DAILY DRILLING REPORTS ARCHIVED MARCH '96

See Eric Hirano, DWRM
STATE WELL NO.: 5435-01
ISLAND: Kauai

WELL NAME OR DESIGNATION: Port Allen No. 1 - Well A

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

A. WELL OPERATOR
Firm name: Citizens Utilities Co.
Contact person: Paul Townsley
Address: P.O. Box 278
Elele, HI
Zip: 96705 Phone: 335-6233

B. OWNER OF WELL SITE
Firm name: Citizens Utilities Co.
Contact person: Paul Townsley
Address: P.O. Box 278
Elele, HI
Zip: 96705 Phone: 335-6233

C. WELL LOCATION
Tax Map Key: 2-1-3-12-12A
Town, Place, District: Port Allen Kauai

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

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

Ground elevation (Mean sea level): 40 ft.
Reference point (Used to measure depth to water):
Elevation: 41 ft.
Description: Well head A

Depth to water (below reference point): 41 ft.
Maximum recorded chloride: N/A ppm
Minimum recorded chloride: N/A ppm
Maximum chloride in 1987: N/A ppm

Year drilled or constructed: 1968
Well contractor: Roscoe Ross & Co.
Honolulu, HI
Casing diameter: 16 in.
Solid casing depth (below ground): 48 ft.
Perforated casing depth (below ground): 60 ft.
Total depth of well: 240 ft.

Minimum chloride in 1987: N/A ppm

E. INSTALLED PUMP DATA
Pump type: □ Vertical shaft □ Submersible □ Centrifugal □ Other (specify):
Power: □ Diesel, ___ HP □ Gas, ___ HP □ Electric, 130 HP □ Other (specify):
Pump capacity: 3750 gallons per minute
Pump installation contractor: Stearns-Roger Corp.

Denver, Colorado

For Official Use Only:
Date received: Date accepted:
Field checked by: Date: Latitude: 21°54'.09" Hydrologic Unit:
Comments: Longitude: 159°35'.17" State Well No.: 5435-01

References: Hawaii Revised Statutes, Chapter 174C.
Hawaii Administrative Rules, Chapters 13-167 to 13-171.

CITIZENS UTILITIES COMPANY
KAUAI ELECTRIC DIVISION
4392 Waiolo Road
P.O. Box 278
Elele, Kauai, Hawaii 96705-0278
F. DECLARATION OF WATER USE

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

Water use data are recorded: □ Daily □ Weekly □ Monthly

Method of measurement: □ Flow Meter □ Orifice □ Other (Describe): Calculated from Pump Curves

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

WATER USE, IN GALLONS x 1000
Battery of 3 Wells - Calculated Estimate of Usage

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
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<td>316,200</td>
<td>316,200</td>
<td>316,200</td>
<td>316,200</td>
<td>316,200</td>
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<tr>
<td>September</td>
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<td>November</td>
<td>306,000</td>
<td>306,000</td>
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<tr>
<td>December</td>
<td>316,200</td>
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<td>316,200</td>
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<tr>
<td>ANNUAL</td>
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<td>35,710,200</td>
<td>35,700,000</td>
<td>35,700,000</td>
<td>35,700,000</td>
</tr>
</tbody>
</table>

Minimum day's use: 0 gallons Maximum day's use: 5,100,000 gallons

Typical times of usage: Two wells out of three operate continuously for 11/2 months a year.

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

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

Additional Information

The water drawn from the wells is salt water/brackish water. Fresh water is not available.

Number of service connections: ___________

Acres Irrigated:

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

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

Method: □ Drip □ Furrow □ Sprinkler

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

Specify (livestock, aquaculture, etc.):

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

Water User's Signature: __________________________ Date: 2/1/87
Printed Name: Paul G. Townsley
Firm or Title (Well Operator, etc.): Manager, Production
REGISTRATION OF WELL
AND
DECLARATION OF WATER USE

STATE WELL NO.: 5435-02
WELL NAME OR DESIGNATION: Port Allen No. 2 - Well B
ISLAND: Kauai
SOURCE OR STATION NAME: (For a battery of wells):

A. WELL OPERATOR
Firm name: Citizens Utilities Co.
Contact person: Paul Townsley
Address: P.O. Box 278
Eleele, HI
Zip: 96705 Phone: 335-6233

B. OWNER OF WELL SITE
Firm name: Citizens Utilities Co.
Contact person: Paul Townsley
Address: P.O. Box 278
Eleele, HI
Zip: 96705 Phone: 335-6233

C. WELL LOCATION
Tax Map Key: 2-1-3-12-12A
Town, Place, District: Port Allen Kauai
Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

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

Ground elevation (Mean sea level): 40 ft.
Reference point (used to measure depth to water):
Elevation: 41 ft.
Description: Well head B

Depth to water (Below reference point): 41 ft.
Maximum recorded chloride: N/A ppm
Minimum recorded chloride: N/A ppm
Maximum chloride in 1987: N/A ppm
Year drilled or constructed: 1968
Well contractor: Roscoe Moss & Co.
Honolulu, HI
Casing diameter: 16 in.
Solid casing depth (Below ground): 48 ft.
Perturbed casing depth (Below ground): 60 ft.
Total depth of well: 240 ft.
Minimum chloride in 1987: N/A ppm

E. INSTALLED PUMP DATA
Pump type: [X] Vertical shaft [ ] Submersible [ ] Centrifugal [ ] Other (specify):
Power: [ ] Diesel, ____ HP [ ] Gas, ____ HP [X] Electric, 130 HP [ ] Other (specify):
Pump capacity: 3750 gallons per minute
Pump installation contractor: Stearns-Roger Corp.
Denver, Colorado

... (continued over)
F. DECLARATION OF WATER USE

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

Water use data are recorded: □ Daily □ Weekly □ Monthly

Method of measurement: □ Flow Meter □ Orifice
□ Other (Describe): Calculated from Pump Curves

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

<table>
<thead>
<tr>
<th>WATER USE, IN GALLONS x 1000</th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>January</td>
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</tr>
</tbody>
</table>

Minimum day's use: 0 gallons Maximum day's use: 5,100,000 gallons

Typical times of usage: Two wells out of three operate continuously for 11½ months a year.

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

- [ ] Municipal (Including resorts, hotels, businesses)
- [ ] Domestic (Systems serving 25 people or less)
- [ ] Irrigation
- [ ] Industrial
- [ ] Military
- [ ] Other

Category

- [ ] Additional Information
  - The water drawn from the wells is salt water/brackish water. Fresh water is not available.
  - Number of service connections: ________________________________

- [ ] Acres Irrigated:
  - [ ] Sugar
  - [ ] Pineapple
  - [ ] Other (Specify):

- [ ] Non-Crop:
  - [ ] Landscape
  - [ ] Golf Course
  - [ ] Other (Specify):

- [ ] Method:
  - [ ] Drip
  - [ ] Furrow
  - [ ] Sprinkler
  - [ ] Cooling
  - [ ] Manufacturing
  - [ ] Mill
  - [ ] Other (Specify):

- [ ] Specify (Livestock, aquaculture, etc.):

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

Water User's Signature: ________________________________ Date: 2/1/87

Printed Name: Paul G. Townsley

Firm or Title (Well Operator, etc.): Manager, Production
REGISTRATION OF WELL AND DECLARATION OF WATER USE

INSTRUCTIONS: Please type or print. If information is not available or not applicable, indicate as N/A. Fill out as completely as possible, sign, and file this form with the Division of Water Resource Management, P.O. Box 73, Honolulu, Hawaii 96809. Phone 548-3648 or 548-7545 for assistance.

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

STATE WELL NO.: 5435-03

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

A. WELL OPERATOR

Firm name: Citizens Utilities Co.
Contact person: Paul Townsley
Address: P.O. Box 278, Eleele, HI
Zip: 96705 Phone: 335-6233

B. OWNER OF WELL SITE

Firm name: Citizens Utilities Co.
Contact person: Paul Townsley
Address: P.O. Box 278, Eleele, HI
Zip: 96705 Phone: 335-6233

C. WELL LOCATION

Tax Map Key: 2-1-3-12-12A Town, Place, District: Port Allen Kauai
Attach USGS "Quad" map (scale 1:24,000), tax map, or other map showing the well location.

D. WELL DATA

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

Ground elevation (Mean sea level): 40 ft.
Reference point (Used to measure depth to water):
Elevation: 41 ft.
Description: Well Head C

Depth to water (Below reference point): 41 ft.
Maximum recorded chloride: N/A ppm
Minimum recorded chloride: N/A ppm
Loss of head in 1987: N/A ppm

E. INSTALLED PUMP DATA

Pump type: [X] Vertical shaft
Power: [ ] Diesel, ___ HP  [ ] Gas, ___ HP  [X] Electric, 130 HP  [ ] Other (specify): ______
Pump capacity: 3750 gallons per minute
Pump installation contractor: Stearns-Roger Corp.
Denver, Colorado

For Official Use Only:
Date received: 3-6-83
Date accepted: ______
Field checked by: ______ Date: ______
Latitude: 21° 54' 09"
Hydrologic Unit:
Longitude: 159° 35' 11" State Well No.: 5435-03

References: Hawaii Revised Statutes, Chapter 174C.
Hawaii Administrative Rules, Chapters 13-167 to 13-171.
F. DECLARATION OF WATER USE

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Water use data are recorded: □ Daily □ Weekly □ Monthly

Method of measurement: □ Flow Meter □ Orifice □ Other (Describe): Calculated from Pump Curves

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

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<th>Category</th>
<th>Additional Information</th>
<th>Number of service connections:</th>
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<tr>
<td>Municipal (including resorts, hotels, businesses)</td>
<td>The water drawn from the wells is salt water/brackish water. Fresh water is not available.</td>
<td></td>
</tr>
<tr>
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<tr>
<td>Irrigation</td>
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<td>□ Industrial</td>
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<td>□ Military</td>
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<tr>
<td>□ Other</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Minimum day’s use: ___________ gallons

Maximum day’s use: ___________ gallons

Typical times of usage: Two wells out of three operate continuously for 11½ months a year.

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

<table>
<thead>
<tr>
<th>Type of Use</th>
<th>Description</th>
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</thead>
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<tr>
<td>□ Military</td>
<td></td>
</tr>
<tr>
<td>□ Other</td>
<td></td>
</tr>
</tbody>
</table>

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

Water User's Signature: ____________________________ Date: __/__/19__

Printed Name: Paul G. Townsley

Firm or Title (Well Operator, etc.): Manager, Production

WATER USE, IN GALLONS x 1000

<table>
<thead>
<tr>
<th>Battery of 3 Wells - Calculated Estimate of Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>January</td>
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<tr>
<td>November</td>
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<tr>
<td>December</td>
</tr>
<tr>
<td>ANNUAL</td>
</tr>
</tbody>
</table>

Minimum day's use: ___________ gallons

Maximum day's use: ___________ gallons

Typical times of usage: Two wells out of three operate continuously for 11½ months a year.

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

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</tr>
<tr>
<td>□ Industrial</td>
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</tr>
<tr>
<td>□ Military</td>
<td></td>
</tr>
<tr>
<td>□ Other</td>
<td></td>
</tr>
</tbody>
</table>

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

Water User's Signature: ____________________________ Date: __/__/19__

Printed Name: Paul G. Townsley

Firm or Title (Well Operator, etc.): Manager, Production
Pump Test Results

Wells Tested Originally

#1 3500 gpm 3.2' Drawdown

#2 4000 gpm 4.1' Drawdown

#3 4000 gpm 12.6' Drawdown

Kauai Electric
Elec Co, Kauai
Wells Drilled Dec 1967 - Mar 1968

20 May 78
Kauai Electric
Wells A, B, C
All Well Signals Construction
April 26, 1968

Mr. Loran H. Runnells
District Manager
Roscoe Moss Company
P.O. Box 1674
Honolulu, Hawaii 96806

Dear Mr. Runnells:

Thank you for sending us the drill logs for the Wailua and Kauai Electric Co. wells which were recently completed on Kauai.

We appreciate your continued cooperation in sending our Division the records of wells drilled in the state by Roscoe Moss Co., and also the completeness of your well logs.

Very truly yours,

ROBERT T. CHUCK
Manager-Chief Engineer
April 22, 1968

Division of Water and Land Development
Department of Land and Natural Resources
State of Hawaii
P. O. Box 373
Honolulu, Hawaii 96809

Attention: Mr. Robert T. Chuck, Manager-Chief Engineer

Gentlemen:

We enclose, for your files, drilling logs for the following wells which we have drilled and completed:

1. Well at Wailua, Kauai, for Department of Land and Natural Resources, State of Hawaii;

2. Wells No. 1, 2 and 3, at Port Allen, for Kauai Electric Company, Ltd.

Very truly yours,

ROSCOE MOSS COMPANY

Loran H. Runnells
District Manager

LHR:hs
Encl
April 25, 1968

MEMORANDUM

TO: Mr. Mearle Miller, USGS

FROM: Walter O. Watson, Jr. Assistant Manager-Chief Engineer

SUBJECT: Kauai Electric Company Wells

Attached are a copy of a letter from Kauai Electric Co. giving general data on three wells drilled in 1968, and a tax map showing the location of the wells. The copies of the driller's log which are bulky are in our files for reference.

When you assign numbers to these wells, please inform us.

WALTER O. WATSON, JR.

Enc.
Mr. Robert T. Chuck  
Manager-Chief Engineer  
State of Hawaii  
Dept. of Land & Natural Resources  
Div. of Water & Land Development  
P. O. Box 373  
Honolulu, Hawaii 96809

Dear Bob:

Thanks for your letter of April 8. We are enclosing your map with the location of the wells shown.

Regards,

Very truly yours,

KAUAI ELECTRIC COMPANY, LTD.

J. T. Orrick, President
April 8, 1968

Mr. J. T. Orrick
President
Kauai Electric Company, Ltd.
P.O. Box 278
Eleele, Kauai, Hawaii 96705

Dear Mr. Orrick:

Thank you for sending us the logs for three wells which Kauai Electric Co. recently drilled at Port Allen, Kauai. Our Division makes an effort to maintain a current and complete record on wells and ground water resources throughout the state, and it is cooperation such as yours that makes the job possible.

To complete our files, we would appreciate your indicating the exact location of the three wells on the attached tax map and returning it to us.

Very truly yours,

ROBERT T. CHUCK
Manager-Chief Engineer
March 22, 1968

Mr. Robert Chuck, Manager-Chief Engineer
Division of Water & Land Development
State of Hawaii
Department of Land and Natural Resources
P. O. Box 373
Honolulu, Hawaii 96809

Dear Mr. Chuck:

For your information we are enclosing a copy of the logs on the three wells drilled at Port Allen, Kauai to obtain cooling water for our proposed new generating station.

These wells are located 50 feet apart and adjacent to the Kauai Electric Company's diesel generating plant building on land now leased from the Kauai Commercial Company, Tax Key 2-1-03-4.

Wells #1 and 2 were drilled 240' from an elevation of 42'. Well #3 was stopped at 238'. Sixty feet of 16" casing was installed in each well. Static water level was at sea level.

The three wells are rated at 3500 G.P.M. each and two will be used to supply the required 7500 G.P.M.

The temperature of the water is 71-1/2°F, the salt content 15,000 P.P.M. ± and the water is clear.

Operation is planned for December 1968.

Please let us know if additional information is desired.

Yours very truly,

KAUAI ELECTRIC COMPANY, LTD.

J. T. Orrick, President

cc: J. P. Cooke, Jr.
    Boyd Townsley

LIVE BETTER ELECTRICALLY