 in. wall perforated section to 618 ft. below ground
   Type of perforation: Louver

K. ANNULUS:
   Grouted from 0 ft. to 500 ft. below ground
   Gravel packed from 500 ft. to 590 ft. below ground

L. PERMANENT PUMP INSTALLATION:
   Pump type, make, serial No.
   Motor type, H.P., voltage, r.p.m.
   Depth of pump intake setting ft. below ground
   Depth of bottom of sump ft. below ground
   Capacity gpm
   Which elevation is ft.
   Which elevation is ft.

M. PROPOSED USE

N. INITIAL WATER LEVEL 593.75 ft. below ground.
   Date and time of measurement 05/09/92

O. INITIAL CHLORIDE 720 ppm.
   Date and time of sampling 05/14/92

P. PUMPING TESTS: Reference point (R.P.) used:
   Date 05/14/92
   Start water level 593.75 ft. below R.P.
   End water level 593.75 ft. below R.P.
   Depth of well 618 ft. below R.P.
   Elapsed Time (hours) Rate Draw- Cl. Temp. Rate Draw- Cl. Temp.
   0 to 9:30 AM 500 720 0 to 0 0 to 0 0 to 0 0 to 0 0 to 0 0 to 0
   to 0 to 0 to 0 to 0 0 to 0 0 to 0 0 to 0 0 to 0
   to Ran. 31 hour test

Q. DRILLER'S LOG:

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<th>Rock Description &amp; Remarks</th>
<th>Water Level</th>
<th>Depth, ft.</th>
<th>Rock Description &amp; Remarks</th>
<th>Water Level</th>
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<td>.410 to .431</td>
<td>Gray, rock</td>
<td>.431 to .478</td>
<td>Red, cinders</td>
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<td>Basalt, Med. hard</td>
<td>.431 to .478</td>
<td>Red, cinders</td>
<td>.478 to .558</td>
<td>Gray, Rock, hard</td>
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<td>Cinders</td>
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<td>Gray, Rock, hard</td>
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<td>.601 to .612</td>
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<td>612 to 618</td>
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## WELL TEST DATA FORM

**WELL** KF-3  
**DATE** 5/14/97  
**COMMISSION ON WATER RESOURCE MANAGEMENT**

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## WELL TEST DATA FORM

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**DATE:** 5/14/92

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ELEVATION TOP $5'94.25$

BEAMS
SAME AS OLD 27" CON.

New Level of Constr.

A. LINE - 604.15' BELOW STEEL PLATE

INTAKE - 607.5'

4.5' F.S.

W.L. 0.5' 1 ELEV.
APPLICATION FOR

X WELL CONSTRUCTION PERMIT
X PUMP INSTALLATION PERMIT

INSTRUCTIONS: Please print or type and send completed application with attachments to the Division of Water and Land Development, P.O. Box 372, Honolulu, Hawaii 96808. Application must be accompanied by a non-refundable filing fee of $35.00 payable to the Department of Land and Natural Resources. (Filing fee waived for government agencies.) If necessary, phone 586-7643, Hydrology/Geology Section for assistance.

1. WELL LOCATION

WELL NO. KI-3

Island HAWAII Tax Map Key 7-2-04:05

Address HUEHUE/KUKIO DEVELOPMENT

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

2. WELL OWNER

Firm Name HUEHUE RANCH ASSOC., L.P.  LANDOWNER

Contact Person CARL A. CARLSON, JR.  Contact Person CARL A. CARLSON, JR.

Address 75-5722 KUAKINI HWY. #107  Address 75-5722 KUAKINI HWY. #107

KAILUA-KONA, HI. 96740

Phone 329-4446  Phone 329-4446

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

Name TO BE DETERMINED BY BID  Contractor's License No.

Address  Phone

4. PROPOSED WORK

✔ Drill New Well  ✔ Deepen  ✔ Redrill

✔ Alter  ✔ Seal  ✔ Abandon

✔ Install New Pump  ✔ Replace Pump  ✔ 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 & Landscaping  ✔ Other (specify)

6. PROPOSED AMOUNT OF WITHDRAWAL 1.0 MILLION gallons per day

7. PROPOSED PUMP INFORMATION

Pump Type: ✔ Vertical Turbine  ✔ Submersible  ✔ Centrifugal

Motor: ✔ Diesel  ✔ Gas  ✔ Electric  ✔ Rated Horsepower
PROPOSED WELL NO. KI-3

EXIST. WELL NO. KI-1
STATE WELL NO. 4759-01

EXIST. WELL KI-2
STATE WELL NO. 4759-02

DATE: 02/06/91

WAIMEA WATER SERVICES
AKINAKA & ASSOCIATES, LTD.
HUEHUE/KUKIO WELLS
WELL NO. KI 3
HUEHUE/KUKIO DEVELOPMENT PROJECT
KAILUA-KONA, HAWAII
DRILLING, CASING AND TESTING
SITE PLAN
Sheet 3 of 5 Sheets
WELL CAP
SEE SHEET 5

EXIST. GROUND
ELEV. = 550' ±

16" OPEN HOLE

12" I.D., 1/4" THK. SOLID CASTING—ASTM A53-B

ANNULUS

APPROX. WATER LEVEL
ELEV. = +3.5

BASKET

12" I.D., 1/4" THK. FULL OPEN SHUTTER SCREEN
(CORTEN)

CASING SHOE

11-3/4" OPEN HOLE
(IF REQUIRED)

WELL SECTION
NOT TO SCALE

DATE: 02/06/91

WAIMEA WATER SERVICES
AKINAKA & ASSOCIATES, LTD.

HUEHUE/KUKIO WELLS
WELL NO. KI 3
HUEHUE/KUKIO DEVELOPMENT PROJECT
KAILUA-KONA, HAWAII
DRILLING, CASING AND TESTING
WELL SECTION

FILENAME: HRK134
PLOTSCALE: 1/12" = 1'-0"
DATE: 2/4/91

ROBERT Y. AKINAKA
REGISTERED PROFESSIONAL ENGINEER
No. 2208-C

ROBERT Y. AKINAKA
AKINAKA & ASSOCIATES, LTD.

STEPHEN P. BOWLES
WAIMEA WATER SERVICES
W. B. KUKIO RESORTS, LLC
P. O. Box 5349
Kailua-Kona, Hawaii 96745-5349

Attn: Mr. Randy Mori

WELL CERTIFICATION

KUKIO IRRIGATION, WELL NO. 3 (4759-03)
TMK: (3) 7-2-4:16

The undersigned CERTIFIES that a field survey was performed to establish the elevation for KUKIO IRRIGATION WELL NO. 3 as follows:

A "cross" (+)" was set on concrete next to the wellhead and has a mean sea level (MSL) elevation of 592.38 feet.

The above elevation is based upon Benchmark No. 101 GRID which has an elevation of 101.07 feet (MSL).

Kailua-Kona, Hawaii
Kukio Irrigation Well No. 3
JOB NO: K-002
August 15, 2002
REVISED August 26, 2002

Copy: Gregg Scheid, c/o P. O. Box 5349, Kailua-Kona, HI 96745-5349
1. State Well No.: 4759-03  
Well Name: k1-#3  
Island: Hawaii

2. Address: WB KUKIO RESORTS HAWAII  
Tax Map Key: 7-2-4:16

3. Pump Installation Company: WAI'ELI DRILLING & DEVELOPMENT

4. Date Pump Installed: 5/7/01  
7/13/01

5. PERMANENT PUMP INFORMATION
   Ser# 960032 A01  902611000
   Pump Type, Make, Serial No: Oil lube line shaft, Simflo
   Rated Capacity: 540 gpm
   Motor Type, H.P., Voltage, rpm: US MTRS, 125hp 460v, 1785 rpm
   Type of flow meter: turbine
   which measures in GPM

6. Method of flow measurement:
   ✔ Flowmeter
   Manufacturer: Neptune
   Make: 
   Size: 6"
   ☐ Weir  ☐ Open Pipe  ☐ Orifice  ☐ Other*, explain below
   *attach schematic

7. Fill in the as-built section on the other side of this sheet.

8. Other remarks/comments:

   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

Pump Installation Contractor (print) Wai'eli Drilling C-57/C-57a/A Lic. No. C 16543

Signature 
Date 5/29/01

Permittee (print) WB KUKIO RESORTS HAWAII

Signature 
Date 6/15/01

WCR2 Form 5/2/00
June 6, 2001

Ms. Linnel Nishioka  
Deputy Director  
Commission on Water Resource Management  
Dept. of Land and Natural Resources  
P.O. Box 621  
Honolulu, Hawaii 96809

Subject: Well Completion Report – Part II  
KI-#3 Well (4759-03)

Dear Ms. Nishioka:

Enclosed please find a signed Well Completion Report for KI-#3 Well  
(State No. 4759-03) for your review.

If you have any questions, please feel free to call me at 885-5941.

Thank you.

Sincerely,

John Stubbart  
President

JMS:mdc

Enclosure
John Stubbart

Island Utility Services, Inc. Kona [iuskona@interpac.net]

From: John Stubbart
To: IUS Kona [IUSKONA@interpac.net]

Sent: Wednesday, May 02, 2001 10:24 AM

Subject: Re: KI Well Elevation

John,

BENCH MARK / TOP OF CASING ELEVATIONS:

KI-1 592.77
KI-2 553.10
KI-3 594.50

Well No. B-4759-01
Well No. B-4759-02
Well No. B-4759-03

= Height of casing shoe drl.

= =

--- Original Message ---

From: John Stubbart <maipo@interpac.net>
To: IUS Kona <IUSKONA@interpac.net>
Sent: Wednesday, April 25, 2001 7:08 AM

Subject: KI Well Elevation

> Bruce - latter, when you have access to plans and stuff, I need to insure we
> have the elevations of the well heads at the Kukio KI Wells, three of them,
> recorded and logged. We will need to give this to the State Geologist you
> met.
> >
> > Thanks,
> > John
> >
> > Visit our web site at www.islandutilityservices.com
> > The best quality service and the least possible cost.
> >
> >
Mr. B.J. Kobayashi  
WB Kukio, LLC  
1001 Bishop Street  
Pauahi Tower, Suite 1570  
Honolulu, HI 96813

Dear Mr. Kobayashi:

Pump Installation Permit  
Wells KI-1, KI-2 & KI-3 (Well Nos. 4759-01 - 02 & -03)

Enclosed are two (2) originals of your approved Pump Installation Permit for the captioned well(s) that authorize permanent pump installation work for your well(s). As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 11:

Special Conditions

1. If the elevation benchmark needs to be altered, the permittee shall ensure that the benchmark is transferred (or the well resurveyed) and documentation of the new benchmark shall be submitted to the Commission within sixty (60) days after the pump is installed.

The permittee is responsible for all conditions of the permit. This includes ensuring that the pump installation contractor submits a completed Part II of the Well Completion Report form (enclosed) within sixty (60) days after the pump installation work is completed. Be advised that you may be subject to fines of up to $1000 per day for any violations of your permit conditions starting from the permit approval date.

To validate your pump installation permit, please sign and have the contractor sign both permit originals and return one for our files. A copy of the Well Completion Report (Part II) and a copy of your water use report form are enclosed for your use.

IMPORTANT - Unless specifically exempted, pump installation may not proceed without a validated permit returned to the Commission. Except for the monthly water use report form, please provide copies of all the information in this packet to your pump installation contractor.

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

Aloha,

TIMOTHY E. JOHNS  
Chairperson

Enclosure
PUMP INSTALLATION PERMIT
KI-1, KI-2 and KI-3 Wells, Well Nos. 4759-01, -02 & -03

In accordance with Department of Land and Natural Resources, Commission on Water Resource Management's Administrative Rules, Section 13-168, entitled "Water Use, Wells, and Stream Diversion Works", this document permits the pump installations for the KI-1, KI-2 and KI-3 Wells (Well Nos. 4759-01, -02 & -03) at WB Kuko'o Resort, Hawaii, TMK 7-2-4: 16, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

1. The Chairperson to the Commission on Water Resource Management (Commission), P.O. Box 821, Honolulu, HI 96808, shall be notified, in writing, at least two (2) weeks before any work covered by this permit commences and staff shall be allowed to inspect installation activities in accordance with §13-168-16, Hawaii Administrative Rules.

2. The pump installation permit shall be for installation of a [pump capacity] gpm capacity, or less, pump in the well.

3. The permittee shall provide and maintain an approved meter or other appropriate means for measuring and reporting withdrawals and water levels, and appropriate devices or means for measuring chlorides and temperature. These data shall be measured monthly and reported to the Commission on a monthly basis, on forms provided by the Chairperson (attached).

4. 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 a 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.

5. The permittee shall complete and submit as-built drawings and Part II - (Permanent) Pump Installation Report of the Well Completion Report (attached) to the Chairperson within sixty (60) days after completion of work.

6. The permittee shall comply with all applicable laws, rules, and ordinances, and non-compliance may be grounds for revocation of this permit.

7. The pump installation permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97). If the HAPCIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

8. The permit may be revoked if work is not started within six (6) months after the date of approval or if work is suspended or abandoned for six (6) months, unless otherwise specified. The work proposed in the pump installation permit application shall be completed within two (2) years from the date of permit approval, unless otherwise specified. The permit may be extended by the Chairperson upon a showing of good cause and good-faith performance. A request to extend the permit shall be submitted to the Chairperson no later than three (3) months prior to the date the permit expires. If the commencement date is not met, the Commission may revoke the permit after giving the permittee notice of the proposed action and an opportunity to be heard.

9. If the well is not to be used it must be properly capped. If the well is to be abandoned then the permittee must apply for a well abandonment permit in accordance with §13-168-12(f) prior to any well sealing or plugging work.

10. The permittee, its successors, and assigns shall indemnify, defend, and hold the State of Hawaii harmless from and against any loss, liability, claim, or demand for property damage, personal injury, or death arising out of any act or omission of the applicant, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit.

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

Date of Approval: November 23, 1999
Expiration Date: November 23, 2001

TIMOTHY E. JOHNS, Chairperson
Commission on Water Resource Management

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 and understand that I do not hold a valid permit until I and the pump installer have signed, dated, and returned the permit to the Commission. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day starting from the permit date of approval.

Permittee’s Signature: _______________________________ Date: __________

Printed Name: ___________________________ Firm or Title: ___________________________

Installer’s Signature: ___________________________ C-57, C-57a, or A License #: ___________________________ Date: __________

Printed Name: ___________________________ Firm or Title: ___________________________

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

Attachments:
C: USGS
Department of Health’s Safe Drinking Water & Waste Water Branch
Hawaii Department of Water Supply
NOTICE FOR CHANGE OF ADDRESS

For your convenience, we are notifying you that our firm will be moving to its new location on or by April 5, 1993. Our new address and phone numbers will be:

HUEHUE RANCH ASSOCIATES, L.P.
Kings' Shops, Suite B14
Post Office Box 384330
Waikoloa, Hawaii 96738

Telephone: (808) 885-6066
Facsimile: (808) 885-2138
Toll free inter-island calling: 1-800-201-6066

Thank you for your time and attention. We look forward to continuing our excellent working relationship at our new site.

Account No.: __________________________
PUMP INSTALLATION PERMIT

for

Kukio Irrigation Well 3
Well No. 4759-03
Kukio, North Kona, Hawaii

TO: Huehue Ranch Associates, L.P.
75-5722 Kuakini Highway, #107
Kailua-Kona, HI 96740

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 Kukio Irrigation Well 3 for golf course irrigation is approved, subject to the following conditions:

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

2. The permit shall be for installation of up to a 500 gpm capacity pump in the well.

3. 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.

4. The applicant shall provide and maintain an approved meter or other appropriate device or means for measuring and reporting total water usage. Water usage shall be measured on a monthly basis and reported to the Commission.
PUMP INSTALLATION PERMIT
Well No. 4759-03

5. The permit application and staff submittal approved by the Commission at its meeting on March 3, 1993 shall be incorporated herein by reference.

6. As-built sectional drawings of the pump installation shall be submitted to the Commission within 30 days after completion of the work.

7. The applicant shall comply with all applicable laws, rules, and ordinances.

8. The applicant shall contact Mr. Thomas Arizumi, Chief, Environmental Management Division, State Department of Health, at 586-4304, concerning "TWELVE (12) CONDITIONS APPLICABLE TO ALL NEW GOLF COURSE DEVELOPMENT" dated January, 1992 (version 4). The applicant shall obtain a written statement from the Department of Health indicating that their concerns have been addressed, and a copy of that statement shall be sent to the Commission.

9. 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.

KEITH W. AHUE, Chairperson
Commission on Water Resource Management

MAR 25 1993
Date of Issuance
WELL COMPLETION REPORT

INSTRUCTIONS: Please print or type and submit completed report within 30 days of well completion to the Division of Water Resource Management, P. O. Box 373, Honolulu, Hawaii 96809. An as built drawing of the well and chemical analysis, if available, should also be submitted. If necessary, phone 548-2843, Hydrology, Groundwater Section for Assistance.

STATE WELL NO. 4759-03 WELL NAME KI-3 ISLAND Hawaii
LOCATION Kona TAX MAP KEY
WELL OWNER RAJIMA/TAISEI JOING VENTURE
DRILLING OR PUMP INSTALLATION CONTRACTOR ROSCOE MOSS HAWAII, INC.
TYPE OF RIG 36L DRILLER Scott Couch
DATE OF WELL COMPLETION May 1992 DATE OF PUMP INSTALLATION
GROUND ELEVATION (m) 594.25 ft.
Top of Drilling Platform (m) ft.
Height of drilling platform above ground surface ft.
Bench mark and method used to determine ground elevation ft.
TOTAL DEPTH OF WELL BELOW GROUND 618
HOLE SIZE:
20 inch dia. from 0 ft. to 180 ft. below ground
16 inch dia. from 180 ft. to 618 ft. below ground

CASING INSTALLED:
16 in. I.D. x .312 in. wall solid section to 598 ft. below ground
16 in. I.D. x .312 in. wall perforated section to 618 ft. below ground
Type of perforation Louver

ANNULUS:
Grouted from 0 ft. to 500 ft. below ground
Gravel packed from 500 ft. to 590 ft. below ground

PERMANENT PUMP INSTALLATION:
Pump type, make, serial no. Capacity gpm
Motor type, H.P., voltage, r.p.m.
Depth of pump intake setting ft. below which elevation is ft.
Depth of bottom of airlift ft. below which elevation is ft.

PROPOSED USE

INITIAL WATER LEVEL 593.75 ft. below ground.
INITIAL CHLORIDE 720 ppm.

PUMPING TESTS: Reference point (R.P.) used:
Date and time of measurement 05/09/92
Date and time of sampling 05/14/92

<table>
<thead>
<tr>
<th>Date</th>
<th>Start water level (ft. below R. P.)</th>
<th>End water level (ft. below R. P.)</th>
<th>Depth of well (ft. below R. P.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/14/92</td>
<td>593.75</td>
<td>593.75</td>
<td>618</td>
</tr>
</tbody>
</table>

| Time (hours) | Elapsed | Rate Draw- | Cl- | Temp. | | |
|--------------|---------|------------|-----|-------|---|
|              | to      | (gpm)      | Cl- | Temp. | F |
| 2:30 AM      | 10      | 500        |     |       |   |
|              | 10      | 720        |     |       |   |

9:30 AM to 10:30 AM 1 hour test
KI # 3
AS-BUILT

GEOLeGIC LOG

CINDERS
177'
187'
CLINKER 195'
215'
CLINKER 219'

595'
598'
601'
CLINKERS & PANOEOE

16" WELL HOLE
CASING - 14" ID
Grouted Annulus

594.25' BM
ELEVATIONS

594.25'

14" FULL OPEN SHUTTER SCREEN
CASING SHOE

94'
0.50' +/-

WATER LEVEL

EXPANDABLE (CEMENT)
Baskets set 5' apart

FIGURE 1
October 16, 1992

MEMORANDUM FOR THE RECORD

FROM: Glenn Bauer

SUBJECT: Water Level Measurements in Kona

Mitch Ohye and I measured water levels in six Kona wells on October 15. All measurements were done between 10:15 a.m. and 2:40 p.m. We had intended to measure water levels at two Keauhou irrigation wells before 10, however, finding the wells in the dense undergrowth proved to be more difficult than anticipated. Therefore, we focused our survey to wells in the Kalaoa to Kukio area.

We met Keith Kato of Nansay and Steve Bowles of Waimea Water Services to assist in measuring the deep Kohanaiki Wells of Nansay. After completing these wells, Steve helped us to locate the State's Kalaoa Irrigation Well. The well was found and the head measured after a half hour of looking through the underbrush. We then looked for the County's Pahoehoe well. Steve pointed out where it is located, but we will wait until the County DWS can help us with the measurement. We then measured the three Kukio Irrigation wells at 590± feet msl. This was the first time the heads in these wells were measured within a half hour of each other.

Below is a summary of the water level data collected:

<table>
<thead>
<tr>
<th>Well</th>
<th>Time</th>
<th>Water Level (ft, msl)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kohanaiki Well 1</td>
<td>1015</td>
<td>9.87</td>
</tr>
<tr>
<td>Kohanaiki Well 2</td>
<td>1100</td>
<td>9.52 10.17</td>
</tr>
<tr>
<td>Kalaoa Irr. Well</td>
<td>1231</td>
<td>2.00</td>
</tr>
<tr>
<td>Kukio Irr. Well 1</td>
<td>1409</td>
<td>1.58</td>
</tr>
<tr>
<td>Kukio Irr. Well 3</td>
<td>1419</td>
<td>1.58</td>
</tr>
<tr>
<td>Kukio Irr. Well 2</td>
<td>1440</td>
<td>1.16</td>
</tr>
</tbody>
</table>
The Honorable William W. Paty, Chairperson
Commission on Water Resource Management
Department of Land and Natural Resources
P. O. Box 621
Honolulu, Hawaii 96809

Dear Mr. Paty:

Well Construction and Pump Installation Applications

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

Palani-Lanihau (4158-01) Well and Pump
Huehue Ranch "1" (4559-01) Pump
"  "2" (4459-01) "
"  "3" (4558-01) "
"  "4" (4459-02) Well and Pump
Kukio Resort Irr "1" (4759-01) Pump
"  "2" (4759-02) "
"  "3" (4759-03) Well and Pump
Makapuu-Sea Life park "3" (1940-11) Pump
Kawela-Salvido/Harper (0356-04) Well and Pump

These projects are not expected to impact Hawaiian Home Lands; we have no comment at this time.

Warmest aloha,

[Signature]
Hoaliku L. Drake, Chairman
Hawaiian Homes Commission

HLD:DCY:CI
WELL CONSTRUCTION/PUMP INSTALLATION PERMIT

for

Kukio Resort Irrigation Well 3
Well No. 4759-03
Kukio, Hawaii

TO: Huehue Ranch Associates, L.P.
75-5722 Kuakini Highway, #107
Kailua-Kona, HI 96740

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, test, and install a pump in Kukio Resort Irrigation Well 3 (Well No. 4759-03) within Tax Map Key: 7-2-04:05, for golf course and landscape irrigation use, is approved subject to the following conditions:

1. The Division of Water Resource Management (DWRM), P.O. Box 373, Honolulu, HI 96809, shall be notified, in writing, before any work covered by this permit commences.

2. The permit shall be for construction, testing, and installation of a 700 gallons per minute capacity, or less, pump in the well, as determined by the pumping test results. The applicant shall submit to DWRM the test results and proposed permanent pump information, based on the test, for approval by the Chairperson. No permanent pump may be installed and no water used from the well without the Chairperson's approval.

3. 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 construct and pump water from a 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.
4. The following shall be submitted to DWRM within 30 days after completion of the work:

   a. Well Completion Report.

   b. As-built sectional drawing of the well.

   c. Plot plan and map showing the exact location of the well.

   d. Complete pumping test record, including time, pumping rate, drawdown, chloride content, and water quality data.

5. The applicant shall provide and maintain an approved meter or other appropriate device or means for measuring and reporting total water usage on a monthly basis.

6. The applicant shall comply with all applicable laws, rules, and ordinances.

7. 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 24 months from the date of permit issuance.

8. The applicant shall provide the State Historic Preservation Division with documentation that the project area has undergone an archaeological survey. The permit shall be issued after the State Historic Preservation Division has reviewed and accepted the appropriate documentation and concurs that the project will have "no effect" or "no adverse effect" on historic sites.

   WILLIAM W. PATY, Chairperson
   Commission on Water Resource Management

   APR 2 1991
   Date of Issuance

   cc: USGS
   Department of Health
   Drinking Water Branch
   Ground Water Protection Program
   Hawaii Department of Water Supply
   Akinaka & Associates, Ltd.
March 15, 1991

MR MANABU TAGOMORI
DEPUTY DIRECTOR
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P O BOX 621
HONOLULU HI 96809

SUBJECT: WELL CONSTRUCTION PERMIT APPLICATION

We have reviewed the subject permit application and have no objections to the following proposed wells being constructed.

1. Palani-Lanihau, Well No. 4158-01
   TMK: 7-4-02: 8

2. Huehue Ranch "1", Well No. 4559-01
   TMK: 7-2-06: 09

3. Huehue Ranch "2", Well No. 4459-01
   TMK: 7-2-06: 09

4. Huehue Ranch "3", Well No. 4558-01
   TMK: 7-2-04: 07

5. Huehue Ranch "4", Well No. 4459-02
   TMK: 7-2-06: 09

   TMK: 7-2-4: 05

   TMK: 7-2-4: 05

   TMK: 7-2-04: 05

ROBERT K. YANABU, Division Chief
Engineering Division

CKY:byf
March 13, 1991

State Department of Land and Natural Resources
Commission on Water Resources Management
P.O. Box 621
Honolulu, HI 96809

WELL CONSTRUCTION AND PUMP INSTALLATION PERMIT APPLICATIONS
APPLICANTS: PALANI-LANIHAU, HUEHUE RANCH 1, 2, 3 AND 4
KUKIO RESORT IRRIGATION 1, 2, AND 3
TAX MAP KEY 7-4-2:8, 7-2-6:9, 7-2-4:7, 7-2-4:5

We have reviewed the subject applications and have no comments or requirements.

H. William Sewaka
Manager

WA
March 4, 1991

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

Attn: Mr. Manabu Tagomori, Deputy

Dear Mr. Paty:

We have received the following water permit applications. Thank you for the opportunity to review these applications:

<table>
<thead>
<tr>
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<td>Oahu</td>
<td>Makapuu-Sea Life Park &quot;3&quot;</td>
<td>1940-11</td>
<td>Pump</td>
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<td>Molokai</td>
<td>Kawela-Salvido/Harper</td>
<td>0356-04</td>
<td>Well and Pump</td>
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We have no specific concerns with the above-referenced water permit applications.

As you are aware, we have a continuing concern about the ratio of water that is allowed to be withdrawn for commercial and resort use. Specifically, we are concerned that the amount of water drawn for commercial and resort use be measured against and the present and future water needs for residential and agricultural use and that water the needs for residential and agriculture use be guaranteed.

We have no other comments or concerns at this time.

Sincerely,

Moses K. Keale, Sr.
Chair, Board of Trustees
March 4, 1991

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

Attn: Mr. Manabu Tagomori, Deputy

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<td>4759-07</td>
<td>Pump</td>
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As you are aware, we have a continuing concern about the ratio of water that is allowed to be withdrawn for commercial and resort use. Specifically, we are concerned that the amount of water drawn for commercial and resort use be measured against and the present and future water needs for residential and agricultural use and that water the needs for residential and agricultural use be guaranteed.

We have no other comments or concerns at this time.
Honorable John C. Lewin, M.D.
Director
Department of Health
State of Hawaii
1250 Punchbowl Street
Honolulu, Hawaii 96813

Attn: Mr. Thomas Arizumi, Drinking Water Branch

Dear Dr. Lewin:

Well Construction and Pump Installation Permit Application(s)

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

<table>
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Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, by March 4, 1991.

Should you have any questions, please contact Manabu Tagomori, Deputy Director at 548-7533.

Very truly yours,

WILLIAM W. PATY

DN: mh
Enc.
Mr. Thomas K. Kaulukukui, Sr.
Chairman & Trustee-At-Large
Office of Hawaiian Affairs
1600 Kapiolani Blvd., Suite 1500
Honolulu, Hawaii 96814

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

Dear Mr. Kaulukukui:

**Well Construction and Pump Installation Permit Application(s)**

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

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Should you have any questions, please contact Manabu Tagomori, Deputy Director at 548-7533.

Very truly yours,

WILLIAM W. PATY

DN: mh
Enc.
REF: WRM-MH

Honorable Hoaliku L. Drake
Director
Department of Hawaiian Home Lands
State of Hawaii
P.O. Box 1879
Honolulu, Hawaii 96805

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):

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Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, by March 4, 1991.

Should you have any questions, please contact Manabu Tagomori, Deputy Director at 548-7533.

Very truly yours,

WILLIAM W. PATY

DN: mh
Enc.
Mr. Carl Carlson  
Huehue Ranch Assoc., L.P.  
75-5722 Kuakini Hwy., Rm. 107  
Kailua-Kona, Hawaii 96740

Dear Mr. Carlson:

We have received your applications and filing fees for the following well construction and pump installation permits:

<table>
<thead>
<tr>
<th>WELL NAME</th>
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<tr>
<td>HR-1</td>
<td>4559-01</td>
<td>7-2-06:09</td>
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<td>HR-2</td>
<td>4459-01</td>
<td>7-2-06:09</td>
</tr>
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<td>HR-3</td>
<td>4558-01</td>
<td>7-2-04:07</td>
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<tr>
<td>HR-4</td>
<td>4459-02</td>
<td>7-2-06:09</td>
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<td>KI-1</td>
<td>4759-01</td>
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We are reviewing these applications for completeness. The processing of the application for well HR-5 (Well No. 4558-02, TMK 7-2-04:14) is pending the receipt of a completed application, including the signature of the landowner.

Should you have questions, please call the Regulation Branch of the Division of Water Resource Management at 548-7541.

Sincerely,

MANABU TAGOMORI  
Deputy Director

NF: mh
MEMORANDUM

TO: Don Hibbard, Director
   Historic Preservation Program

FROM: Manabu Tagomori, Deputy Director
   Commission on Water Resource Management

SUBJECT: Well Construction and Pump Installation Permit Application(s)

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

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Please review the application(s) pursuant to your area of concern and submit your comments to us, orally or in writing, by March 4, 1991.

Should you have any questions, please contact our Regulation Branch at 548-7541.

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

Dear Mr. Sewake:

**Well Construction and Pump Installation Permit Application(s)**

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Should you have any questions, please contact our Regulation Branch at 548-7541.

Sincerely,

MANABU TAGOMORI
Deputy Director

DN:bm
Enc.
Mr. Bruce C. McClure  
Chief Engineer  
Department of Public Works  
County of Hawaii  
25 Aupuni Street  
Hilo, Hawaii 96720

Dear Mr. McClure:

Well Construction and Pump Installation Permit Application(s)

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

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Should you have any questions, please contact our Regulation Branch at 548-7541.

Sincerely,

[Signature]

MANABU TAGOMORI
Deputy Director

DN:bm
Enc.
### Well Construction/Pump Installation Permits:

**HR-4 (Well No. 4459-02)**  
**KI-3 (Well No. 4759-03)**

<table>
<thead>
<tr>
<th>DATE</th>
<th>DESCRIPTION</th>
<th>AMOUNT</th>
<th>DEDUCTION</th>
<th>NET AMOUNT</th>
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<tbody>
<tr>
<td>1/30/91 HR-4</td>
<td>APPLICATION FEE FOR WELL HR-</td>
<td>25.00</td>
<td>.00</td>
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<tr>
<td>1/30/91 HR-5</td>
<td>APPLICATION FEE - WELL HR5</td>
<td>25.00</td>
<td>.00</td>
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**Check Date:** 02/01/91  
**Control Number:** 003619  
**Total:** DEPT.-LAND & NATURAL RESOURCES  
**Amount:** 50.00

**Fifty Dollars And No Cents**

Pay to the order of DEPT.-LAND & NATURAL RESOURCES  

Date: 02/01/91  
Control No.: 003619  
Amount: **********50.00**

Hilo Lagoon Center  
First Interstate Bank of Hawaii  
111 Aupuni St.  
Hilo, HI 96720  
59-106/1213

TWO SIGNATURES REQUIRED OVER $5,000.00