WELL DRILLING PERMIT
for
Kawamata Well No. 2
State Well No. 6451-03
Kahua, North Kohala, Hawaii

TO: Mr. Naoji Kawamata
    c/o Big Island Drilling
    P.O. Box 2297
    Kailua-Kona, Hawaii 96745

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. 6451-03 for agricultural use at Tax Map Key 5-9-6:08 is approved subject to the following conditions:

1. A Driller's Well Completion Report (enclosed) shall be submitted to the Division of Water and Land Development, P.O. Box 373, Honolulu, Hawaii 96809, within 60 days after completion of the well.

2. Water level elevation, salinity and pumping test data shall be submitted within 60 days after testing of the well.

3. Reports of pumpage shall be submitted monthly after the well is put into production.

4. An "as-built" drawing of the well and a map showing the exact location of the well shall be submitted upon completion of the well.

5. The applicant shall comply with all applicable laws, rules, 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.

Date of Issuance

Enc. (Driller's Report form)
cc: USGS
    Dept. of Health,
    Drinking Water Program
    Ground Water Protection Program
    Hawaii Dept. of Water Supply
    Big Island Drilling
### DIVISION OF WATER AND LAND DEVELOPMENT

**FROM:**

**DATE:**

**FILE IN:**

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<th>INITIAL:</th>
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<td>M. TAGOMORI</td>
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</tr>
<tr>
<td>G. Matsumoto</td>
<td>Route to Your Branch</td>
</tr>
<tr>
<td>L. Chang</td>
<td>Review &amp; Comment</td>
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<td>G. Akita</td>
<td>Draft Reply By</td>
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<td>Acknowledge Receipt</td>
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<td>N. Imada</td>
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<td>D. Hamada</td>
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<td>L. Nanbu</td>
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<td>F. Ching</td>
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</tbody>
</table>

**REMARKS:**

- Ed
- 22 lines to be buggy
- This will pass
Instructions: Send completed application and attachments to Department of Land and Natural Resources, P.O. Box 373, Honolulu, Hawaii 96809.

Reference: Regulation 9, Dept. of Land & Natural Resources.

Is the well located in a Designated Ground Water Control Area? Yes / 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 & 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 LOCATION: Island Hawaii Tax Map Key 645-5-2. Attach a plot plan showing well location referenced to established property boundaries.

2. WATER USER Address Telephone

3. PROPOSED DRILLING COMPANY: 

4. PROPOSED WORK: 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

PROPOSED USE: Municipal Military Agriculture Domestic Disposal Industrial Other (specify)

PROPOSED AMOUNT OF WITHDRAWAL: Check most appropriate box and fill in amount.

PROPOSED PUMP OR FLOW CAPACITY:

Signature: Water User

Signature: Owner of Well Site

For Official Use:

State Well No. 6451-03

DLNR Permit No.

DLNR Application No.
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 96809. Phone 548-3948 or 548-3943 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.: L451-03
WELL NAME OR DESIGNATION: Kauu-Ma-it #2
ISLAND: Hawaii

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

A. WELL OPERATOR

Firm name: Big Island Drilling
Contact person: Paul Bergstedt
Address: POB 2297
Kona
Zip: 96745
Phone: 882-7080

B. OWNER OF WELL SITE

Firm name: N. Kauu-Ma-it
Contact person: SANIE
Address: POB 235 Kauu-Ma-it
Zip: 96745
Phone: 882-7092

C. WELL LOCATION

Tax Map Key: 35-9-6-9
Town, Place, District: N. 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): 396.7 ft.
Reference point (Used to measure depth to water): Elevation: 396.7 ft.
Description: Top of casing

Depth to water (below reference point): 390 ft.
Maximum recorded chloride: 0 ppm
Minimum recorded chloride: 0 ppm
Maximum chloride in 1987: 0 ppm

E. INSTALLED PUMP DATA

Pump type: Vertical shaft

Power: Diesel

Pump capacity: 45 gallons per minute
Pump installation contractor: Big Island Drilling

... (continued over)

Field checked by: Date: Latitude: 20° 04' 43" Hydrologic Unit: 4-451-03
Comments: Longitude: 155° 51' 07" State Well No.: L451-03

Date received: 1/23/89 Date accepted: ___________

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

Method of measurement: □ Flow Meter □ Orifice

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>
</tr>
</thead>
<tbody>
<tr>
<td>□ Municipal (including resorts, hotels, businesses)</td>
<td></td>
</tr>
<tr>
<td>□ Domestic (systems serving 25 people or less)</td>
<td></td>
</tr>
<tr>
<td>□ Irrigation</td>
<td></td>
</tr>
<tr>
<td>□ Industrial</td>
<td></td>
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<tr>
<td>□ Military</td>
<td></td>
</tr>
<tr>
<td>□ Other (specify):</td>
<td></td>
</tr>
</tbody>
</table>

Minimum day's use: ___________ gallons  Maximum day's use: ___________ gallons

Typical times of usage: _______________________

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

- □ Cooling
- □ Manufacturing
- □ Mill
- □ Drip
- □ Furrow
- □ Sprinkler
- □ Landscape
- □ Golf Course
- □ Sugar
- □ Pineapple
- □ Other (specify):

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: Taeji Kanamota
Printed Name: Taeji Kanamota
Firm or Title (Well Operator, etc.): Owner

Date: 1/18/89
DEPARTMENT OF LAND & NATURAL RESOURCES
DIVISION OF WATER AND LAND DEVELOPMENT

DRILLER'S REPORT

Date of report: 12/5/87  Person filing report: Paul Bergstedt

A. OWNER: N. Kawamata  WELL: No. 2  ISLAND: Hawaii
B. GENERAL LOCATION: Konaia Estates  DRILLING COMPANY: Big Island Drilling
C. DRILLING COMPANY: Big Island Drilling  DRILLING COMPLETED 12/9/87 DRILLER: Paul Bergstedt

E. ELEVATION, msl: Top of drilling platform 396.7 ft. Bench mark and method used to determine

F. HOLE SIZE: inch dia. to 405 ft. below drilling platform.

G. CASING INSTALLED: 6 in. I.D. x 3/8 in. wall solid section to 405 ft. below drilling platform.

H. ANNULUS: Grouted 0 ft. to 50 ft. below drilling platform.

I. PERMANENT PUMP INSTALLATION:
   - Pump type, make, serial no.: "Berkly 4clm24-5"  Capacity: 45 g.p.m.
   - Motor type, H.P., voltage, r.p.m.: "Franklin 5 hp. 6360rpm 230 vac"

   Depth of pump intake setting: 402 ft. below platform  which elevation is 396.7 ft.

   Depth of bottom of airline: which elevation is 405 ft.

J. INITIAL WATER LEVEL 390 ft. below drilling platform. Date of measurement: 12/1/87

K. INITIAL CHLORIDE: 700 ppm, total depth of well 405 ft. below drilling platform 12/1/87

L. PUMPING TESTS:

   Start water level 390 ft. below R. P.  Start water level 390 ft. below R. P.

   End water level 390 ft. below R. P.  End water level 390 ft. below R. P.

   Depth of well 405 ft. below R. P.  Depth of well 405 ft. below R. P.

   Reference point (R.P.) used: which elevation is 396.7 ft.

   Sampling Date

M. DRILLER'S LOG:

<table>
<thead>
<tr>
<th>Depth, ft.</th>
<th>Rock Description &amp; Remarks</th>
<th>Water Level, ft.</th>
<th>Depth, ft.</th>
<th>Rock Description &amp; Remarks</th>
<th>Water Level, ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 to 30</td>
<td>fill boulders</td>
<td>345 to 355</td>
<td>hard red</td>
<td></td>
<td></td>
</tr>
<tr>
<td>30 to 65</td>
<td>blue rock</td>
<td>355 to 378</td>
<td>hard grey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>65 to 82</td>
<td>brown hard</td>
<td>378 to 395</td>
<td>hard brown</td>
<td></td>
<td></td>
</tr>
<tr>
<td>82 to 125</td>
<td>soft grey</td>
<td>395 to 405</td>
<td>hard grey</td>
<td></td>
<td></td>
</tr>
<tr>
<td>125 to 133</td>
<td>hard grey</td>
<td></td>
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<tr>
<td>133 to 145</td>
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<td>145 to 175n</td>
<td>red soft</td>
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<tr>
<td>175 to 198</td>
<td>hard grey</td>
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<tr>
<td>198 to 240</td>
<td>medium brown</td>
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<tr>
<td>240 to 300</td>
<td>medium grey</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>300 to 345</td>
<td>hard grey</td>
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<tr>
<td>305 to 345</td>
<td>hard grey</td>
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</table>

N. REMARKS:

FOR DRILLER'S USE  INSTRUCTIONS: Send three (3) copies to Manager-Chief Engineer, Division of Water and Land Development, P. O. Box 373, Honolulu, Hawaii 96809.  FOR OFFICIAL USE  Latitude 20° 04' 43'.
**DRILLER'S REPORT**

**DESCRIPTION**

Date of report: 12/5/87  
Person filling report: Paul Bergstead

A. **OWNER**  
N. Kawamata  
WELL NAME: No. 2

B. **GENERAL LOCATION**  
Kohala Estates

C. **DRILLING COMPANY**  
Big Island Drilling

D. **TYPE OF RIG**  
36 L  
**Drilling Completed:** 12/9/87  
**DRILLER:** Paul Bergstead

E. **ELEVATION, msl:** Top of drilling platform 396.7 ft.  
Bench mark and method used to determine  
Height of drilling platform above ground surface 2 ft.  
elevation:

F. **HOLE SIZE:**  
12" inch dia. to 405" ft. below drilling platform.  
2" inch dia. to 3 ft. below drilling platform.  
2" inch dia. to 2 ft. below drilling platform.

G. **CASING INSTALLED:**  
6" in. I.D. to 3/8 in. wall solid section to 105" ft. below drilling platform.  
6" in. I.D. to 3/8 in. wall perforated section to 15 ft. below drilling platform.  
Type of perforation: 1/4" drilled holes approx. 500

H. **ANNUlus:** Grouted 0 ft. to 50 ft. below drilling platform.  
Gravel packed 40 ft. to 70 ft. below drilling platform.

I. **PERMANENT PUMP INSTALLATION:**
- Pump type, make, serial no. Berky 4clm24-5  
  Capacity 45 g.p.m.  
  Motor type, H.P., voltage, r.p.m. Franklin 5 hp. 3600 rpm. 230 vac.
- Depth of pump intake setting 402 ft. below platform.  
  Which elevation is 396.7 ft.  
- Depth of bottom of airline 405 ft. below drilling platform.

**HYDROLOGY**

J. **INITIAL WATER LEVEL:** 390 ft. below drilling platform.  
Date of measurement: 12/1/87

K. **INITIAL CHLORIDE:** 700 ppm.  
Total depth of well 409 ft. below drilling platform 12/11/87  
Sampling Date:

L. **PUMPING TESTS:**
- Reference point (R.P.) used:  
  Which elevation is 396.7 ft.  
  Date:
  
  **Start water level:** 390 ft. below R. P.  
  **End water level:** 390 ft. below R. P.  
  **Depth of well:** 405 ft. below R. P.

  **Elapsed Time (hours):**  
  **Rate (gpm):**  
  **Draw- down (ft.):**  
  **Cl- (ppm):**  
  **Temp. °F:**

<table>
<thead>
<tr>
<th>Time (hours)</th>
<th>Rate (gpm)</th>
<th>Drawdown (ft.)</th>
<th>Cl- (ppm)</th>
<th>Temp. °F</th>
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<td>0</td>
<td>700</td>
<td>70</td>
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<td>hard brown</td>
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<tr>
<td>82</td>
<td>soft grey</td>
<td>395 ft.</td>
<td>405</td>
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<td>240</td>
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<tr>
<td>300</td>
<td>hard grey</td>
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</table>

N. **REMARKS:**

**INSTRUCTIONS:** Send three (3) copies to: Manager-Chief Engineer, Division of Water and Land Development, P. O. Box 273, Honolulu, Hawaii 96809.

Kawamata Farms
Kohala Estates
Well #2
State Well No. 646102

396.7 elevation

grout

50' grout packer

12"

6"

total depth 405 ft.

perforations 395 to 405

water level 390'

sea level 396.7'