



**BOARD OF WATER SUPPLY**  
**COUNTY OF MAUI**  
P.O. BOX 1109  
WAILUKU, MAUI, HAWAII 96793-7109  
Telephone (808) 243-7816 • Fax (808) 243-7833

July 3, 1997

Mr. Gary Gill, Director  
Office of Environmental Quality Control  
State of Hawaii  
235 South Beretania Street, Suite 702  
Honolulu, Hawaii 96813

Dear Mr. Gill:

Re: **NEGATIVE DECLARATION FOR THE DRILLING AND TESTING OF  
WAIKAPU MAUKA EXPLORATORY WELL (STATE WELL NO. 6131-01)  
TMK 3-5-04:18, WAIKAPU, MAUI, HAWAII**

The County of Maui, Department of Water Supply, has reviewed the comments received during the 30-day public comment period which began on May 8, 1997. The agency has determined that this project will not have significant environmental effect and has issued a negative declaration. Please publish this notice in the July 23, 1997 OEQC Bulletin. ✓

We have enclosed a completed OEQC Bulletin Publication Form and four copies of the final EA.

Please contact our Engineering Division at (808) 243-7835 should you have any questions.

Sincerely,

David R. Craddick  
Director

EK:as  
Enclosures

RECEIVED  
97 JUL 10 P2:14  
OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

1997-07-23-MA-~~FEA~~-Waikapu  
Mauka Exploratory Well

Chapter 343, Hawaii Revised Statutes (HRS)

JUL 23 1997

**FILE COPY**

Final

Environmental Assessment

for the

**Drilling and Testing  
Waikapu Mauka Exploratory Well  
(State Well No. 6131-01)**

TMK 3-5-04: 18  
Waikapu, Maui, Hawaii

Proposing Agency:

County of Maui  
Department of Water Supply  
P. O. Box 1109  
Wailuku, Maui, Hawaii 96793  
Telephone (808) 243-7835

Prepared by:

Fukunaga & Associates, Inc.  
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Honolulu, Hawaii 96814  
Telephone: (808) 944-1821

July 1997

Chapter 343, Hawaii Revised Statutes (HRS)

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Telephone (808) 243-7835

Responsible Official:

  
\_\_\_\_\_  
David R. Craddick  
Director

Date: July 3, 1997

Prepared by:

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July 1997

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**I. PROJECT DESCRIPTION**

**A. Purpose**

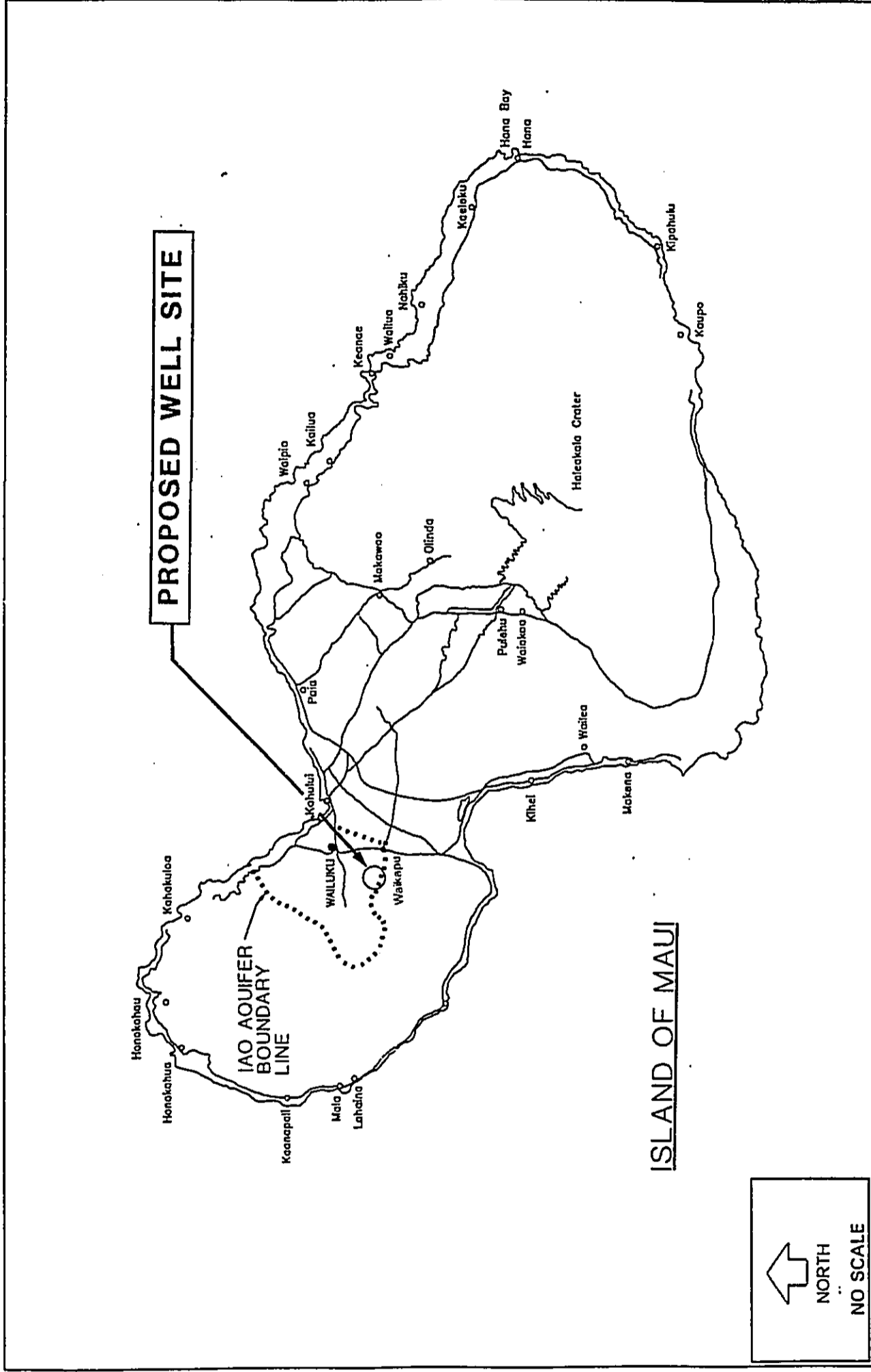
The existing County of Maui owned Mokuhau, Waihee, and Waiehu Heights Wells, situated close together within the Iao Basal Aquifer have shown an increase in salinity due to localized upconing of salt water caused by pumping of the wells at high withdrawal rates. To stabilize the aquifer and to improve the quality of water pumped from the aquifer, new deep well sources are desired so that pumpage can be evenly distributed and pumping of the existing wells can be permanently reduced. Accordingly, the County of Maui, Department of Water Supply (DWS) proposes to drill and test an exploratory well called Waikapu Mauka Exploratory Well to determine the feasibility of developing a new ground water source within the Iao Aquifer. This exploratory well project, originally known as the Waikapu Tank Site Exploratory well project, moved to a new location approximately 1,100 feet south of the original site. The project's impacts at the original site (Waikapu Tank site) were addressed in a Final Environmental Assessment published in the OEQC Bulletin on November 7, 1996. This EA addresses the impacts of the project at the new site (see Figures 1 and 2).

**B. Background Information**

**1. Iao Aquifer**

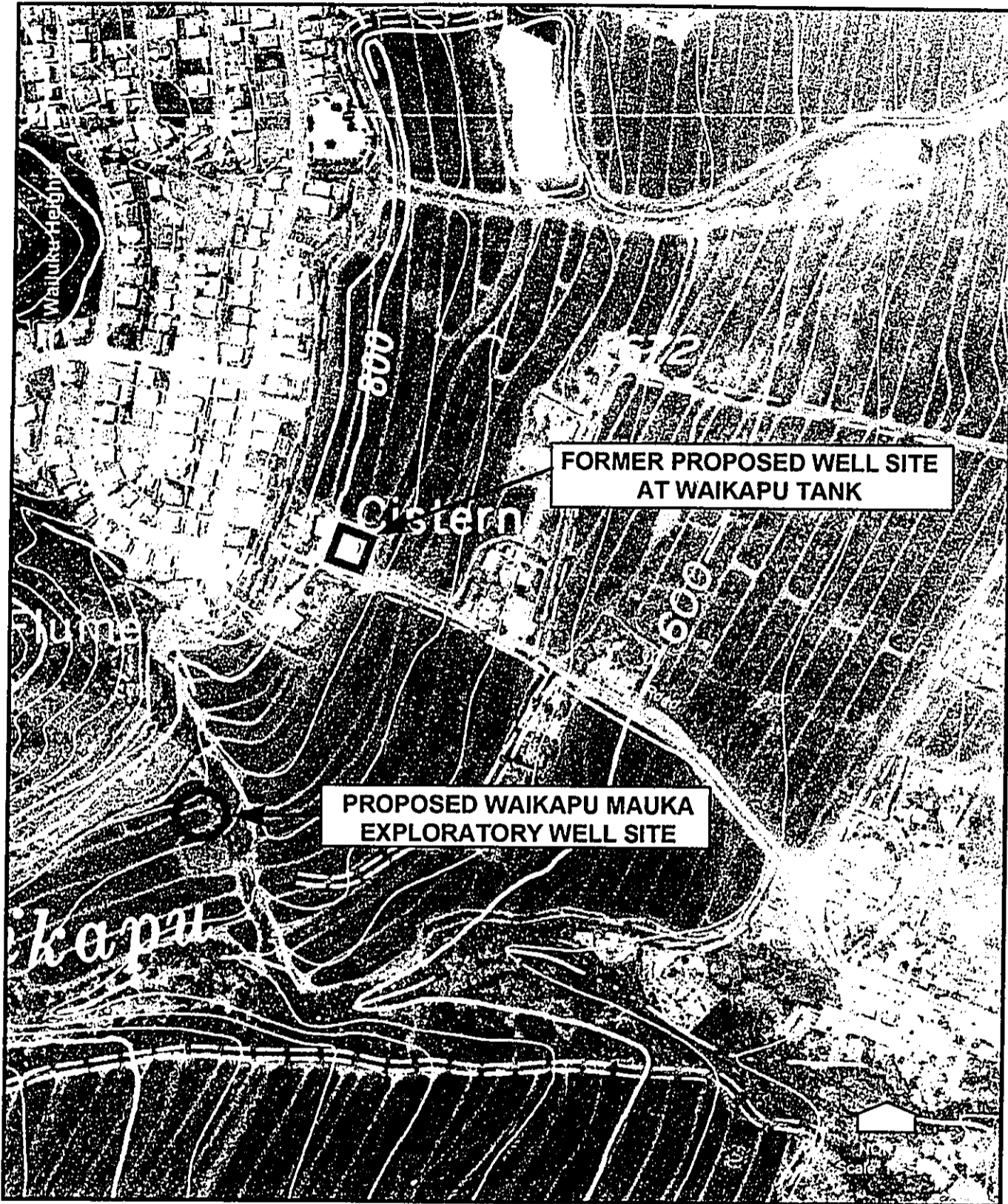
The well site is located within the Iao Basal Aquifer, which is the primary water source for the Central Maui Water System. The aquifer is situated between the Waihee Valley on the north and Waikapu Valley on the south. The following is an inventory of wells currently withdrawing water from the aquifer (see Figure 3):

<u>Well Name</u>	<u>Current Withdrawal Rate MGD</u>
Mokuhau Wells	4.6
Waiehu Heights Wells	1.6
Waihee Wells	8.1
Shaft 33 (Wailuku Shaft)	<u>5.5</u>
Total	19.8



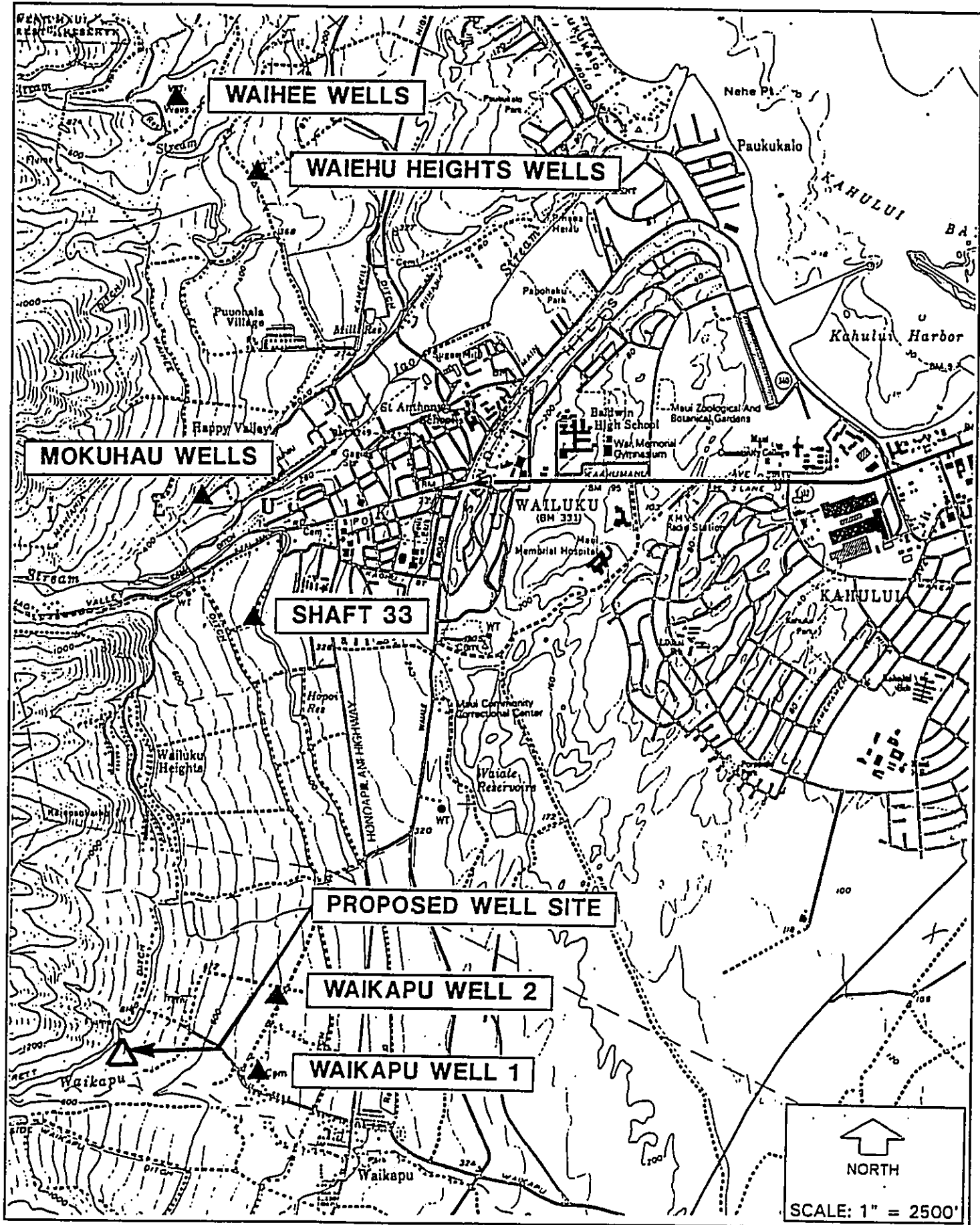
ISLAND MAP





LOCATION MAP

Figure 2



EXISTING WELLS

Figure 3

Total installed pump capacity within the aquifer amounts to 31 mgd. However, pumping of the aquifer is limited since the aquifer's sustainable yield is 20 mgd according to the Maui County Water Use and Development Plan, dated February 1992.

Adjacent to the Iao Aquifer, the Waihee Aquifer has a sustainable yield of 8 million gallons per day (see Figure 4). Ground water development within the aquifer has been limited to a few private wells, where withdrawal from these wells amounts to a few thousand gallons per day.

2. Central Maui Water System

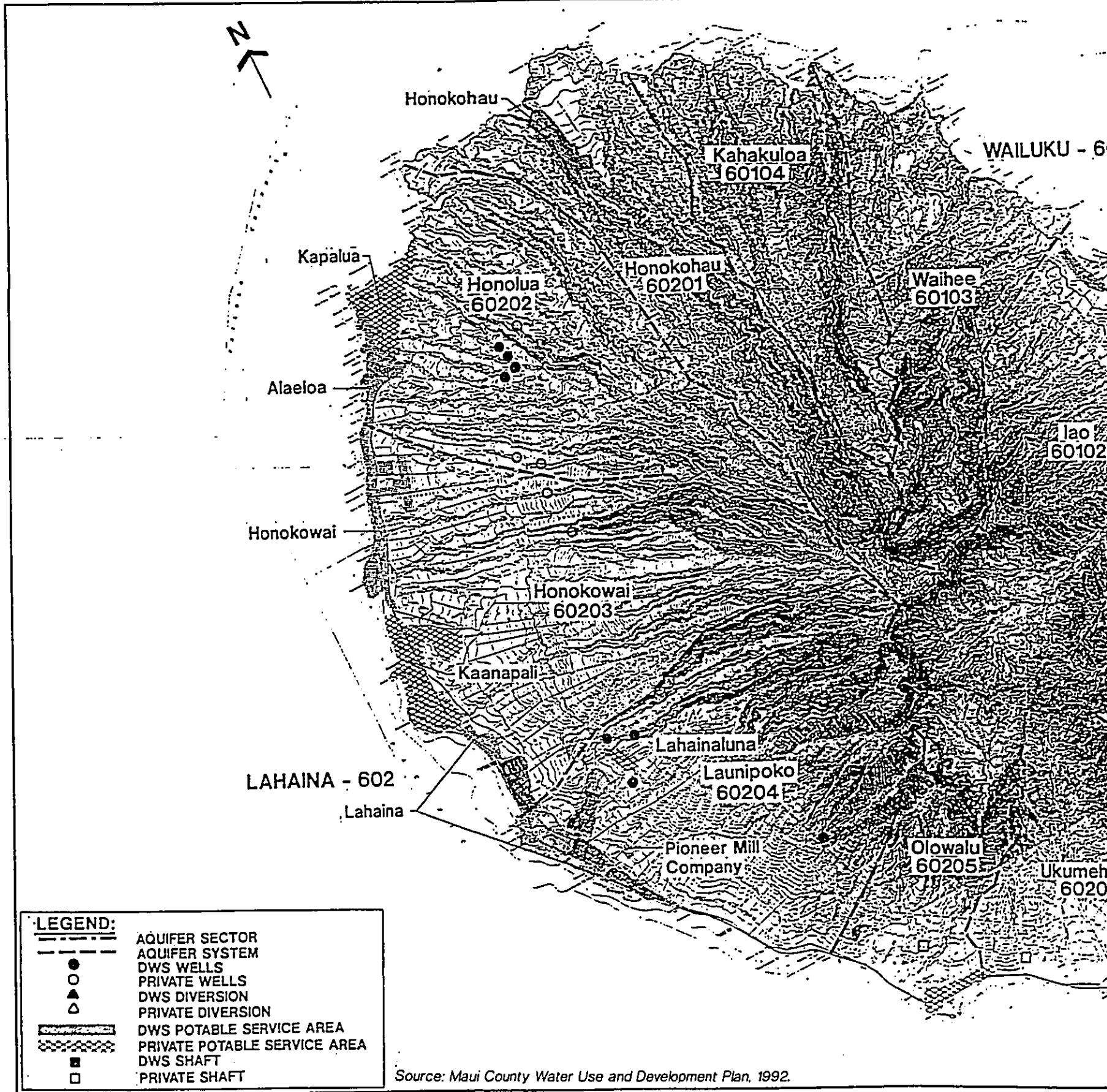
The Central Maui Water System is owned and operated by the County of Maui. The water system service area includes Wailuku, Waihee, Waikapu, Wailuku Heights, Kahului, Puunene, Kihei, Maalaea, Makena, Paia-Kuau, and Spreckelsville. Current water demand for the Central Maui Water System averages at 20 mgd. During the summer months demand has exceeded 20 mgd. Water demand is expected to increase to 30 mgd by the year 2010 according to the Maui County Water Use and Development Plan. Accordingly, the DWS has completed negotiations to temporarily withdraw water from the Iao ditch and new water sources are being developed in the Waihee Aquifer.

The continued high levels of chlorides observed in Mokuhaul Well No. 2 have prompted the DWS to use Shaft 33 to relieve pumpage at the Mokuhaul well. Shaft 33 is owned by C. Brewer Co. and use of the shaft is only temporary until new water sources are developed or acquired by the DWS.

C. Proposed Project

The proposed exploratory drilling and testing project will determine if the well site would be a feasible ground water source. Based on preliminary investigations, the basic scope of work includes the following:

1. Drilling a 24-inch diameter hole to a depth of approximately 820 feet below ground elevation of 760 feet (maximum depth of 950 feet, depending on field conditions).
2. Install approximately 820 feet of 18-inch I.D. steel casing (bottom 80 feet perforated). Grouting the annular space surrounding casing from ground surface to a depth of approximately 700 feet.
3. Pump test the aquifer. Two tests will be performed on the aquifer, a step-drawdown test and a long-term constant-rate test. The step-drawdown test consists of pumping the well at progressively increasing fractions of the



WAILUKU AND LAHAINA AQUIFER SECTORS

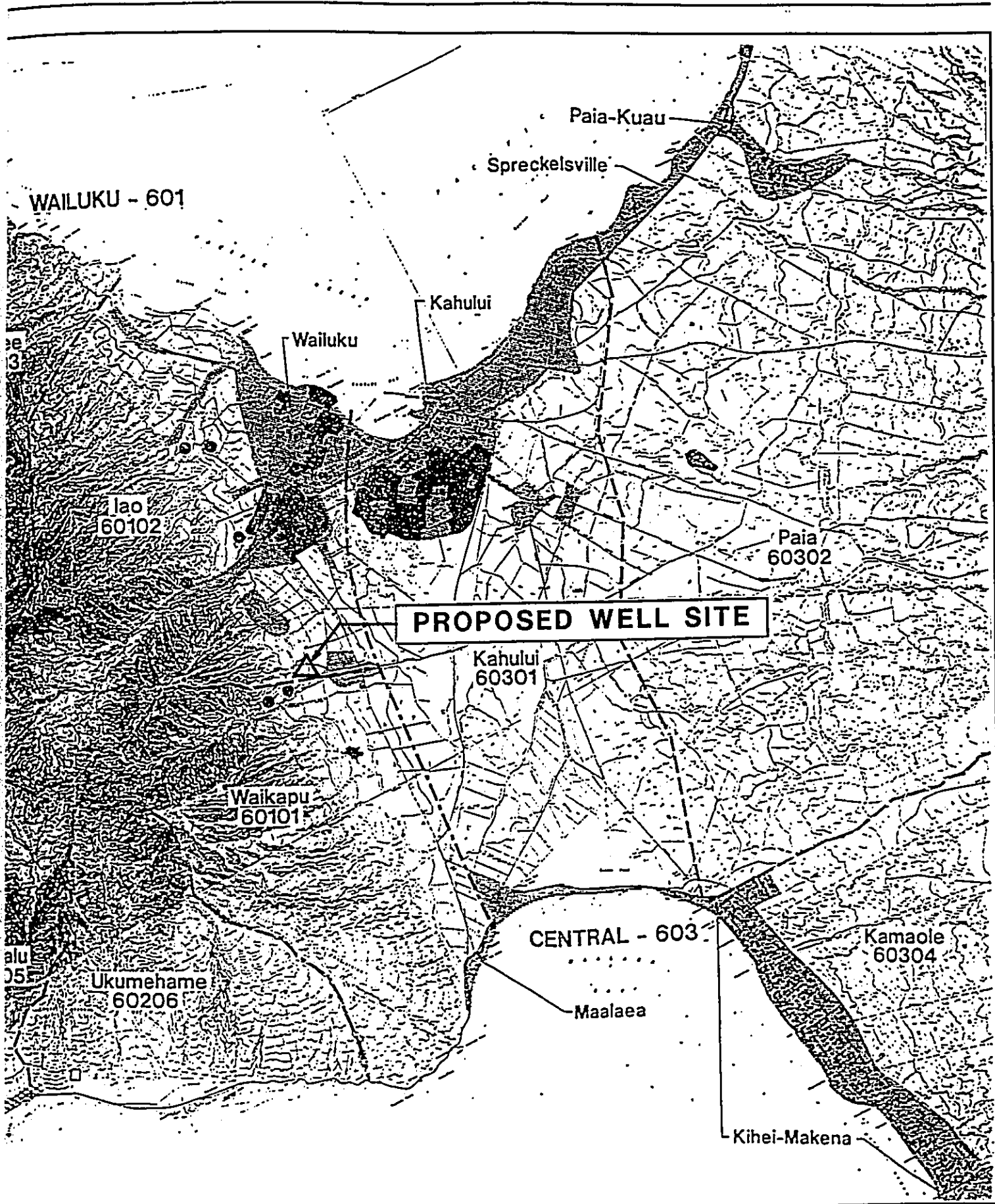


Figure 4

maximum discharge capacity proposed for the well. The long-term constant-rate test consists of pumping the well at the proposed discharge rate for the well for at least 96 hours. The purpose of the tests is to obtain hydrologic information needed to determine the well's performance and efficiency with regard to yield and drawdown; the well's trend with regard to drawdown, recovery, and salinity; and the nearby hydraulic properties of the aquifer.

4. Water Quality Analysis. Samples from the well will be taken for water quality analysis.

## II. DESCRIPTION OF THE ENVIRONMENT

### A. Project Location

The proposed exploratory well site is located at the upper (mauka) edge of an active pineapple field near Waikapu Town, south of Waiko Road. The site is accessible through a pineapple field dirt road off of Waiko Road. The site lies about 2,700 feet mauka of Waikapu Well No. 1 and 3,300 feet mauka of Waikapu Well No. 2 (see Figure 3). Waikapu Wells No. 1 and No. 2 were drilled by the State and are used as observation wells. The site was previously used for sugarcane cultivation and then later converted into pineapple fields.

### B. Land Ownership

The proposed well site is located within a 64.4 acre parcel designated as TMK 3-5-04: 18 (por.), which is owned by Wailuku Agribusiness Co. Inc., a subsidiary of C. Brewer Company, and used for pineapple cultivation. The proposed site will be approximately 100 feet by 200 feet in area, along the upper edge of the pineapple field (see Figure 5).

### C. Land Classification and Zoning

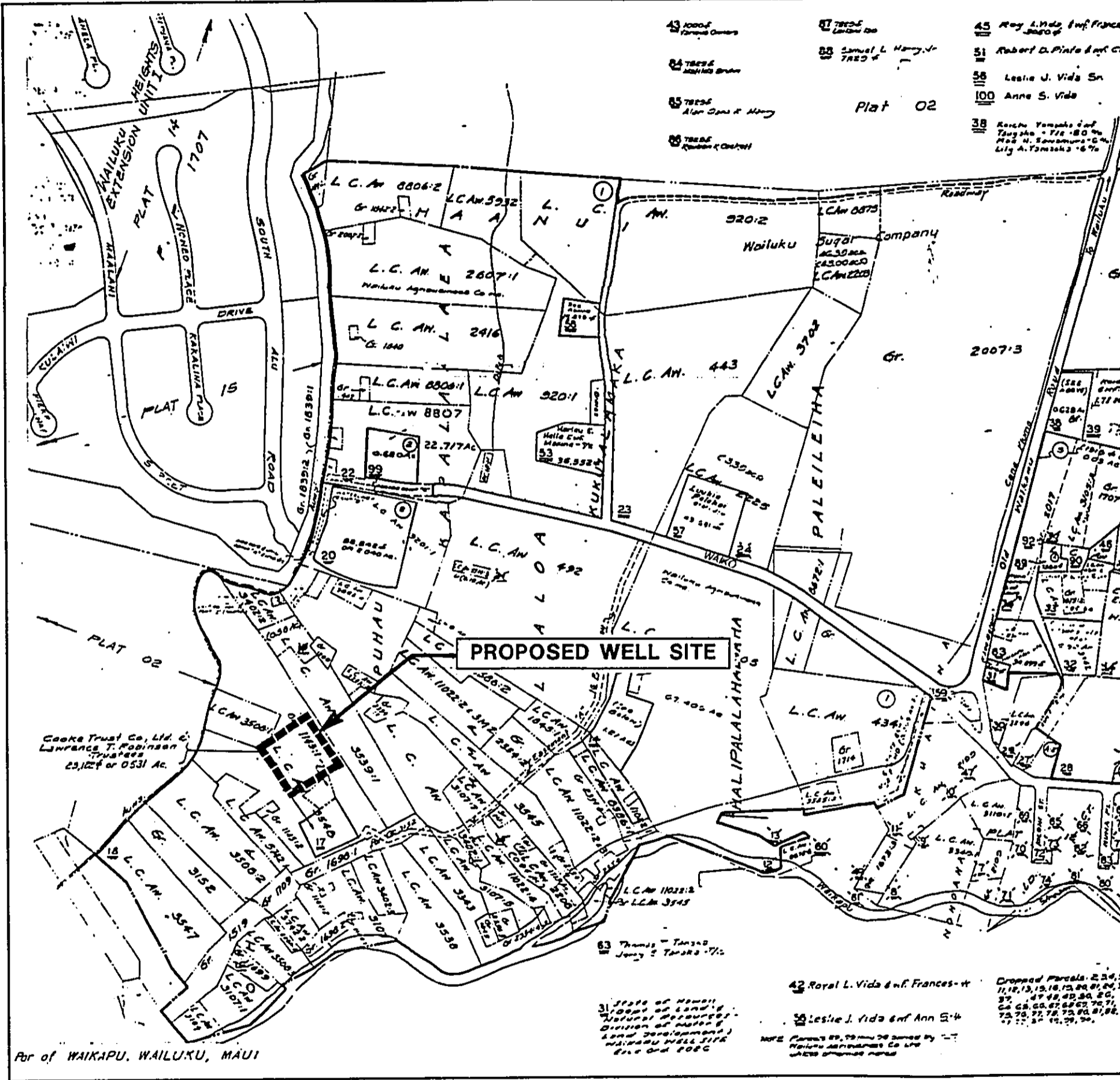
The parcel is within the Agricultural District as designated by the State Land Use Commission, and is situated in an area designated as agriculture lands by the County of Maui Land Use and Code Administration (see Figure 6).

### D. Physical Features

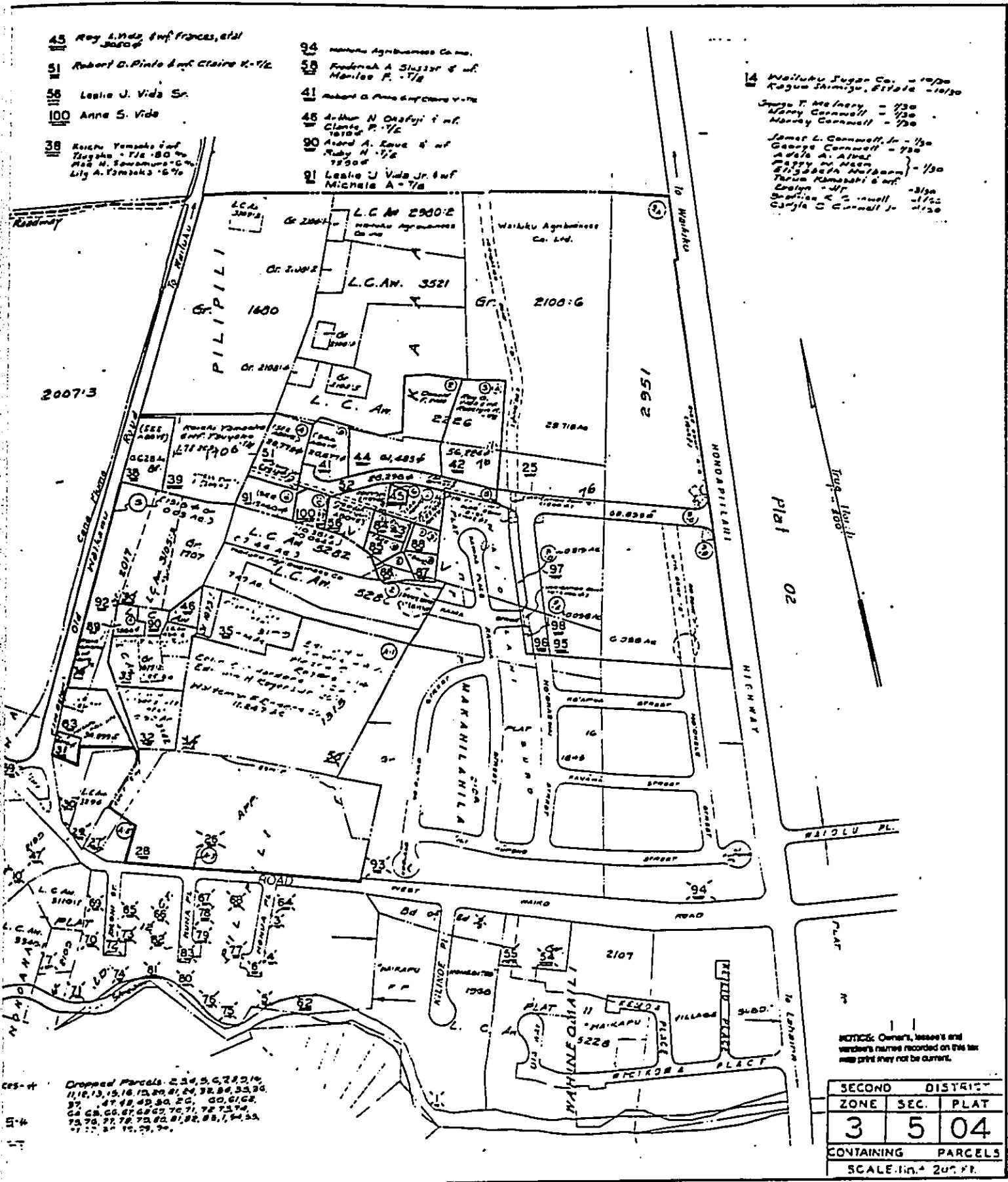
#### 1. Topography

The entire parcel is situated on the eastern slopes of the West Maui Mountains, and slopes down toward the east from an elevation of approximately 800 feet Mean Sea Level (MSL) to an elevation of approximately 540 feet MSL. The southern portion of the property is bordered by Waikapu Stream and the northern portion of the property is bordered by Waiko Road. Waikapu Stream is approximately 1000 feet south of the well site.

Final Environmental Assessment for the Drilling and Testing of Waikapu Mauka Exploratory Well



LAND OWNERSHIP MAP



45 Roy L. Vido, Inf Frances, et al  
 91 Robert G. Pinto & Inf Claire K. - 1/2  
 118 Leslie J. Vido Sr.  
 100 Anne S. Vido  
 38 Keizo Yamashita Inf  
 Toshiro - 1/2 - 80 %  
 Mas N. Sawamura - 1/2  
 Lily A. Yamashita - 6 %

94 Waialuku Agricultural Co. Inc.  
 59 Frederick A. Shultz & Inf  
 Marilee P. - 1/2  
 41 Robert G. Pinto & Inf Claire K. - 1/2  
 48 Arthur N. Otafuji & Inf  
 Claire P. - 1/2  
 90 Aard A. Kawa & Inf  
 Rudy N. - 1/2  
 1999  
 91 Leslie J. Vido Jr. & Inf  
 Michele A. - 1/2

14 Waialuku Sugar Co. - 10/30  
 Kaguo Shimizu, 8/19/12 - 10/30  
 Joseph T. McInery - 1/30  
 Harry Connell - 1/30  
 Harry Connell - 1/30  
 James L. Connell, Jr. - 1/30  
 George Connell - 1/30  
 Adelle A. Allen } - 1/30  
 Betty M. Allen  
 Elizabeth Williams  
 Helen Williams }  
 Evelyn - 1/30  
 Stephen K. Connell Jr. - 1/30  
 Cynthia C. Connell Jr. - 1/30

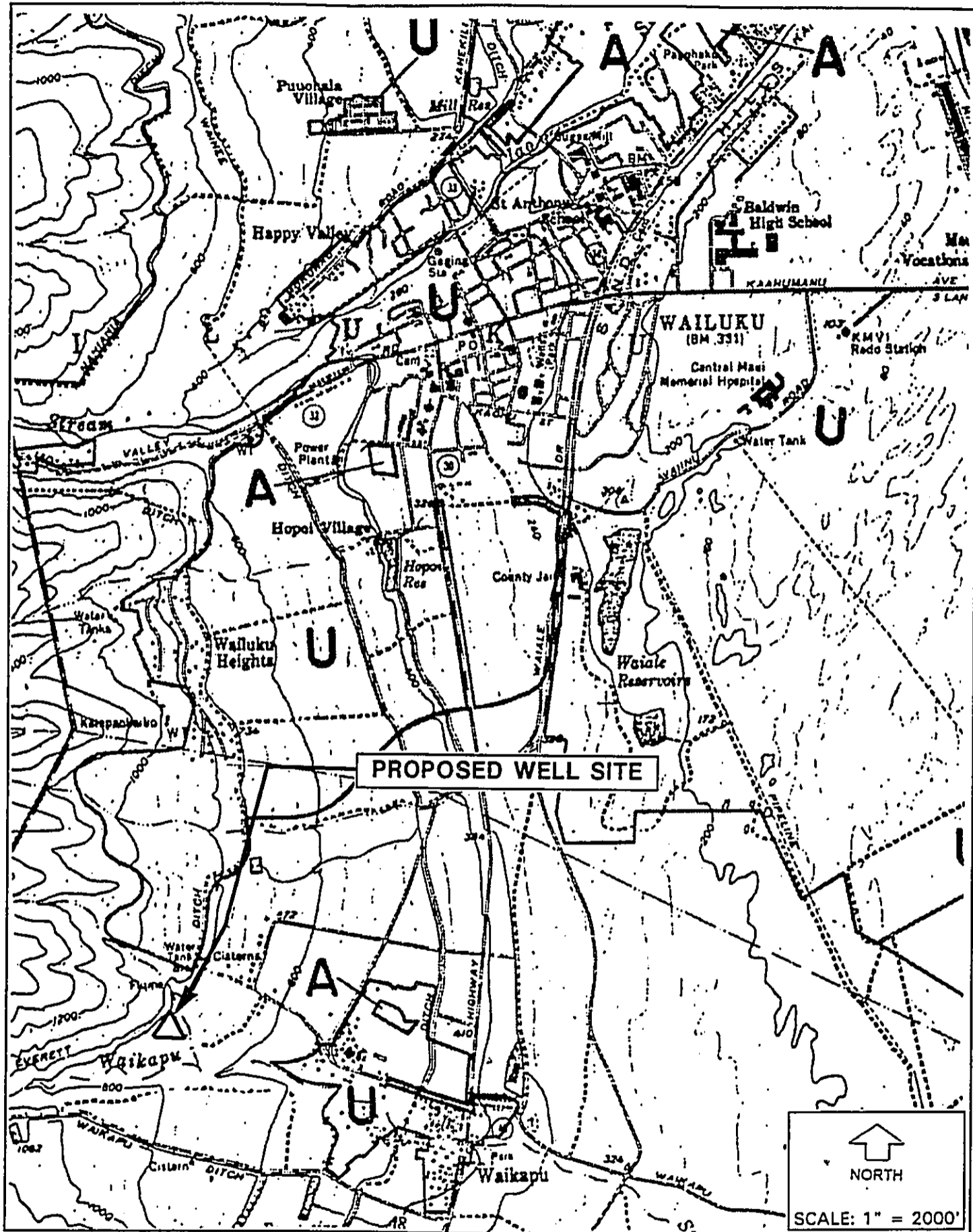
5-4 Dropped Parcels 2, 3, 4, 5, 6, 7, 8, 9, 10,  
 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24,  
 25, 26, 27, 28, 29, 30, 31, 32, 33, 34,  
 35, 36, 37, 38, 39, 40, 41, 42, 43, 44,  
 45, 46, 47, 48, 49, 50, 51, 52, 53, 54,  
 55, 56, 57, 58, 59, 60, 61, 62, 63, 64,  
 65, 66, 67, 68, 69, 70, 71, 72, 73, 74,  
 75, 76, 77, 78, 79, 80, 81, 82, 83, 84, 85,  
 86, 87, 88, 89, 90.

NOTICE: Owners, lessees and  
 vendee's names recorded on this tax  
 map print may not be current.

SECOND DISTRICT		
ZONE	SEC.	PLAT
3	5	04
CONTAINING PARCELS		
SCALE: 1 in. = 200 FT.		

Figure 5  
 Page 8





STATE LAND USE DISTRICT MAP

Figure 6

2. Soils

The soil types present at the proposed well site and the surrounding areas are:

- IbC - Iao cobbly clay has a 7-15 percent slope, moderate shrink-swell, runoff is medium and erosion hazard is moderate.
- IcB - Iao clay has a 3-7 percent slope, moderate shrink-swell, runoff is medium and erosion hazard is slight to moderate.
- IcC - Iao Clay has a 7-15 percent slope, moderate shrink-swell, runoff is medium and erosion hazard is moderate.
- rRR - Rough Broken Land has a 40-70 percent slope, runoff is rapid, geologic erosion is active.
- WvB - Wailuku Silty Clay has a 3-7 percent slopes, runoff is slow and erosion hazard is slight.

3. Hydrogeology

The Iao basal aquifer is composed of highly permeable Wailuku basalts which dip beneath a thick wedge of caprock formations consisting of alluvial slopewash deposits eroded from the mass of West Maui. In Waikapu Well No. 1, Wailuku basalts were not encountered to its total depth of 1,020 feet or (-) 502 feet below sea level. The relative low permeability of the weathered formations encountered by Waikapu Well No. 2, between sea level and (-) 150 feet, msl, is evidenced by test results showing a yield of 100 gpm with a drawdown of 40 feet, or a specific well capacity of only 2.5 gpm per foot of drawdown. Similarly, Waikapu Well No. 1 test results yielded a specific well capacity of 2.0 gpm per foot of drawdown. Experience has shown weathering can greatly reduce the permeability of basalts aquifers and their yield to wells. A well drilled at the site is expected to penetrate permeable unweathered basalts.

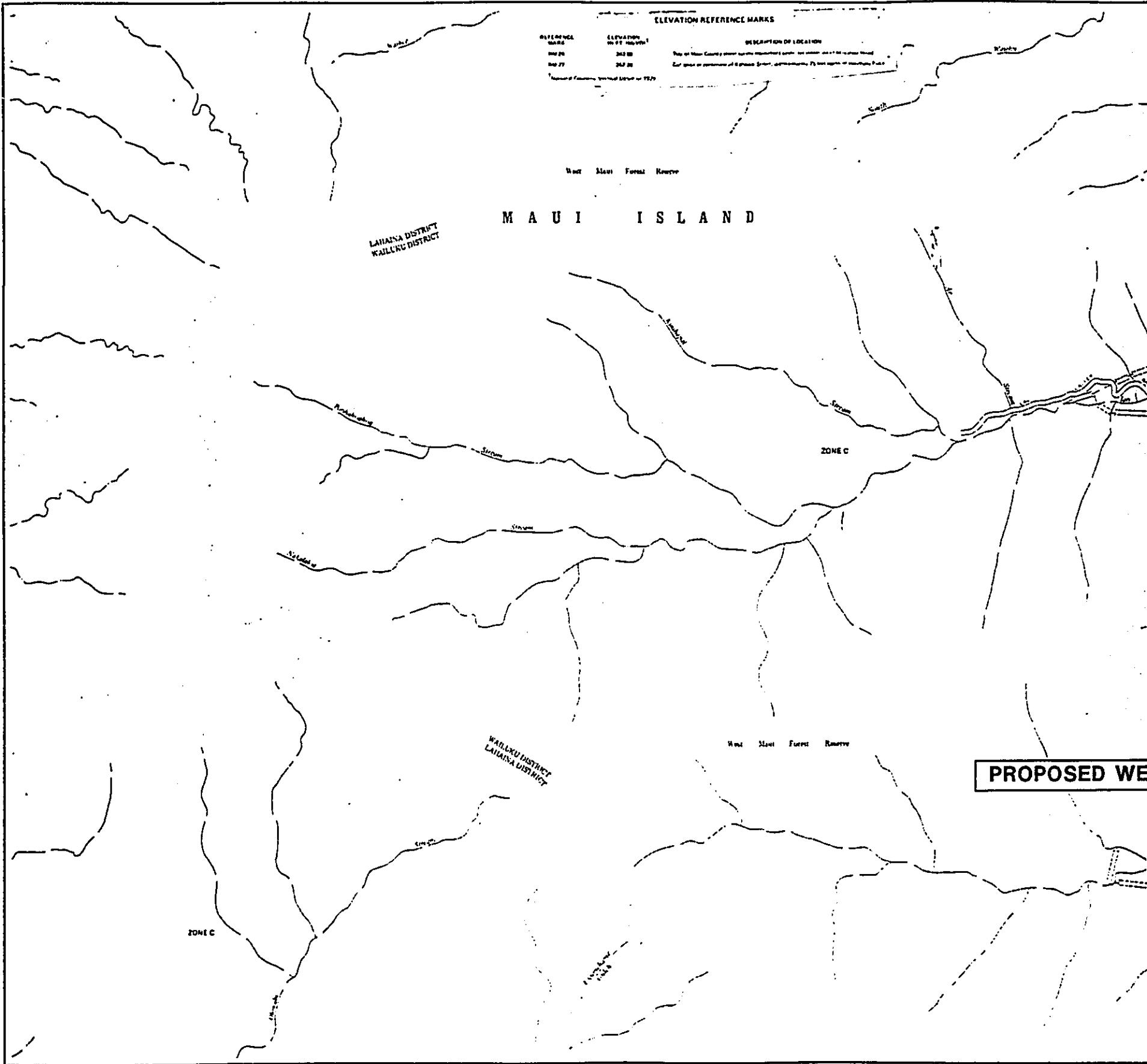
4. Climate

Rainfall at the well site ranges from 20 to 40 inches per year. The temperature ranges from 48 to 96 degrees Fahrenheit. The prevailing wind throughout the year are the northeasterly tradewinds.

5. Flood and Tsunami Hazards

The Federal Emergency Management Agency's June 1, 1981 Flood Insurance Rate Map (FIRM) for Maui County designates the proposed well site within Zone C, areas of minimal flooding (see Figure 7).

*Final Environmental Assessment for the Drilling and Testing of Waikapu Mauka Exploratory Well*



**FLOOD INSURANCE RATE MAP**

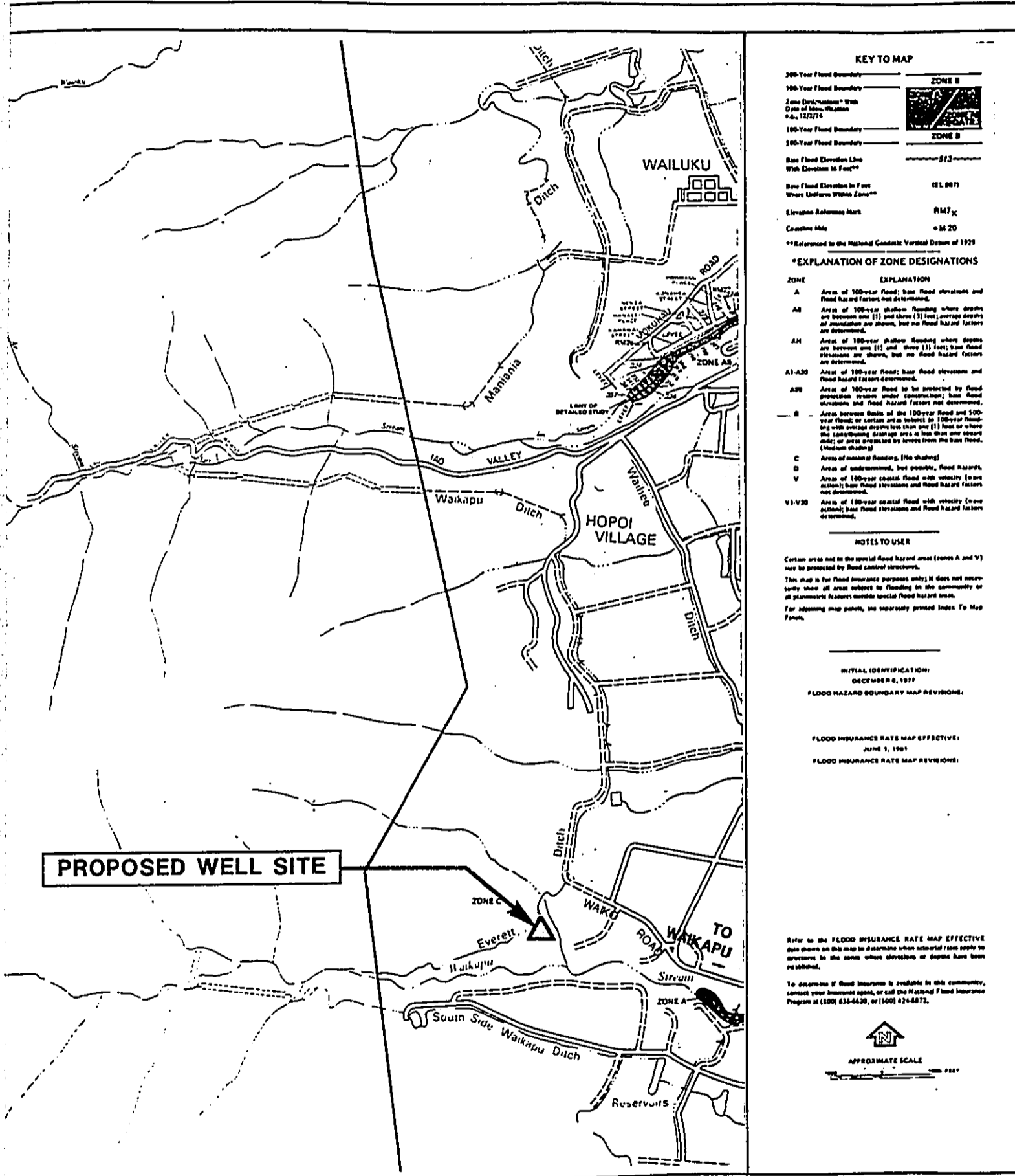


Figure 7

The drilling of the exploratory well will include fully grouting the annular space between the hole and the well casing to prevent surface water contamination into the well.

Tsunami Inundation areas are located in low-lying areas along the shoreline. The proposed well site is approximately four miles inland and not susceptible to tsunami inundation.

E. Flora and Fauna

The primary vegetation in the vicinity of the proposed well sites is pineapple. Non-cultivated vegetation distinctive to the area according to the Atlas of Hawaii, Second Edition, dated 1983 are Lantana, koa haole, klu, panini, ilima, and Natal redbop grass.

Mammals common to the island of Maui include the axis deer, dog, goat, pig, cat, mouse, and rat. Birds associated with the prevalent vegetation are the Cardinal, Barred Dove, Spotted Dove, Mockingbird, Myna Bird, Golden Plover, Pueo, Ricebird, House Sparrow, and White eye.

Since the land has been previously altered by the cultivation of pineapple, it is believed that the project will not impact any migratory birds, endangered or threatened species, or wetlands.

F. Water Quality

1. Chlorides

The Iao Aquifer has yielded high quality water over the years; however, in recent years, the pumping of the Iao Aquifer at concentrated points (Mokuhau, Waihee and Waiehu Heights Well Fields) has increased the chloride levels in certain wells. At the Mokuhau No. 2 Well, chloride levels have reached 400 mg/l. The proposed new well is expected to yield water with acceptable chloride levels since the well will be located away from the Mokuhau and Waihee Well Fields. Development of this new well will allow pumpage to be permanently reduced at the Mokuhau Wells.

2. Pesticides

Since there are no indications of pesticide contamination in nearby wells from the surrounding agricultural operations, it is unlikely that pesticides will be found in the proposed new well.

G. Archaeological Features/Historical Features

Since the area has been previously disturbed by the cultivation of pineapple, it is believed that the exploratory well will have no effect on historic sites.

H. Surface Waters

Waikapu Stream is located approximately 1000 feet south of the well site. The withdrawal of water from the well should have no effect on Waikapu Stream because Waikapu Stream channel lies at an elevation of approximately 700 feet MSL in the vicinity of the well, whereas the well will encounter and develop basal groundwater at an elevation of approximately 15 feet MSL. Waikapu Stream is separated from the underlying basalt aquifer by impermeable consolidated alluvium estimated to be several hundred feet, or more in thickness.

III. PROBABLE IMPACTS AND MITIGATIVE MEASURES

A. Short Term Impacts

Major short term impacts which can be anticipated as a result of this project are all associated with the construction activity required to drill and test the proposed well. Increased traffic, construction noise, dust and vehicular and equipment emissions can be expected. These impacts will be minimized through conscientious efforts by the contractor and strict enforcement of specified environmental protection provisions by the construction manager under the direction of the DWS. The construction-related impacts will be temporary, and will be confined to the immediate vicinity of the project site. Drill cuttings and other materials extracted from the drilling of the well will be disposed of in accordance with applicable Federal, State, and County requirements. Water pumped from the well during the well testing will be disposed of in the same manner. There are nearby irrigation ditches which may provide a means of disposal for the well water.

B. Long Term Impacts

Depending upon the results of the exploratory well testing, the DWS may decide to proceed with the development of the well into a municipal water supply source.

1. The Iao Aquifer

The long-term effect of the proposed project on the Iao Aquifer will be determined from the exploratory well test results. Preliminary indications are that the proposed well, if developed, will improve the long-term outlook of the fresh water aquifer. Presently, the aquifer is heavily pumped at concentrated points, which causes the saltwater to "upcone" into the fresh water zone. The proposed new source, once on-line, will allow the pumping of the aquifer to be more evenly distributed.

2. Public Funds, Energy and Construction Materials

The exploratory well project will involve the irretrievable commitment of public funds, electrical energy, and well construction materials.

**IV. ALTERNATIVES TO THE PROPOSED PROJECT**

**A. No Project Alternative**

One alternative to the proposed project would be the "no project" option. If this option is used, the resulting outcome could be possible intrusion of salt water into the Iao Aquifer.

**B. Alternate Site**

As previously mentioned, the Waikapu Tank site was initially selected for the exploratory well project, however, the Department of Water Supply has negotiated an agreement with C. Brewer for the use of the Waikapu Mauka well site. The Waikapu Mauka site is a more desirable site since it is more hydrogeologically suitable and farther south from the Mokuhaui Wells than the Waikapu Tank site. The Waikapu Mauka site is also farther away from residential homes, decreasing construction disturbances caused by the well project.

**C. Alternate Water Source**

One viable alternate source of water is the use of reclaimed water. Reclaimed water systems are being developed by Maui County to irrigate golf courses and landscaping in West and South Maui. Although the development of such systems will decrease potable water use, the decrease is not enough to overcome the increase anticipated for future potable water demand. In addition, development of reclaimed water systems is more costly than development of groundwater sources.

**V. AGENCIES AND PERSONS CONSULTED**

Table 1 lists the twenty agencies and persons consulted in the review of the Draft Environmental Assessment (DEA). A total of ten agencies provided written comments on the DEA. The written comments and responses are presented in Appendix A.

**VI. DETERMINATION**

After completing an environmental assessment of the potential environmental impacts of the proposed project, it is believed that an Environmental Impact Statement is not required. Accordingly, this document constitutes a Negative Declaration.

**TABLE 1  
LIST OF AGENCIES AND ORGANIZATIONS CONSULTED**

AGENCY OR ORGANIZATION CONSULTED		DATE	
		COMMENTS RECEIVED	RESPONSE
<b>Federal Government</b>			
1	U.S. Army Corps of Engineers, Pacific Division, Honolulu District Engineer	5/30/97	7/2/97
2	U.S. Department of Agriculture, Soils Conservation Service	5/29/97	7/2/97
3	U.S. Department of the Interior, Fish and Wildlife Service	None	Not req'd
4	U.S. Department of the Interior, Geological Survey	None	Not req'd
<b>State Government</b>			
5	Department of Agriculture	None	Not req'd
6	Department of Business, Economic Development, and Tourism	5/20/97	7/2/97
7	Department of Business, Economic Development, and Tourism, Energy Division	None	Not req'd
8	Department of Hawaiian Home Lands	6/26/97	7/2/97
9	Department of Land and Natural Resources	6/16/97	7/2/97
10	Department of Land and Natural Resources, State Historic Preservation Division	None	Not req'd
11	Department of Health	6/10/97	7/2/97
12	Office of Environmental Quality Control	6/6/97	7/2/97
13	Office of Hawaiian Affairs	6/18/97	7/2/97
14	University of Hawaii, Water Resources Research Center	None	Not req'd
15	University of Hawaii, Environmental Center	None	Not req'd
<b>County Government</b>			
16	Planning Department	6/19/97	7/2/97
17	Department of Parks and Recreation	5/30/97	7/2/97
18	Department of Public Works	None	Not Req'd
19	Economic Development Agency	None	Not req'd
<b>Private</b>			
20	C. Brewer Company	None	Not Req'd



**VII. FINDINGS AND REASONS SUPPORTING THE DETERMINATION**

Findings and reasons supporting the Negative Declaration determination are as follows, using the criteria, policies, guidelines and provision of Title 11, Chapter 200, Environmental Impact Statement Rules and Chapter 343, HRS. The proposed project will not:

- A. Involve an irrevocable commitment to loss or destruction of any natural or cultural resource;
- B. Curtail the range of beneficial uses of the environment;
- C. Conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, Hawaii Revised Statutes, and revisions thereof and amendments thereto, court decisions or executive orders;
- D. Substantially affect the economic or social welfare of the community or State;
- E. Substantially affect public health;
- F. Involve a substantial secondary impact, such as population changes or effects on public facilities;
- G. Involve substantial degradation of environmental quality;
- H. Cumulatively have considerable effect upon the environment or involve a commitment for larger actions;
- I. Substantially affect a rare threatened or endangered species, or its habitat;
- J. Detrimently affect air or water quality or ambient noise levels; or
- K. Detrimently affect an environmentally sensitive area, such as a flood plain tsunami zone, erosion-prone area, geologically hazardous land, estuary, fresh water, or coastal water. [Eff. Dec. 06, 1985](Auth: HRS Sec. 343-6)(Imp. HRS Sec. 343, 343-6).

**REFERENCES**

1. Department of Geography, University of Hawaii, Atlas of Hawaii, Second Edition, University of Hawaii Press, 1983.
2. MacDonald, G.A., H Stearns, Geology and Ground-Water Resources of the Island of Maui, Hawaii, Bulletin 13, Division of Hydrography, 1942.
3. Meyer, William, U.S. Geological Survey, Water Resources Division, Letter to the County of Maui, Board of Water Supply, October 10, 1995.
4. Mink, John F., The Waiehu Aquifer: An Evaluation, July 1977.
5. State Land Use District, Island of Maui, Map M-5
6. State of Hawaii, Department of Business, Economic Development and Tourism, The State of Hawaii Data Book: A Statistical Abstract, 1993-1994, June 1994.
7. State of Hawaii, Department of Land and Natural Resources, Commission on Water Resource Management, Maui County Water Use and Development Plan, Island of Maui, Review Draft, February 1992.
8. U. S. Department of Agriculture, Soil Conservation Service, University of Hawaii Agricultural Experiment Station, Soil Survey of Islands of Kauai, Oahu, Maui, Molokai and Lanai, State of Hawaii, August 1972.
9. Water Resource Associates, Prospective Well Sites, Iao Aquifer Source Development, November 1991.

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**APPENDIX A**  
Comments from and Replies to Agencies and Organizations  
Consulted During the Draft Environmental Assessment Process



DEPARTMENT OF THE ARMY  
PACIFIC OCEAN DIVISION, CORPS OF ENGINEERS  
FORT SHAFTER, HAWAII 96858-5440



REPLY TO  
ATTENTION: W

May 28, 1997

Planning and Operations Division

Received  
5-30-97

Ms. Valerie Suzuki  
Fukunaga and Associates  
1388 Kapiolani Boulevard, 2nd Floor  
Honolulu, Hawaii 96814

Dear Ms. Suzuki:

Thank you for the opportunity to review and comment on the Draft Environmental Assessment (DEA) for the Drilling and Testing for Waikapu Mauka Exploratory Well, Maui (TWK 3-5-4: 18). The following comments are provided pursuant to U.S. Army Corps of Engineers authorities to disseminate flood hazard information under the Flood Control Act of 1960 and to issue Department of the Army (DA) permits under the Clean Water Act; the Rivers and Harbors Act of 1899; and the Marine Protection, Research and Sanctuaries Act.

a. Based on the information provided, a DA permit will not be required for the project at this time (970000204).

b. The flood hazard information provided on page 10 of the DEA is correct.

Sincerely,

Paul Mizue, P.E.  
Acting Chief, Planning  
and Operations Division



BOARD OF WATER SUPPLY  
COUNTY OF MAUI

P.O. BOX 1109  
WAILUKU, MAUI, HAWAII 96793-7109  
Telephone (808) 243-7816 • Fax (808) 243-7833

July 2, 1997

Mr. Paul Mizue, P.E.  
Acting Chief, Planning and Operations Division  
Department of the Army  
Pacific Ocean Division, Corps of Engineers  
Fort Shafter, Hawaii 96858-5440

Dear Mr. Mizue:

Re: DRILLING AND TESTING OF THE WAIKAPU MAUKA EXPLORATORY WELL  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)

We are in receipt of your agency's comments dated May 28, 1997 on the DEA. We appreciate the information provided by your agency that a Department of the Army (DA) Permit will not be required for the project and that the flood hazard information provided by the DEA is correct.

Thank you for taking the time to review the environmental documents.

Sincerely,

David R. Craddick  
Director  
EK:as



United States  
Department of  
Agriculture

Natural  
Resources  
Conservation  
Service

P.O. Box 50004  
Honolulu, HI  
96850

Our People...Our Islands...In Harmony

May 23, 1997

Ms. Valerie Suzuki  
Fukunaga & Associates, Inc.  
1388 Kapiolani Boulevard, 2nd Floor  
Honolulu, Hawaii 96814

**received**  
5/25/97

Dear Ms. Suzuki:

Subject: Draft Environmental Assessment (DEA) - Drilling and Testing Waikapu Mauka  
Exploratory Well, Waikapu, Maui, Hawaii

We have reviewed the above document and have no comments to offer at this time.

Thank you for the opportunity to review this document.

Sincerely,

KENNETH M. KANESHIRO  
State Conservationist



**BOARD OF WATER SUPPLY  
COUNTY OF MAUI**

P.O. BOX 1109  
WAILUKU, MAUI, HAWAII 96793-7109  
Telephone (808) 243-7816 • Fax (808) 243-7833

July 2, 1997

Mr. Kenneth M. Kaneshiro, State Conservationist  
U. S. DEPARTMENT OF AGRICULTURAL  
Natural Resources Conservation Service  
P. O. Box 50004  
Honolulu, Hawaii 96850-0001

Dear Mr. Kaneshiro:

Re: DRILLING AND TESTING OF THE WAIKAPU MAUKA EXPLORATORY WELL  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)

We are in receipt of your department's comments dated May 23, 1997  
on the DEA offering no comments.

Thank you for taking the time to review the environmental  
documents.

Sincerely,

David R. Craddick  
Director

EK:as

The Natural Resources Conservation Service works hand-in-hand with  
the American people to conserve natural resources on private lands.

AN EQUAL OPPORTUNITY EMPLOYER

"By Water All Things Find Life"



BENJAMIN J. CASTELLANO  
DIRECTOR



ESTHER UEDA  
EXECUTIVE OFFICER

DEPARTMENT OF BUSINESS, ECONOMIC DEVELOPMENT & TOURISM  
LAND USE COMMISSION

P.O. Box 2359  
Honolulu, HI 96802-2359  
Telephone: 808-587-3523  
Fax: 808-587-3827

Received  
5/20/97

May 19, 1997

Ms. Valerie Suzuki  
Fukunaga & Associates, Inc.  
1388 Kapiolani Boulevard, 2nd Floor  
Honolulu, Hawaii 96814

Dear Ms. Suzuki:

Subject: Draft Environmental Assessment for the Drilling and Testing Waikapu Hauka Exploratory Well

We have reviewed the subject draft environmental assessment as transmitted with your letter dated May 12, 1997, and have the following comments to offer:

- 1) We confirm that the proposed well site, identified as TMK: 3-5-04: por. 18, is within the State Land Use Agricultural District.
- 2) On page 8, section C, we suggest that the paragraph read as follows:  
"The parcel is within the Agricultural District as designated by the State Land Use Commission, and is situated in an area designated as agriculture lands by the County of Maui Land Use and Code Administration (see Figure 6)."

We have no further comments to offer at this time.

Thank you for the opportunity to provide comments on the draft environmental assessment.

If you have any questions in regards to this matter, please feel free to contact me or Leo Auacion of my staff at 587-3822.

Sincerely,

ESTHER UEDA  
Executive Officer

EU:la



BOARD OF WATER SUPPLY  
COUNTY OF MAUI

P.O. BOX 1109  
WAILUKU, MAUI, HAWAII 96793-7109  
Telephone (808) 243-7816 • Fax (808) 243-7833

July 2, 1997

Ms. Esther Ueda, Executive Officer  
Department of Business, Economic Development and Tourism  
Land Use Commission  
P. O. Box 2359  
Honolulu, Hawaii 96804-2359

Dear Ms. Ueda:

Re: DRILLING AND TESTING OF THE WAIKAPU HAUKA EXPLORATORY WELL  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)

We are in receipt of your agency's comments dated May 19, 1997 on the DEA confirming that the site is located within the State Land Use Agricultural District. Also, as recommended in item 2 of your letter, we will revise Section C on page 8 of the DEA.

Thank you for taking the time to review the environmental documents.

Sincerely,

David R. Craddick  
Director

EK:as

4090L3

BENJAMIN J. CARRILLO  
CHAIRMAN  
STATE OF HAWAII



STATE OF HAWAII  
DEPARTMENT OF HAWAIIAN HOME LANDS  
FO BOX 1179  
HONOLULU, HAWAII 96814

KALI WATSON  
CHAIRMAN  
HAWAIIAN HOMES COMMISSION  
SIBBIE M. M. M. ANALECCHI  
DEPUTY TO THE CHAIRMAN

June 25, 1997

Ms. Valerie Suzuki  
Fukunaga & Associates, Inc.  
1388 Kapiolani Boulevard, 2nd Floor  
Honolulu, Hawaii 96814

Dear Ms. Suzuki:

Subject: Drilling and Testing Waikapu Mauka Exploratory  
Well Draft Environmental Assessment

The Department of Hawaiian Home Lands (DHHL) supports the goal of protecting and stabilizing the Iao Basal Aquifer, the primary source of municipal water on Maui, which is used near its sustainable yield of 30 million gallons per day (MGD).

DHHL homestead areas at Paukalo (138 residences) and at Waiehu-Kou (40 residences) rely on this aquifer and the Central Maui Water System for its domestic water. Further, DHHL is planning for 250 more houses in the Waiehu/Waiehu area.

The current proposal is to drill and test an exploratory well on lands owned by Wailuku Agribusiness Co., Inc., at the edge of a pineapple field at Waikapu, Maui (TKK 3-5-04:18). This proposed well site is less than three miles south of the Mokuhanu Wells where salinity has increased (Page 10) and the Maui Reynolds Well #1 (5228-06) where DBCP was detected in 1993. Samples of the water from the two nearby State observation wells (Waikapu Well No. 1 and No. 2) should be evaluated to determine the potential for obtaining good quality water from the proposed new well.

Thank you for the opportunity to review the draft. If you have any questions regarding our comments, please call Joe Chu of our Planning Office at 586-3836.

Aloha,

*Kali Watson*  
KALI WATSON, Chairman  
Hawaiian Homes Commission



BOARD OF WATER SUPPLY  
COUNTY OF MAUI

P.O. BOX 1109  
WAILUKU, MAUI, HAWAII 96783-7109  
Telephone (808) 243-7816 • Fax (808) 243-7833

July 2, 1997

Mr. Kali Watson, Chairman  
Hawaiian Home Lands Commission  
DEPARTMENT OF HAWAIIAN HOME LANDS  
STATE OF HAWAII  
P. O. Box 1879  
Honolulu, Hawaii 96805

Dear Mr. Watson:

Re: DRILLING AND TESTING OF THE WAIKAPU MAUKA EXPLORATORY WELL  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)

We are in receipt of your department's comments dated June 25, 1997 on the DEA. We note that your department supports the subject project's goal of protecting and stabilizing the Iao Basal Aquifer and that several of your department's homesteads rely on the Iao Basal Aquifer for its domestic use.

Thank you for the time to review the environmental documents.

Sincerely,

*David R. Craddick*

David R. Craddick  
Director

EK:as

BENJAMIN EASTMAN  
2015-10-14



STATE OF HAWAII  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
P.O. BOX 421  
HONOLULU, HAWAII 96814  
PHONE: 808-548-3377

MICHAEL D. WILSON  
CHIEF, MAUI DISTRICT  
OFFICE OF LAND AND NATURAL RESOURCES  
DEPT. OF LAND AND NATURAL RESOURCES  
DEPARTMENT OF LAND AND NATURAL RESOURCES  
AGRICULTURE DEVELOPMENT  
INDUSTRY  
ADULT RESOURCES  
CIVIL ENGINEERING  
CONSERVATION AND  
RECREATION  
CONSTRUCTION  
CONTRACTS  
COURT AND APPEALS  
GENERAL INVESTIGATION  
LAND DIVISION  
STATE PLANNING  
WATER RESOURCE MANAGEMENT

Received  
10-16-97

Ref.: LD-PEM

Ms. Valerie Suzuki  
Fukumaga & Associates, Inc.  
1388 Kapiolani Boulevard, 2nd Floor  
Honolulu, Hawaii 96814

Dear Ms. Suzuki:

**SUBJECT:** Request for Comments - Draft Environmental Assessment for the Drilling and Testing of Waikapu Mauka Exploratory Well, Waikapu, Maui, Tax Map Key (2) 3-5-04; Por. 18

File No. PM-97-046

We have reviewed the Draft Environmental Assessment for the subject project, and would like to offer the following comments:

Land Division - Engineering Branch

We confirm that the proposed project site is located in Zone C (unshaded). This is an area of minimal flooding.

Division of Aquatic Resources

There is concern about the drilling of any additional wells within the Iao Aquifer system. The Aquifer is currently pulling over the established maximum sustainable yield of 20 million gallons per day (mgd). Our understanding is that no more than 90% of the maximum sustainable yield would be withdrawn. Since the current yield is already over 100%, we are wondering why the applicant is continuing to stress the Aquifer system when there appears to be an immediate need to explore other alternative water sources.

Since all drilling and construction activities will occur about 1,000 feet away from Waikapu Stream, this project is not expected to have significant adverse impact on aquatic resource values in this area. However, the Division is concerned because Waikapu Stream is located near the project site and is known to harbor a number of native freshwater fauna, specifically those that are of moderate to high significant biological value. Construction activities could have short-term impacts on aquatic resources such as temporary turbidity, silt displacement and disturbance.

Ms. Valerie Suzuki  
Page 2

We recommend the applicant take mitigative measures to prevent contaminants such as drill cuttings, cutting extraction medium, sediment, pollutants, petroleum products, and debris from possibly entering the aquatic environment. We also suggest that site work be scheduled for periods of minimal rainfall and lands denuded of vegetation be replanted or covered as quickly as possible to control erosion.

Thank you for the opportunity to review and provide comments on the subject Draft Environmental Assessment. Should you have any questions, please contact Patti Miyashiro of our Honolulu Land Division Office at (808) 587-0430.

HAWAII: Earth's Best  
Aloha,

MICHAEL D. WILSON

c: Maui Land Board Member  
Maui District Land Office





**BOARD OF WATER SUPPLY  
COUNTY OF MAUI**

P.O. BOX 1109  
WAILUKU, MAUI, HAWAII 96793-7109  
Telephone (808) 243-7816 • Fax (808) 243-7833

July 2, 1997

Mr. Michael D. Wilson, Director  
State Department of Land & Natural Resources  
P. O. Box 621  
Honolulu, Hawaii 97809

Dear Mr. Wilson:

Re: **DRILLING AND TESTING OF THE WAIKAPU MAUKA EXPLORATORY WELL  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)**

We are in receipt of your agency's comments dated June 12, 1997 on the DEA. We note that the Land Division - Engineering Branch confirmed that the proposed project is located in Zone C, an area of minimal flooding. In regard to the comments made by the Division of Aquatic Resources, we would like to offer the following responses:

1. Impacts of Drilling Additional Wells in the Iao Aquifer

The purpose of the subject project is to spread out the pumping of the Iao aquifer to improve the long-term outlook of the aquifer and to improve the quality of water (lower salinity) being pumped from the aquifer. New wells are being developed within the Waihee Aquifer.

2. Construction Activities Possibly Impacting Aquatic Resources in Waikapu Stream

The DEA will be revised to include that all drill cuttings, cutting extraction medium, sediment, pollutants, petroleum products, and debris resulting from the drilling of the well be disposed of offsite in accordance with applicable Federal, State, and County requirements.

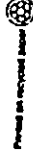
Thank you for taking the time to review the environmental documents.

Sincerely,

David R. Craddick  
Director

EK:as

"By Water All Things Find Life"





STATE OF HAWAII  
DEPARTMENT OF HEALTH  
P.O. BOX 3338  
HONOLULU, HAWAII 96814

June 5, 1997

97-102/epo

LAWRENCE MUMFORD

1701, 6488, 177-12

Ms. Valerie Suzuki  
Fukunaga & Associates, Inc.  
1388 Kapiolani Boulevard, 2nd Floor  
Honolulu, Hawaii 96814

Dear Ms. Suzuki:

Subject: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)  
Project: Drilling and Testing Waikapu Mauka  
Exploratory Well  
Location: Waikapu, Maui, Hawaii  
THK: (2) 3-5-04: 18

RECEIVED  
6-10-97

Ms. Valerie Suzuki  
June 5, 1997  
Page 2

97-102/epo

4. The engineering report must identify all potential sources of contamination and evaluate alternative control measures which could be implemented to reduce or eliminate the potential for contamination, including treatment of the water source. In addition, water quality analyses, performed by a laboratory certified in the State of Hawaii, must be submitted as part of the report to demonstrate compliance with all drinking water standards. Additional tests may be required by the Director of Health upon his review of the information submitted.

If you should have any questions on these comments, please contact Ms. Queenie Komori of the Safe Drinking Water Branch, Engineering Section, at 586-4258.

Sincerely,

BRUCE S. ANDERSON, Ph.D.  
Deputy Director for Environmental Health

c: SDWB

Thank you for allowing us to review and comment on the subject project. We have the following comments to offer:

Safe Drinking Water Branch

1. Federal and state regulations define a public water system as a system which serves 25 or more individuals at least 60 days per year or which has at least 15 service connections. All public water system owners and operators are required to comply with Hawaii Administrative Rules (HAR), Title 11, Chapter 20, "Rules Relating to Potable Water Systems."
2. HAR, Section 11-20-30 requires that new or substantially modified distribution systems for public water systems be approved by the Director of Health. However, if the water system is under the jurisdiction of the County of Maui, the Maui Department of Water Supply will be responsible for the review and approval of the plans.
3. The DEA indicates that the Waikapu Mauka exploratory well may be developed for potable use. HAR, Chapter 20, Section 11-20-29 requires that all new sources of potable water serving a public water system be approved by the Director of Health prior to its use. Such approval is based primarily upon the submission of a satisfactory engineering report which addresses the requirements set in Section 11-20-29.



**BOARD OF WATER SUPPLY  
COUNTY OF MAUI**

P.O. BOX 1109  
WAILUKU, MAUI, HAWAII 96793-7109  
Telephone (808) 243-7816 • Fax (808) 243-7833

July 2, 1997

Mr. Bruce Anderson, Ph.D.  
Deputy Director for Environmental Health  
DEPARTMENT OF HEALTH  
STATE OF HAWAII  
P. O. Box 3378  
Honolulu, Hawaii 96801

Dear Mr. Anderson:

Re: DRILLING AND TESTING OF THE WAIKAPU MAUKA EXPLORATORY WELL  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)

We are in receipt of your agency's comments dated June 5, 1997 on the DEA. It is our intention to comply with the Hawaii Administrative Rules, Title 11, Chapter 20, Rules Relating to Potable Water Systems. As stated in your letter, we will submit an engineering report satisfying all the requirements of Section 11-20-29 for approval prior to use of the well.

Thank you for taking the time to review our environmental documents.

Sincerely,

David R. Craddick  
Director

EK:as

BENJAMIN J. CAYETANO  
DIRECTOR



STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

216 SOUTH BERTANNA STREET  
STATE 102  
HONOLULU, HAWAII 96812  
TELEPHONE: 521-1611  
FACSIMILE: 521-1611

GARY GILL  
DIRECTOR

received  
6/4/97

June 4, 1997

Mr. David Craddick, Director  
Department of Water Supply  
County of Maui  
200 South High Street  
Wailuku, Hawaii 96793

Dear Mr. Craddick:

Subject: Draft Environmental Assessment for the Waikapu Mauka  
Exploratory Well, Maui

Thank you for the opportunity to review the subject document. We have the following comments and questions.

1. Please include diagrams that show prevailing groundwater flow paths, any points or regions of known contamination, and contours of water levels and chloride concentrations.
2. Please include a description of Iao aquifer's status including the following:
  - \* Current water use totals for all users
  - \* Current installed capacity for all pumps
  - \* Pending installed capacity and future water use totals
3. The primary cultivated vegetation in the vicinity of the project is pineapple. Please provide a record of contamination problems in the aquifer due to pesticide use. If contamination exists, the sources and duration of the contamination should be listed. Water quality data from nearby wells should be presented as well as any anticipated need for treatment or filtering systems.
4. Waikapu Stream is located approximately 1000 feet south of the site. Please provide a discussion of the potential effects the well development may have on Waikapu Stream. If potential impacts exist, a monitoring program for the surface waters should be included.

Mr. Craddick  
June 4, 1997  
Page 2

5. The EA should include pump test data on water level, extraction rates, and water quality parameters. Similar data from nearby wells should also be included. The precise criteria used to determine if the well should be converted to production should be described.

6. Please include a description of impacts associated with the well's permanent production facilities including pumps, distribution pipelines, control devices, storage facilities, access roads and accessory structures.

7. Please provide a list of alternatives to new groundwater development and discussion of their related costs and benefits. The list should include but not be limited to wastewater reuse, rainfall catchment, conservation, and nonpotable water supplies.

If you have any questions please call Jeyan Thirugnanam at 586-4185.

Sincerely,

Gary Gill  
Director

C: Fukunaga and Associates, Inc.



**BOARD OF WATER SUPPLY  
COUNTY OF MAUI**

P.O. BOX 1109  
WAILUKU, MAUI, HAWAII 96793-7109  
Telephone (808) 243-7816 • Fax (808) 243-7833

July 2, 1997

Mr. Gary Gill, Director  
Office of Environmental Quality Control  
State of Hawaii  
235 South Beretania Street, Suite 702  
Honolulu, Hawaii 96813

Dear Mr. Gill:

Re: DRILLING AND TESTING OF THE WAIKAPU MAUKA EXPLORATORY WELL  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)

We are in receipt of your agency's comments dated June 4, 1997 on the DEA. We have reviewed the comments and would like to offer the following comments:

1. Diagrams Showing Groundwater Flow Paths  
Insufficient data exist to show groundwater flow paths or contours of water levels and chlorides. There is no known contamination of the underlying basal aquifer.
2. Water Development Status of Iao Aquifer
  - a. Current groundwater withdrawal from Iao Aquifer averages 20 million gallons per day (mgd).
  - b. Current installed pump capacity within the Iao Aquifer amounts to 31.0 mgd.
  - c. Pending installed capacity is 2.0 mgd, the proposed withdrawal for the Waikapu Mauka Exploratory Well. If the exploratory well is developed, it will spread out the pumping within the aquifer and minimize salt water intrusion caused by localized pumping of the aquifer.
3. Possible Pesticide Contamination  
There are no known pesticide contamination of wells near the proposed well site. After the well is drilled, water samples will be taken from water quality analysis.

Mr. Gary Gill, Director  
OEQC - STATE OF HAWAII  
July 2, 1997  
Page 2

4. Waikapu Stream

The withdrawal of groundwater from the well should have no effect on Waikapu Stream because Waikapu Stream channel lies at an elevation of approximately 700 feet in the vicinity of the well; whereas, the well will encounter and develop basal groundwater at an elevation of approximately 15 feet. Waikapu Stream is separated from the underlying basalt aquifer by impermeable consolidated alluvium estimated to be several hundred feet or more in thickness.

No impacts to the stream from construction activities is anticipated since all drill cuttings, cutting extraction medium, sediment, pollutants, petroleum products, and debris resulting from the drilling of the well will be disposed of offsite in accordance with applicable Federal, State, and County requirements.

5. Pump Test Data

The exploratory drilling and testing proposed for this project will provide information on the hydro-geologic characteristics of the well and determine the feasibility of developing the well into a new potable water source. A well drilled at the proposed site is expected to penetrate the permeable unweathered basalt and have a higher yield than the Waikapu NO. 1 and Waikapu NO. 2 observation wells. Test results from Waikapu Well No. 1 showed a yield of 100 gpm with a drawdown of 40 feet, or a specific capacity of 2.5 gpm per foot of drawdown. Similarly, the Waikapu Well No. 2 showed a specific well capacity of 2.0 gpm per foot of drawdown. Because both wells penetrate through the less permeable weathered basalt, their yields are low.

6. Impacts Associated with the Wells Permanent Production Facilities

Should the exploratory well be developed into a production well, impacts associated with that development will be discussed in a future environmental assessment.

7. Alternatives to Groundwater Development

- a. Reclaimed Water. The County of Maui has an on-going program to develop reclaimed water systems to serve West and South Maui. The advantage of using treated effluent for irrigation is that it would provide an alternative method for sewage disposal while decreasing the use of Maui's limited potable water supply. The disadvantage is that the cost of constructing the system is more than the cost of developing new potable water sources.



"By Water All Things Find Life"

Mr. Gary Gill, Director  
OEQC - STATE OF HAWAII  
July 2, 1997  
Page 3

- b. Conservation. Maui County amended the Uniform Plumbing Code to require that only low-flow water fixtures and devices meet the performance requirements established by the American National Standards Institute. The Department of Water Supply anticipates that installation of low-flow water devices will conserve water.

The above information will be incorporated in the Final EA. Thank you for taking the time to review the environmental documents.

Sincerely,

DEPARTMENT OF WATER SUPPLY  
COUNTY OF MAUI



David R. Craddick  
Director

EK:as



STATE OF HAWAII  
OFFICE OF HAWAIIAN AFFAIRS  
711 KAPIOLANI BOULEVARD, SUITE 500  
HONOLULU, HAWAII 96813

Received  
6-13-97

June 09, 1997

Ms. Valerie Suzuki  
Fukunaga & Associates, Inc.  
1388 Kapiolani Blvd., 2nd Floor  
Honolulu, HI 96814

Subject: Draft Environmental Assessment (DEA) for the  
Drilling and Testing of Waikapu Mauka Exploratory  
Well, Island of Maui.

Dear Ms. Suzuki:

Thank you for the opportunity to review the Draft  
Environmental Assessment (DEA) for the Drilling and Testing  
of Waikapu Mauka Exploratory Well, Island of Maui. The  
County of Maui proposes to drill an exploratory well to  
determine the feasibility of developing a new ground water  
source within the Iao aquifer.

The Office of Hawaiian Affairs (OHA) has no objections  
at this time to the proposed well project. Because of its  
distant location, the well apparently bears no adverse  
impacts on nearby existing wells nor upon the Iao Aquifer  
System. But OHA is concerned that due to high well density  
and withdrawal rates, pumping, regardless of the location  
within the Iao aquifer, will eventually lead to either a  
loss in water quality or a decline in the volume rate of  
pumping.

Letter to Ms. Suzuki  
Page two

Please contact Lynn Lee, Acting Officer of the Land and  
Natural Resources Division, or Luis A. Manrique, should you  
have any questions on this matter.

Sincerely yours,  
*Martha Ross*  
Martha Ross  
Deputy Administrator, Programs

LM:lm  
cc Trustee Clayton Hee, Board Chair  
Trustee Abraham Aiona, Board Vice-Chair  
Trustee Rowena Akana, Land & Sovereignty Chair  
Trustee Haunani Apoliona  
Trustee Billie Beamer  
Trustee Frenchy DeSoto  
Trustee Moses Keale  
Trustee Colette Machado  
Trustee Hannah Springer  
Sesnita Moepono, Acting Administrator  
CAC, Island of Maui



**BOARD OF WATER SUPPLY**

**COUNTY OF MAUI**

P.O. BOX 1109

WAILUKU, MAUI, HAWAII 96793-7109

Telephone (808) 243-7816 • Fax (808) 243-7833

July 2, 1997

Ms. Martha Ross, Deputy Administrator  
Office of Hawaiian Affairs  
711 Kapiolani Blvd., Suite 500  
Honolulu, Hawaii 96813-5249

Dear Ms. Ross:

Re: DRILLING AND TESTING OF THE WAIKAPU HADKA EXPLORATORY WELL  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)

We are in receipt of your department's comments dated June 9, 1997 on the DEA. We note that you have no objections to the proposed project. In regards to your concern over the eventual loss in water quality of the Iao Aquifer due to the aquifer's high withdrawal rates, we are currently developing new sources of potable water in the Waiehe Aquifer.

The purpose of this project is to spread out the pumpage of the Iao Aquifer to improve the long term outlook of the aquifer and to improve the quality of water.

Thank you for taking the time to review our environmental documents.

Sincerely,

David R. Craddick  
Director

EK:as



LINDA CROCKETT LINGLE  
Mayor



DAVID W. BLANE  
Director  
GWEN OHASHI HIRAGA  
Deputy Director

COUNTY OF MAUI  
PLANNING DEPARTMENT  
110 SOUTH STREET  
WAILUKU, MAUI, HAWAII 96793

June 16, 1997

Received  
6-19-97

Ms. Valerie Suzuki  
Fukunaga & Associates, Inc.  
1388 Kapiolani Boulevard, 2nd Floor  
Honolulu, Hawaii 96814

Dear Ms. Suzuki:

RE: Drilling and Testing Waikapu Mauka Exploratory Well Draft  
Environmental Assessment (EA)

Thank you for the opportunity to review this draft EA. There was no review period specified so we trust that our comments will be incorporated into the final document. We offer the following comments:

1. Page 1, Project Description, last paragraph. The statement that the current demand is equal to the sustainable yield of the Iao Aquifer is incorrect. The Department of Water Supply, at times, is currently pumping in excess of the aquifer's estimated sustainable yield.
2. Page 6, Proposed Project. The project description should include considerable discussion and detail on the testing of the well. What kind of tests and what are the desired results? What will determine how much the Mokuhau wells can be cut back?
3. Page 12, Flora and Fauna. The statement that bats are common to Maui is incorrect. The Hawaiian Hoary Bat is a federally listed endangered species. If this species is in the area, as the draft document would indicate, a field survey should be conducted by a qualified biologist and then a determination made if an EIS is needed or not.

Ms. Valerie Suzuki  
June 16, 1997  
Page 2

4. Page 13, Impacts, Iao Aquifer. Again, the document just mentions in passing that the well will be tested. There is no description of the tests to be run, its duration, the range of possible results, the desired results, effects on other wells, what would constitute a significant impact, etc. Since this project is to mitigate some of the impacts of over-pumping the Mokuhau Wells, it seems important to provide considerably more analysis than what is provided here regarding the impacts on the Iao Aquifer.
5. Page 13, Alternatives. The No Project Alternative assumes that pumping *could* remain at its current level - a situation that the state finds unacceptable. For this reason, other alternatives that meet the project goals should be explored.

Again, thank you for the opportunity to comment. If you have any questions, please contact William Spence, Staff Planner, at 243-7735.

Very truly yours,

DAVID W. BLANE  
Director of Planning

DWB:wrs  
cc: Clayton Yoshida, AICP, Planning Program Administrator  
David Craddock, Director, Department of Water Supply  
General File  
P:\CORESPONWAIWELL.WPD



**BOARD OF WATER SUPPLY  
COUNTY OF MAUI**

P.O. BOX 1109  
WAILUKU, MAUI, HAWAII 96793-7109  
Telephone (808) 243-7816 • Fax (808) 243-7833

July 2, 1997

Mr. David Blane, Director  
Planning Department  
County of Maui  
250 S. High Street  
Wailuku, Hawaii 96793

Dear Mr. Blane:

Re: DRILLING AND TESTING OF THE WAIKAPU MAUKA EXPLORATORY WELL  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)

We are in receipt of your department's comments dated June 16, 1997 on the DEA. We have reviewed the comments and would like to offer the following responses:

1. Page 1. Project Description. Last Paragraph  
The Project Description portion of the DEA will be revised to include the statement "During the summer months the demand has exceeded 20 million gallons per day".
2. Page 6. Proposed Project

The tests proposed for the exploratory well will follow the guidelines specified in the Hawaii Well Construction and Pump Installation Standards prepared by the State Department of Land and Natural Resources, Commission on Water Resources Management (January 1997). The standards require that when a new well is drilled, a short step-drawdown test and a long-term constant-rate test be conducted to obtain hydrologic information needed to determine the well's performance and efficiency with regard to yield and drawdown; the well's trend with regard to drawdown, recovery, and salinity; and the nearby hydraulic properties of the aquifer. The exact pump rate the well will be tested at and the duration of the test will be determined in the field.

"By Water All Things Find Life"



Mr. David Blane, Director of Planning  
July 2, 1997  
Page 2

3. Page 12. Flora and Fauna

The DEA lists the different types of mammals that can be found on Maui and one of them, according to the Atlas of Hawaii, Second Edition, dated 1983, is the bat.

4. Page 13. Impacts. Iao Aquifer

The DEA will be revised to include the information provided in item 2.

5. Page 13. Alternatives

We agree that the "no project" option is an unacceptable alternative since the current situation would lead to intrusion of salt water into the Iao Aquifer, which is the main source of potable water to the Central Maui Water System.

Thank you for taking the time to review the environmental documents.

Sincerely,

DEPARTMENT OF WATER SUPPLY  
COUNTY OF MAUI

David R. Craddick  
Director

EK:as



DEPARTMENT OF  
PARKS AND RECREATION  
COUNTY OF MAUI

1550-C KAAHUMANU AVENUE WAILUKU, HAWAII 96793

LINDA CROCKETT LINGLE  
Mayor  
HENRY OLIVA  
Director  
ALLEN SHISHIDO  
Deputy Director  
(808) 243-7230  
(808) 243-7134  
FAX

Received  
5-30-97

May 23, 1997

Ms. Valerie Suzuki  
Fukunaga & Associates, Inc.  
1388 Kapiolani Boulevard, 2nd Floor  
Honolulu, HI 96814


Subject: Drilling and Testing Waikapu Mauka Exploratory Well  
Draft Environmental Assessment

Dear Ms. Suzuki:

We have reviewed the Draft Environmental Assessment for the Waikapu Mauka Exploratory Well and find that we have no comments.

Should you have any questions, please feel free to contact Patrick Matsui, Chief of Planning and Development, at extension 7387.

Sincerely,

  
HENRY OLIVA  
Director

HO:PTM:AM:ecq  
am larkwell:wpd



BOARD OF WATER SUPPLY  
COUNTY OF MAUI

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WAILUKU, MAUI, HAWAII 96793-7109  
Telephone (808) 243-7818 • Fax (808) 243-7833

July 2, 1997

Mr. Henry Oliva, Director  
DEPARTMENT OF PARKS AND RECREATION  
COUNTY OF MAUI  
1580-C Kaahumanu Avenue  
Wailuku, Hawaii 96793


Dear Mr. Oliva:

Re: DRILLING AND TESTING OF THE WAIKAPU MAUKA EXPLORATORY WELL  
DRAFT ENVIRONMENTAL ASSESSMENT (DEA)

We are in receipt of your department's comments dated May 23, 1997 on the DEA. We note that you have no comments on the proposed project.

Thank you for taking the time to review the environmental documents.

Sincerely,

  
David R. Craddick  
Director

EK:as