MEMO and ROUTE SLIP

WCR 2 Check for Well No. 5514-09 (survey to regulation memo)

1. **Pump Tests Check (special condition of PIP? Yes/No)**
   - Glenn Bauer (initial if yes)
   - 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:
     - If yes, identify most probable stream

   Geology Code for Well Index: Tho

2. **Pump Installation Check**
   - Mitch Ohye (initial)
   - Yes No
   - If no, describe deficiency
   
   - data complete
   - followed Special Cond & Elev.
   - well database updated

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

4. Roy (initial) check

5. Subia (initial) finalize

6. Dean (initial) signature

7. Charley/Lenore/Ryan File
August 7, 2003

Mr. Evan McKinney
P.O. Box 764
Haiku, HI 96708

Dear Mr. McKinney:

Well Completion Report for Well No. 5514-09

We received your Well Completion Report Part II for the Honokala-McKinney Well (Well No. 5514-09) on July 16, 2003 and acknowledge that it is complete. Other than the continuing requirement for water use reporting, the permitting requirements for this well are complete.

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), extension 70251.

Sincerely,

ERNEST Y.W. LAU
Deputy Director

C:\ss

c: Wailani Drilling, Inc.
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.hawaii.gov/dlnr/cwrml

1. State Well No.: 5514-09  Well Name: Honokala-McKinney  Island: Maui

2. Address: Honokala coastline, Makawao  Tax Map Key: 2-9-2:27


4. Date Pump Installed: 4/30/03

5. PERMANENT PUMP INFORMATION

   Pump Type, Make, Serial No.: Grundfos B05010007-P 10303 US
   Rated Capacity: 25 gpm at head of: 139 ft.
   Motor Type, H.P., Voltage, rpm: 230 114p 3450 rpm
   Type of flow meter: Turbine which measures in gallon
   Model Number MM-1 Serial Number MM1-956868

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

6. Method of flow measurement:
   □ Flowmeter Manufacturer Master Make Size __
   □ 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) Michael Robertson  Lic. No. 20115
Signature  Michael Robertson  Date: 7/1/03

Permittee (print) Evan McKinney
Signature  Evan McKinney  Date: 7/7/03
Bench mark elevation surveyed to nearest 0.01 ft. = 90.5 ft. mean sea level.

90.14 ft. mean sea level

Pump intake depth = 10.0 ft. (referenced to bench mark)

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

If airline installed, bottom of airline elevation = N/A ft. mean sea level
Wailani Drilling Company

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

7/14/2003

Return Receipt Fax Memo

For Charley Dce

Charley,

Enclosed are the following items coming by priority mail:

- WCR 2 and signed PIP, Hanawana-Douglass Well No 5412-01
- Pump Curve for Hanawana-Douglass Well No 5412-01
- WCR 2 and signed PIP, Haiku Summit Trade 2 Well No 5517-03
- Pump Curve for Haiku Summit Trade 2 Well No 5517-03
- WCR 2 and signed PIP, Honokala McKinney Well No 5514-09
- Pump Curve for Honokala McKinney Well No 5514-09
- Maui Hill Well construction permit application with: approved SMA, tax map, USGS map and $25.00 check, topo map
- Kahana Delaney Well construction permit application with: approved SMA, tax map, USGS map and $25.00 check
- Signed WCP for Stream Resources Well #3 Well #5617-04
- Signed WCP for Kahana Betsill Well #5840-04 and Start Work Notice

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

Sincerely, Michael Robertson
1. **Pump Tests Check** Glenn Bauer (initial) 

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

2. **Construction Check** Mitch Ohye (initial) 

   - data complete
   - followed Special Cond & elevations
   - well database updated

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

   ATTACHMENTS FOR PUMP INSTALLATION PERMIT:
   - 1COVER LETTER
   - 2PERMIT (2x)
   - 3DOH COMMENTS
   - 4LAND DIV. COMMENTS
   - 5WCR 2 FORM
   - 6WUR FORM
   - 7USGS MAP
   - 8PARCEL CHECK
   - 9DATABASE PRINTOUT
   - 10GLENN'S WORKSHEET
   - 11WELL AS-BUILT CHECK PRINT

4. Roy (initial) check
5. Sobia (initial) finalize
6. (initial) signature
7. Charley/Lenore/Ryan File
July 2, 2003

Mr. Evan McKinney
P.O. Box 764
Haiku, HI 96708

Dear Mr. McKinney:

Pump Installation Permit
Honokala-McKinney Well (Well No. 5514-09)

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. 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 your water use report form is enclosed for your use.

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.

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

Sincerely,

[Signature]

Peter T. Young
Chairperson

Enclosure

c: Wailani Drilling, Inc.
PUMP INSTALLATION PERMIT
Honokala-McKinney Well, Well No. 5514-09

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 Honokala-McKinney Well (Well No. 5514-09) at Honokala coastline, Maui, TMK 2-9-2:27, 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 25 gpm rated capacity at 139 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 an annual 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. The 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: June 13, 2003
Expiration Date: June 13, 2005

PETER T. YOUNG, 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: ___________________________ Date: _________________
Printed Name: _______________________________ Firm or Title: ___________________________

Installer's Signature: _________________________ Date: _________________
Printed Name: _______________________________ Firm or Title: ___________________________

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

Attachments

C:
USGS Department of Health/ Safe Drinking Water & Wastewater Branch
Maui Department of Water Supply
Wailani Drilling, Inc.
PUMP INSTALLATION PERMIT

Honokala-McKinney Well, Well No. 5514-09

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

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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 assignee, assigns, officers, employees, contractors, and agents under this permit or relating to or connected with the granting of this permit.

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PETER T. YOUNG, 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: Evan McKinney 
Date: July 10, 2003

Printed Name: Evan McKinney Firm or Title: owner

Installer’s Signature: Michael Pietrobon C-57-C-57a, or A License #: 201150  
Date: 7/10/03

Printed Name: Michael Pietrobon Firm or Title: Waianae 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
Hawaii Department of Water Supply
Waianae Drilling, Inc.
State of Hawaii  
COMMISSION ON WATER RESOURCE MANAGEMENT  
Department of Land and Natural Resources  
WELL COMPLETION REPORT - PART I  
Well Construction

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 621, 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/dlnr/cwrm/

1. State Well No.: 5514-09  
Well Name: Honokalä-McKinney  
Island: Maui

2. Address: Honokalä, Makawao  
Tax Map Key: 2-9-2:27


4. Drilling method used during construction: ✔ Rotary  □ Percussion  □ Other (describe)

5. Date Well Construction (drilled,cased,grouted) completed: 4/12/03  
Fill out attached Driller's Log

In addition to the driller's log, if a geologic log was prepared, please submit with this form.

6. Was the subject well cored?  □ Yes  ✔ No

7. Initial water-level encountered: 12.5 ft. below ground  
Date and time of measurement: 4/9/03

8. Step-Drawdown Test completed?  □ No  ✔ Yes  
Attach Step-Drawdown Test form (12/17/97 SDPTD Form)

9. Constant Rate Aquifer Test completed?  □ No  ✔ Yes  
Attach Constant Rate Aquifer Test form (12/17/97 CRPTD Form)

Parameters prior to pump test:

10. Water-level: 2.85 ft. above msl  
Date and time of measurement: 4/21/03

11. Chloride: 100 ppm  
Date and time of sampling: 4/21/03

12. Temperature: 69°F  
Date and time of measurement: 4/21/03

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

14. Fill in attached surveyor's report.

15. If a pump is not planned to be installed, please describe (below in the remarks section) how well is secured to prevent unauthorized access (example: lockable cover, threaded coupling, etc.)

16. The proposed manufacturer's rated pump capacity is 25 gpm at a head of 139 ft.

17. Remarks:


---

Licensed Driller (print)  
mike Robertson  
C-57 Lic. No. 20115

Signature  
mike Robertson  
Date 5/3/03

Permittee (print)  
Evan McKinney

Signature  
Evan McKinney  
Date 5-3-03
13. AS-BUILT WELL SECTION

Elevation at top of casing 90.714 ft., msl
(to nearest 0.01 ft.)

Bench mark elevation:
90.58 ft., msl
(Survey to nearest 0.01 ft.)

Min. 90% x (Ground Elev. - Water Level Elev.)
Length: 96 ft.
Nominal Diameter: 6" in.
Wall Thickness: .24 in.
Bottom Elevation: -26.16 ft., msl

Cement Grout: 65 ft.
(min. 70% of distance from ground elevation to top of water surface or 500 ft., whichever is less.)

Annular space between hole and casing (min. 3"):
3" in.

Rock or Gravel Packing:
- N/A ft.
- Material: 
  - Crushed Basalt
  - Rounded Gravel

Water Level Elevation: 2.85 ft., msl

≥ 90% x (Ground Elev. - Water Level Elev.)

Solid Casing Material:
- Carbon: compliant with (check one or more):
  - ANSI/WWA C200
  - API Spec. 5L
  - ASTM A53
  - ASTM A139
- Stainless Steel: (check one):
  - ASTM A242
  - Type E
  - Type S
  - Grade B
  - Other
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one)
  - Schedule 40
  - Schedule 80
- PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one)
  - Schedule 40
  - Schedule 80
  - Schedule 120
- Thermoset Plastic: (check one)
  - Filament Wound Resin Pipe conforming to ASTM D2996
  - Centrifugally Cast Resin Pipe conforming to ASTM D2997
  - Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
  - Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
  - PTFE Fluorocarbon Tubing conforming to ASTM D3296
  - FEP Fluorocarbon Tubing conforming to ASTM D3296

Open Casing Material:
- Carbon: compliant with (check one or more):
  - ANSI/WWA C200
  - API Spec. 5L
  - ASTM A53
  - ASTM A139
- Stainless Steel: (check one):
  - ASTM A242
  - Type E
  - Type S
  - Grade B
  - Other
- ABS Plastic conforming to ASTM F480 and ASTM D1527: (check one)
  - Schedule 40
  - Schedule 80
- PVC Plastic conforming to ASTM F480 and (ASTM D1785 or ASTM D2241): (check one)
  - Schedule 40
  - Schedule 80
  - Schedule 120
- Thermoset Plastic: (check one)
  - Filament Wound Resin Pipe conforming to ASTM D2996
  - Centrifugally Cast Resin Pipe conforming to ASTM D2997
  - Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D3517
  - Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C950
  - PTFE Fluorocarbon Tubing conforming to ASTM D3296
  - FEP Fluorocarbon Tubing conforming to ASTM D3296

Solid Casing: 65 ft.
Nominal Diameter: 6" in.
Wall Thickness: .24 in.
Bottom Elevation: -26.16 ft., msl

Open Casing: Perforated
Nominal Diameter: 6" in.
Wall Thickness: .25 in.
Bottom Elevation: -26.16 ft., msl

Open Hole: N/A ft.
Diameter: N/A in.
Bottom Elevation: N/A ft., msl

*msl = mean sea level

Total Depth 115 ft.

Please refer to the HAWAII WELL CONSTRUCTION AND PUMP INSTALLATION STANDARDS to ensure that your as-built is in compliance with applicable standards.

McKinney
Return Receipt Fax Memo

Charley,

Enclosed are the following items:

- ✔ Well Completion Report Part I for Honokala-McKinney Well No. 5514-09
- ✔ Driller's Log for Honokala-McKinney Well No. 5514-09
- ✔ Constant Rate Pump Test for Honokala-McKinney Well No. 5514-09
- ✔ Pump Curve for Honokala-McKinney Well No. 5514-09
- ✔ Well Head Elevation Survey for Honokala-McKinney Well No. 5514-09

- ✔ Well Completion Report Part I for Namale-Castelinni Well No. 5514-08
- ✔ Driller's Log for Namale-Castelinni Well No. 5514-08
- ✔ Constant Rate Pump Test for Namale-Castelinni Well No. 5514-08
- ✔ Pump Curve for Namale-Castelinni Well No. 5514-08
- ✔ Temporary Well Head Elevation Survey for Namale-Castelinni Well No. 5514-08

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

Sincerely,

Hannah Robertson
Well Geographic Location

Latitude 20° 55' 46.42"
Longitude 156° 13' 56.56"

Well Elevation

Benchmark Elevation 90.58
(0.01 ft. above msl)

Concrete Pad

Benchmark reference control point
MEAN SEA LEVEL

Surveyor's stamp and signature

PLOT PLAN
(Provide Latitude and Longitude of well referenced to NAD27 to nearest second)

Honokala-McKinney
Well No. 5514-09

MAY 29, 2003

Bruce R. Lee
Licensed Professional Land Surveyor No. 5983-LS
Hawaii, U.S.A.

Form 911 Page 4 of 4
## CONSTANT-RATE PUMP TEST DATA

**Pumped Well No.** 5514-09  
**Pumped Well Name** Honokala-McKinney  
**Target Q** 12,000 gpm  
**Distance between Obs. & Pumped Well** N/A ft.  
**Reference pt. for depth to water** 90.74 ft. msl  
**Static Water Level @ start of test** 2.85 ft. msl  

**START TEST**  
**Date:** 4/21/03  
**Time of day:** 8:00 am  

**Flow Meter Reading Start:** 25 gals

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<th>Depth to water (ft.)</th>
<th>Drawdown (ft.)</th>
<th>Pumping Rate Q (gpm)</th>
<th>Temp (°F)</th>
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**Water level measurements by:** ☑ steel tape  ☑ pressure transducer  ☑ airline

**Start Test**

**Start pump/Cl taken**

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<table>
<thead>
<tr>
<th>Time (min)</th>
<th>Depth to water (ft)</th>
<th>Drawdown (ft)</th>
<th>Temp (°F)</th>
<th>Chloride sampling required</th>
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<td>Max possible duration, water level or quality did not stabilize for any 24 period</td>
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Flow meter reading at end of pumped period: 12,065 gals

1 Chloride sampling required
2 Use same ending drawdown figure as start for recovery
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<th>Suggested elapsed time (min)</th>
<th>Actual elapsed time (min)</th>
<th>Depth to water (nearest 0.1 ft)</th>
<th>Recovery Drawdown (unadjusted to nearest 0.1 ft)</th>
<th>Pumping rate (gpm)</th>
<th>EC (mhos)</th>
<th>Temp (°F)</th>
<th>Data collection status</th>
<th>Remarks</th>
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END TEST Date: 4/21/03 Time of day: 4:50 pm

ADDITIONAL REMARKS:

Person in charge of pump test (print): Michael Robertson

Signature: ___________________________

The signature above indicates that the data reported on this form is accurate and true to the best of my knowledge.
SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.

4'' MOTOR STANDARD, .5 - 5 HP/3450 RPM.
6'' MOTOR STANDARD. 7.5 - 10 HP/3450 RPM.

Performance conforms to ISO 9906 Annex A
@ 2 ft. min. submergence.
# DRILLER'S LOG

## WELL NUMBER: 5514-09

<table>
<thead>
<tr>
<th>Depths (ft.)</th>
<th>Rock Description, Water Level, etc.</th>
<th>Dates</th>
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<td>0 to 15</td>
<td>Clay</td>
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<tr>
<td>15 to 45</td>
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<tr>
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<td>108 to 115</td>
<td>AA &amp; Water</td>
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Remarks:
Maui - Haiku 9514-09
To: Charley Ice

From: Michael Robertson

Re: Start Work Notice

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

Namale-Castellini Well No.5514-08

Honokala-Mckinney Well No.5514-09

These owners also want to take advantage of the declaratory ruling #DEC-ADM98-G5 as proposed pumps are rated less than 70 gpm.

Please fax a response to confirm. Thank you.

Sincerely,

Michael Robertson
Charley,

Enclosed are the following items:

- "Loose ends" check list with responses.
- Revised Lat. & Long. on Survey for Huelo-Jones Well (No.5413-12)
- Revised Lat. & Long. on Survey for Uaoa-Grossman Well (No.5616-08)
- Signed Pump Installation Permit for Papaula-Golting Well (No.5425-03)
- Well Completion Report Part II for Papaula-Golting Well (No.5425-03)
- Pump Rating Curve for Papaula-Golting Well (No.5425-03)
- Signed Well Construction Permit for Namale-Castellini Well (No.5514-08)
- Start Work Notice for Namale-Castellini Well (No.5514-08)
- Signed Well Construction Permit for Honokala-McKinney Well (No.5514-09)
- Start Work Notice for Honokala-McKinney Well (No.5514-09)

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

Sincerely,

Mike Robertson
HAWAII HISTORIC PRESERVATION DIVISION REVIEW

Log #: 30486
Doc #: 0208CD06

Applicant/Agency: Linnel T. Nishioka, Deputy Director
Address: Commission on Water Resource Management
State of Hawaii
Department of Land and Natural Resources
Commission on Water Resource Management
P.O. Box 6221 Honolulu, Hawaii 96809

SUBJECT: Chapter 6E-42 Historic Preservation Review Pertaining to the Well Construction/Pump Installation for the Proposed Honokala-McKinney (Well No. 5514-19)

Ahupua‘a: Honokala
District, Island: Makawao, Maui
TMK: (2) 2-9-002:027

1. We believe there are no historic properties present, because:
   - a) intensive cultivation has altered the land
   - b) residential development/urbanization has altered the land
   - c) previous grubbing/grading has altered the land
   - d) an acceptable archaeological assessment or inventory survey found no historic properties
   - e) other: In the event that historic sites (human skeletal remains, etc.) are identified during the construction activities, all work needs to cease in the immediate vicinity of the find, the find needs to be protected from additional disturbance, and the State Historic Preservation Office needs to be contacted immediately at 243-5169, on Maui, or at (808) 692-8023, on O‘ahu.

2. This project has already gone through the historic preservation review process, and mitigation has been completed.

   Thus, we believe that “no historic properties will be affected” by this undertaking.

Staff: Cathleen A. Dagher, Assistant Maui/Lana‘i Island Archaeologist
Date: 2 August 2002
(808) 692-8023
July 29, 2002

Mr. Evan McKinney  
P.O. Box 764  
Haiku, HI 96708

Dear Mr. McKinney:

Well Construction Permit
Honokala-McKinney Well (Well No. 5514-09)

Enclosed are two (2) copies of your approved Well Construction Permit for the captioned well(s) that authorize 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 13:

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 and a possible source of wastewater contamination near your proposed well.

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, a permanent pump may be installed prior to the permanent pump installation permit issuance 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."

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 signed well construction 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.

IMPORTANT - Drilling work shall not commence until a fully signed permit is returned to the Commission. Please provide all the information in this packet to your well drilling contractor. The permittee, well operator, and/or well owner are 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 starting from the permit approval date.

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,

[Signature]

GILBERT S. COLOMA-AGARAN
Chairperson

Enclosures

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 construction and testing of Honokala-McKinney Well (Well No. 5514-09) at Honokala Point, Makawao, Maui, TMK 2-9-2:27, 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 and staff shall be allowed to inspect installation activities in accordance with §13-168-15, Hawaii Administrative Rules.

2. The well construction permit shall be for construction and testing of the well only. A minimum 11/4-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee, well operator, and/or well owner shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pump testing worksheet is attached). The permittee, well operator, and/or well owner 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, well operator, and/or well owner 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, well operator, and/or well owner shall notify the Chairperson and contact the Department's Historic Preservation 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, well operator, and/or well owner 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 (January 23, 1997; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

10. The permit may be revoked by the Commission 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, well operator, and/or well owner 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, well operator, and/or well owner must apply for a permit abandonment in accordance with §13-168-12(f) prior to any well sealing or plugging work.

12. 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.

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

Date of Approval: July 16, 2002
Expiration Date: July 16, 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 driller have signed, dated, and returned the permit to the Commission. I also understand that non-compliance with any permit condition may be grounds for revocation and fines of up to $1000 per day starting from the permit date of approval.

Permittee's Signature: ___________________________ Date: ____________
Printed Name: ___________________________ Firm or Title: ___________________________

Driller's Signature: ___________________________ C-57 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.
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 Honokala-McKinney Well (Well No. 5514-09) at Honokala Point, Makawao, Maui, TMK 2-9-2-27, 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 and staff shall be allowed to inspect construction activities in accordance with §13-168-15, Hawaii Administrative Rules.

2. The well construction permit shall be for construction and testing of the well only. A minimum 4-inch diameter monitor tube shall be permanently installed, in a manner acceptable to the Chairperson, to accurately record water levels. The permittee, well operator, and/or well owner shall coordinate with the Chairperson and conduct a pumping test in accordance with the Standards (a pumping testing worksheet is attached). The permittee, well operator, and/or well owner 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, well operator, and/or well owner 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, well operator, and/or well owner shall stop work and contact the Department's Historic Preservation 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, well operator, and/or well owner 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 (January 23, 1997; HWCPIS). If the HWCPIS are not followed and as a consequence water is wasted or contaminated, a lien on the property may result.

10. The permit may be revoked by the Commission 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, well operator, and/or well owner 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, well operator, and/or well owner must apply for a well abandonment permit in accordance with §13-168-12(b) prior to any well sealing or plugging work.

12. 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 related to or connected with the granting of this permit.

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

Date of Approval: July 16, 2002
Expiration Date: July 16, 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 driller 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: Evan McKinney
Printed Name: Evan McKinney
Driller's Signature: Michael Robertson
Printed Name: Michael Robertson

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

Attachment:

C: USGS
Department of Health: Safe Drinking Water, Wastewater, and Clean Water Branches
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
P.O. BOX 821
HONOLULU, HAWAII 96809

June 27, 2002

TO: Honorable Bruce S. Anderson, Director
Department of Health
Attention: Dennis Tulang, Wastewater Branch
William Wong, Safe Drinking Water Branch
Dr. Keith Kawaoka, Hazardous Evaluation and Emergency Response
Alec Wong, Clean Water Branch

FROM: Gilbert S. Coloma-Agaran, Chairperson
Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
Honokala-Mckinney (Well No. 5514-19)

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit 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 July 12, 2002. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Roy Hardy of the Commission staff at 587-0225.

Class:
Attachment(s)

RESPONSE:

[1] This well qualifies as a source which will serve as a source of potable water to a public water system (defined as 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 (WAR), Title 11, Chapter 29, Rules Relating to Potable Water Systems, §11-26-20.

[1] 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 before implementation.

[1] 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.

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

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

[1] An NPDES permit is required.

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

[XX] No comments/objections

Contact Person: Dr. Keith Kawaoka Phone: 586-4249
Signed: ___________________________ Date: 7/19/02
Fax to: Commission on Water Resources Mgt. 587-0219
COMMISSION ON WATER RESOURCE MANAGEMENT
ROUTE SLIP FOR PERMIT ISSUANCE

FROM: CHARLEY BAUER, G.
DATE: 22 July 02
SUSPENSE DATE: ___________

TO: KUNIMURA, I.
INIT. MATHIAS, T.
TO: NAKANO, D.
INIT. NISHIOKA, L.
FOR: Approval
3. Approval
3. Signature
4. Information

PLEASE:
See Me
1. Review & Comment
Take Action
Type Draft
2. Type Final
File
5. File
Xerox ______ copies

WELL NUMBER 5514-09
WELL NAME Honokula-McKinney

ATTACHMENTS FOR WELL CONSTRUCTION PERMIT:
1. COVER LETTER
2. PERMIT (2x)
3. SDWB
4. WWB
5. CWB
6. HEER
7. LD
8. HP
9. PUMP TEST
10. WCR I FORM

TO BE SENT TO APPLICANT
FOR OFFICE USE ONLY

ATTACHMENTS FOR PUMP INSTALLATION PERMIT:
1. COVER LETTER
2. PERMIT (2x)
3. SDWB
4. WWB
5. CWB
6. HEER
7. LD
8. HP
9. WCR II FORM
10. WUR FORM

TO BE SENT TO APPLICANT
FOR OFFICE USE ONLY
**Well No.** 5514-09  
**Well Name** Honokala-McKinney  
**Applicant** Evan McKinney  
**Date of Review** 7/22/02  
**Reviewer** RRI

### SECTION 1: WELL LOCATION INFORMATION

<table>
<thead>
<tr>
<th>Island</th>
<th>MAUl</th>
<th>Aquifer System</th>
<th>KOOLAU</th>
<th>Aquifer Sector</th>
<th>HONOPOU</th>
</tr>
</thead>
</table>

**Proposed Use**  
Irrigation  
**Proposed Withdrawal**  
12000  
**System Sustainable Yield**  
29

### SECTION 2: WELL SECTION DATA  
(enter data in grey cells only)

<table>
<thead>
<tr>
<th>Elevation at top of casing</th>
<th>ft., m.s.l.</th>
<th>Solid Casing</th>
<th>Material</th>
<th>Designation</th>
<th>ft.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ground Elevation</td>
<td>ft., m.s.l.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cement Grout</td>
<td>ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rock Packing</td>
<td>ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hole Diameter</td>
<td>in.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Depth</td>
<td>ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Estimated Head</td>
<td>ft., m.s.l.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Calculated Aquifer Thickness</td>
<td>123 ft.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>County Water Supply (Y/N ?)</td>
<td>N</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### SECTION 3: CHECKLIST  
(values to check are shaded)

**Well Depth**

- **Theoretical Thickness of Aquifer** 123 ft.  
- **1/4 Aquifer Thickness** 30.75 ft.  
- **Depth of Well below Sea Level** 30 ft. okay (refer to HWCPIS Section 2.2)

**Well Casing**

- **Minimum Wall Thickness**
  - Material PVC
  - County or Non-County non-county
  - Minimum Thickness per standards 0.237 in.
  - **Wall Thickness Provided** 0.250 in. okay (refer to HWCPIS Section 2.4 c)
- **Minimum Length of Solid Casing** 51.3 ft.  
- **90% of ground to top of aquifer Length of solid casing Provided** 71 ft. okay (refer to HWCPIS Section 2.4 d)
- **Casing Material** Sch 40 okay (refer to HWCPIS Section 2.4 e)

**Annular Space**

- **Depth of Grouting** 39.9 ft.  
- **Depth of Grouting provided** 45 ft. okay (refer to HWCPIS Section 2.6 c)
- **Thickness of Annular Space** 3.25 in. okay (refer to HWCPIS Section 2.6 d)
Performance Curves 25 GPM

Model 25S

FLOW RANGE: 18 - 32 GPM

OUTLET SIZE: 1½ " NPT

NOMINAL DIA. 4"

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE.
4" MOTOR STANDARD. .5 -5 HP/3450 RPM.
6" MOTOR STANDARD.7.5 -10 HP/3450 RPM.

Performance conforms to ISO 9906 Annex A
© 2 ft. min. submergence.
June 27, 2002

TO: Honorable Bruce S. Anderson, Director
   Department of Health
   Attention: Dennis Tulang, Wastewater Branch
   William Wong, Safe Drinking Water Branch
   Dr. Keith Kawaoka, Hazardous Evaluation and Emergency Response
   Alec Wong, Clean Water Branch

FROM: Gilbert S. Coloma-Agaran, Chairperson
   Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
Honokala-McKinney (Well No. 5514-19)

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit 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 July 12, 2002. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Roy Hardy of the Commission staff at 587-0225.

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 (defined as 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, §11-20-20.

[ ] This well does not qualify as a source serving a public water system (serves less than 25 people or 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.

[ ] An NPDES permit is required.

[ ] No comments/objections

Contact Person: LON N KAJOHARA Phone: 586-4294
Signed: LON N KAJOHARA Date: 7-12-2002
REQUEST FOR INFORMATION

Do you have any IWS files or records on or nearby for the following:

(2) 2007 Honokula - McKinney

Honokula Road

Please check all that apply:

[ ] sewered  [ ] no record  [ ] cesspool  [ ] septic tank  [ ] aerobic unit

File # if applicable: __________  # of Bedrooms __________

Record Date: __________________________

Submit Date: __________________________

Plan Approval Date: __________________________

Inspection Date: __________________________

System "Approval for Use" Date: __________________________

Other: _____________________________________

_____________________________________________

_____________________________________________

_____________________________________________

_____________________________________________

Please fax site/plot plan if available. Thank you.
STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT
800I-BOX 201
HONOLULU, HAWAII 96813

June 27, 2002.

TO: Honorable Bruce S. Anderson, Director
Department of Health

Attention: Dennis Tulang, Wastewater Branch
William Wong, Safe Drinking Water Branch
Dr. Keith Kawaoka, Hazardous Evaluation and Emergency Response
Alex Wong, Clean Water Branch

FROM: Gilbert S. Coloma-Agaran, Chairman
Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
Honokaa-Maunaloa (Well No. 5514-09)

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit 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 July 12, 2002. If we do not receive comments or a request for additional review time by this date, we will assume that you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Roy Hardy of the Commission staff at 587-0225.

Class: Attachment(s)

RESPONSE:

1. This well qualifies as a source which will serve as a source of potable water to a public water system (defined as 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 (HARI), Title 11, Chapter 20, Rules Relating to Public Water Systems, §§11-20-20.

2. 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 installing 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.

3. 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.

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

5. For the applicable information, a source of possible wastewater contamination [see ] is not located near the proposed well site (information attached).

6. An NPDES permit is required.

7. Other relevant DOH (water) regulations, information, or recommendations are attached.

8. No comments/objections.

Contact Person: Stuart Yamada
Phone: 586-4258

Signed: [Signature]
Date: July 10, 2002
The Department of Health, Safe Drinking Water Branch has the following additional comments for the Well Construction/Pump Installation Permit Application for the Honokalai-McKinney Well (Well No. 6-5514-09 Maui):

Please be advised that the Department of Health has experienced drinking water and groundwater contamination by submersible pumps containing mercury. Specifically, the failure of the seals of the pumps allowed mercury to leak out into the well shaft resulting in contamination of the well and the water served by the well. Please review your pump specifications to be sure that the submersible pump(s) you are proposing to use do not contain materials which could result in either groundwater contamination or drinking water contamination.
Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by July 12, 2002. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Roy Hardy of the Commission staff at 587-0225.

Response:

[ ] A water lease/permit is required of this applicant and an application for such will be requested by our division.

[X] A water lease/permit is not required of this applicant.

[ ] A water lease/permit has been obtained by the applicant through lease no. __________________________.

[X] This well project [ ] requires [X] does not require a CDUP. If a CDUP is required it [ ] has [ ] has not been approved and [ ] is [ ] is not currently active.

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

[ ] No objections

[X] Other comments: Original source of private title is Land Commission Award 5250-B:2 issued between 1845 and 1855. The well's location as shown on the application map is within 200 feet of conservation district's submerged lands.

Contact Person: Gary Martin Phone: 587-0421

Signed: ____________________________ Date: _______________
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, Title 11, Chapter 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
June 27, 2002

TO: Honoroble Bruce S. Anderson, Director
    Department of Health
    Attention: Dennis Tulang, Wastewater Branch
    William Wong, Safe Drinking Water Branch
    Dr. Keith Kawaoka, Hazardous Evaluation and Emergency Response
    Alec Wong, Clean Water Branch

FROM: Gilbert S. Coloma-Agaran, Chairperson
    Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
          Honolulu-McKinney (Well No. 5514-19)

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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 (defined as serving 25 or more people at least 60 days per year or more than 15 or more service connections) and must receive Director of Health approval prior to its use to comply with Hawaii Administrative Rules (MAR), Title 11, Chapter 20, Rules Relating to Potable Water Systems, §11-20-28.

[ ] 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.

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[ ] An NPDES permit is required.

X Other relevant DOH rules/regulations, information, or recommendations are attached

[ ] No comments/objections

Contact Person: Alec Wong Phone: 586-4392
Signed: Alec Wong Date: 7/10/02

026744
June 27, 2002

Mr. Evan McKinney
P.O. Box 764
Haiku, HI 96708

Dear Mr. McKinney:

Well Construction/Pump Installation Permit Application for Well No. 5514-19

We acknowledge receipt, on June 10, 2002, of your completed Well Construction/Pump Installation permit application and filing fee for the Honokala-McKinney (Well No. 5514-19). 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 (upon completed application) 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 Roy Hardy of the Commission staff at 587-0225 or toll-free at 984-2400, extension 70225.

Sincerely,

LINNEL T. NISHIOKA
Deputy Director

Cc: Wailani Drilling, Inc.
June 27, 2002

TO: Honorable Bruce S. Anderson, Director
   Department of Health
   Attention: Dennis Tulang, Wastewater Branch
               William Wong, Safe Drinking Water Branch
               Dr. Keith Kawaoka, Hazardous Evaluation and Emergency Response
               Alec Wong, Clean Water Branch

FROM: Gilbert S. Coloma-Agaran, Chairperson
      Commission on Water Resource Management

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          Honokala-Mckinney (Well No. 5514-19)

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If the well is 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 preventive devices should be routinely inspected and tested.

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For the applicant's information, a source of possible wastewater contamination [ ] is [ 1 ] not located near the proposed well site (information attached).

An NPDES permit is required.

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

No comments/objections

Contact Person: ____________________________ Phone: ____________________________

Signed: ____________________________ Date: ____________________________
TO: Dede Mamiya, Administrator
Land Division

FROM: Linnel T. Nishioka, Deputy Director
Commission on Water Resource Management

SUBJECT: Well Construction/Pump Installation Permit Application
Honokala-McKinney (Well No. 5514-19)

Transmitted for your review and comment is a copy of the captioned Well Construction/Pump Installation permit application.

We would appreciate your comments on the captioned application with regard to the programs, plans, and objectives specific to your division. Please respond by returning this cover memo form by July 12, 2002. If we do not receive comments or a request for additional review time by this date, we will assume you have no comments.

Please find the attached maps to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Roy Hardy of the Commission staff at 587-0225.

Closure
Attachment(s)

RESPONSE:

[ ] A water lease/permit is required of this applicant and an application for such will be requested by our division.

[ ] A water lease/permit is not required of this applicant.

[ ] A water lease/permit has been obtained by the applicant through lease no. ________________________.

[ ] This well project [ ] requires [ ] does not require a CDUP. If a CDUP is required it [ ] has [ ] has not been approved and [ ] is [ ] is not currently active.

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

[ ] No objections

[ ] Other comments:

Contact Person: ________________________________ Phone: __________

Signed: ________________________________ Date: __________
TO: Don Hibbard, Administrator
   Historic Preservation

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   Commission on Water Resource Management

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   Honokala-McKinney (Well No. 5514-19)

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Please find the attached maps to locate the proposed well. If you have any questions
about this permit application, request additional information, or request additional review time,
please contact Roy Hardy of the Commission staff at 587-0225.

RESPONSE:

[ ] There may be areas in the vicinity of the well site that contain subsurface cultural remains such as artifacts,
burials or concentrations of shells or charcoal.

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

[ ] No objections

[ ] Other comments:

Contact Person: ___________________________  Phone: ________

Signed: ___________________________  Date: ________
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<td>Kimberly &amp; Ian Mufalli</td>
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**TOTAL:** 25.00

**REMARKS:**

- LINE (1): Well No. 5514  (WCPA)
- LINE (2): 19
- LINE (3): 
- LINE (4): 

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**PAYMENT**

Date: 5.30.02

Pay to the Order of the Water Resource Commission $25.00

Bank of Hawaii

PAIA BRANCH

PAIA, HAWAII 96719

To Reorder Call 1-800-355-8123
<table>
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<th>Property Address</th>
<th>Owner/Lessee</th>
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This information has been supplied by third parties and has not been independently verified by Hawaii Information Service and is, therefore, not guaranteed.
FROM: CHARLEY
TO: BAUER, G.
TO: LUM, A.
INIT: NAKANO, L.
INIT: 3 Approval
FOR: 3 Signature
PLEASE:
• Review & Comment
1
• Take Action
2
• Type Draft acknowledge letter
5
• Type Final, label new file folder
2
• File
5
• Xerox copies

DATE: 13-Jun-02
SUSPENSE DATE: 

WELL NAME: Honokā McKinney
WELL NUMBER: 5514-09

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. ✓
7 CONTRACTOR VERIF. ✓
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

Need to relabel file
STATE OF HAWAI'I
COMMISSION ON WATER RESOURCE MANAGEMENT
DEPARTMENT OF LAND AND NATURAL RESOURCES
APPLICATION FOR PERMIT

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 96826. 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 not accept incomplete applications. For assistance, call the Regulation Branch at 808-587-0225. For further information and updates to this application form, visit http://www.state.hi.us/dlnr.

APPLICANT INFORMATION: (Fill out all three, if applicable, and place a check next to the primary contact)
1. (a) WELL OWNER: Evan McKinney
   Contact Person: Evan
   Mailing Address: P.O. Box 764 Haiku, HI 96708
   Phone: Fax: E-mail:
   (b) LAND OWNER: Evan McKinney
   Mailing Address: P.O. Box 764 Haiku, HI 96708
   Phone: Fax: E-mail:
   (c) CONTRACTOR: W. R. Baldwin
   Mailing Address: 655 Koloa Rd Haiku, HI 96708
   Phone: 808-629-25
   Fax: 808-629-25
   E-mail: 808-629-25
   Lic #: 2045

WELL & PUMP INFORMATION: (Please fill in the diagram on the back of this form.)
2. WELL NAME: Hono\kula-McKinney
   Island: Maui
   Address Hono\kula Rd.
   Tax Map Key: Zone Sec. Plat.
   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 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.: ________________________ (If unknown, please call Commission at 808-587-0225)

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

5. PROPOSED PUMP INFORMATION:
   - Pump Type (Check one):
     □ Deep Well Turbine
     □ Rotary
     □ Reciprocating
     □ Submersible 1 HP
     □ Rotary-Displacement
     □ Centrifugal
     □ Rotary-Gear
     □ Impulse

6. PROPOSED USE:
   (check all that apply)
   □ Municipal (including hotels, stores, etc.)
   □ Industrial
   □ Domestic/Individual, noncommercial water system
   Does this well serve 25 or more people at least 60 days per year or have 15 or more service connections? □ Yes □ No
   □ Irrigation (crop)
   □ No. of Acres:
   □ Military
   □ Other (explain):
   □ Other

7. (a) PROPOSED AMOUNT OF WITHDRAWAL:
   Gallons per day
   (b) METHOD OF FLOW MEASUREMENT:
   □ Flowmeter □ Open-pipe □ Weir □ Orifice □ Other (explain)

8. OTHER IMPORTANT INFORMATION:
   □ CDUP □ SMAP □ EIS □ EA □ None □ Other (explain)

9. REMARKS, EXPLANATIONS:
   (If more space is needed, please attach additional sheet)
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________
   __________________________________________________________________________

For official use only
Well Owner
Landowner
Contractor
(2 forms)
Signature
Signature
Signature
Date
Date
Date

For further information and updates to this application form, visit http://www.state.hi.us/dlnr.
10. PROPOSED WELL SECTION

(Please attach schematic if different from diagram provided below)

Solid Casing: [insert diagram with relevant measurements and specifications]

Open Casing: [insert diagram with relevant measurements and specifications]

For non-salt water Basalt Wells - bottom elevation of well should not be deeper than 1/4 of aquifer thickness or
Bottom Elevation of Well Limit = \( \frac{(Water~Level~Limit)}{4} \)

Example: Estimated + 2 ft. Water Level Elev. --> Bottom Elevation of Well Limit = \( \frac{(2 - \frac{1}{4} \times 5)}{4} \) = -1.5 ft.

Solid Casing Material:
- Carbon Steel: compliant with (check one or more): ANSI/AWWA C200
- API Spec. 5L
- ASTM A53
- ASTM A139
- (check one or more): ASTM A242
- Type E
- Type S
- Grade B
- Other

Stainless Steel: (check one):
- ASTM A409 (production wells)
- ASTM A249 (monitor wells)

ABS Plastic conforming to ASTM F490 and ASTM D1527: (check one)
- Schedule 40
- Schedule 80

PVC Plastic conforming to ASTM F490 and (ASTM D1795 or ASTM D2431): (check one)
- Schedule 40
- Schedule 80
- Schedule 120

Thermoset Plastic: (check one)
- Fiberglass Reinforced Plastic Pipe conforming to ASTM D2206
- Thermoplastic Reinforced Plastic Pressure Pipe conforming to ASTM D3517
- Glass Fiber Reinforced Plastic Pressure Pipe conforming to AWWA C950
- PTFE Fluorocarbon Tubing conforming to ASTM D3296
- FEP Fluorocarbon Tubing conforming to ASTM D3298

Open Casing Material:
- Carbon Steel: compliant with (check one or more): ANSI/AWWA C200
- API Spec. 5L
- ASTM A53
- ASTM A139
- (check one or more): ASTM A242
- Type E
- Type S
- Grade B
- Other

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- PTFE Fluorocarbon Tubing conforming to ASTM D3296
- FEP Fluorocarbon Tubing conforming to ASTM D3298

* (The approximate elevation must be referenced to mean sea level (msl). At the time of application filing, final elevations of well components shall be submitted in the Well Completion/Well Abandonment reports and referenced to a benchmark which has been established by a surveyor licensed by the State.)
State of Hawaii
COMMISSION ON WATER RESOURCE MANAGEMENT
Department of Land and Natural Resources
APPLICATION FOR PERMIT
of 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 621, Honolulu, Hawaii 96809. 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 not accept incomplete applications. For assistance, call the Regulation Branch at 808-681-2255. For further information and updates to this application form, visit http://www.state.hi.us/dlnr/wrm.

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

1. (a) WELL OWNER: Evan McKinney Contact Person: Evan Phone:
   Mailing Address: P.O. Box 764 Haiku, HI 96788
   Fax: E-mail:  

(b) LAND OWNER: Evan McKinney Contact Person: Phone:
   Mailing Address: P.O. Box 764 Haiku, HI 96788
   Fax: E-mail: 

(c) CONTRACTOR: Waihoi Drilling Contact Person: Mike Hueston Phone: 579-2673
   Mailing Address: 655 Kulana Rd. Haiku, HI 96788
   Fax: 572-0926 E-mail: 

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

2. WELL NAME: Evan McKinney Island: Maui
   Address: Honokao - Established Tax Map Key: Z 92 27
   Latitude: Longitude: Aquifer Group System No.: State WELL No.: 

3. PROPOSED WORK: (check all that apply)
   *State Well No.: 

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

5. PROPOSED PUMP INFORMATION:
   Pump Type (Check one):
   Deep Well Turbine Rotary Propeller
   Submersible 1 HP. Rotary-Displacement Reciprocating
   Centrifugal Rotary-Gear Impulse
   Rated Pump Capacity: 15 gallons per minute
   Proposed Use (check all that apply):
   Municipal (including hotels, stores, etc.) Industrial
   (Domestic or individual, noncommercial water system)
   Does this well serve 25 or more people at least 60 days per year or have 15 or more service connections? Yes No
   Irrigation (crop) No. of Acres: Other (explain): 
   Military 
   Other (explain): 

6. PROPOSED AMOUNT OF WITHDRAWAL: 12,000 gallons per day
   Method of Flow Measurement: Flowmeter Open-pipe Well Office Other (explain):

7. OTHER IMPORTANT INFORMATION:

8. LEGAL REQUIREMENTS: CDUP SMAP ECIS EA Fee Other (explain):

9. REMARKS, EXPLANATIONS:
   (If more space is needed, please attach additional sheet)

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/reclamation report within 60 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.

Well Owner: Evan McKinney Landowner: Evan McKinney Contractor: Waihoi Drilling
Signature: Signature: Signature: 
Date: May 30, 2002 Date: May 30, 2002 Date: May 30, 2002

For official use only
Latitude: 20.514-07
Longitude: State Well No: 5514-07

AqClGr SyStem No. 994-07
10. PROPOSED WELL SECTION

Hole Diameter: 10.5 in.

Elevation at top of casing [ ] ft, m at
Minimum of 2 ft Radius & 4" Thick Concrete Pad (to contain benchmark surveyed to nearest 0.01 ft.)

Ground Elevation: 140 ft, m at

Groundwater Space between Hole and casing (min. 3')

Total Depth [ ] ft

Rock or Gravel Packing:

Material

Crushed Gravel

Estimated Water Level Elevation: 3-4 ft, m at

Solid Casing: (90% z (Ground Elev. - Water Level Elev.))

Total Length: [ ] ft

Nominal Diameter: [ ] in.

Wall Thickness: [ ] in.

Bottom Elevation: 10 ft, m at

Open Casing: [ ] Perforated [ ] Screen

Total Length: [ ] ft

Nominal Diameter: [ ] in.

Wall Thickness: [ ] in.

Bottom Elevation: [ ] ft, m at

Note: Neither bentonite nor mud should be used in saturated zone during drilling.

Open Hole:

Length: [ ] ft

Diameter: [ ] in.

Bottom Elevation: [ ] ft, m at

For non-salt water well walls - bottom elevation of well should not be deeper than 1/4 of equivalent thickness or, Bottom Elevation of Wall Limit = (Water Level Elev. - 4 ft, Water Level Elev.)

Example: Estimated = 2 ft, Water Level Elev. -10 ft, Water Level Elev. = (2 - 4/4) = -18 ft.

Solid Casing Material:

Carbon Steel: compliant with (check one or more) ASTM/WWA C200 [ ] API Spec. 5L [ ] ASTM A65 [ ] ASTM A139

And compliant with (check one or more): [ ] ASTM A242 [ ] Type E [ ] Type S [ ] Grade B [ ] Other

Stainless Steel: (check one):

[ ] ASTM A403 (production well) [ ] ASTM A312 (monolithic)

ABR Plastic conforming to ASTM F400 and ASTM D1697 (check one) [ ] Schedule 40 [ ] Schedule 80

PVC Plastic conforming to ASTM F400 and (ASTM D1785 or ASTM D2241): (check one) [ ] Schedule 40 [ ] Schedule 80

Thermoset Plastic (check one):

[ ] Filament Wound Resin Pipe conforming to ASTM C2699

[ ] Compressed Cast Resin Pipe conforming to ASTM D2957

[ ] Reinforced Plastic Mortar Pressure Pipe conforming to ASTM D2897

[ ] Glass Fiber Reinforced Resin Pressure Pipe conforming to AWWA C900

[ ] FEP Fluorocarbon Tubing conforming to ASTM D3296

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Carbon Steel: compliant with (check one or more) ASTM/WWA C200 [ ] API Spec. 5L [ ] ASTM A65 [ ] ASTM A139

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