Mr. Charles J. Ewart  
Associate District Chief  
U.S. Geological Survey - WRD  
677 Ala Moana Blvd., Suite 415  
Honolulu, HI 96813  

Dear Mr. Ewart:  

Well Completion Reports for Well Nos. 2255-40 & 1952-47  

We have received your Well Completion Reports for the Halawa Deep Monitor Well (Well No. 2255-40) and the Kalihi Station Monitor Well (Well No. 1952-47) and acknowledge that they are complete. We sincerely appreciate your attention to matters related to water resource management. 

If you have any questions, please contact Lenore Nakama of the Commission staff at 587-0218.

Sincerely,  

[Signature]  

RAE M. LOUI  
Deputy Director  

LN:ss
**WELL COMPLETION REPORT**

(3/20/96 WCR Form)

**PART I. WELL CONSTRUCTION REPORT**

1. **State Well No.: 1952-47**
   **Well Name:** Kalani Station Mt. Waialea Well
   **Island:** Oahu
2. **Location/Address:** B13 Kalihi Station
   **Tax Map Key:** 1-5-08:10

4. Name of driller who performed work: C.W. Heick
5. Type of rig/construction: air rotary
6. Date(s) Well Construction and pump tests (if any) completed: 4/22/97
7. **GROUND ELEVATION** (referenced to mean sea level, msl):
   - **Well Bench Mark (description/location):**
   - **Elavation (msl):**
8. **DRILLER’S LOG:** Please attach geologic log (if available or if required by permit)
   - **Depths (ft.)** Rock Description, Water Level, Dates, etc.
   - **(If more space is needed, continue on back.)**
9. **Total depth of well below ground:** 160 ft.
10. **Hole size:** 12/4 inch dia. from 0 ft. to 160 ft. below ground
     - **Drill size:** 12/4 inch dia. from 160 ft. to 160 ft. below ground
11. **Casing installed:** **None** in. I.D. x _______ in. wall solid section to _______ ft. below ground
     - **Casing Material/Slot Size:**
     - **Grouted from:** _______ ft. below ground to _______ ft. below ground
     - **Gravel packed from:** _______ ft. below ground to _______ ft. below ground
12. **Aquifer: Grouted from _______ ft. below ground to _______ ft. below ground
     - **Gravel packed from:** _______ ft. below ground to _______ ft. below ground
13. Initial water level: _______ ft. below ground.
14. Initial chloride: _______ ppm
15. Initial temperature: _______ °F
16. **PUMPING TESTS:** Reference Point (R.P.) used: _______, which elevation is _______ ft.
   - (1) **Step-Drawdown Test Date:**
   - (2) **Long-term Aquifer Test Date:**
     - **Start water level:** _______ ft. below R.P.
     - **End water level:** _______ ft. below R.P.
     - **Start water level:** _______ ft. below R.P.
     - **End water level:** _______ ft. below R.P.
17. Aquifer Pump Test Procedures data & graphs (1996 LTAT Form) attached? **Yes** **No**
18. As-built drawings attached? **Yes** **No**
19. Other remarks/comments: **(On back of this form)**

**Well Drilling Contractor (print):** U.S. Geological Survey
**Signature:**

**Surveyor (print):** C-57 Lic. No.
**Signature:**

**Applicant (print):** U.S. Geological Survey
**Signature:**

**Date:** 5/20/97
PART II. (PERMANENT) PUMP INSTALLATION REPORT

20. Pump Installation Company: ________________________________

21. Name of person performing work: ____________________________

22. Date Pump Installation Completed: __________________________

23. PUMP INSTALLATION:
   Pump Type, Make, Serial No.: _________________________________ Capacity: _______ gpm
   Motor type, H.P., Voltage, rpm: ________________________________
   Depth of Pump Intake Setting _______ ft. below _________, which elevation is _________ ft.
   Depth to bottom of airline _______ ft. below _________, which elevation is _________ ft.
   Pumping Head is _______ ft. Type of flow meter: _______ which measures in _______.

24. As-built drawings attached? _ Yes _ No

25. Other remarks/comments: (See below)

   Pump Installation Contractor (print) ____________________________ C-57 Lic. No. ______
   Signature: ______________________________________ Date __________

   Applicant (print) __________________________________________ Date __________
   Signature: ______________________________________ Date __________

8. (cont'd) DRILLER'S LOG (cont'd):

<table>
<thead>
<tr>
<th>Water Level Depth (ft.)</th>
<th>Rock Description, Remarks, Dates (ft.)</th>
<th>Water Level Depth (ft.)</th>
<th>Rock Description, Remarks, Dates (ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
</tr>
<tr>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
</tr>
<tr>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
</tr>
<tr>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
</tr>
<tr>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
<td>___________ to ___________</td>
</tr>
</tbody>
</table>

19 & 25. Remarks: well drilled to 160 feet in caprock material, well cemented to prevent possible caving, unable to drill further with existing equipment and discharge restrictions. Well fully plugged with cement.
DRILLERS LOG OF KALIHI STATION MONITOR WELL
WELL 1952-47
USGS/HAWAII COUNTIES EXPLORATORY WELL

Drilled with air-rotary rig

Drill Crew: G. W. Heick, K. K. Akina, C. L. Edwards

<table>
<thead>
<tr>
<th>DATE</th>
<th>DEPTH</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>3/5/97</td>
<td></td>
<td>Mobilized to Kalihi Station site</td>
</tr>
<tr>
<td>3/6/97</td>
<td>0-16</td>
<td>Setup, drilled to 9 feet for 18-inch conductor pipe. Installed safety fence, hardfaced table bushings.</td>
</tr>
<tr>
<td>3/7/97</td>
<td>16-93</td>
<td>Maintenance on rig, awaiting water hookup by BWS.</td>
</tr>
<tr>
<td>3/10/97</td>
<td></td>
<td>Maintenance and repairs, no water</td>
</tr>
<tr>
<td>3/11/97</td>
<td></td>
<td>Rebuild rod slips, made repairs to water truck</td>
</tr>
<tr>
<td>3/12/97</td>
<td>93-116</td>
<td>Water hooked up, cleaned out storm drain on site and 4-inch line, tooled up with 12-1/4 inch bit. Notified BWS that we are ready to drill.</td>
</tr>
<tr>
<td>3/18/97</td>
<td>0-16</td>
<td>Begin drilling 12-3/4 inch hole. Gray rock with clay, medium hard</td>
</tr>
<tr>
<td></td>
<td>16-93</td>
<td>Red-gray clay, some gravel, water at 34 feet.</td>
</tr>
<tr>
<td></td>
<td>93-116</td>
<td>Caprock material, medium hard, good returns</td>
</tr>
<tr>
<td></td>
<td>116-123</td>
<td>Coral, white-yellow, medium to hard</td>
</tr>
<tr>
<td></td>
<td>123-160</td>
<td>Red-brown clay, silt, very soft, hole caving, much water.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Shutdown at 1500 due to inability to clean hole and control discharge water, water overtopped parapet.</td>
</tr>
<tr>
<td>3/19/97</td>
<td></td>
<td>Decision made to cement hole to prevent possible collapse. Cleanup and maintenance on equipment.</td>
</tr>
<tr>
<td>3/20/97</td>
<td></td>
<td>Rigged up with 4-inch tremie pipe for cement grout. Repair exhaust pipe on truck.</td>
</tr>
<tr>
<td>3/21/97</td>
<td></td>
<td>Pumped 7 yards sand-cement mix into well. Cement up to 6 feet of ground surface.</td>
</tr>
</tbody>
</table>
3/24-4/7/97

Maintenance and repairs, begin loading up at 18th avenue yard.

4/8/97

Notified BWS that we are unable to drill further with existing equipment. Drill crew packing up for move to Big Island.

4/22-25/97

Grout well to ground surface. Drilling completed, clean up site. Hole drilled to 160 feet and then sealed.
March 4, 1997

Ms. Rae M. Loui
Deputy Director
State of Hawaii
Department of Land and Natural Resources
Commission on Water Resources Management
P.O. Box 621
Honolulu, Hawaii 96809

Dear Ms. Loui:

Please find enclosed a signed original permit for the Kalihi Deep Monitor Well (Well No. 1952-47).

Per a telephone conversation with Lenore Nakama of your staff, I have changed the expiration date of the permit to February 28, 1999.

Sincerely,

[Signature]
Charles J. Ewart
Associate District Chief

Enclosure
WELL CONSTRUCTION PERMIT

Kalihi Deep Monitor Well, Well No. 1952-47

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 Kalihi Deep Monitor Well (Well No. 1952-47) at Kalihi Pumping Station, Oahu, TMK 1-5-03:20, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following:

1. The Chairperson of the Commission on Water Resource Management (Commission), P.O. Box 521, Honolulu, HI 96809, shall be notified, in writing, at least two (2) weeks before any work authorized by this permit commences.

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

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

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

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

6. The proposed well construction shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to construct the well shall not constitute a determination of correlative water rights.

7. The following shall be submitted to the Chairperson within sixty (60) days after completion of work:
   b. Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
   c. As-built sectional drawing of the well.
   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other data.

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

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

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

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

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

Date of Approval: FEB 28 1997
Expiration Date: FEB 28 1997

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

Permittee's Signature: [Signature] Date: 3/6/97
Printed Name: Charles J. Ewart Firm or Title: U.S. Geological Survey
Driller's Signature: [Signature] Date: 3/6/97
Printed Name: Charles J. Ewart Firm or Title: U.S. Geological Survey

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 Branches
Honolulu Department of Water Supply

Firm or Title: U.S. Geological Survey
Mr. Charles J. Ewart  
U.S. Geological Survey  
677 Ala Moana Blvd., Suite 415  
Honolulu, Hawaii 96813 

Dear Mr. Ewart:

Well Construction Permit  
Kalihi Deep Monitor Well (Well No. 1952-47)

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

Special Conditions

1. Standard Conditions 3 and 7.e. are waived.

2. Copies of all data collected at the well site shall be submitted.

The well owner is responsible for all conditions of the permit. This includes ensuring that the well construction contractor, or other party who constructs the well(s), submits a completed Part I of the Well Completion Report form (enclosed) within sixty (60) days after the well construction work is completed. Be advised that you may be subject to fines of up to $1000 per day for any violations of your permit conditions.

Please sign and have the contractor sign the permit originals and return one for our files. Also, a copy of the well completion report form is enclosed for your use. Please provide all the information in this packet to your well drilling contractor.

If you have any questions, please call the Commission staff at 587-0218.

Aloha,

MICHAEL D. WILSON  
Chairperson

Enclosures
WELL CONSTRUCTION PERMIT
Kalihi Deep Monitor Well, Well No. 1952-47

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 Kalihi Deep Monitor Well (Well No. 1952-47) at Kalihi Pumping Station, Oahu, TMK 1-5-03:20, subject to the Hawaii Well Construction & Pump Installation Standards (1/23/97) which include but are not limited to the following conditions:

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

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

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

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

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

6. The proposed well construction shall not adversely affect existing or future legal uses of water in the area, including any surface water or established instream flow standards. This permit or the authorization to construct the well shall not constitute a determination of correlative water rights.

7. The following shall be submitted to the Chairperson within sixty (60) days after completion of work:
   b. Elevation (referenced to mean sea level, msl) survey by a Hawaii-licensed surveyor.
   c. As-built sectional drawing of the well.
   d. Plot plan and map showing the exact location of the well.
   e. Complete pumping test records, including time, pumping rate, drawdown, chloride content, and other data.

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

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

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

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

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

Date of Approval: FEB 28, 1997
Expiration Date: FEB 28, 1999

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

Permittee's Signature: ____________________________ Date: ______________
Printed Name: ____________________________ Firm or Title: ____________________________

Driller's Signature: ____________________________ Date: ______________
Printed Name: ____________________________ Firm or Title: ____________________________

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

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

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

SUBJECT: Well Construction Permit Application
Kalihi Deep Monitor Well (Well No. 1952-47)

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

The application is for the construction of a deep monitor well. We would appreciate your expedited review of 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 March 1, 1997.

Please find a map, attached, to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Lenore Nakama of the Commission staff at 587-0218.

LN:ss
Attachment(s)

RESPONSE: ☑ We have no comments
( ) Comments attached (please specify relevant DOH rules/regulations and any recommendations on special conditions)

Contact Person: Lori Kajiwara
Phone: 586-4747

Signed: Lori N. Kajiwara
Date: 2/21/97
TO: Honorable Lawrence Miike, Director  
Department of Health  
Attention: Dennis Tulang, Wastewater Branch  
William Wong, Safe Drinking Water Branch

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

SUBJECT: Well Construction Permit Application  
Kalihi Deep Monitor Well (Well No. 1952-47)

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

The application is for the construction of a deep monitor well. We would appreciate your expedited review of 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 March 1, 1997.

Please find a map, attached, to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Lenore Nakama of the Commission staff at 587-0218.

LN:ss
Attachment(s)

RESPONSE: ☑ We have no comments  
( ) Comments attached (please specify relevant DOH rules/regulations and any recommendations on special conditions)

Contact Person: Bill Wong  
Phone: 516-4258

Signed: Bill Wong  
Date: 2/24/96
Mr. Charles J. Ewart  
U.S. Geological Survey  
677 Ala Moana Blvd., Suite 415  
Honolulu, HI 96813

Dear Mr. Ewart:

Well Construction Permit Application for Well No. 1952-47

We acknowledge receipt, on February 4, 1997, of your completed well construction permit application for the Kalihi Deep Monitor Well (Well No. 1952-47). The application can be approved administratively, and we have requested expedited review to facilitate this.

If you have any questions about your permit application, please contact Lenore Nakama of the Commission staff at 587-0218.

Sincerely,

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

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

SUBJECT: Well Construction Permit Application  
Kalihi Deep Monitor Well (Well No. 1952-47)

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

The application is for the construction of a deep monitor well. We would appreciate your expedited review of 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 March 1, 1997.

Please find a map, attached, to locate the proposed well. If you have any questions about this permit application, request additional information, or request additional review time, please contact Lenore Nakama of the Commission staff at 587-0218.

LN:ss
Attachment(s)

RESPONSE: ( ) We have no comments  
( ) Comments attached  
(please specify relevant DOH rules/regulations and any recommendations on special conditions)

Contact Person:________________________________________ Phone:_______________

Signed:______________________________________________ Date:______________
Ms. Rae M. Loui  
Deputy Director  
Commission on Water Resource Management  
P.O. Box 621  
Honolulu, Hawaii 96809  

Dear Ms. Loui:

Please find attached a completed Well Construction Permit Application for the Kalihi Deep Monitor Well. The well will be drilled as part of the Hawaii Counties/U.S. Geological Survey Cooperative Program. If there are questions or additional information is needed, please contact me.

Sincerely,

Charles J. Ewart  
Associate District Chief

Attachments
APPLICATION FOR PERMIT

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

APPLICATION FOR PERMIT.

Would Construction 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 a non-refundable filing fee of $25.00 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-0225.

1. APPLICANT: (circle primary contact a, b, or c)
(a) WELL OWNER
   Firm Name: U.S. Geological Survey
   Contact Person: Charles J. Ewart
   Address: 677 Ala Moana Blvd., Suite 415
   Honolulu, HI 96813
   Phone: 522-8290
(b) LANDOWNER
   Firm Name: Honolulu Board of Water Supply
   Contact Person: Raymond Sato
   Address: 630 South Beretania St.
   Honolulu, HI 96843
   Phone: 527-6180
(c) CONTRACTOR
   Firm Name: U.S. Geological Survey
   Contact Person: Charles J. Ewart
   Address: 677 Ala Moana Blvd., Suite 415, Honolulu, HI 96813
   Phone: 522-8290
   Contractor's C-57 License No.

2. WELL LOCATION/NAME: Kalihi Deep Monitor Well
   Island: Oahu
   Address: Kalihi Pumping Station
   Tax Map Key: 1-5-03:20
   (Attach a USGS map, scale 1"=2000', and a property tax map showing well location referenced to established property boundaries.)

3. (a) PROPOSED WORK:
   (Circle)
   Drill New Well
   Modify Existing Well
   Deepen
   Redrill

   Install New Pump
   Modify Pump
   Abandon/Seal *
   Replace Pump

   * Be sure to complete and submit well abandonment report upon completion of work.

   (b) WELL TYPE:
   (Circle)
   Dug
   Bored
   Driven
   Drilled
   Radial

   Is this well a part of a battery of wells? Yes
   No

   (Briefly describe and fill in the diagram on the back of this form.)

4. PROPOSED PUMP INFORMATION:
   Rated Pump Capacity: None gallons per minute
   Motor:
   Deep Well Turbine
   Rotary
   Submersible
   Rotary-Displacement
   Centrifugal
   Reciprocating
   Rotary-Gear
   Impulse
   If Pump Replacement, Existing Pump Capacity: ____________
   Electric, rated horsepower: ________________

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

6. (a) PROPOSED AMOUNT OF WITHDRAWAL:
   (Circle)
   None

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

7. PENDING ACTIONS:
   CDUA
   SMA
   EIS
   EA
   NONE
   Other (explain) Deep Monitor Well
   Completion Date: ____________

8. REMARKS, EXPLANATIONS:
   Monitor well to measure response of fresh water lens to pumping. Monitor well to be drilled under Hawaii Counties-USGS exploratory drilling program.
   (if more space is needed, continue on back)

Well Owner: U.S. Geological Survey
Landowner: Honolulu Board of Water Supply
Contractor: U.S. Geological Survey

Signature: ____________________________
Date: ____________

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

Longitude
Latitude
Aquifer System Name
State Well No.

11/09/09 WPFI Form
9. PROPOSED WELL SECTION

Elevation at top of casing 26± ft., msl.

Cement Grout: 273 ft.

Rock Packing: 0 ft.

Hole Diameter: 12-1/4 in.

Total Depth: * ft.

* To be determined in the field. Depth limited by capacity of equipment to drill under water.

Ground Elevation: 24± ft., msl

Solid Casing:

- Material: Steel
- Length: 275 ft.
- Diameter: 8 in.
- Wall thickness: 0.25 in.

Casing: □ Perforated □ Screen

Material

- Length
- Diameter
- Wall thickness

Openings __________ sq. in.A.F.

Open Hole:

- Length: To be determined
- Diameter: 7-7/8 in.

*Approximate elevation at time of filing application. Ground elevation above mean sea level (msl) by a surveyor licensed by the State must be submitted at start of construction. Final elevations of well components shall be submitted in the well completion/well abandonment reports.
Mr. Charles J. Ewart  
U.S. Geological Survey  
Water Resources Division  
677 Ala Moana Blvd., Suite 415  
Honolulu, HI 96813

Dear Mr. Ewart:

Well Construction Permit Application for Well No. 1952-47

We are forwarding the original well construction permit application by the Honolulu Board of Water Supply for Kalihi Deep Monitor Well (Well No. 1952-47), which we received on September 27, 1996. Your signature as the drilling contractor is required to complete the application. Please return the original application with your signature to our office, and we will accept your application as complete and you can then expect your application to be processed within ninety (90) days.

If you have any questions, please contact Lenore Nakama at 587-0218.

Sincerely,

RAE M. LOUI
Deputy Director

LN:ss  
Enclosure (Original Well Construction Permit Application)

c: Honolulu Board of Water Supply
APPLICATION FOR PERMIT

Well Construction [ ] 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 96826. Application must be accompanied by a non-refundable filing fee of $200 payable to the Dept. of Land and Natural Resources. The Commission may not accept incomplete applications. For assistance, call the Regulation Branch at 587-0225.

1. APPLICANT: (circle primary contact a, b, or c)
   (a) WELL OWNER
   Firm Name: Board of Water Supply
   Contact Person: Ray Sato
   Address: 430 8th Avenue
   City: Honolulu, State: HI Zip: 96813

   (b) LANDOWNER
   Firm Name: Board of Water Supply
   Contact Person: Ray Sato
   Address: 430 8th Avenue
   City: Honolulu, State: HI Zip: 96813

   (c) CONTRACTOR
   Firm Name: USGS Geologic Survey
   Contact Person: William Mayers
   Address: 477 Alaka Street
   City: Honolulu, State: HI Zip: 96813

2. WELL LOCATION/NAME: KALINI DEEP MONITOR WELL
   Island: Oahu
   Address: ____________________________
   Tax Map Key: 1-5-003-020

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

3. (a) PROPOSED WORK:
   [ ] Drill New Well
   [ ] Modify Existing Well
   [ ] Radial Drilled Well
   [ ] Replace Pump
   [ ] Abandon/Seal

   * Be sure to complete and submit well abandonment report upon completion of work.

   (b) WELL TYPE:
   [ ] Dug
   [ ] Bored
   [ ] Driven
   [ ] Radial

   Is this well part of a battery of wells? [ ] Yes [ ] No
   (Briefly describe and fill in the diagram on the back of this form.)

4. PROPOSED PUMP INFORMATION:
   Rated Pump Capacity: [ ] N/A _______ gallons per minute

   Pump Type: [ ] Deep Well Turbine [ ] Rotary [ ] Propeller
   [ ] Submersible [ ] Rotary-Displacement [ ] Reciprocating
   [ ] Centrifugal [ ] Rotary-Gear [ ] Impulse
   If Pump Replacement, Existing Pump Capacity: ____________________________
   gallons per minute

5. PROPOSED USE:
   [ ] Municipal (including hotels, stores, etc.)
   [ ] Domestic (individual, non-commercial water sys.)
   [ ] Irrigation (crop)
   [ ] Other (explain) MONITOR WELL
   [ ] Commercial (including farming, business, etc.)
   [ ] Industrial
   [ ] Other (explain)

6. (a) PROPOSED AMOUNT OF WITHDRAWAL:
   [ ] N/A _______ gallons per day

   (b) METHOD OF FLOW MEASUREMENT:
   [ ] Flow-meter
   [ ] Open-pipe
   [ ] Office Plate
   [ ] Weir

7. PENDING ACTIONS:
   [ ] CDUA [ ] SMA [ ] EIS [ ] EA
   Completion Date: ____________________________
   [ ] NONE [ ] Other (explain)

8. REMARKS, EXPLANATIONS:
   DRILL DEEP MONITOR INTO SALT TO MEASURE RESPONSE OF FRESH WATER LENS TO PUMPAGE

   (If more space is needed, continue on back)

Well Owner ____________________________
Signature ____________________________
Date ____________________________

Landowner ____________________________
Signature ____________________________
Date ____________________________

Contractor ____________________________
Signature ____________________________
Date ____________________________

For Official Use Only:
Date Received ____________________________
Date Accepted ____________________________
Field Checked By ____________________________
Date ____________________________

Latitude ____________________________
Longitude ____________________________
Aquifer System Name ____________________________
State Well No. ____________________________

11/09/95 WCPH Form
9. PROPOSED WELL SECTION

Elevation at top of casing: 26 ft., msl.

Cement Grout: 273 ft.

Rock Packing: N/A ft.

Hole Diameter: 14 in.

Total Depth: 1400 ft.

Ground Elevation: 24 ft., msl

Solid Casing:
- Material: ASTM A-53
- Length: 275 ft.
- Diameter: 10 in.
- Wall thickness: 5/16 in.

Casing: ☐ Perforated ☐ Screen
- Material
- Length
- Diameter
- Wall thickness
- Openings

Open Hole:
- Length: 1125 ft.
- Diameter: 9 in.

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