<table>
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<tr>
<th>Taxkey</th>
<th>Subdiv/Condo</th>
<th>Tnr</th>
<th>Address</th>
<th>Owner</th>
<th>Lessee</th>
<th>Bds</th>
<th>Bths</th>
<th>Land area</th>
<th>Liv area</th>
<th>Last Sale Instr</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-4-7-10-26-1</td>
<td>LOT 2</td>
<td>CONDOMINIUM</td>
<td>F</td>
<td>911 KAI FAGAN, HELE KU WILLIAM ST</td>
<td>H/ETAL</td>
<td>1</td>
<td>1</td>
<td>38,943 sqft</td>
<td>1,347</td>
<td>4/19/2006 DEED</td>
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<td>2-4-7-10-26-2</td>
<td>LOT 2</td>
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<td>F</td>
<td>915 KAI WISTHOFF, HELE KU JAMES R ST</td>
<td>II/ETAL</td>
<td>1</td>
<td>1</td>
<td>2.42 ac</td>
<td>999</td>
<td>4/19/2006 DEED</td>
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</table>

This information has been supplied by third parties and has not been independently verified by Hawaii Information Service and is, therefore, not guaranteed.

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### PUBLIC RECORD DATA

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<thead>
<tr>
<th>Taxkey</th>
<th>Subdiv/Condo Tnr Address</th>
<th>Owner/Lessee Bds Bths Land area Liv area</th>
<th>Last Sale Instr</th>
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<tr>
<td>2-4-7-1-38</td>
<td>MAKILA NUI F LAUNIPOKO</td>
<td>MAKILA NUI 0 0 0</td>
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<td>2-4-7-1-38-1</td>
<td>MAKILA NUI F Apt 1</td>
<td>MARTIN, PETER 3 49.57 ac 1,760</td>
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<tr>
<td>2-4-7-1-38-2</td>
<td>MAKILA NUI F Apt 2</td>
<td>HARRIS, 2 2 1.89 ac 1,312</td>
<td>11/20/2009 DEED</td>
</tr>
</tbody>
</table>

This information has been supplied by third parties and has not been independently verified by Hawaii Information Service and is, therefore, not guaranteed.

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According to DCCA it's Launiupoko Water Company, Inc. So to be clear:

Landowner: Harris D
Well Owner: Launiupoko Water Company, Inc. (via easement agreement)
Well Op/Reporter: West Maui Land

I'm assuming this update info also applies to 5138-01 too as it was on the same former parcel, unless it was subdivided differently. If correct, need to file this in well file.

----- Forwarded by Charley F Ice/DLNRIStateHiUS on 08/13/2010 11:43 AM -----

I'm so sorry to have you going in circles. I'm really not used to tmk's, so I just copied this one from a property that is right next to Well#2 – 470010380002. The address is 91 Wailau. Let me know if this works.

Lea Tamayose

From: Charley.F.Ice@hawaii.gov
Sent: Friday, August 13, 2010 9:54 AM
To: Lea Tamayose
Subject: RE: Ipoko area overview b-w.pdf - Adobe Acrobat Standard
looked for a parcel 38 elsewhere without success. The well seems to be on your Makila Nui subdivision, lot 9, just below the Forest Reserve line. Please check again. Thanks!

"Lea Tamayose" <lea@westmauiland.com>  TO <Charley.F.Ice@hawaii.gov>  
08/12/2010 04:50 PM  
Subject: RE: Ipoko area overview b-w.pdf - Adobe Acrobat Standard

Sorry about that! I must have written the numbers incorrectly. Here's a TMK for someone who lives on that lot – 2-4-7-004-038-000. I hope this is better.

Lea Tamayose

From: Charley.F.Ice@hawaii.gov [mailto:Charley.F.Ice@hawaii.gov]  
Sent: Thursday, August 12, 2010 4:41 PM  
To: Lea Tamayose  
Subject: Re: Ipoko area overview b-w.pdf - Adobe Acrobat Standard

In matching up bits of info, I see that Well #1 (5138-01) is listed at the TMK parcel you said, on subdivision lot 2 on Kai Hele Ku Street, which matches up beautifully with your map. However, Well #2 is shown in your Makila Nui subdivision on lot 9, but the MLS listing indicates that the TMK parcel you noted has a Pua Niu Way address, which is makai in Mahanalua Nui Ph IV, not near any marked well location. The location of #2 on your map has no clear access road, although the closest is E. Huapala Place.

"Lea Tamayose" <lea@westmauiland.com>  
08/12/2010 03:45 PM  
TO <charley.f.ice@hawaii.gov>  
cc  
Subject: Ipoko area overview b-w.pdf - Adobe Acrobat Standard

Aloha Charley~

I got your voicemail. I attached a map of Launiupoko and our well's are outlined w/ a circle.
I hope this map is what you’re looking for. If you need something different, please let me know.

Mahalo,

Lea Tamayose
West Maui Land Company
lea@westmauiland.com
808-877-4202
808-877-9409 fax

This communication contains information that is confidential and privileged. It is also confidential and covered by the Electronic Communications Privacy Act, 18 U.S.C. 2510-2521. As such it is exempt from disclosure. If you are not the intended recipient, you are notified that any retention, dissemination, distribution or copying of this communication is strictly prohibited. [attachment "Ipoko area overview b-w.pdf" deleted by Charley F Ice/DLNR/StateHiUS]
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<tr>
<th>WELL NO</th>
<th>Head</th>
<th>Dia-meter</th>
<th>Aquifer Thickness</th>
<th>Active Length</th>
<th>THEIS</th>
<th>COOPER-JACOB</th>
<th>HARR 10^4</th>
<th>HARR 10^6</th>
<th>RECOVERY</th>
<th>ZANGAR</th>
<th>POLUBARIN</th>
<th>THOMAS</th>
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<td>2000</td>
<td>1700</td>
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</tbody>
</table>
STATE OF HAWAII
COMMISSION ON WATER RESOURCE MANAGEMENT
DEPARTMENT OF LAND AND NATURAL RESOURCES

MONTHLY GROUND WATER USE REPORT

Pural Water Specialty Company
1955 Vineyard
Wailuku HI 96793

Report Month _______ Year

INSTRUCTIONS: Please TYPE OR PRINT CLEARLY. Complete this form to report total monthly ground water use, and, if required, other information from each of your well sources. Mail to: Commission on Water Resource Management, P.O. Box 621, Honolulu HI 96809. For assistance, please call (808) 587-0264.

<table>
<thead>
<tr>
<th>State Well No.</th>
<th>Well Name</th>
<th>Period Begin Date (mm/dd/yy)</th>
<th>Period End Date (mm/dd/yy)</th>
<th>Quantity Pumped (gallons)</th>
<th>Method* of Measurement</th>
<th>Chloride (mg/l)</th>
<th>Temp. (°F)</th>
<th>Non-Pumping Water Level (ft. above msl)**</th>
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<td></td>
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</table>

* - Flow meter, electrical consumption, weir of flume, not metered (estimated).
** - Measurement should be taken while pump is NOT running just prior to a pumping cycle; if measurement is taken while pump is running, please indicate so.

Other comments or additional information (e.g. - date and method of chloride measurement; how pumpage amounts are estimated; etc...):

Submitted by (print) __________________________ Title __________________________
Signature __________________________ Date __________________________ Telephone No. __________________________
June 25, 2002

Mr. Peter K. Martin  
Launiupoko Associates, LLC  
173 Hoohana St., #201  
Kahului, HI 96732

Dear Mr. Martin:

Well Completion Report for Well No. 5137-01

We received your Well Completion Report Part II for the Launiupoko #2 (Well No. 5137-01) on June 14, 2002 and acknowledge that it is complete. This completes the permitting requirements for this well.

If you have any questions, please contact Charley Ice of the Commission staff at 587-0251 or toll-free at 974-4000 (Hawaii), 274-3141 (Kauai), 984-2400 (Maui), or 1-800-468-4644 (Lanai & Molokai).

Sincerely,

[Signature]

LINNEL T. NISHIOKA  
Deputy Director

CI:ss

c: Wailani Drilling, Inc.
MEMO and ROUTE SLIP second route 06/20/02

WCR 2 Check for Well No. 5137-01 (survey to regulation memo)

1. **Pump Tests Check** (special condition of PIP? Yes/No) Glenn Bau (initial if yes)

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>If no, describe deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   **Step-Drawdown Test:**
   
   followed WCPI Stds
   analysis attached
   proposed pump cap o.k.

   **Aquifer Pump Test:**
   
   followed WCPI Stds
   T & S analysis attached

   **Well Interference:**
   estimated Steady-State
drawdown at 1-mile radius is _____ ft.
   analysis attached

   **Stream Surface Water Impacted:**
   If yes, identify most probable stream

2. **Pump Installation Check** Mitch Ohye (initial)

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>If no, describe deficiency</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

   data complete
   followed WCPI Stds
   well database updated

3. Charley/Lenore/Ryan (initial) take action based on above analysis

4. Roy (initial) check

5. Subia (initial) finalize

6.annel (initial) signature

7. Charley/Lenore/Ryan File
FROM: LINNEL

DATE: JUN 18 2002

TO: BAUER, G.
CHING, F.
DANBARA, S.
FUJII, N.
GOODING, K.
HARDY, R.
HIGA, D.
ICE, C.
IMATA, R.
JINNAI, R.
KUNIMURA, I.

INIT: MATHIAS, T.
NAKAMA, L.
NAKANO, D.
NISHIOKA, L.
OHYE, M.
SAKODA, E.
SUBIA, S.
SWANSON, S.
UYENO, D.
YODA, K.

FOR: Approval
Signature
Information

PLEASE: See Me
Review & Comment
Take Action
Type Draft doc_rev.
Type Final
File Library
Xerox ___ copies

- Who/what was Surveyor's license #9826 Erik Kameshiro
- File this report in well folder 5737-01

Thanks, Charly.
June 13, 2002

The Honorable Gilbert S. Coloma-Agaran
Chairman of the Board
Attn: Ms. Linnel Nishioka, Deputy Director
Department of Land and Natural Resources
1151 Punchbowl Street
Honolulu, Hawaii 96813

Dear Mr. Coloma-Agaran:

SUBJECT: PROPOSED SOURCE OF POTABLE WATER

Enclosed for your review and comments is a copy of the engineering report for the following source:

Launiupoko Well No. 2
State Well No. 6-5137-01
Launiupoko, Maui

This report has been prepared pursuant to Hawaii Administrative Rules, Title 11, Chapter 20, Rules Relating to Potable Water Systems, Section 11-20-29.

The Department of Health will use your comments in determining the potential impacts that may result by the proposed project.

Please submit your comments to the Safe Drinking Water Branch within 30 days from the date of this letter. You may also return the engineering report to this office if you do not need it for future reference.

If you should have any questions, please call Sharon Nekoba of the Safe Drinking Water Branch, Engineering Section, at 586-4258.

Sincerely,

THOMAS E. ARIZUMI, P.E., CHIEF
Environmental Management Division

SN: la

Enclosure
June 12, 2002

Mr. Charley Ice
Commission on Water Resource Management
State of Hawaii
Post Office Box 621
Honolulu, Hawaii 96809

Re: REVISED Well Completion Report – Part II
Pump Installation
State Well No. 5137-01 (Launiupoko #2)

Dear Mr. Ice:

As indicated in a June 7, 2002 fax to you, the Well Completion Report submitted to you with my May 31, 2002 letter was incorrect. Please disregard the previously submitted form and, if possible, return it to this office. Enclosed please find a revised, fully-executed Well Completion Report, together with applicable attachments.

Thank you for your assistance. If you have any questions, please call.

Very truly yours,

LAUNIUPOKO ASSOCIATES, LLC

Peter K. Martin

Enclosures

cc: Mr. Mike Robertson, Wailani Drilling (w/encl.)
    Mr. Mel Lima, Mel’s Water Works (w/encl.)
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
WELL COMPLETION REPORT - PART II
Pump Installation

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 521, Honolulu, Hawaii 96809. The Commission may not accept incomplete reports. This form shall be submitted within 53 days of the completion of work. For assistance, please consult the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at 808-774-2355. For updates to this form or additional information, please visit our website at http://www.state.hi.usfdlnr/cwrm/

1. State Well No.: 5137-01
Well Name: Launiupoko #2
Island: Maui

2. Address: Launiupoko, Lahaina
Tax Map Key: 24-7-7


4. Date Pump Installed: May 15, 2002

5. PERMANENT PUMP INFORMATION (Attach pump specifications and rating curve)
   Pump Type, Make, Serial No.: Goulds pump, 5CLC, 17 stages
   Rated Capacity: 100 gpm at head of 850 ft.
   Motor Type, H.P., Voltage, rpm: Franklin Electric, 40 H.P., 180 RPM
   Type of flow meter: Sensus meter which measures in Gallons

   Pump type (check one):
   □ Deep Well Turbine
   □ Submersible
   □ Centrifugal
   □ Rotary
   □ Rotary-Displacement
   □ Rotary-Gear
   □ Impulse

   Method of flow measurement:
   □ Flowmeter Manufacturer Sensus Make Sensus Model Number W-350DPS Serial Number
   □ Weir □ Open Pipe □ Orifice* □ Other*, explain below

6. Method of flow measurement:
   □ Flowmeter Manufacturer Sensus Make Sensus Model Number W-350DPS Serial Number
   □ Weir □ Open Pipe □ Orifice* □ Other*, explain below
   *attach schematic

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

8. Attach photograph of well and concrete pad clearly showing benchmark on concrete pad.

9. Other remarks/comments:

   ________________________________________________________________

   Pump Installation Contractor (print) Wells Water Works Lic. No. C-17980
   Signature ____________ Date ____________

   Permitee (print) Launiupoko Associates, LLC
   Signature ____________ Date ____________

WCR2 Form 12/4/01 Page 1 of 2
Bench mark elevation surveyed to nearest 0.01 ft. = ft. mean sea level

Elevation of top of chase tube = ft. mean sea level

Pump intake depth = ft. (referenced to bench mark)

Chase tube depth = ft. (referenced to bench mark)

If airline installed, bottom of airline elevation = ft. mean sea level

6-5137-01 LANNIUPOKO 2
Well Data:

DATE INSTALLED - 5-15-2002
DATE TESTED - 5-22-2002

WATER LEVEL - 826'32
BOTTOM - 865'

DISCHARGE HEAD – 6"

4 LENGTHS WITH CHECK VALVES, 6” X 22’2”
36 LENGTHS OF 21’2”
ADAPTORS 6” X 4” 1’ 3”

MOTOR LENGTH 3’5”
PUMP LENGTH 7’9”

FRANKLIN ELECTRIC MOTOR
40 HP, VOLTS 480, RPM 3450, 1/0 CABLE
AMPS 54.9, FL AMPS 61.6

GOULDS PUMP
SER. # 444048
MODEL 5CLC
SIZE 918, 17 STAGES
FULL DIA. IMPELLERS

TEST RUN PUMP 5-22-2002

AMPS VOLTS
1. 44 482
2. 44 484
3. 43 483

GPM 100 GALLONS IN 56 SECONDS
Goulds
5" – 10' Texas Submersible Turbine Pumps
For 6" and larger wells

SPECIFICATIONS

<table>
<thead>
<tr>
<th>Model</th>
<th>Operating Range GPM</th>
<th>Best Efficiency Range</th>
<th>Horsepower Ranges</th>
<th>Discharge Connection</th>
<th>Maximum Well Size</th>
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<td>3&quot;, 4&quot;</td>
<td>8&quot;</td>
</tr>
<tr>
<td>6CLC</td>
<td>110 – 220</td>
<td>160</td>
<td>8 – 50</td>
<td>3&quot;, 4&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>6CLC</td>
<td>145 – 275</td>
<td>225</td>
<td>8 – 50</td>
<td>3&quot;, 4&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>6CLC</td>
<td>250 – 450</td>
<td>320</td>
<td>5 – 50</td>
<td>3&quot;, 4&quot;</td>
<td>8&quot;</td>
</tr>
<tr>
<td>6GHC</td>
<td>350 – 660</td>
<td>425</td>
<td>5 – 40</td>
<td>3&quot;, 4&quot;</td>
<td>8&quot;</td>
</tr>
<tr>
<td>7CLC</td>
<td>240 – 480</td>
<td>350</td>
<td>10 – 100</td>
<td>4&quot;, 5&quot;, 6&quot;</td>
<td>10&quot;</td>
</tr>
<tr>
<td>7GHC</td>
<td>325 – 675</td>
<td>475</td>
<td>10 – 100</td>
<td>4&quot;, 5&quot;, 6&quot;</td>
<td>10&quot;</td>
</tr>
<tr>
<td>7GHC</td>
<td>500 – 930</td>
<td>540</td>
<td>20 – 100</td>
<td>4&quot;, 5&quot;, 6&quot;</td>
<td>10&quot;</td>
</tr>
<tr>
<td>7GHC</td>
<td>400 – 800</td>
<td>700</td>
<td>15 – 150</td>
<td>4&quot;, 5&quot;, 6&quot;</td>
<td>10&quot;</td>
</tr>
</tbody>
</table>

FEATURES

Discharge Size: Several discharge sizes available for NPT.
Discharge Bearing: Extra long sealed top bronze bearing insures positive shaft alignment and stabilization for extended life.
Intermediate Bearing: Closed grained cast 30 cast iron. Nonmetallic coatings on 7" and larger pumps for maximum efficiency and abrasion resistance.

ORDER NUMBER CODE

<table>
<thead>
<tr>
<th>STLG 0544 A120</th>
</tr>
</thead>
<tbody>
<tr>
<td>55HLC</td>
</tr>
<tr>
<td>55LCL</td>
</tr>
<tr>
<td>55HSC</td>
</tr>
<tr>
<td>5TLC</td>
</tr>
<tr>
<td>5TLC</td>
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<td>6CLC</td>
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<td>6GHC</td>
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<td>7GHC</td>
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</tr>
<tr>
<td>7GHC</td>
</tr>
<tr>
<td>7GHC</td>
</tr>
</tbody>
</table>

Impellers: Designed for maximum efficiency with wide range hydraulic coverage.
Uphrust Collar: Designed for extra margin of safety against possible momentary uphust occurring at startup.
Intermediate Bowl: Reliable long life rubber bearings (optional bronze available).

Taperlocks: Accurately machined to assure positive locking of impeller to pump shaft.
Suction inlet: Contoured for smooth flow entrance. Protected by an oversized stainless steel strainer to prevent entrance of damaging solids.
Suction Adapter: Class 40 cast iron for increased strength and positive motor alignment. Open area permits easy access to pump/motor coupling.
Pump and Motor: Coupling: Large stainless steel coupling accurately machined for perfect alignment, balance and power transmission.
Pump Shaft: 100,000 PSI high tensile stainless steel provides strength and excellent corrosion resistance. Ground and polished for smooth bearing surfaces.

Powered for Continuous Operation: All ratings are within the working limits of the motor manufacturer. Pump can be operated continuously with no fear of damage to the motor.

Franklin Electric Motor:
- Corrosion-resistant construction.
- Stainless steel splined shaft.
- Hermetically sealed windings.
- Anti-track self-healing resin system.
- Water lubrication.
- Filter check valve.
- Kingsbury-type thrust bearing.
- Pressure equalizing diaphragm.
- Sand fighter slinger.
- Removable water-block lead connector.
- UL 778 recognized.
UMBRELLIBLE PUMP CABLE

ISULATION: POLYVINYL CHLORIDE
AND NYLON

JACKET: POLYVINYL CHLORIDE

SIZES: 12-2 AWG, 3 CONDUCTOR WITH GROUND

50 VOLS, 90°C DRY, 75°C WET

0 SCOPE:

1.1 600 volt, submersible pump cable with

THHN/THWN insulated conductors and PVC

jacket. The insulation is rated 90°C Dry and

75°C wet.

0 CONSTRUCTION:

2.1 Conductor:

Class C stranded, soft, bare, copper per

ASTM B 3 and B 8.

2.2 Insulation:

Heat and moisture resistant, polyvinyl,

chloride meeting the requirements of UL 83. The

insulation thickness is in accordance with

Table 15.5 of UL 83.

2.3 Insulation Jacket:

A nylon jacket shall be applied over the

insulation. the nylon meets the requirements

of UL 83 and conforms to the thickness given

in Table 15.5 of UL 83.

2.5 Assembly:

The insulated conductors are laid flat. The jacket

is extruded directly over the insulated conductors

encapsulating them.

2.6 Jacket:

Polyvinyl Chloride meeting the requirements of

UL 83. the thickness is in accordance with the

table below.

2.7 Color Code:

Black, red, yellow, and green

2.8 Surface Marking:

The overall jacket will have the following

information printed: PAIGE SUBMERSIBLE

PUMP CABLE NUMBER AND SIZE OF

CONDUCTORS, THHN OR THWN CDRS 75°

WET 600V(UL)

<table>
<thead>
<tr>
<th>NUMBER OF INSULATED CONDUCTORS</th>
<th>CONDUCTOR SIZE (AWG)</th>
<th>GROUNDING CONDUCTOR SIZE (AWG)</th>
<th>INSULATION THICKNESS PVC/NYLON (MIL)</th>
<th>JACKET THICKNESS (MIL)</th>
<th>CABLE WEIGHT (LBS/1000FT)</th>
<th>CABLE O.D.</th>
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</thead>
<tbody>
<tr>
<td>3</td>
<td>12</td>
<td>12</td>
<td>16/4</td>
<td>30</td>
<td>138</td>
<td>0.59 x 0.20</td>
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<tr>
<td>3</td>
<td>10</td>
<td>10</td>
<td>20/4</td>
<td>30</td>
<td>210</td>
<td>0.76 x 0.24</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>8</td>
<td>30/5</td>
<td>45</td>
<td>380</td>
<td>1.01 x 0.32</td>
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<tr>
<td>3</td>
<td>6</td>
<td>6</td>
<td>30/6</td>
<td>45</td>
<td>487</td>
<td>1.17 x 0.36</td>
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<tr>
<td>3</td>
<td>4</td>
<td>4</td>
<td>40/6</td>
<td>45</td>
<td>721</td>
<td>1.47 x 0.44</td>
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<tr>
<td>3</td>
<td>2</td>
<td>2</td>
<td>40/8</td>
<td>45</td>
<td>1061</td>
<td>1.72 x 0.60</td>
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<tr>
<td>3</td>
<td>1/0</td>
<td>8</td>
<td>50/7</td>
<td>60</td>
<td>1657</td>
<td>2.17 x 0.84</td>
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<tr>
<td>3</td>
<td>2/0</td>
<td>6</td>
<td>50/7</td>
<td>60</td>
<td>1996</td>
<td>2.360 x 0.66</td>
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<tr>
<td>3</td>
<td>3/0</td>
<td>5</td>
<td>50/7</td>
<td>60</td>
<td>2424</td>
<td>2.580 x 0.74</td>
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<tr>
<td>3</td>
<td>4/0</td>
<td>4</td>
<td>50/7</td>
<td>60</td>
<td>2992</td>
<td>2.820 x 0.80</td>
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<tr>
<td>3</td>
<td>250 MCM</td>
<td>4</td>
<td>60/9</td>
<td>95</td>
<td>3530</td>
<td>3.150 x 1.00</td>
</tr>
<tr>
<td>3</td>
<td>350 MCM</td>
<td>3</td>
<td>60/9</td>
<td>95</td>
<td>4550</td>
<td>3.550 x 1.20</td>
</tr>
</tbody>
</table>
SERIES "W" TURBO-METERS

MODEL W-350 DR
Bronze Magnetic Drive Flanged Ends Size 3" (DN 80mm)

Direct Reading Registers

DESCRIPTION

MODEL: W-350 DR Turbo-Meter is based on the turbine principle of measurement; its operating range is from 5 to 350 gallons per minute (1.1 to 80 m³/h) with registration accuracy of 1% ± 0.5% of actual flow.

CONFORMANCE TO STANDARDS: Sensus Turbo-Meters comply with ANSI/AWWA Standard C701 (most recent revision). Each meter's performance tested to insure compliance.

PERFORMANCE: The meter's unique principle of measurement assures extended accuracy life. The W-350 DR has no restrictions as to sustained flow rates within its operating range. The design permits continuous operation up to its rated maximum flow capacity, without affecting long term accuracy or causing undue wear.

CONSTRUCTION: The meter consists of two basic assemblies—the maincase and the measuring chamber. Straightening vanes in the maincase minimize the swirl upstream of the meter so as to direct the flow evenly to the rotor. The measuring chamber assembly includes the rotor, adjusting vanes (for calibration) and sealed Direct Reading (DR) register.

MAGNETIC DRIVE: The patented Right Angle Magnetic Drive eliminates conventional worm or meter gears normally required for horizontally mounted rotors or turbine measuring elements. Registration is accomplished by combining the magnetic actions of a driver magnet (embodied in the rear face of the rotor), a three-legged flux carrier and a cylindrical follower magnet attached to the gear train shaft inside the register's magnet well. Water flowing through the meter causes the rotor (with magnets) to turn; as one of the magnet poles passes one of the flux carrier legs, the magnetic force is transmitted through the flux carrier leg to the follower magnet, causing the register shaft to rotate. The only moving part in water is the rotor assembly.

ROTOR: The thermoplastic rotor with graphite bearing rotates on a chrome plated stainless steel shaft. The rotor assembly is weightless in water, thus adding to bearing life.

MAINTENANCE: The measuring chamber and straightening vanes can be removed, repaired and/or replaced without disturbing the maincase in the line. A spare chamber can be utilized in the event maintenance is required. Cover plates are also available to keep the line in service while the measuring chamber is repaired and recalibrated. Factory testing, repair and measuring chamber exchange programs are available.

STRAINER: A separate strainer is recommended, but not normally required to protect the rotor. If there is debris in the pipeline, however, a separate strainer would reduce the chance of damage and the frequency of measuring chamber removal for inspection.

SPECIFICATIONS

<table>
<thead>
<tr>
<th>SERVICE</th>
<th>Measurement of cold water up to 80°F (27°C) with flow in one direction only.</th>
</tr>
</thead>
<tbody>
<tr>
<td>OPERATING RANGE</td>
<td>Continuous Flows: 8 to 350 gpm (1.1 to 80 m³/h)</td>
</tr>
<tr>
<td></td>
<td>Intermittent Flows: 600 gpm max. (100 m³/h)</td>
</tr>
<tr>
<td>ACCURACY</td>
<td>1% ± 0.5% of actual input</td>
</tr>
<tr>
<td>LOW FLOW</td>
<td>3% of gpm (0.8 m³/h)</td>
</tr>
<tr>
<td>PRESSURE LOSS</td>
<td>5.0 psi at 350 gpm (1.4 bar at 80 m³/h)</td>
</tr>
<tr>
<td>MAXIMUM OPERATING PRESSURE</td>
<td>150 psi (10.0 bar)</td>
</tr>
<tr>
<td>PLANER</td>
<td>3&quot; U.S. ANSI B 16.1 Class 125.</td>
</tr>
<tr>
<td></td>
<td>Optional gaskets, if specified.</td>
</tr>
<tr>
<td></td>
<td>British Standard BS 3.10 or metric standard ISO 25284</td>
</tr>
<tr>
<td>RESISTOR</td>
<td>Hermetically Sealed Direct Reading Register with Low Flow Indicator</td>
</tr>
<tr>
<td>METER RATING</td>
<td>100,000,000 gallons</td>
</tr>
<tr>
<td></td>
<td>100,000,000 cubic feet</td>
</tr>
<tr>
<td></td>
<td>10 cubic feet/second hand revolution</td>
</tr>
<tr>
<td></td>
<td>100,000,000 m³/rev ( \times 1) hand revolution</td>
</tr>
<tr>
<td>MATERIALS</td>
<td>Maincase—Brass</td>
</tr>
<tr>
<td></td>
<td>Measuring Chamber—Thermoplastic</td>
</tr>
<tr>
<td></td>
<td>Straightening Vanes—Thermoplastic</td>
</tr>
<tr>
<td></td>
<td>Rotor—Thermoplastic</td>
</tr>
<tr>
<td></td>
<td>Rotor Shaft—Graphite</td>
</tr>
<tr>
<td></td>
<td>Thrust Bearings—Tungsten Carbid</td>
</tr>
<tr>
<td></td>
<td>Magnets—Ceramic</td>
</tr>
</tbody>
</table>
SERIES "W" TURBO-METERS

MODEL W-380 DR
Bronze Magnetic Drive Flanged Ends Size 3' (DN 80mm)

Head Loss Curve

Accuracy Curve

Remote Systems—For use with all sizes of Sensus Water Meters

All Sensus AMR systems work with the same above/under Electronic Communications Registers (ECR), enabling the utility to mix and match or easily move from one system to another without changing registers for each.

The TouchRead™ Automated Meter Reading and Billing System is a multi-purpose encoder remote system suitable for indoor and/or outdoor use. The ECR Register links a direct connection between the meter and an outdoor remote for inside set meters or a behind mounted module, enabling underground meters to be read automatically without opening the meter box or vault. All wired connections and terminals of the TouchRead® P/500 (TPS+) modules and registers are fully sealed at the factory using a special process to ensure protection from water infiltration. The connection terminals of ECR/WP registers are also factory sealed.

Meters equipped for TouchRead System reading can be read with a visual reading device, and/or a Static Bipolar Register. For more information on TouchRead System equipment refer to bulletin RS-895, TR-984, RS-890 and TR-997.

PowerPrint™ PAM™ is a reliable telephone based call-in system that does not require batteries for operation. It also does not require equipment to be installed at telephone company facilities. PowerPrint Meter Interface Units (MII) automatically call "in" to the utility office for transmitting meter reading data from the meter site to a PC. PowerPrint is a transparent AMR system that does not interface with customer telephone service. For more information refer to bulletin AMR-PRM1 and AMR-329.

RadioRead™ AMR—uses superior Direct Sequence Spread Spectrum modulation to provide secure, safe and virtually interference-free radio-based transmission of reading data from underground meters or inside-set meters that are equipped with Meter Transceiver Units (MTU). A choice of meter reading options available. A handheld Radio Frequency Solid State Insignia (RFS) can be used by a meter reader on foot. The RFS can also be used with collected readings from TouchRead equipped meters, or for manual meter reading entries. A more powerful Vehicle Transceiver Unit (VXU) can be used in any car or truck to read meters while on the move and eliminates the need for a dedicated radio reading vehicle. For more information refer to bulletin AMR-RRG1, AMR-305 and AMR-306.

Multifunction™ Port Expanders can be added to any ECR equipped meter to any PowerPrint MII or RadioRead VXU to save the utility time and money for installations such as apartment complexes and shopping centers. Refer to bulletin AMR-328.

SENSUS TECHNOLOGIES, INC.

AUTHORIZED DISTRIBUTOR
1. **Pump Tests Check** (special condition of PIP? Yes/No) Glenn Bauer _______ (initial if yes)

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If no, describe deficiency

**Step-Drawdown Test:**
- followed WCPI Stds
- analysis attached
- proposed pump cap o.k.

**Aquifer Pump Test:**
- followed WCPI Stds
- T & S analysis attached

**Well Interference:**
- estimated Steady-State drawdown at 1-mile radius is _________ ft.
- analysis attached

**Stream Surface Water Impacted:**
- If yes, identify most probable stream

2. **Pump Installation Check** Mitch Ohye _______ (initial)

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If no, describe deficiency

- data complete
- followed WCPI Stds
- well database updated

3. Charley/Lenore/Ryan _______ (initial) take action based on above analysis

4. Roy _______ (initial) check

5. Subia _______ (initial) finalize

6. Linnel _______ (initial) signature

7. Charley/Lenore/Ryan File
TO: Charley Ice  
Maui Agent  
Commission on Water Resource Management

FROM: Juanita Charkas  
For Peter Martin  
LAUNIUPOKO ASSOCIATES LLC  
173 Ho'ohana Street #201  
Kahului, HI 96732

REMARKS: □ Urgent  □ For your review  □ Reply ASAP  □ Please Comment

RE: Launiupoko Well #2 (State Well #5137-01)

As discussed this morning, Launiupoko Associates, LLC will be submitting a corrected form of Well Completion Report – Part II and is requesting that the incorrect form submitted with Peter Martin's May 31, 2002 letter be returned. In the event return of the incorrect form is not possible, please accept this fax as our written retraction of the incorrect information mistakenly submitted to your office.

An accurate form will be submitted as required as soon as possible. If you would please acknowledge your receipt of this fax by signing below and faxing back a copy for our files, it would be greatly appreciated. Thank you for your time and attention.

RECEIPT OF THIS FAX IS ACKNOWLEDGED:

Date____________________

By:_____________________
Charley Ice  
Commission on Water Resource Management  
State of Hawaii
| FROM: LINNEL | DATE: JUN - 6 2002 | SUSPENSE DATE: |
| TO: | INIT. | TO: | INIT. | FOR: | PLEASE: |
| BAUER, G. | | MATHIAS, T. | | Approval | See Me |
| CHING, F. | | NAKAMA, L. | | Signature | Review & Comment |
| DANBARA, S. | | NAKANO, D. | | Information | Take Action |
| FUJII, N. | | NISHIOKA, L. | | | Type Draft |
| GOODING, K. | | OHYE, M. | | | Type Final |
| HARDY, R. | | SAKODA, E. | | | File |
| HIGA, D. | | SUBIA, S. | | | Xerox copies |
| ICE, C. | | SWANSON, S. | | | |
| IMATA, R. | | UYENO, D. | | | |
| JINNAI, R. | | YODA, K. | | | |
| KUNIMURA, I. | | | | | |

*Is this the one they wanted back?*

They renewed the "Date Run" instructions from 11-29-01 to 5-15-02. Some have been violated. Cause of HP approval is 3-20-02.
May 31, 2002

Mr. Charley Ice
Commission on Water Resource Management
State of Hawaii
Post Office Box 621
Honolulu, Hawaii 96809

Re: Well Completion Report – Part II
Pump Installation
State Well No. 5137-01 (Launiupoko #2)

Dear Mr. Ice:

Enclosed please find a completed, fully-executed form of the above-referenced Well Completion Report, together with applicable attachments.

If you have any questions, please call.

Very truly yours,

LAUNIUPOKO ASSOCIATES, LLC

Peter K. Martin

Enclosures

cc: Mr. Mike Robertson, Wailani Drilling
    Mr. Mel Lima, Mel’s Water Works
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
WELL COMPLETION REPORT - PART II
Pump Installation

Instructions: Please print in ink or type and send completed report (with attachments, if applicable) to the Commission on Water Resource Management, P.O. Box 521, Honolulu, Hawaii 96809. The Commission may not accept incomplete reports. This form shall be submitted within 60 days of the completion of work. For assistance, please consult the Hawaii Well Construction and Pump Installation Standards or call the Regulation Branch at 587-0225. For updates to this form or additional information, please visit our website at http://www.state.hi.us/dln/cwrm/

<table>
<thead>
<tr>
<th>1. State Well No.:</th>
<th>5137-01</th>
<th>Well Name: Launiupoko #2</th>
<th>Island: Maui</th>
</tr>
</thead>
<tbody>
<tr>
<td>2. Address:</td>
<td>Launiupoko, Lahaina</td>
<td>Tax Map Key: 2-4-7:1</td>
<td></td>
</tr>
<tr>
<td>3. Pump Installation Company:</td>
<td>Weis Water Works, Hawaii (inc.)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Date Pump Installed:</td>
<td>Nov. 29, 2001</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. PERMANENT PUMP INFORMATION (Attach pump specifications and rating curve)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump Type, Make, Serial No.:</td>
<td>Goulds pump, 5C LC 17 stages</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rated Capacity:</td>
<td>100 gpm at head of: 80' ft</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Type, H.P., Voltage, rpm:</td>
<td>Franklin Electric, 40 HP, 480V, 3450RPM</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Type of flow meter:</td>
<td>Sensus meter which measures in Gallon's</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Model Number:</td>
<td>W-350 BRS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pump type (check one):</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Deep Well Turbine</td>
<td>Rotary</td>
<td>Propeller</td>
<td></td>
</tr>
<tr>
<td>Submersible</td>
<td>Rotary-Displacement</td>
<td>Reciprocating</td>
<td></td>
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<tr>
<td>Centrifugal</td>
<td>Rotary-Gear</td>
<td>Impulse</td>
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<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Method of flow measurement:</td>
<td>Flowmeter Manufacturer Sensus Make Sensus Size 3&quot;</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Weir</td>
<td>Open Pipe</td>
<td>Orifice</td>
</tr>
<tr>
<td>*attach schematic</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Fill in the as-built section on the other side of this sheet</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Attach photograph of well and concrete pad clearly showing benchmark on concrete pad.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Other remarks/comments:</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Signature: Mahall E. Lima
Date: May 23, 2002
Permittee (print): Launiupoko ASS LLC
Signature: Dr. M. Martin
Date: 6-30-02
**Goulds**

5" - 10" Texas

**Submersible**

**Turbine Pumps**

For 6" and larger wells

---

**SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Model</th>
<th>Operating Range</th>
<th>Best Efficiency</th>
<th>Horsepower Range</th>
<th>Discharge Connections</th>
<th>Minimum Well Size</th>
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<tbody>
<tr>
<td>56LC</td>
<td>40 - 100</td>
<td>55</td>
<td>5 - 30</td>
<td>3&quot;,4&quot;</td>
<td>6&quot;</td>
</tr>
<tr>
<td>56CL</td>
<td>40 - 180</td>
<td>110</td>
<td>5 - 30</td>
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<td>6&quot;</td>
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<td>130</td>
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<td>6&quot;</td>
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<td>190</td>
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<td>6&quot;</td>
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<td>1000</td>
<td>30 - 150</td>
<td>4&quot;,6&quot;,10&quot;</td>
<td>12&quot;</td>
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</tbody>
</table>

**FEATURES**

**Discharge Bowl:** Several discharge sizes available for NPT.

**Discharge Bearing:** Extra long sealed top bronze bearing insures positive shaft alignment and stabilization for extended life.

**Intermediate Bowl:** Closed grained cast 30 cast iron. Nonmetallic coatings on 7" and larger pumps for maximum efficiency and abrasion resistance.

**Impellers:** Designed for maximum efficiency with wide range hydraulic coverage.

**Upthrust Collar:** Designed for extra margin of safety against possible momentary upthrust occurring at startup.

**Intermediate Bowl Bearings:** Reliable long life rubber bearings (optional bronze available).

**Taperlocks:** Accurately machined to insure positive locking of impeller to pump shaft.

**Suction Inlet:** Contoured for smooth flow entrance. Protected by an oversized stainless steel strainer to prevent entrance of damaging solids.

**Suction Adapter:** Class 40 cast iron for increased strength and positive motor alignment. Open area permits easy access to pump/motor coupling.

**Pump and Motor Geating:** Large stainless steel coupling accurately matched for perfect alignment, balance and power transmission.

**Pump Shaft:** 100,000 PSI high tensile stainless steel provides strength and excellent corrosion resistance. Ground and polished for smooth bearing surfaces.

**Powered for Continuous Operation:** All ratings are within the working limits of the motor manufacturer. Pump can be operated continuously with no fear of damage to the motor.

**Franklin Electric Motor:**
- Corrosion-resistant construction.
- Stainless steel splined shaft.
- Hermetically sealed windings.
- Anti-track self-healing resin system.
- Water lubrication.
- Filter check valve.
- Kingsbury-type thrust bearing.
- Pressure equalizing diaphragm.
- Sand fighter slinger.
- Removable water-block lead connector.
- UL 778 recognized.
Characteristics based upon pumping clear, non-aerated water. Rating point only is guaranteed. Column losses not included.
Model 5CLC 110 GPM

**Dimensions and Weights**

<table>
<thead>
<tr>
<th>HP</th>
<th>Stages</th>
<th>W.E. Order Number</th>
<th>W.E. Length</th>
<th>W.E. Weight (lbs.)</th>
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<tbody>
<tr>
<td>6</td>
<td>8</td>
<td>5CLC00844CTB</td>
<td>25½</td>
<td>75</td>
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<tr>
<td>7½</td>
<td>4</td>
<td>5CLC0754LCTB</td>
<td>20½</td>
<td>75</td>
</tr>
<tr>
<td>10</td>
<td>8</td>
<td>5CLC01504CCTB</td>
<td>25¼</td>
<td>85</td>
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<tr>
<td>15</td>
<td>8</td>
<td>5CLC01504CCTB</td>
<td>25¼</td>
<td>85</td>
</tr>
<tr>
<td>20</td>
<td>12</td>
<td>5CLC02084CTB</td>
<td>7½1/4</td>
<td>183</td>
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<tr>
<td>25</td>
<td>15</td>
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<td>80</td>
<td>233</td>
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<tr>
<td>30</td>
<td>17</td>
<td>5CLC03084CTB</td>
<td>95½</td>
<td>267</td>
</tr>
</tbody>
</table>

(All dimensions in inches and weights in lbs. Do not use for construction purposes.)

**Materials of Construction**

- **Shaft**: ASTM A572 TYPE 416
- **Coupling**: ASTM A572 9x1600 CS
- **Suction Adapter**: ASTM A572 CL 30/60
- **Discharge Fitting**: ASTM A594 CL 30/60
- **Impeller**: ASTM A594
- **Base Plate**: ASTM A120 BR 10D
- **Bowl**: ASTM A479 CL 300
- **Thrust Collar**: ASTM A578 341000
- **Sand casting**: ASTM A240 3 30400
- **Suction Strainer**: ASTM A240 S 304000

**4" NPT Discharge Connection**

- **W.E.**: 5/8" 5/8" 3/4" with cable guard
- **Effective diameter**: 5/8" 3/4" 3/4" (4" MTR.)

**Recommended operating range**

- **Alternate pump selection is available**

**PLEASE NOTE:**
- *Order motor separately.
- *For intermediate horsepower pumps consult factory.
- *Solid line is recommended operating range. The dotted line (--- ) indicates alternate pump selection is available.
- *Please specify all optional changes in W.E. order number.**
SUBMERSIBLE PUMP CABLE

ISULATION: POLYVINYL CHLORIDE
AND NYLON

ACKET: POLYVINYL CHLORIDE

IZES: 12-2 AWG, 3 CONDUCTOR WITH GROUND

0 VOLTS, 90°C DRY, 75°C WET

.0 SCOPE:

1.1 600 volt, submersible pump cable with
THHN/THWN insulated conductors and PVC
jacket. The insulation is rated 90°C Dry and
75°C wet.

.0 CONSTRUCTION:

2.1 Conductor:

Class C stranded, soft, bare, copper per
ASTM B 3 and B 8.

2.2 Insulation:

Heat and moisture resistant, polyvinyl,
chloride meeting the requirements of UL 83.
The insulation thickness is in accordance with
Table 15.5 of UL 83.

2.3 Insulation Jacket:

A nylon jacket shall be applied over the
insulation. the nylon meets the requirements
of UL 83 and conforms to the thickness given
in Table 15.5 of UL 83.

<table>
<thead>
<tr>
<th>NUMBER OF INSULATED CONDUCTORS</th>
<th>CONDUCTOR SIZE (AWG)</th>
<th>GROUNDING CONDUCTOR SIZE (AWG)</th>
<th>INSULATION THICKNESS PVC/NYLON (MILL)</th>
<th>JACKET THICKNESS (MILL)</th>
<th>CABLE WEIGHT (LB/FT)</th>
<th>CABLE O.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>12</td>
<td>12</td>
<td>16/4</td>
<td>30</td>
<td>15/8</td>
<td>0.89 x 0.20</td>
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<tr>
<td>3</td>
<td>10</td>
<td>10</td>
<td>20/4</td>
<td>30</td>
<td>210</td>
<td>0.78 x 0.24</td>
</tr>
<tr>
<td>3</td>
<td>8</td>
<td>10</td>
<td>30/5</td>
<td>45</td>
<td>360</td>
<td>1.01 x 0.32</td>
</tr>
<tr>
<td>3</td>
<td>6</td>
<td>6</td>
<td>30/5</td>
<td>45</td>
<td>487</td>
<td>1.17 x 0.38</td>
</tr>
<tr>
<td>4</td>
<td>4</td>
<td>4</td>
<td>40/8</td>
<td>45</td>
<td>721</td>
<td>1.47 x 0.44</td>
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<tr>
<td>2</td>
<td>2</td>
<td>6</td>
<td>40/8</td>
<td>45</td>
<td>1051</td>
<td>1.72 x 0.60</td>
</tr>
<tr>
<td>1/0</td>
<td>1/0</td>
<td>6</td>
<td>50/7</td>
<td>60</td>
<td>1657</td>
<td>2.170 x 0.64</td>
</tr>
<tr>
<td>2/0</td>
<td>2/0</td>
<td>6</td>
<td>50/7</td>
<td>60</td>
<td>1968</td>
<td>2.360 x 0.69</td>
</tr>
<tr>
<td>3</td>
<td>3/0</td>
<td>6</td>
<td>50/7</td>
<td>60</td>
<td>2424</td>
<td>2.580 x 0.74</td>
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<tr>
<td>3</td>
<td>4/0</td>
<td>6</td>
<td>50/7</td>
<td>60</td>
<td>2992</td>
<td>2.820 x 0.80</td>
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<tr>
<td>3</td>
<td>250 MCM</td>
<td>4</td>
<td>80/9</td>
<td>95</td>
<td>3530</td>
<td>3.150 x 1.00</td>
</tr>
<tr>
<td>3</td>
<td>350 MCM</td>
<td>3</td>
<td>60/9</td>
<td>95</td>
<td>4550</td>
<td>3.550 x 1.20</td>
</tr>
</tbody>
</table>

2.5 Assembly:

The insulated conductors are laid flat. The jacket
is extruded directly over the insulated conductors
encapsulating them.

2.6 Jacket:

Polyvinyl Chloride meeting the requirements of
UL 83, the thickness is in accordance with the
table below.

2.7 Color Code:

Black, red, yellow, and green

2.8 Surface Marking:

The overall jacket will have the following
information printed: PAIGE SUBMERSIBLE
PUMP CABLE NUMBER AND SIZE OF
CONDUCTORS, THHN OR THWN CDRS 75º
WET 600V(UL)
LAUNIUPOKO #2

DATE INSTALLED – 11-29-01
DATE TESTED – 11-30-01

WATER LEVEL 826'.32
BOTTOM 865'

DISCHARGE HEAD 6"

4 LENGTHS WITH CHECK VALVES, 6"X 22'2"
36 LENGTHS OF 6"X21'2"
ADAPTORS 6" X 4" 1'3"

MOTOR LENGTH 3'5"
PUMP LENGTH 7'9"

FRANKLIN ELECTRIC MOTOR
40 HP, VOLTS 480, RPM 3450, 1/0 CABLE
AMPS 54.9 FL AMPS 61.6

GOULDS PUMP
SER. # 444048
MODEL 5CLC
SIZE 918, 17 STAGES
FULL DIA. IMPELLERS

TEST RUN PUMP 11/30/01

AMPS VOLTS
1. 44 482
2. 44 484
3. 43 483

GPM 100 GAL IN 56 SECONDS
SERIES "W" TURBO-METERS

MODEL W-350 DR
Bronze Magnetic Drive Flanged Ends Size 3" (DN 80mm)

Direct Reading Registers

W-350 DR Turbo-Meter

DESCRIPTION
MODEL W-350 DR Turbo-Meter is based on the turbine principle of measurement. Its operating range is from 5 to 350 gallons per minute (1.1 to 80 m³/h) with registration accuracy of 100% ±2% of actual throughput.

CONFORMANCE TO STANDARDS: Sensus Turbo-Meters comply with ANSI/AWWA Standard C701 (most recent revision). Each meter is performance tested to ensure compliance.

PERFORMANCE: The meter's unique principle of measurement assures extended accuracy life. The W-350 DR has no restrictions as to sustained flow rates within its operating range. The design permits continuous operation up to its rated maximum flow capacity, without affecting long term accuracy or causing undue wear.

CONSTRUCTION: The meter consists of two basic assemblies—the maincase and the measuring chamber. Straightening vanes in the maincase minimize the swirl upstream of the meter so as to direct the flow evenly to the rotor. The measuring chamber assembly includes the rotor, adjusting vane (for calibration) and sealed Direct Reading (DR) register.

MAGNETIC DRIVE: The patented Right Angle Magnetic Drive eliminates conventional worm or meter gear normally required for horizontally mounted rotors. The ProIIA Magnetic Drive is accomplished by combining the magnetic actions of a driver magnet (embodied in the rear face of the rotor), a three-legged flux carrier and a cylindrical follower magnet attached to the gear train shaft inside the register's magnetic well. Water flowing through the meter causes the rotor (with magnet) to turn as one of the magnet poles passes one of the flux carrier legs, the magnetic force is transmitted through the flux carrier leg to the follower magnet, causing the register shaft to rotate. The only moving part in water is the rotor assembly.

MOTOR: The thermoplastic rotor with graphite bearing rotates on a chrome plated stainless steel shaft. The rotor assembly is weightless in water, thus adding to bearing life.

MAINTENANCE: The measuring chamber and straightening vanes can be removed, repaired and/or replaced without disturbing the maincase in the line. A spare chamber can be utilized in the event maintenance is required. Cover plates are also available to keep the line in service while the measuring chamber is repaired and recalibrated. Factory testing, repair and measuring chamber exchange programs are available.

STRAINERS: A separate strainer is recommended, but not normally required to protect the rotor. If there is debris in the pipeline, however, a separate strainer would reduce both the chance of damage and the frequency of measuring chamber removal for inspection.

SPECIFICATIONS

| SERVICE | Measurement of cold water up to 80°F (27°C) with flow in one direction only. |
| OPERATING RANGE | Continuous Flow: 6 to 350 gpm (1.1 to 80 m³/h) |
| | Intermittent Flow: 420 gpm max. (100 m³/h) |
| ACCURACY | 100% ±1.5% of actual throughput |
| LOW FLOW | 10% at 4 gpm (9.5 m³/h) |
| PRESSURE LOSS | 0.0 psi at 360 gpm (4.5 bar at 80 m³/h) |
| MAXIMUM OPERATING PRESSURE | 150 psi (10.1 bar) |
| PLUMBING | 3" U.S. ANSI 15.1 Class 125. Optional drilling, if specified. British Standard BS 10 or metric standard ISO 228/4 |
| REGISTER | Hertleman Series Direct Reading Register with Low Flow Indicator. |
| METER REGISTRATION | 100,000,000 gallons |
| | 100 gallons/revolution |
| | 1,000,000 cubic feet |
| | 10 cubic feet/revolution |
| | 100,000 m³ |
| | 0.1 m³/revolution |
| MATERIALS | Mainframe: Bronze |
| | Measuring Chamber—Thermoplastic |
| | Straightening Vanes—Thermoplastic |
| | Rotor—Thermoplastic |
| | Rotor Shaft Bearing—Graphite |
| | Trim—Stainless Steel |
| | Thrust Bearings—Tungsten Carbide |
| | Magnets—Ceramic |
**SERIES "W" TURBO-METERS**

**MODEL W-350 DR**
Bronze Magnetic Drive Flanged Ends Size 3" (DN 80mm)

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### Head Loss Curve

<table>
<thead>
<tr>
<th>Rate of Flow (gpm)</th>
<th>Head Loss (gpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>20</td>
<td>0.05</td>
</tr>
<tr>
<td>40</td>
<td>0.10</td>
</tr>
<tr>
<td>60</td>
<td>0.15</td>
</tr>
<tr>
<td>80</td>
<td>0.20</td>
</tr>
<tr>
<td>100</td>
<td>0.25</td>
</tr>
<tr>
<td>120</td>
<td>0.30</td>
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<td>140</td>
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<td>160</td>
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<td>180</td>
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</tr>
<tr>
<td>200</td>
<td>0.50</td>
</tr>
<tr>
<td>220</td>
<td>0.55</td>
</tr>
<tr>
<td>240</td>
<td>0.60</td>
</tr>
<tr>
<td>260</td>
<td>0.65</td>
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<td>320</td>
<td>0.80</td>
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<tr>
<td>340</td>
<td>0.85</td>
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<tr>
<td>360</td>
<td>0.90</td>
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<td>380</td>
<td>0.95</td>
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<td>500</td>
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### Accuracy Curve

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<th>Accuracy (%)</th>
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<tr>
<td>80</td>
<td>0.4</td>
</tr>
<tr>
<td>100</td>
<td>0.5</td>
</tr>
<tr>
<td>120</td>
<td>0.6</td>
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<tr>
<td>140</td>
<td>0.7</td>
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<tr>
<td>160</td>
<td>0.8</td>
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<tr>
<td>180</td>
<td>0.9</td>
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<td>200</td>
<td>1.0</td>
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<td>360</td>
<td>1.8</td>
</tr>
<tr>
<td>380</td>
<td>1.9</td>
</tr>
<tr>
<td>400</td>
<td>2.0</td>
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### Remote Systems—For use with all sizes of Sensus Water Meters

All Sensus AMR systems work with the same absolute encoder Electronic Communications Registers (ECR), enabling the utility to mix and match or easily move from one system to another without changing registers for each.

The TouchRead™ Automated Meter Reading and Billing System is a multi-purpose encoder remote system suitable for indoor and/or outdoor use. The ECR Register uses a wired connection between the meter and an outside remote for meter set meters—or a pooled mounted module, enabling underground meters to be read automatically without opening the meter box or vault.

All wires, connections, and terminals of the TouchRead P-U (TR/PL) modules and registers are fully sealed at the factory using a special process to ensure protection from water intrusion. The connection terminals of ECR-WP registers are also factory sealed.

Meters equipped for TouchRead System reading can be read with a visual reading device, and/or a Built-In Meter Register. For more information on TouchRead System equipment refer to bulletin RB-995, TR-995, and TR-996.

**PhonRead™ AMR**—is a reliable telephone based call-in system that does not require batteries for operation. It also does not require equipment to be installed at telephone company facilities. **PhonRead Meter Interface Units (MIU)** automatically call "In" to the utility office for transforming meter reading data from the meter site to a PC. **PhonRead** is a transparent AMR system that does not interfere with customer telephone service. For more information refer to bulletin AMR-PR02 and AMR-992.

**RadioRead™ AMR**—uses superior Direct Sequence Spread Spectrum modulation to provide reliable and virtually interference-free radio-based transmission of reading data from underground meters or inside-set meters that are equipped with Meter Transmitter Units (TXU). A choice of meter reading options is available. A handheld Radio Frequency Solid State Interrogator (RFSSI) can be used by a meter reader on foot. The RFSSI can also be used to collect readings from TouchRead equipped meters, or for manual meter reading entries. A mobile or fixed vehicle Transmitter Unit (TXU) can be used in any car or truck to read meters while on the move and eliminating the need for a dedicated radio reading vehicle. For more information refer to bulletin AMR-RR01, AMR-993 and AMR-991.

**MultiRead™ Port Expanders**—can provide the capability to connect multiple ECR-equipped meters to a single PhonRead MIU or RadioRead TXU to save time and money for installations such as apartment complexes and shopping centers. Refer to bulletin AMR-995.
April 19, 2002

Gilbert S. Coloma-Agaran  
Chairperson  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
Post Office Box 621  
Honolulu, Hawaii 96809

Re: Pump Installation Permit  
Launiupoko Well #2 (Well No. 5137-01)  
Signed Original

Thank you for your April 2, 2002 letter transmitting two (2) originals of our approved Pump Installation Permit for the above-referenced well that authorize permanent pump installation work for our well. As instructed in your letter, we are returning the enclosed fully-executed original for your files, and we have retained one original for our files.

Also as instructed, we intend to provide a copy of the Well Completion Report (Part II) at a later date.

Thank you for your assistance.

Very truly yours,

LAUNIUPOKO ASSOCIATES, LLC

cc: Mr. Mike Robertson, Wailani Drilling (w/encl.)  
    Mr. Charley Ice (w/encl.)  
    Ms. Linnel T. Nishioka (w/encl.)
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 installation for Launiupoko Well #2 (Well No. 5137-01) at Launiupoko, Lahaina, Maui, TKM 2-4-7-1, 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 521, Honolulu, HI 96809, 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 §13-168-15, Hawaii Administrative Rules.

2. The pump installation permit shall be for installation of a 110 gpm rated capacity at 850 feet ft. of head, or less, pump in the well.

3. The permittee, well operator, and/or well owner 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, well operator, and/or well owner are 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, well operator, and/or well owner 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, well operator, and/or well owner 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 and any related staff submittal approved by the Commission are incorporated into this permit by reference. This permit is also subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97). If the HWCPIS 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, well operator, and/or well owner 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, well operator, and/or well owner 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: March 20, 2002
Expiration Date: March 20, 2004

GILBERT S. COLOMA-AGARAN, 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 shall not commence work 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: [Signature]
Date: 4-11-02

Printed Name: PETER K. MARTIN Firm or Title: MEMBER, LAUNIUPOKO ASSOCIATES, LLC

Installer's Signature: [Signature] C-57 C-57a, or A License #: 2015
Date: 4-11-02

Printed Name: WALTER ROBERTSON Firm or Title: WAILANI DRILLING INC.

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

Attachments:
- USGS
- Department of Health/ Safe Drinking Water & Wastewater Branch
- Maui Department of Water Supply
- Wailani Drilling, Inc.
April 19, 2002

Gilbert S. Coloma-Agaran  
Chairperson  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
Post Office Box 621  
Honolulu, Hawaii  96809

Re:  
Pump Installation Permit  
Launiupoko Well #2 (Well No. 5137-01)  
Signed Original

Thank you for your April 2, 2002 letter transmitting two (2) originals of our approved Pump Installation Permit for the above-referenced well that authorize permanent pump installation work for our well. As instructed in your letter, we are returning the enclosed fully-executed original for your files, and we have retained one original for our files.

Also as instructed, we intend to provide a copy of the Well Completion Report (Part II) at a later date.

Thank you for your assistance.

Very truly yours,

LAUNIUPOKO ASSOCIATES, LLC

Peter K. Martin

cc: Mr. Mike Robertson, Wailani Drilling (w/encl.)  
Mr. Charley Ice (w/encl.)  
Ms. Linnel T. Nishioka (w/encl.)
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 installation for Launipoko Well #2 (Well No. 5137-01) at Launipoko, Lahaina, Maui, TMK 2-4-7.1, 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 621, Honolulu, HI 96809, 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 §13-168-15, Hawaii Administrative Rules.

2. The pump installation permit shall be for installation of a 110 gpm rated capacity at 850 feet ft. of head, or less, pump in the well.

3. The permittee, well operator, and/or well owner 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, well operator, and/or well owner are 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, well operator, and/or well owner 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, well operator, and/or well owner 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 and any related staff submittal approved by the Commission are incorporated into this permit by reference. This permit is also subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97). If the HWCP/IS 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, well operator, and/or well owner 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, well operator, and/or well owner 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: March 20, 2002
Expiration Date: March 20, 2004

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 shall not commence work 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: 
Printed Name: PETER K. MARTIN Firm or Title: MEMBER, LAUNIPOKO ASSOCIATES, LLC
Installer's Signature: 
Printed Name: MITCHELL ROBERTSON Firm or Title: WAILANI DRILLING, INC

Please sign both copies of this permit, return one to the Chairperson, and retain the other for your records.
April 19, 2002

Gilbert S. Coloma-Agaran
Chairperson
Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii
Post Office Box 621
Honolulu, Hawaii 96809

Re: Pump Installation Permit
Launiupoko Well #2 (Well No. 5137-01)
Signed Original

Thank you for your April 2, 2002 letter transmitting two (2) originals of our approved Pump Installation Permit for the above-referenced well that authorize permanent pump installation work for our well. As instructed in your letter, we are returning the enclosed fully-executed original for your files, and we have retained one original for our files.

Also as instructed, we intend to provide a copy of the Well Completion Report (Part II) at a later date.

Thank you for your assistance.

Very truly yours,

LAUNIUPOKO ASSOCIATES, LLC

Peter K. Martin

cc: Mr. Mike Robertson, Wailani Drilling (w/encl.)
    Mr. Charley Ice (w/encl.)
    Ms. Linnel T. Nishioka (w/encl.)
PUMP INSTALLATION PERMIT
Launiupoko Well #2, Well No. 5137-

Note: This permit shall be prominently displayed at the site until the work is completed

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 installation for Launiupoko Well #2 (Well No. 5137-01) at Launiupoko, Lahaina, Maui, TMK 2-4-7:1, 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 621, Honolulu, HI 96803, 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 §13-168-15, Hawaii Administrative Rules.

2. The pump installation permit shall be for installation of a 110 gpm rated capacity at 850 feet ft. of head, or less, pump in the well.

3. The permittee, well operator, and/or well owner 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, well operator, and/or well owner are 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, well operator, and/or well owner 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, well operator, and/or well owner 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 and any related staff submittal approved by the Commission are incorporated into this permit by reference. This permit is also subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97). If the HWCPIS 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, well operator, and/or well owner 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, well operator, and/or well owner 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: March 20, 2002
Expiration Date: March 20, 2004
GILBERT S. COLOMA-AGARAN, 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 shall not commence work 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: [Signature]
Printed Name: [Name] Firm or Title: [Title]

Installer's Signature: [Signature]
Printed Name: [Name] Firm or Title: [Title]

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

Attachments:
USGS
Department of Health/ Safe Drinking Water & Wastewater Branch
Maui Department of Water Supply
Wailani Drilling, Inc.
April 2, 2002

Mr. Peter Martin  
Launiupoko Associates, LLC  
173 Hoohana Street, #201  
Kahului, HI 96732

Dear Mr. Martin:

Pump Installation Permit  
Launiupoko Well #2 (Well No. 5137-01)

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, well operator, and/or well owner 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, well operator, and/or well owner are 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.

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 - Pump installation shall not commence until a fully signed permit is 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.

Finally, this letter is notice that we have accepted your Well Completion Report - Part I as complete as of March 20, 2002.

If you have any questions, please call Charley Ice of the Commission staff at 587-0251 or toll-free at 984-2400 extension 70251.

Aloha,

GILBERT S. COLOMA-AGARAN  
Chairperson

Enclosure

c: Wailani Drilling, Inc.
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 installation for Launiupoko Well #2 (Well No. 5137-01) at Launiupoko, Lahaina, Maui, TMK 2-4-7:1, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

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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

USGS
Department of Health/ Safe Drinking Water & Wastewater Branch
Maul Department of Water Supply
Wailani Drilling, Inc.
Mr. Peter Martin  
Launiupoko Associates, LLC  
173 Hoohana Street, #201  
Kahului, HI 96732

Dear Mr. Martin:

Well Completion Report Part 1 and Pump Installation Permit Application  
Launiupoko Well #2 (Well No. 5137-01)

We received your Well Completion Report Part I for the Launiupoko Well #2 (Well No. 5137-01) on February 4, 2002 and acknowledge that it is complete. Therefore, we can now accept your pump installation permit application as complete. You can expect your application to be processed within 90 days from this date.

If you have any questions, please contact Charley Ice of the Commission staff at 587-0251 or toll-free at 984-2400, extension 70251.

Sincerely,

LINNEL T. NISHIOKA  
Deputy Director

CC: Wailani Drilling, Inc.
**COMMISSION ON WATER RESOURCE MANAGEMENT**  
**ROUTE SLIP FOR PERMIT ISSUANCE**

**FROM:**  
CHARLEY BAUER, G.  
CHING, F.  
FUJII, N.  
HARDY, R.  
HIGA, D.  
HIRANO, E.  
IMATA, R.  
JINNAI, R.  
KUNIMURA, I.

**DATE:**  
22 March

**TO:**  
LEW, A.  
NAKAMA, L.  
NAKANO, D.  
NISHIOKA, L.  
OHYE, M.  
SAKODA, E.  
SUBIA, S.  
UYENO, D.  
YODA, K.

**INIT.**  

**FOR:**  
3 Approval  
3 Signature  
4 Information

**PLEASE:**  
See Me  
1 Review & Comment  
Take Action  
2 Type Draft  
5 File  
Xerox ___ copies

---

**WELL NUMBER:** 513701  
**WELL NAME:** Launipoko #2

- **WELL CONSTRUCTION**
  - ATTACHMENTS FOR WELL CONSTRUCTION PERMIT:
    - 1 COVER LETTER
    - 2 PERMIT (2x)
    - 3 PUMP TEST
    - 4 DOH COMMENTS
    - 5 LAND DIV. COMMENTS
    - 6 WCR FORM
    - [USGS MAP]  
    - [PARCEL CHECK]  
    - [DATABASE PRINTOUT]
    - [WELL CHECK DAT]

- **PUMP INSTALLATION**
  - ATTACHMENTS FOR PUMP INSTALLATION PERMIT:
    - 1 COVER LETTER
    - 2 PERMIT (2x)
    - 3 DOH COMMENTS
    - 4 LAND DIV. COMMENTS
    - 5 WCR FORM
    - 6 WUR FORM
    - [USGS MAP]
    - [PARCEL CHECK]
    - [DATABASE PRINTOUT]
    - [GLENNY'S WORKSHEET]

---

**I'm lost,**  
PIPA came in on 12/19... but we never accepted?  
Rate change went from 450 gpm to 110 gpm.  
110 gpm @ 850 ft head, both w/ >70 gpm variance.  
Where is WCR1 route slip?  
application was separate: WC and PL; WCR1 attached. Original WCRA indicated interest in 450 gpm, but that hasn't worked out. PIPA requests 107.

We had not accepted PIPA because work under WCRA ran into expiration time. Because of the stopped issue, we decided to accept and move on. That letter (left my desk Feb 11 (copy attached) but yellow final never came back.

? Please see me

---

O.F. extra pump  
rectify consists of construction period - O.F. 40, not really any violation
Wailani Drilling Company

Mike Robertson  655 Kulike Road  Haiku, Maui, Hawaii 96708
Ph. 808/572-2673  Fax 572-0925  Cellular 264 7079

FAX MEMO

For: Charlie
From: Mike Robertson

Re: Lamunipoko #2 Pump issue re:
proposed permanent pump

Thank you: Mike Robertson
Goulds
5" - 10" Texas Submersible Turbine Pumps

For 6" and larger wells

### Specifications

<table>
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<th>Model</th>
<th>Operating Range (GPM)</th>
<th>Motor Efficiency Range (Percent)</th>
<th>Maximum Pressure</th>
<th>Maximum Well Size</th>
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### Features
- Discharge Bowl: Several discharge sizes available for NPT.
- Discharge Bearing: Extra long sealed taper bronze bearing assures positive shaft alignment and stabilization for extended life.
- Intermediate Seal: Closed greased O-ring cast iron. Nonmetallic coatings on 7" and larger pumps for maximum efficiency and abrasion resistance.
- Impellers: Designed for maximum efficiency with wide range hydraulic coverage.
- Uppermost Collar: Designed for extra margin of safety against possible momentary upset occurring at start-up.
- Intermediate Seal Bearing: Reliable long life rubber bearings (optional bronze available).
- Tapered Shafts: Accurately machined to insure positive locking of impeller to pump shaft.
- Sealing Lobe: Contoured for smooth flow entrance. Protected by an oversized stainless steel stabilizer to prevent entrance of damaging solids.
- Sealing Adapter: Class 40 cast iron for increased strength and positive motor alignment. Open area permits easy access to pump/motor coupling.
- Pump and Motor Coupling: Large stainless steel coupling accurately matched for perfect alignment, balance and power transmission.
- Pump Shaft: 100,000 PSI high strength stainless steel provides strength and excellent corrosion resistance. Ground and polished for smooth operation.
- Pumps for Confined Operation: All ratings are within the working limits of the motor manufacturer. Pumps can be operated continuously with no fear of damage to the motor.
- Franklin Electric Motor:
  - Corrosion-resistant construction.
  - Stainless steel spined shaft.
  - Hermetically sealed windings.
  - Anti-SESS self-sealing resin system.
  - Water lubrication.
  - Filter check valve.
  - Kingsbury-type thrust bearing.
  - Pressure equalizing diaphragm.
  - Sand lighter slinger.
  - Removable water-blue lead connector.
  - UL 776 recognized.
For: Charles Ika  
From: Mike Robertson  

Re:  

Enclosed is the pump curve for the proposed permanent pump for Joanningske well # 2. (You requested)  
Capacity at 850 feet is 110 gpm.  

Thank you: Mike Robertson
COMMISSION ON WATER RESOURCE MANAGEMENT

FROM: LINNEL DATE: FEB - 5 2002 SUSPENSE DATE:___________________________

TO: INIT. TO: INIT. FOR: PLEASE:
____ BAUER, G. ___ KUNIMURA, I. ___ Approval ___ See Me
____ CHING, F. ___ NAKAMA, L. ___ Signature ___ Review & Comment
____ DANBARA, S. ___ NAKANO, D. ___ Information ___ Take Action
____ FUJII, N. ___ NISHIOKA, L. ___ Type Draft
____ HARDY, R. ___ OHYE, M. ___ Type Final
____ HIGA, D. ___ SAKODA, E. ___ File
____ HIRANO, E. ___ SUBIA, S. ___ Xerox ___ copies
____ ICE, C. ___ SWANSON, S. ___ Last person - trash
____ IMATA, R. ___ UYENO, D. ___
____ JINNAI, R. ___ YODA, K. ___

I have noted the violation in case of repeat see note

---

No. so they are still drilling? What is the purpose of the extension if they submitted well? We have PIPA to accept steel and if [W.R.] is acceptable, then maybe we should just accept PIPA process (through DOH) and get this done - not really work w/o a permit.
February 4, 2002

Linnel T. Nishioka  
Deputy Director  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
Post Office Box 621  
Honolulu, Hawaii 96309

Re:  
Well Completion Report and Pump Installation Permit Application for Well No. 5137-01

Dear Ms. Nishioka:

We received your January 4, 2002 letter requesting a response regarding our Well Completion Report Part I and Pump Installation Permit Application for the above-referenced well. As described in his January 9, 2002 letter to you, Mike Robertson (Wailani Drilling) misunderstood the permit process, and was unaware of the requirement to complete the well project before the permit expired. In relying on Wailani Drilling Inc.'s expertise, we regrettably miscalculated the expiration date of the permit, and so did not submit a timely request for extension.

Please accept our apology to the State Water Commission for this unintended violation. We humbly request an after-the-fact extension of our permit.

Thank you for your consideration.

Very truly yours,

LAUNIUPOKO ASSOCIATES, LLC

Peter K. Martin  
Managing Member

PKM:jc

cc: Charley Ice, Maui Agent (via fax: 808-587-0219)  
Mr. Mike Robertson, Wailani Drilling, Inc. (via fax: 808-572-0925)
<table>
<thead>
<tr>
<th>TO:</th>
<th>INIT.</th>
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<th>FOR:</th>
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? Don't they have a pending PIPA? Shall we cancel the one we have them reapply for both?
February 4, 2002

Linnel T. Nishioka
Deputy Director
Commission on Water Resource Management
Department of Land and Natural Resources
State of Hawaii
Post Office Box 621
Honolulu, Hawaii 96309

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Very truly yours,

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Peter K. Martin
Managing Member

PKM:jc

cc: Charley Ice, Maui Agent (via fax: 808-587-0219)
Mr. Mike Robertson, Wailani Drilling, Inc. (via fax: 808-572-0925)
COMMISSION ON WATER RESOURCE MANAGEMENT

FROM: LINNEL

DATE: JAN 11 2002

TO: BAUER, G.  INIT.  TO: KUNIMURA, I.  INIT.  FOR: Approval
CHING, F.  INIT.  NAKAMA, L.  INIT.  Signature
DANBARA, S.  INIT.  NAKANO, D.  INIT.  Information
FUJII, N.  INIT.  NISHIOKA, L.  INIT.  
HARDY, R.  INIT.  OHYE, M.  INIT.  
HIRANO, E.  INIT.  SAKODA, E.  INIT.  
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IMATA, R.  INIT.  SWANSON, S.  INIT.  
JINNAI, R.  INIT.  UYENO, D.  INIT.  
YODA, K.  INIT.  

PLEASE:

See Me
Review & Comment
Take Action
Type Draft
Type Final
File
Xerox copies
Last person - trash

30 Jan 02: (Mike) sez Peter Martin would have written but decided against "overkill".
He was 93% added stuff, he should write, but will proceed if he want.

[Signature]
To: Linnel T. Nishioka  
Deputy Director of C.W.R.M.

Subject: Response to your letter dated 1/4/02 to Mr. Peter Martin re Well # 5137-01

Dear Linnel:

Please accept my apology for the delay in completing this project and turning in the reports. This letter is a follow up to a letter sent with the well completion report forms on 12/12/01 (attached).

It seems lately that there are areas of the State Water Standards with which I have not clearly understood, and this has become evident, since your office has become better organized. I was under the impression that work had to be started before the permit expired, not completed. I assumed that if work was started before the permit expired, that the permit would be valid until the project was completed.

The reason I assumed this is because I assumed the permit process for the State was similar to the County building permits for construction work. When I had a permit to build an addition on my house 2 years ago, it stated that as long as there was progress on the job every 90 days, the permit was good until the job is completed.

The first time I became aware that the well project had to be completed before the permit expired was in Nov. 2001 when Charlie Ice called me and asked about extending The Omaopio-Siele Well No. 4821-02. Charlie asked how long did I think John Siele would need to extend his permit so that he could have the project completed before the permit expired. I told Charlie that I did not realize it had to be completed but only started before the permit expired.

Charlie brought to my attention that I was uninformed about the way the permit timing works.

Please again forgive my ignorance. There are a great many details in the State Water Well Standards and I am trying my best to learn and comply with them.

I guess the only thing I can do at this point is ask for an after the fact extension. Speaking on behalf of Mr. Peter Martin; He was completely relying on me to handle the reporting the the Water Commission, and had no idea that the permit was technically expired.

I apologize you have to deal with a few issues like this lately, but I can only hope that by working through the details and processes, in the long run, we can contribute to making the process operate more smoothly.

Thank You For Your Attention In This Matter.

Sincerely,

Mike Robertson

President of Wailani Drilling Inc.

c. Charlie Ice

Certified by and a member of the National Ground Water Association
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All work was completed by 7/25/00, but I was not given final recommendations from Tom until later.

Also the surveyor just recently signed the WCR I form.

Thank you for your cooperation in this matter.

Mike Robertson
Certified By And A Member Of The National Ground Water Association
January 4, 2002

Mr. Peter Martin
173 Hoohana St., Ste. 201
Kahului, HI 96732

Dear Mr. Martin:

**Well Completion Report and Pump Installation Permit Application for Well No. 5137-01**

We received your Well Completion Report Part I and your Pump Installation Permit Application for the Launiupoko Well #2 (Well No. 5137-01) on December 14, 2001. However, matters which must be addressed before we accept your report as complete and accept the application are as follows:

1. The well construction permit expired June 22, 2000. Work was not completed until July 25, 2000, technically a violation of your permit.

Please respond to the above item(s) within thirty (30) days of this letter's date. Failure to do so may result in fines of up to $1000 per day.

If you have any questions, please contact Charley Ice of the Commission staff at 587-0251 or toll-free at 984-2400, extension 70251.

Sincerely,

[Signature]

LINNEL T. NISHIOKA
Deputy Director

Cl:ss

c: Wailani Drilling Company
Wailani Drilling Company
Lic.#C20115

Mike Robertson 655 Kulike Road Haiku, Maui, Hawaii 96708
Ph.808/572-2673 Fax 572-0925 Cellular 264 7079

FAX MEMO

For: Linne Nishioka
From: Mike Robertson

Re: 4 Pages including this cover sheet.

Hand copies to follow in the mail

Thank you:

Mike Robertson
To: Linnel T. Nishioka
   Deputy Director of C.W.R.M.

Subject: Response to your letter dated 1/4/02 to Mr. Peter Martin re. Well # 5137-01

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Sincerely,

Mike Robertson
President of Wailani Drilling Inc.

certified by and a member of the national ground water association
To: Charlie Ice  
For: State of Hawaii Water Resource Commission  
RE: Launiupoko Paper work  

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Mike Robertson  
Certified By And A Member Of The National Ground Water Association
Mr. Peter Martin  
173 Hoonana St., Ste. 201  
Kahului, HI 96732  

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If you have any questions, please contact Charley Ike of the Commission staff at 587-0251 or toll-free at 984-2400, extension 70251.  

Sincerely,  

LINNEL T. NISHIOKA  
Deputy Director  

Cl:ss  

C: Wailani Drilling Company
FROM: CHARLEY
DATE: 18-Dec-01
SUSPENSE DATE: 

TO: BAUER, G.
TO: CHING, F.
TO: FUJI, N.
TO: HARDY, R.
TO: HIRANO, E.
TO: HIGA, D.
TO: IMATA, R.
TO: JINNAI, R.
TO: KUNIMURA, I.
INIT. LUM, A.
INIT. NAKAM, L.
INIT. NAKANO, D.
INIT. NISHIOKA, L.
INIT. OHYE, M.
INIT. SA, K.
INIT. SAKODA, E.
INIT. SUBIA, S.
INIT. SWANSON, S.
INIT. UYENO, D.
INIT. YODA, K.

DATE: 18-Dec-01

WELL NUMBER 5137-01
WELL NAME Launiupoko 2

□ WELL CONSTRUCTION □ PUMP INSTALLATION □ BOTH

ATTACHMENTS FOR APPLICATION PROCESSING - Both applicant & staff generated
1 TRANS. LETTER
2 CWRM MAP
3 APPL. FORM (3X)
4 USGS MAPS (3X)
5 TAX MAPS (3X)
6 PARCEL OWNER VERIF. MLS PRINTOUT
7 CONTRACTOR VERIF. DCRA LICENSE SCREEN PRINTOUT
8 ALL INFO FILLED IN
9 BACKGROUND CHECK

FOLDER:
☐ MADE NEW FILE FOLDER, ATTACHED
☐ FILE FOLDER ALREADY MADE, IN FILE CABINET

INCOMPLETE ACTION DATES:

DATE ACTION
Sent WRT to Clerk
Use seems high for domestic only.
(≈ 69 lots)
31 Dec 01 Should we request letter explaining why work was
done on expired permit? yes in one letter.

Please make a separate acceptance letter for application.
A few months after we get their letter explaining
why work done beyond permit date, then we can
accept application. Also, see comment on pump test
analysis - seems incomplete (our internal problem -
not applicant or drillers)
January 4, 2002

Mr. Peter Martin
173 Hoohana St., Ste. 201
Kahului, HI 96732

Dear Mr. Martin:

Well Completion Report and Pump Installation Permit Application for Well No. 5137-01

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Sincerely,

LINNEL T. NISHIOKA
Deputy Director

Cc: Wailani Drilling Company
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
APPLICATION FOR PERMIT

- Well Construction and/or - Pump Installation

Instructions: Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 821, Honolulu, Hawaii 96819. Application must be accompanied by 3 copies and a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may accept complete applications. For assistance, call the Regulation Branch at 887-0225. For further information and updates, visit http://www.state.hawaii.gov/dlrwperm.

APPICANT INFORMATION: (Fill out all three, if applicable, and place a check next to the primary contact)

1. (a) □ WELL OWNER: Lauauipeko, Agent Contact Person: Peter Matsu Phone: 871-5924
    Mailing Address: 590 Aalii St. P.O. Box 242, Hilo, HI 96720
    Fax: 877-3409 E-mail: 

   (b) □ LAND OWNER: Same Contact Person: Phone: 
    Mailing Address: 
    Fax: E-mail: 

   (c) □ CONTRACTOR: Wakihi Drilling Contact Person: Home Phone: 808-722-4673
    Mailing Address: E-Mail: 
    Fax: 5720925 

WELL & PUMP INFORMATION: (Please fill in the diagram on the back of this form.)

2. WELL NAME: Lauauipeko, Hilo Well 5137-01 Island: Maui
    Address Lahaina, Maui, HI Mailing Address: Tax Map Key: Z.: 0-4-7 01-21
    Zone Sec Plat Parcel

   Well Name: Lauauipeko Hilo Well 5137-01 Island: Maui
   Address Lahaina, Maui, HI Mailing Address: Tax Map Key: Z.: 0-4-7 01-21
   Zone Sec Plat Parcel

   Location: (circle one) 87-57 87-67 or A)

   Attach the relevant portion of (a) a 7.5-Minute Series USGS topographic map (scale 1:24,000) and include the name of the quad map, and (b) a property tax map, showing well location referenced to established property boundaries.

3. PROPOSED WORK: (check all that apply)
   □ Construct New Well
   □ Install New Pump
   □ Modify Existing Well
   □ Modify Pump
   □ Abandon/Seal

   □ State Well No.: 5137-01 (if unknown, please call Commission at 887-0225)

4. CONSTRUCTION: □ Drilled □ Dug □ Shaft □ Tunnel
   Is this well part of a battery of wells? □ Yes □ No (Please describe)

5. PROPOSED PUMP INFORMATION: Rated Pump Capacity: 107 gallons per minute
   Pump Type (Check one):
   □ Deep Well Turbine □ Rotary □ Propeller
   □ Submersible □ Rotary-Displacement □ Reciprocating
   □ Centrifugal □ Rotary-Gear □ Impulse

6. PROPOSED USE: (check all that apply)
   □ Municipal (including hotels, stores, etc.)
   □ Domestic (individual, noncommercial water system)
   □ Industrial
   □ Irrigation (crop)
   □ No. of Acres:
   □ Military
   □ Other (explain):

   Does this well serve 25 or more people at least 60 days per year or have 16 or more service connections? □ Yes □ No

7. (a) PROPOSED AMOUNT OF WITHDRAWAL: 160,000 gallons per day
   (b) METHOD OF FLOW MEASUREMENT: □ Flowmeter □ Open-pipe □ Weir □ Office □ Other (explain)

8. OTHER Important INFORMATION:
   □ CDUP □ SMAP □ EIS □ EA □ No Other (explain)

9. REMARKS, EXPLANATIONS:

I understand that approval of this application attaches the following standard conditions: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 90 days after the completion date of the permitted work; 3) monthly water use data shall be submitted to the Commission; 4) such approval shall not constitute a determination of cumulative water rights and shall not guarantee the pump capacity or future use up to the permitted pump capacity.

For official use only

Well Owner: Signature: Date: 12/12/01
Laufunpeko, Agent: Peter Matsu: Date: 12/12/00
Land Owner: Signature: Date: 12/12/01
Laufunpeko, Agent: Peter Matsu: Date: 12/12/00
Contractor: Wakihi Drilling: Signature: Date: 12/12/01

Latitude: Aquifer System No.
Longitude: State Well No.
10. PROPOSED WELL SECTION (Please attach schematic if different from diagram provided below)

Solid Casing Material:
- Carbon Steel: compliant with (check one or more): ANSI/AWWA C200, API Spec. 5L, ASTM A53, ASTM A139
- Stainless Steel: (check one): ASTM A480 (production well), ASTM A312 (monitor well)

Open Casing Material:
- Carbon Steel: compliant with (check one or more): ANSI/AWWA C200, API Spec. 5L, ASTM A53, ASTM A139
- Stainless Steel: (check one): ASTM A480 (production well), ASTM A312 (monitor well)

For non-salt water Basin Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or, Bottom Elevation of Well Limit = (Ground Elevation - x Water Level Elevation )

Example: Estimated + 2 ft. Water Level Elev. → Bottom Elevation of Well Limit = (2 - 1.25 ft.) = -0.75 ft.
Return Receipt Fax Memo

For: Charlie Ice

Charlie. Enclosed are the following items:

✓ Signed Well Completion Report I for Launiupoko Well # 5137-01
✓ Well log (2 copies)
✓ Step drawdown test results.
✓ Constant Rate test results.
✓ Permanent pump application with $25.00 application fee
✓ Letter addressing well report progress.

Please confirm receipt by checking off the enclosed items and faxing a copy of this memo to me at 808-572-0925.

From: Mike Robertson

Thank you: Mike Robertson
Mr. Peter Martin  
Launiupoko Associates, LLC  
590-A Old Stable Road  
Paia, HI 96779  

Dear Mr. Martin:  

Renaming Launiupoko Wells  
Well Nos. 5138-01 and 5137-01  

In accord with the request made through Lisa Applegate of Austin Tsutsumi & Associates, we are renaming Launiupoko Well and Launiupoko Backup Well as follows:  

<table>
<thead>
<tr>
<th>Well No.</th>
<th>Former Name</th>
<th>New Name</th>
</tr>
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<tbody>
<tr>
<td>5138-01</td>
<td>Launiupoko Well</td>
<td>Launiupoko Well #1</td>
</tr>
<tr>
<td>5137-01</td>
<td>Launiupoko Backup Well</td>
<td>Launiupoko Well #2</td>
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If you have any questions, please contact Charley Ice of the Water Commission staff at 587-0251 or toll-free at 984-4644, extension 70251.  

Sincerely,  

LINNEL T. NISHIOKA  
Deputy Director  

CI:ss
To: Charlie Ice  
For: State of Hawaii Water Resource Commission  
RE: Launiupoko Paper work

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Thank you for your cooperation in this matter.

Mike Robertson

Certified By And A Member Of The National Ground Water Association
| FROM: Charley | TO: BAUER, G. | INIT: | TO: HARDY, R. | INIT: R |
| | FUJII, N. | | HIRANO, E. | |
| | OHYE, M. | please log | SAKODA, E. | |
| | JINNAI, R. | | NAKANO, D. | |
| | IMATA, R. | | NISHIOKA, L | |
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| | HIGA, D. | | SUBIA, S. | |
| | | | YODA, K. | |

COMMISSION ON WATER RESOURCE MANAGEMENT

DATE: 10 Dec 01

SUSPENSE DATE

PLEASE:

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

Please See Me

14 Dec 00

Comments 2 (HBA)

Please turn into any work
Mr. Peter Martin  
Launiupoko Associates  
590-A Old Stable Road  
Paia, Hawaii 96779  

Dear Mr. Martin:  

Well Construction Permit  
Launiupoko Backup (Well No. 5137-01)  

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) which authorizes well construction activities but excludes installation work for your permanent pump. As part of the Chairperson’s approval, the following special conditions were added and are part of your permit under Permit Condition 12:  

Special Conditions  

1. Attached for your information is a copy of the Department of Health’s (DOH) review comments. Please note DOH’s requirements related to discharge of effluent from well drilling and testing activities.  

2. Except for salt-water wells, any well constructed in basal aquifers for the purpose of nonpotable or potable water withdrawal shall be initially designed and pumped tested at a depth below sea level not exceeding one-fourth of the theoretical thickness (41 times the head) of the basal ground-water body, unless authorized by the chairperson.  

3. The casing material shall conform to the requirements in Hawaii Well Construction and Pump Installation Standards (January, 1997).  

This permit does not authorize work for your permanent pump installation. Approval and issuance of your pump installation permit is contingent upon completed application and information provided to and accepted by Commission staff as required in the Well Construction & Pump Installation Standards (1/23/97) and any special conditions performed under this permit. However, in accordance with the Commission’s April 15, 1998 Declaratory Ruling No. DEC-ADM98-G3, which states that:  

“Permanent pump installation for capacities between 0-70 gpm and where the proposed use is for private individual needs in non-ground-water management areas may be allowed prior to the final pump installation permit issuance. When required as a condition of the well construction permit, subsequent pumping tests shall validate the acceptability of the permanent pump. The permanent pump installed prior to final pump installation permit issuance is subject to removal if the testing shows that a smaller pump is required to reduce the potential of affecting neighboring wells and localized upconing at the applicant’s well.”
Mr. Peter Martin
Page 2

A permanent pump may be installed prior to the permanent pump installation permit issuance. If you qualify and wish to take advantage of this ruling, please include a written request to install the permanent pump prior to final pump installation permit issuance when you return to us your validated well construction permit.

To validate your permit, please sign and have the contractor sign both permit originals and return one for our files. Also, copies of the aquifer pump test worksheet and the well completion report form are enclosed for your use. Please provide all the information in this packet to your well drilling contractor.

IMPORTANT - The well owner is responsible for all conditions of the permit. This includes ensuring that the well construction contractor, or other party who constructs the well(s), submits a completed Part I of the Well Completion Report form (enclosed) within sixty (60) days after the well construction 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.

If you have any questions, please call the Commission staff at 587-0251 or toll-free at 984-2400 (Maui), extension 70251.

Aloha,

MICHAEL D. WILSON
Chairperson

Enclosures
WELL CONSTRUCTION PERMIT
Launiupoko Backup Well, Well No. 5137-01

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 construction and testing of Launiupoko Backup Well (Well No. 5137-01) at Lakeside, Maui, TMK 4-1-01-21, subject to the Hawaii Well Construction & Pump Installation Standards (123SM7) which include but are not limited to the following conditions:

1. The Chairperson of the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work authorized by this permit commences.

2. The well construction permit shall be for construction and testing of the well only. A minimum one-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pump testing worksheet is attached). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump shall be installed until a pump installation permit is approved and issued by the Chairperson.

3. In basal ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basal ground water unless otherwise authorized by the Chairperson.

4. The permittee shall incorporate mitigation measures to prevent construction debris from entering the aquatic environment, to schedule work to avoid periods of high rainfall, and to revegetate any cleared areas as soon as possible.

5. In the event that subsurface cultural remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work and contact the Department's Historic Preservation Division (587-0045) immediately.

6. The proposed well construction 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 the well shall not constitute a determination of cumulative water rights.

7. The following shall be submitted to the Chairperson within sixty (60) days after completion of work:
   b. Elevation (referenced to mean sea level, real survey by a Hawaii-licenced 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 other data.

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

9. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (123SM7).

10. 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 well construction 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.

11. 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(10) prior to any well sealing or plugging work.

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

Date of Approval: June 22, 1996
Expiration Date: June 22, 2000

I have read the conditions and terms of this permit and understand them. I accept and agree to these conditions as a prerequisite and underlying condition of my ability to proceed. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day.

Permittee's Signature: [Signature]
Date: 8/15/98
Printed Name: [Name]
Firm or Title: [Firm or Title]

Driller's Signature: [Signature]
License #: 2015
Date: 8/17/98
Printed Name: [Name]
Firm or Title: [Firm or Title]

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

Attachment:
USGS
Department of Health/ Safe Drinking Water, Wastewater, and Clean Water Branches
Hawaii Department of Water Supply
For: Charlie
From: Mike Robertson 12/6/01

Re: Enclosed is the signed Wilson Pump permit as requested and the signed Launipoko Well Construction Permit which was in our files with the start work letter. On the file it was written that it was sent on Aug. 17, 1998.

Thank you:

Mike Robertson
Wailani Drilling Inc. Lic.#C57-20115
Mike Robertson 655 Kulike Road Haiku, Maui, Hawaii 96708
Fax 572-0925 Cellular 283-8481

8/17/98

To: Charlie Ice
For: Water Resource Commission

Dear Charlie:

This is to provide written notice for starting work on the following well:

Launiupoke Well #2 State Well #5137-01

Please fax a response to me to confirm.

Thank You,

Mike Robertson
dba Wailani Drilling Inc.
Wailani Drilling Company

Mike Robertson
655 Kulike Road Haiku, Maui, Hawaii 96708
Ph 808/572-2673
Fax 572-0925 Cellular 264 7079
12/6/01

Return Receipt Fax Memo

For: Charlie Ice

Enclosed are the following items:

✓ Signed Well Construction permit Application for Launiupoko Well 2 #5137-01
✓ Signed Pump Installation Permit for Wilson Well #5515-02

Please confirm receipt by checking off the enclosed items and faxing a copy of this memo to me at 808-572-0925.

From: Mike Robertson

Thank you:

Mike Robertson
Wailani Drilling Inc. Lic.#C57-20115
Mike Robertson 655 Kulike Road Haiku, Maui, Hawaii 96708
Fax 572-0925 Cellular 283-8481

To: Charlie Ice
For: Water Resource Commission

8/17/98

Dear Charlie:

This is to provide written notice for starting work on the following well:

Launiupoko Well # 2  State Well # 5137-01

Please fax a response to me to confirm.

Thank You,
Mike Robertson
dba Wailani Drilling Inc.

11 Dec 01: This permit expired last June. Applicant must reapply.

Certified By The National Groundwater Association
| FROM: Charley | DATE: 05 Dec 01 | SUSPENSE DATE |
| TO: | INIT. | TO: | INIT. | FOR: | PLEASE: |
| ___ BAUER, G. | | | | Approval | Review & Comment |
| ___ FUJII, N. | | | | Signature | Type Draft |
| ___ OHYE, M. | | | | Information | Type Final |
| ___ JINNAI, R. | | | | | File |
| ___ IMATA, R. | | | | Xerox ____ copies | |
| ___ NAKAMA, L. | | | | Take Action: | |
| ___ HIGA, D. | | | | Please See Me | |

14Dec00

Take Action:
Please See Me

6-22-00

(5137-01)
FAX: Transmitting 1 pages, including this one; call 587-0251 with any reception problems.

TO: Mike Robertson
FROM: Charley Ike
Date: 01 April
Time: ______________

Forgot to add: hold for Wailani transmittals
Can you indicate the relative positions of the existing Lumiupoko well and the proposed new backup well? (on a map)

07 Apr: telean established location of existing well
14 Apr: step drawdown data will be reviewed, resubmitted
constant-rate test with 450 gpm rated pump @ 750' depth yields 400 gpm at discharge point; earlier tests @ 730 gpm shows hardly any dd

Return Fax: 587-0219
Return Post: P.O.Box 621, Honolulu 96809
<table>
<thead>
<tr>
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<th>SRC OBJ</th>
<th>COST CTR</th>
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<th>PH ACT</th>
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</table>

REMARKS: LINE (1) Well No. 5137-01 (PIPA)

LINE (2) 

---

**PAYMENT**

PAY TO THE ORDER OF State Water Commission

Twenty-Five and 00/100 DOLLARS

MEMO Well #2

---

REMARKS: LINE (1) Well No. 5137-01 (PIPA)

LINE (2) 

---
December 27, 2001

Linnel T. Nishioka  
Deputy Director  
Commission on Water Resource Management  
Department of Land and Natural Resources  
State of Hawaii  
Post Office Box 621  
Honolulu, Hawaii 96809

Re: Address Correction

Thank you for your December 13, 2001 letter concerning renaming of our Launiupoko Wells (Nos. 5138-01 & 5137-01). Please note that the letter was sent to my home address. I would appreciate a change in your records to direct future correspondence to the following business address:

LAUNIUPOKO ASSOCIATES, LLC  
173 Ho’ohana St., Ste. 201  
Kahului, HI 96732

Thank you for your attention to this matter.

Very truly yours,

LAUNIUPOKO ASSOCIATES, LLC

Peter K. Martin
Well Name: Launiupoko #2  Well No. 5137-01
Date of Test: 7/18/00
Date of Analysis: 31-Dec-01

Alternative way for determing T from step-drawdown data (Mink, per. comm)

\[ Q = \text{ft}^3/\text{d} \]
\[ Q_1 \text{ (gpm)} = 850 = 163625 \text{ ft}^3/\text{d} \]
\[ s = \text{ft} \]
\[ Q_2 \text{ (gpm)} = 450 = 86625 \text{ ft}^3/\text{d} \]

Set up two equations:

\[ s_1 = jQ_1 + nQ_1^2 \]
\[ s_2 = jQ_2 + nQ_2^2 \]

\[ Q_2 = \text{86625} \quad s_2 = \text{4.13} \]
\[ Q_1 = \text{163625} \quad s_1 = \text{10.76} \]

Well Depth below sea level = 864.08

Radius of well (ft) = 0.5 = r

\[ n = s_1 - (Q_1/Q_2)s_2/Q_1(Q_1-Q_2) = 2.34849E-10 \]
\[ j = s/Q - nQ = 2.7333E-05 \]

Laminar flow equation:
\[ s = jQ = 4.472361 \quad 41.56\% \text{ Head loss due to laminar flow} \]

Thiem Eq.
\[ T = \frac{1}{2\pi j} (\ln(re/r)) \]

\[ re = \text{Well Depth BSL} \times 1.6 = 1382.528 \]

Therefore:
\[ T = \frac{1}{2\pi j} (\ln(re/r)) = 46145 \text{ ft}^2/\text{d} \]
Transmissivity [ft³/d]: $1.53 \times 10^4$

Hydraulic conductivity [ft/d]: $2.48 \times 10^2$

Aquifer thickness [ft]: 62.00
Pumping Test No. Constant Rate Test conducted on: 7/20-21/00
5137-01 Launiupoko #2
Discharge 20597.50 ft³/d Distance from the pumping well 1.00 ft
Static water level: 826.90 ft below datum

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<th>Water level</th>
<th>Drawdown</th>
<th>Corrected drawdown</th>
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<td>[ft]</td>
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MEMO and ROUTE SLIP

12/17/01

WCR 1 Check for Well No. 5137-01 (survey to regulation memo)

1. Pump Tests Check
   Glenn Bauer *(initial)*
   
   **Yes**  **No**  **If no, describe deficiency**
   
   **Step-Drawdown Test:**
   
   followed WCPI Stds  
   analysis attached  
   proposed pump cap o.k.  
   
   **Aquifer Pump Test:**
   
   followed WCPI Stds  
   T & S analysis attached  
   
   **Well Interference:**
   
   estimated Steady-State  
   drawdown at 1-mile radius is _______ ft.  
   analysis attached  
   
   **Stream Surface Water Impacted:**
   
   
   
   
   

2. Construction Check
   Mitch Ohye *(initial)*
   
   **Yes**  **No**  **If no, describe deficiency**
   
   data complete  
   followed WCPI Stds  
   well database updated  
   
   

3. Charley/Lenore/Ryan *(initial)*
   
   take action based on above analysis
   
   ATTACHMENTS FOR PUMP INSTALLATION PERMIT:
   
   1 COVER LETTER  
   2 PERMIT (2x)  
   3 DOH COMMENTS  
   4 LAND DIV. COMMENTS  
   5 WCR 2 FORM  
   6 WUR FORM  
   
   To be sent to applicant
   
   
   

4. Roy *(initial)*
5. Subia *(initial)* finalize
6. Linnel *(initial)* signature
7. Charley/Lenore/Ryan File
# WELL COMPLETION REPORT

**State of Hawaii**  
**COMMISSION ON WATER RESOURCE MANAGEMENT**  
Department of Land and Natural Resources  
12/17/97 WCR Form

**WELL CONSTRUCTION REPORT**

### Part I. Well Construction

- **Drilling Company**: Weikai Drilling  
- **Name of driller who performed work**: Mike Krypton  
- **Type of rig/construction**: Air Rotary  
- **Date(s) Well Construction and pump tests (if any) completed**: 7/25/00  
- **GROUND ELEVATION** (referenced to mean sea level, msl): 828.2 ft.  

#### Depths (ft.)  
- **Rock Description, Water Level, Dates, etc.**  
  - 0 to 12: Top soil Silts  
  - 12 to 35: Tuff Rock  
  - 35 to 50: Blue Rock (If more space is needed, continue on back.)  

- **Total depth of well below ground**: 865 ft.  
- **Annuities**  
  - Grouted from 4 ft. below ground to 510 ft. below ground  
  - Gravel packed from 50 ft. below ground to 510 ft. below ground

- **Initial water level**: 826.63 ft. below R.P.  
- **Initial temperature**: 75°F  
- **Initial chloride**: 60 ppm  

- **FILTING TESTS**: Reference Point (R.P.) used: Well plate top, which elevation is 832.33 ft.  
  1. **Step-Drawdown Test Date**: 7/18/00  
  2. **Long-Term Aquifer Test Date**: 7/20/00

#### Pump Test Procedures data & graphs (12/17/97 SOPTD & CRPD forms) attached?  
- **Yes**  
- **No**

### Part II. Permanent Pump Installation

- **Applicant (print)**: Launipoko Assn., LLC  
- **Signature**

---

<table>
<thead>
<tr>
<th>Depth Range</th>
<th>Rock Description</th>
<th>Date of Measurement</th>
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<tbody>
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<td>0 to 12</td>
<td>Top soil Silts</td>
<td>7/18/00 8:15 AM</td>
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<tr>
<td>12 to 35</td>
<td>Tuff Rock</td>
<td>7/18/00 4:00 AM</td>
</tr>
<tr>
<td>35 to 50</td>
<td>Blue Rock</td>
<td>7/18/00 9:00 AM</td>
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</tbody>
</table>
PART II. (PERMANENT) PUMP INSTALLATION REPORT

20. Pump Installation Company: ____________________________
21. Name of person performing work: ______________________
22. Date Pump Installation Completed: _____________________
23. PUMP INSTALLATION:
   Pump Type, Make, Serial No.: ____________________________ Capacity: _______ gpm
   Motor type, H.P., Voltage, rpm: __________________________
   Depth of Pump Intake Setting ________ ft. below ___________, which elevation is _______ ft.
   Depth to bottom of airline ________ ft. below ___________, which elevation is _______ ft.
   Pumping Head is ________ ft. Type of flow meter: __________ which measures in _______
24. As-built drawings attached? Yes No
25. Other remarks/comments: (See below)

Pump Installation Contractor (print) __________________________ C-57 Lic. No. __________
Signature __________________________ Date __________

Applicant (print) __________________________
Signature __________________________ Date __________

8.(cont’d) DRILLER’S LOG (cont’d):

<table>
<thead>
<tr>
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<th>Rock Description, Remarks, Dates (ft.)</th>
<th>Depth (ft.)</th>
<th>Rock Description, Remarks, Dates (ft.)</th>
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<td>960 to 965</td>
<td>Dense BR.</td>
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<td>Hard blue rock</td>
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**STEP-DRAWDOWN PUMP TEST DATA**
(not required for wells producing < 100,000 gpd or 70 gpm)

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<th>Actual Elapsed Time</th>
<th>Depth to water</th>
<th>Drawdown S</th>
<th>Pumping rate Q</th>
<th>EC (μmhos)</th>
<th>Cr (mg/l)</th>
<th>Temp. °F or °C</th>
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Flow Meter Reading Start: 250,913 gallons

**START TEST** Date: 7/3/98  Time of day: 8:15 AM

START test/ Step 1

Step 2 begin?

Chloride sample taken
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<th>Actual Elapsed Time (min)</th>
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<th>Drawdown S (unadjusted to nearest 0.1 ft)</th>
<th>Pumping rate Q (at least 3 stops) (gpm)</th>
<th>EC (umhos)</th>
<th>Cl⁻ (mg/l)</th>
<th>Temp. °F or °C</th>
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**Max possible duration**

water level or quality did not stabilize for any 24 period

Begin recovery data next page

Flow meter reading at end of pumped period:

\[ 252.873 \times 100 \text{ gals} \]

---

1. starting pumping rate Q
2. minimum length of step period of constant pumping rate
3. minimum mandatory Chloride (Cl⁻) measurement/sampling at end of every step
4. Use same ending drawdown figure as start for recovery
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**END TEST**  Date: 7/18/00  Time of day: 5:10 PM

**ADDITIONAL REMARKS:**

Person in charge of pump test (print): **Mike Robertson**

Signature: **Mike Robertson**

The signature above indicates that the data reported on this form is accurate and true to the best of the person's knowledge who operated this pump test.
## CONSTANT-RATE PUMP TEST DATA

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Water level measurements by:  
- □ steel tape  
- □ pressure transducer  
- □ airline

### START TEST

- Date: 7/20/00  
- Time of day: 15:42

**Flow Meter Reading Start:** 4,6300 gals

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Data in this table is for:  
- [ ] Pumped Well  
- [ ] Observation Well

Remarks:
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<th>Chloride (mg/L)</th>
<th>Flow (gals)</th>
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</table>

Max possible duration, water level or quality did not stabilize for any 24 period.

Begin recovery data next page.
Flow meter reading at end of pumped period: 200800 gals.

1 Chloride sampling required
2 Use same ending drawdown figure as start for recovery.
<table>
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<td>250</td>
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</table>

END TEST  Date: 7/2/00  Time of day: 20:02

ADDITIONAL REMARKS:

Person in charge of pump test (print): **Mike Robertson**

Signature: **Mike Robertson**

The signature above indicates that the data reported on this form is accurate and true to the best of the person’s knowledge who operated this pump test.
Launiupuko Well #2  State Well- # 5137-01  Elevation 831.12 ft above m.s.l.

Depth-ft:

0  3'x4'x 10" concrete slab
10  topsoil and silt 0-12
20  basaltic blueroek 55-110
30  AA and black cinders 110-135 (heaving formation)
40  hard blue rock 145-155
50  AA and black cinders 155-210 (heaving formation)
60  some boulders
70
80
90
100
110
120
130
140
150
160
170
180
190
200
210  medium blueroek from 210-240
220  12 in. x 3/8 in. wall corrosion resistant steel casing blank + 12 to 834 ft. perforated 834-865
230  blueroek 255-270
240  blueroek 250-270
250
260
270
280
290
300
310  blueroek 300-360
320
330
340
350
360
370  weathered blueroek 360-410
380
390
400
410  hard to med. blueroek 410-485
420
430
440
450

Continued on page 2
Launiupoko-Well #2  State Well- # 5137-01  Page 2

*Note: not drawn to scale*
Launiupoko Well #2  State Well- # 5137-01  Elevation 831.12 ft above m.s.l.

<table>
<thead>
<tr>
<th>Depth (ft)</th>
<th>Description</th>
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<tbody>
<tr>
<td>0-10</td>
<td>3&quot;x4&quot;x10&quot; concrete slab, topsoil and silt 0-12</td>
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<tr>
<td>10-60</td>
<td>Basaltic bluerock 55-110</td>
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<tr>
<td>60-110</td>
<td>AA and black cinders, 110-135 (heaving formation)</td>
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<tr>
<td>110-150</td>
<td>Hard blue rock 145-155</td>
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<tr>
<td>150-180</td>
<td>AA and black cinders, 155-210 (heaving formation), some boulders</td>
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<tr>
<td>180-210</td>
<td>Medium bluerock from 210-240</td>
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<tr>
<td>210-260</td>
<td>Bluerock 255-270</td>
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<td>260-310</td>
<td>Bluerock 300-360</td>
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<td>310-360</td>
<td>Weathered bluerock 365-410</td>
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<tr>
<td>360-410</td>
<td>Hard to medium bluerock 410-485</td>
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<tr>
<td>410-450</td>
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</table>

Total borehole alignment max deviation .25 degrees
Full circle of water visible from surface
Static water level 825.63 ft
Static head 5.49 ft

12 in x 3/8 in wall corrosion resistant steel casing blank + 12 to 834 ft
perforated 834-865

Continued on page 2
depth-ft.

*Note: not drawn to scale
**SECTION 1: WELL LOCATION INFORMATION**

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<tr>
<th>Island</th>
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<th>#VALUE!</th>
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<td>Aquifer System</td>
<td>LAHAINA</td>
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<td>Aquifer Sector</td>
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**SECTION 2: WELL SECTION DATA** (enter data in grey cells only)

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<th>Elevation at top of casing</th>
<th>ft., m.s.l.</th>
<th>Solid Casing</th>
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<tr>
<td>Cement Grout</td>
<td>ft.</td>
<td>Designation</td>
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<tr>
<td>Rock Packing</td>
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<td>Length</td>
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<tr>
<td>Hole Diameter</td>
<td>in.</td>
<td>Diameter</td>
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<tr>
<td>Total Depth</td>
<td>ft.</td>
<td>Wall Thickness</td>
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<table>
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<th>Estimated Head</th>
<th>ft., m.s.l.</th>
<th>Casing</th>
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<td>County Water Supply (Y/N ?)</td>
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**SECTION 3: CHECKLIST** (values to check are shaded)

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<td>Theoretical Thickness of Aquifer</td>
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<td>1/4 Aquifer Thickness</td>
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<td>Depth of Well below Sea Level</td>
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<table>
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<th>Well Casing</th>
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</thead>
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<td>Minimum Wall Thickness</td>
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<tr>
<td>Material</td>
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<tr>
<td>County or Non-County</td>
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<tr>
<td>Minimum Thickness per standards</td>
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<tr>
<td>Wall Thickness Provided</td>
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<tr>
<td>Minimum Length of Solid Casing</td>
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<td>90% of ground to top of aquifer</td>
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<tr>
<td>Length of solid casing Provided</td>
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<tr>
<td>Casing Material</td>
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<tr>
<td>Annular Space</td>
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<tr>
<td>If the cell above reads #N/A, reference HWCPIS</td>
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<tr>
<td>Depth of Grouting</td>
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<tr>
<td>Calculated Depth of Grouting</td>
</tr>
<tr>
<td>Depth of Grouting provided</td>
</tr>
<tr>
<td>Thickness of Annular Space</td>
</tr>
</tbody>
</table>
Mr. Peter Martin
Launiupoko Associates
590-A Old Stable Road
Paia, Hawaii 96779

Dear Mr. Martin:

Well Construction Permit
Launiupoko Backup (Well No. 5137-01)

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) which authorizes well construction activities but excludes installation work for your permanent pump. As part of the Chairperson's approval, the following special conditions were added and are part of your permit under Permit Condition 12:

Special Conditions

1. Attached for your information is a copy of the Department of Health's (DOH) review comments. Please note DOH's requirements related to discharge of effluent from well drilling and testing activities.

2. Except for salt-water wells, any well constructed in basal aquifers for the purpose of nonpotable or potable water withdrawal shall be initially designed and pump tested at a depth below sea level not exceeding one-fourth of the theoretical thickness (41 times the head) of the basal ground-water body, unless authorized by the chairperson.

3. The casing material shall conform to the requirements in Hawaii Well Construction and Pump Installation Standards (January, 1997).

This permit does not authorize work for your permanent pump installation. Approval and issuance of your pump installation permit is contingent upon completed application and information provided to and accepted by Commission staff as required in the Well Construction & Pump Installation Standards (1/23/97) and any special conditions performed under this permit. However, in accordance with the Commission's April 15, 1998 Declaratory Ruling No. DEC-ADM98-G5, which states that:

"Permanent pump installation for capacities between 0-70 gpm and where the proposed use is for private individual needs in non-ground-water management areas may be allowed prior to the final pump installation permit issuance. When required as a condition of the well construction permit, subsequent pumping tests shall validate the acceptability of the permanent pump. The permanent pump installed prior to final pump installation permit issuance is subject to removal if the testing shows that a smaller pump is required to reduce the potential of affecting neighboring wells and localized upconing at the applicant's well."
a permanent pump may be installed prior to the permanent pump installation permit issuance. If you qualify and wish to take advantage of this ruling, please include a written request to install the permanent pump prior to final pump installation permit issuance when you return to us your validated well construction permit.

To validate your permit, please sign and have the contractor sign both permit originals and return one for our files. Also, copies of the aquifer pump test worksheet and the well completion report form are enclosed for your use. Please provide all the information in this packet to your well drilling contractor.

IMPORTANT - The well owner is responsible for all conditions of the permit. This includes ensuring that the well construction contractor, or other party who constructs the well(s), submits a completed Part I of the Well Completion Report form (enclosed) within sixty (60) days after the well construction 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.

If you have any questions, please call the Commission staff at 587-0251 or toll-free at 984-2400 (Maui), extension 70251.

Aloha,

MICHAEL D. WILSON
Chairperson

Enclosures
WELL CONSTRUCTION PERMIT
Launiupoko Backup Well, Well No. 5137-01

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 construction and testing of Launiupoko Backup Well (Well No. 5137-01) at Lahaina, Maui, TMK 4-7-01-21, 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 of the Commission on Water Resource Management (Commission), P.O. Box 621, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work authorized by this permit commences.

2. The well construction permit shall be for construction and testing of the well only. A minimum one-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pump testing worksheet is attached). The permittee shall submit to the Chairperson the test results as a basis for supporting an application to install a permanent pump and withdraw water for use. No permanent pump may be installed until a pump installation permit is approved and issued by the Chairperson.

3. In basal ground water, the depth of the well may not exceed one-fourth (1/4) of the theoretical thickness (41 times initial head) of the basal ground water unless otherwise authorized by the Chairperson.

4. The permittee shall incorporate mitigation measures to prevent construction debris from entering the aquatic environment, to schedule work to avoid periods of high rainfall, and to revegetate any cleared areas as soon as possible.

5. In the event that subsurface cultural remains such as artifacts, burials or concentrations of shells or charcoal are encountered during construction, the permittee shall stop work and contact the Department's Historic Preservation Division (587-0045) immediately.

6. The proposed well construction 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 the well shall not constitute a determination of correlative water rights.

7. The following shall be submitted to the Chairperson within sixty (60) days after completion of work:
   b. Elevation (referenced to mean sea level, msl) 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 records, including time, pumping rate, drawdown, chloride content, and other data.

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

9. The well construction permit application is incorporated into this permit by reference and is subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97).

10. 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 well construction 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.

11. 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.

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

Date of Approval: June 22, 1998
Expiration Date: June 22, 2000

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. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day.

Permittee's Signature: ___________________________ Date: ______________

Printed Name: ___________________________ Firm or Title: ___________________________

Driller's Signature: ___________________________ 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.

Attachment
USGS
Department of Health/ Safe Drinking Water, Wastewater, and Clean Water Branches
Maul Department of Water Supply
TO: Honorable Lawrence Miike, Director  
Department of Health  
Attention: Dennis Tulang, Wastewater Branch  
William Wong, Safe Drinking Water Branch

FROM: Michael D. Wilson, Chairperson  
Commission on Water Resource Management

SUBJECT: Well Construction Permit Application  
Launipoko Backup Well (Well No. 5137-01)

Transmitted for your review and comment is a copy of the captioned well application.

We would appreciate your comments on the captioned application for any conflicts or inconsistencies with the programs, plans, and objectives specific to your department. Please respond by returning this cover memo form by May 15, 1998.

Please find a map, attached, to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Charley Ice of the Commission staff at 587-0251.

Cl: ss  
Attachment(s)

RESPONSE:

[] This well qualifies as a source which will serve as a source of potable water to a public water system (serving 25 or more people at least 60 days per year or has 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-20-29.

[] This well does not qualify as a source serving a public water system (serves less than 25 people or more people at least 60 days per year or 15 service connections) and if the well water is used for drinking, the private owner should test for bacteriological and chemical presence before initiating such use and routinely monitor the water quality thereafter. However, if future planned use from this source increases to meet the public water system definition then Director of Health approval is required prior to implementation.

[] If the well is used to supply both potable and non-potable purposes in a single system, the user shall eliminate cross-connections and backflow connections by physically separating potable and non-potable systems by an air gap or an approved backflow preventer, and by clearly labeling all non-potable spigots with warning signs to prevent inadvertent consumption of non-potable water. Backflow prevention devices should be routinely inspected and tested.

[] It does not appear that this well will be used for consumptive purposes and is not subject to Safe Drinking Water Regulations.

[] For the applicant's information, a source of possible wastewater contamination is not located near the proposed well site (information attached).

[] Other relevant DOH rules/regulations, information, or recommendations are attached.

[] No comments/objections

Contact Person: William Wong  
Phone: 586-4258

Signed: William Wong  
Date: 05/14/98
The Department of Health, Clean Water Branch has the following comments:

1. For Well-Drilling Activities

Any discharge to State waters of treated process wastewater effluent associated with well drilling activities is regulated by Hawaii Administrative Rules, Chapter 11-55, Appendix I, effective September 22, 1997. Treated process wastewater effluent covered by this general permit includes well drilling slurries, lubricating fluids wastewaters, and well purge wastewaters. This general permit does not cover well pump testing. The applicable Notice of Intent Forms and filing fee shall be submitted at least thirty (30) days before the start of discharge to the Department of Health, Clean Water Branch at 919 Ala Moana Boulevard, Room 301, Honolulu, Hawaii 96814-4920 or P.O. Box 3378, Honolulu, Hawaii 96801-3378. Inquiries may be directed to the Clean Water Branch at (808) 586-4309 or by fax at (808) 586-4352.

2. For Well Pump Testing

The discharger shall take all measures necessary to prevent the discharge of pollutants from entering state waters. Such measures shall include, if necessary, containment of the initial discharge until the discharge is essentially free of pollutants. If the discharge is entering a stream or river bed, best management practices shall be implemented to prevent the discharge from disturbing the clarity of the receiving water. If the discharge is entering a storm drain, the discharger must obtain written permission from the owner of that storm drain prior to discharge. Furthermore, best management practices shall be implemented to prevent the discharge from collecting sediments and other pollutants prior to entering the storm drain.

JS/cr
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P. O. BOX 621
HONOLULU, HAWAII 96809

MAY 8 1998

TO: Honorable Lawrence Miike, Director
Department of Health
Attention: Dennis Tulang, Wastewater Branch
William Wong, Safe Drinking Water Branch

FROM: Michael D. Wilson, Chairperson
Commission on Water Resource Management

SUBJECT: Well Construction Permit Application
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[ ] No comments/objections

Contact Person: Lani N. Kajiwara
Phone: 586-4294
Date: 5-13-98
TO: 
Honorable Lawrence Miike, Director 
Department of Health 
Attention: Dennis Tulang, Wastewater Branch 
William Wong, Safe Drinking Water Branch

FROM: 
for: Michael D. Wilson, Chairperson 
Commission on Water Resource Management

SUBJECT: 
Well Construction Permit Application 
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[ ] Other relevant DOH rules/regulations, information, or recommendations are attached.

[ ] No comments/objections

Contact Person: ____________________________ Phone: ____________________________

Signed: ____________________________ Date: ____________________________
Mr. Peter Martin
Launiupoko Associates
590-A Old Stable Road
Pāia, HI 96779

Dear Mr. Martin:

Well Construction / Pump Installation Permit Application for Well No. 5137-01

We acknowledge receipt, on March 25, 1998, of your completed well construction / pump installation permit application for the Launiupoko Backup Well (Well No. 5137-01). You can expect your application to be processed within ninety (90) days from this date.

For your information, the process of constructing a well is normally regulated and permitted in two (2) steps. First, a well construction permit is issued for drilling and testing purposes only. Based upon information provided by you through a Well Completion Report Part 1 (Well Construction), a pump installation permit may then be issued to authorize pump work. If a pump is installed then a Well Completion Report Part 2 (Pump Installation) is required.

If you have any questions about your permit application, please contact Charley Ice of the Commission staff at 587-0251 or toll free at 984-2400 (Maui), extension 70251.

Sincerely,

EDWIN T. SAKODA
Acting Deputy Director
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REMARKS:
LINE (1) Well No. 5137-01 (WCPA/PIPA)
LINE (2) 
LINE (3) 
LINE (4) 

WAILANI DRILLING INC.
PH: (808) 572-2673
655 KULIKE ROAD
HAiku, MAUl. HAWAII 96708

PAY TO THE ORDER OF Water Resources Commission $25.00
Twenty Five and 00/100 DOLLARS

Bank of Hawaii
PAIA BRANCH, PAIA, HI 96779

MEMO: Well No. 5137-01

3/13/98

N. POLAJO
To: Charlie Ice
For: Water Resource Commission

Dear Charlie: Enclosed are pump test reports for Maui central park wells 1 and 2. You should have all the data on well #3 recorded for a 24 hour period and also the step draw down. I don't know exactly why I didn't write the data on wells 1 and 2 as showing a 24 hour test because I did actually pump them for 24 hours as Ray Skelton with Goodfellow Brothers will verify because he had to provide the generator and fuel and repair the erosion from the water running that long. I might have just recorded it on an 8 hr. time frame because the water levels and chlorides had stabilized by then and I wasn't clear if 24 hours was actually required. I also had the data on the step tests for wells 1 and 2 but was not clear if they were required so I didn't record it on your forms at the time however it is enclosed in this packet I apologize for the confusion. I hope to stay on top of things better in the future.

Enclosed is the application for Peter Martins well in Laniupoko. As I mentioned earlier the want this well for back up use and to help relieve the existing well. Amfac has given them permission to only pump 500,000 gpd on the property regardless if it comes from one well or two.

Also enclosed are the forms for Hagar, Hipp and Ruben Gary Hipp was here so he and I both signed his but only my signature is on the other two. I am assuming we will handle it as discussed on the phone, that Hagar and Ruben can sign their copies that you sent them and I will sign the copy you sent to me.

As I discussed with you before, I am sincerely trying to work with the Commission in regards to the well drilling codes and requirements. If there is anything else outstanding Please give me a call.

I am very happy about the new rules on the pump test for wells less than 70 gpm. Thank you for streamlining the process some more. I spoke with Steve Bowles today and he said he has some reports to send you on the Maui Central Park wells also.

Mahalo for your cooperation.
Sincerely, Mike Robertson

Certified By The National Groundwater Association
TO: UNNEC

DATE: 11/24

TIME: 2:50

WHILE YOU WERE OUT

M. JUANITA CHARKAS

Phone: (808) 877-4202

TELEPHONED: PLEASE CALL

CALLED TO SEE YOU: WILL CALL AGAIN

WANTS TO SEE YOU: URGENT

RETURNED YOUR CALL

Message: Laniapoko

Well No. 5138-01

FAXED: 11/25/98

1) WP: 6/24/98

2) PIP: 12/10/98

Post-it® Fax Note 7671

Date: 11/25/98

# of pages: 6

To: JUANITA CHARKAS

From: Roy Hardy

Co./Dept.: CWRM

Phone #: 808-877-9409

Fax #: 808-877-9409

Co.: CWRM

Phone #: 587-0274

Fax #
APPLICATION FOR PERMIT

X Well Construction  Pump Installation

Instructions: Please print in ink or type and send completed application with attachments to the Commission on Water Resource Management, P.O. Box 621, Honolulu, Hawaii 96808. Application must be accompanied by a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-0225.

1. APPLICANT: (circle primary contact a, b, or c)
   (a) WELL OWNER
      Primary Fax: 808 572-0925
      Firm/Name: Laniupoko Associates
      Contact Person: Peter Martin
      Ph: 871-5924
      Address: 590-a Old Stable Rd. Paia HI 96779

   (b) LANDOWNER
      Firm/Name: Same
      Contact Person: Ph:
      Address:

   (c) CONTRACTOR
      Firm/Name: Wailani Drilling Company
      Ph: 572-2673
      Contractor's C-57 License No. C-20115
      Contact Person: Mike Robertson
      Address: 555 Kuliike Rd. Haiku, Maui, Hawaii, 96708

2. WELL LOCATION/NAME:
   backup  Island Maui
   Tax Map Key: 4-7-01-21
   (Attach a USGS map, scale 1"=2000", and a property tax map showing well location referenced to established property boundaries.)

3. (a) PROPOSED WORK
   X Drill New Well
   Deepen
   Install New Pump
   Modify Existing Well
   Redrill
   Modify Pump
   Abandon/Seal *
   Replace Pump
   * Be sure to complete and submit well abandonment report upon completion of work.

(b) WELL TYPE:
   Dug
   Bored
   Driven
   X Drilled
   Radial
   Is this well a part of a battery of wells? Yes
   X No
   (Briefly describe and fill in the diagram on the back of this form.)

4. PROPOSED PUMP INFORMATION:
   Rated Pump Capacity: 450 gallons per minute
   Pump Type:
   Deep Well Turbine
   Rotary
   Submersible
   X Centrifugal
   Rotary-Displacement
   Reciprocating
   Gas
   Motor:
   Diesel
   Impulse
   X Electric, rated horsepower: 125
   If Pump Replacement, Existing Pump Capacity: gallons per minute

5. PROPOSED USE:
   Municipal (including hotels, stores, etc.)
   Military
   X Domestic (individual, noncommercial water sys.)
   Industrial
   X Irrigation (crop) Landscape
   Other (explain)

6. (a) PROPOSED AMOUNT OF WITHDRAWAL: 600 000 gallons per day

(b) METHOD OF FLOW MEASUREMENT:
   X Flow-meter
   Open-pipe
   Orifice Plate
   Weir

7. PENDING ACTIONS:
   CDUA
   SMA
   EIS
   EA
   X NONE
   Other (explain)
   Completion Date: N.A.

REMARKS,EXPLANATIONS:

I understand that approval of this application attaches the following standard conditions: 1) the proposed work is to be completed within two (2) years of the approval date; 2) the contractor shall submit to the Commission a well completion/abandonment report within 30 days after the completion date of the permitted work; 3) monthly water use data shall be submitted to the Commission; 4) such approval shall not constitute a determination of correlative water rights and shall not guarantee the pump capacity or future use up to the permitted pump capacity.

Peter Martin  Well Owner
Signature Date: 3/23/98

Peter Martin  Landowner
Signature Date: 3/23/98

Mike Robertson  Contractor
Signature Date: 3/10/98

For Official Use Only:
Date Received  
Date Accepted  
Field Checked By  
Longitude  
Latitude  

State of Hawaii  COMMISSION ON WATER RESOURCE MANAGEMENT  Department of Land and Natural Resources

Aquifer System Name 515000  State Well No. 5137-01  11/06/95 WCP Form
8. Remarks, Explanations (cont'd):

Elevation at top of casing 802 ft., msl.

Cement Grout: 560 ft.

Rock Packing N.A. ft

Hole Diameter: 14 in.
Depth 560 ft

Diameter 12 in.
Total Depth 850

Ground Elevation: 800 ft., msl*

Solid Casing: +2 ft. to -830 ft.
Diameter 8 in. Wall thickness .35 Material steel

Casing: X Perforated Screen
Material steel
Length 20 ft.
Wall thickness .35 Openings full flow louvers

Open Hole 0 ft

*Approximate elevation at time of filing application. Ground elevation above mean sea level (msl) by a surveyor licensed by the State must be submitted at start of construction. Final elevations of well components shall be submitted in the well completion/well abandonment reports.