

# DEPARTMENT OF WATER

County of Kauai

"Water has no Substitute -- Conserve It!"

RECEIVED

April 22, 1997

'97 APR 28 P2:56

OFFICE OF ENVIRONMENTAL  
QUALITY CONTROL

Mr. Gary Gill, Director  
Office of Environmental Quality Control  
220 S. King Street, 4th Floor  
Honolulu, Hawaii 96813

Dear Mr. Gill:

Subject: Negative Declaration  
Lihue and Hanamaulu Water Development Projects, Phase I  
TMK 3-8-02:2

The County of Kauai, Department of Water, has reviewed the comments received during the 30-day public comment period which began on February 23, 1997. We have determined that this project will not have significant environmental effect and have issued a negative declaration. Please publish notice of availability for these projects in the OEQC Bulletin as soon as practicable.

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

Please contact Mr. Keith Fujimoto at (808) 245-5449 if you have any questions.

Sincerely,



Ernest Y.W. Lau  
Manager & Chief Engineer

et

1997-05-08-KA-FEA-Hanamaulu &  
Lihue Water Development Projects,  
Phase I

FILE COPY

**FINAL  
ENVIRONMENTAL  
ASSESSMENT**

**LIHUE AND HANAMAULU  
WATER DEVELOPMENT  
PROJECTS, PHASE I**

**Pukaki Well  
and  
Hanamaulu Well No. 3**

*For the:*  
*County of Kauai*  
**DEPARTMENT OF WATER**

**April 1997**

**PERKINELMANN AND ASSOCIATES, INC.**

*Environmental Engineers*

1997-05-08-KA-PEA-Hanamaulu & Lihue Water Development Projects, Phase I

**FINAL  
ENVIRONMENTAL  
ASSESSMENT**

**LIHUE AND HANAMAULU  
WATER DEVELOPMENT  
PROJECTS, PHASE I**

**Pukaki Well  
and  
Hanamaulu Well No. 3**

*For the:*  
*County of Kauai*  
**DEPARTMENT OF WATER**

**April 1997**

**FUKUNAGA AND ASSOCIATES, INC.**

*Consulting Engineers*

1388 Kapiolani Boulevard, Second Floor

Honolulu, Hawaii 96814

(808) 944-1821

FINAL  
ENVIRONMENTAL ASSESSMENT  
LIHUE AND HANAMAULU WATER  
DEVELOPMENT PROJECTS  
PHASE I  
Pukaki Well and Hanamaulu Well No. 3

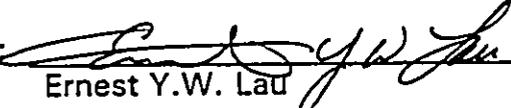
T.M.K. 3-8-02:2  
Lihue, Kauai, Hawaii

*PROPOSING AGENCY:*

*Department of Water  
County of Kauai*

Submitted Pursuant to Chapter 343, HRS

Responsible Official:

  
Ernest Y.W. Lau  
Manager & Chief Engineer

Date:

*4/22/97*

*Prepared by:*

Fukunaga & Associates, Inc.  
1388 Kapiolani Boulevard, Second Floor  
Honolulu, Hawaii 96814

April 1997

## Table of Contents

---

I.	INTRODUCTION	
A.	GENERAL INFORMATION .....	1
B.	PROPOSING AGENCY .....	1
II.	LIHUE WATER DEVELOPMENT PROJECT 96-1	
A.	LIHUE WATER PROJECT LOCATION .....	1
B.	USGS INFORMATION .....	5
C.	PROPOSED PROJECT .....	5
III.	HANAMAULU WATER DEVELOPMENT PROJECT 96-2	
A.	HANAMAULU WATER PROJECT LOCATION .....	8
B.	USGS INFORMATION .....	8
C.	PROPOSED PROJECT .....	8
IV.	DESCRIPTION OF THE ENVIRONMENT - COMMON TO BOTH PROJECTS	
A.	LAND CLASSIFICATION AND ZONING .....	12
B.	PHYSICAL FEATURES .....	15
1.	Topography .....	15
2.	Soils .....	15
3.	Hydrogeology .....	15
4.	Climate .....	22
5.	Flood and Tsunami .....	22
C.	WATER QUALITY .....	22
D.	ARCHAEOLOGICAL AND HISTORICAL CONSIDERATIONS .....	23
E.	FLORA .....	23
F.	FAUNA .....	23
V.	PROBABLE IMPACTS AND MITIGATIVE MEASURES - COMMON TO BOTH PROJECTS	
A.	SHORT TERM IMPACTS .....	23
1.	Construction Related .....	23
2.	Hydrogeology .....	24
B.	LONG TERM IMPACTS .....	24
VI.	ALTERNATIVES TO THE PROPOSED PROJECTS	
A.	ABANDON PROPOSED PROJECTS .....	25
B.	ALTERNATIVE SITES .....	25
C.	ALTERNATIVE WATER SOURCES .....	25

## Table of Contents

---

VII.	PERMITS AND APPROVALS REQUIRED .....	25
VIII.	AGENCIES AND ORGANIZATIONS CONSULTED .....	26
IX.	FINDINGS AND DETERMINATION .....	27
X.	REFERENCES .....	28

### APPENDIX

## I. INTRODUCTION

### A. GENERAL INFORMATION

The County of Kauai Department of Water desires to develop two new water source development projects in the Lihue area to improve the existing water system capabilities to meet the growing needs. This environmental assessment evaluates the two projects identified as the Lihue Water Development Project 96-1 and the Hanamaulu Water Development Project 96-2. The draft environmental assessments for these projects were submitted separately; however, based on the Office of Environmental Quality Control comments, a single final environmental assessment is required for both projects. The projects are within 1 mile of each other, and are located over the same aquifer. See Figure I-1. Both projects will proceed in two major phases. Phase I will involve drilling, casing and testing of the wells to determine how much water the wells can safely supply. Upon successful completion of Phase I, Phase II will proceed with outfitting the wells and constructing other associated site and water system improvements.

This environmental assessment is prepared only for Phase I, the drilling, testing and casing of the proposed wells.

### B. PROPOSING AGENCY

The proposing agency for this project is the County of Kauai Department of Water.

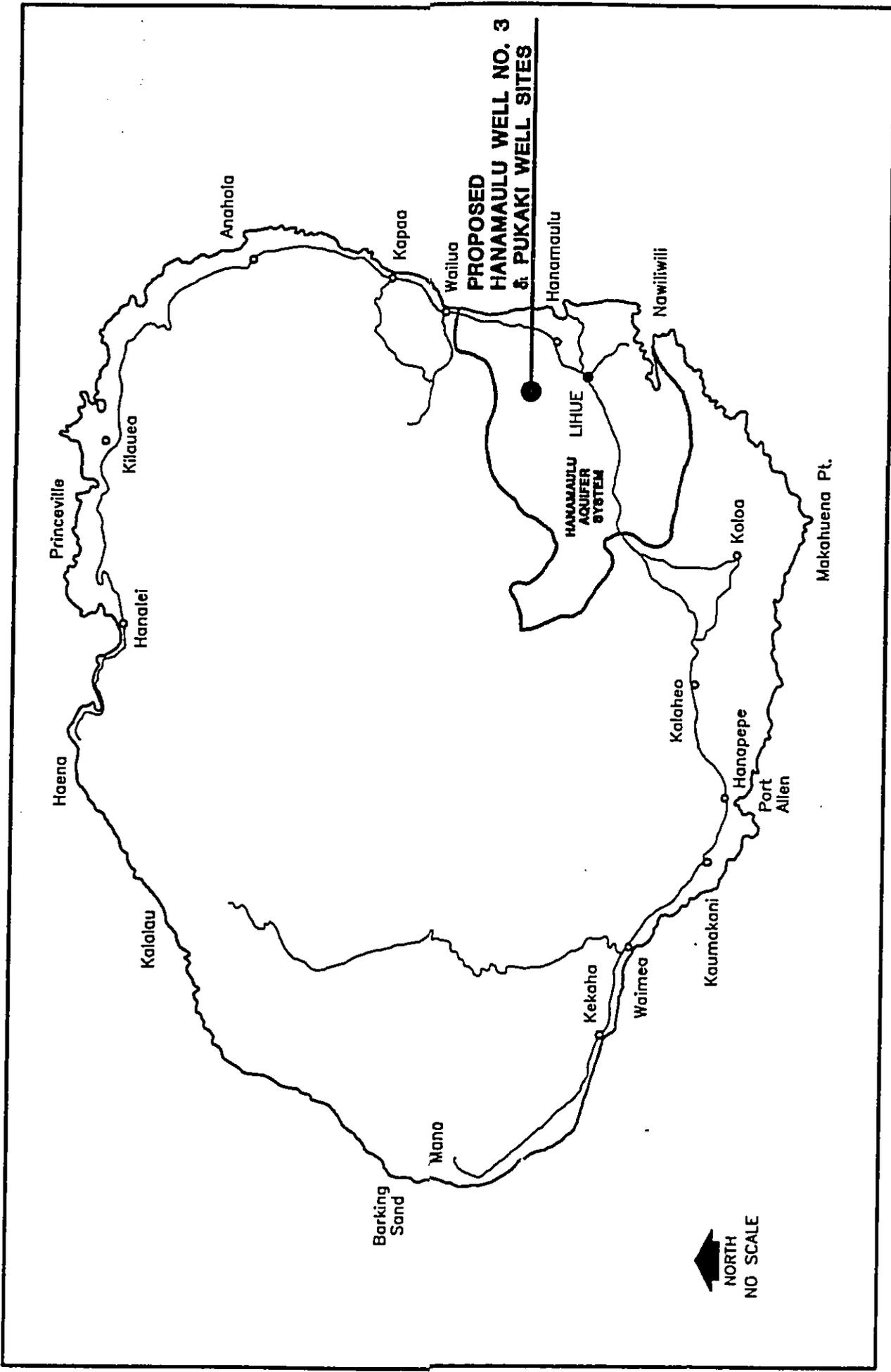
## II. LIHUE WATER DEVELOPMENT PROJECT 96-1

### A. LIHUE WATER PROJECT LOCATION

The proposed Pukaki Well project site is located approximately 3 miles northwest of Lihue, 0.1 miles west of Pukaki Reservoir (part of Hanamaulu Stream), 0.5 miles south of Aii Reservoir, and 0.7 miles southeast of Kapaia Reservoir. The project site is on lands owned by Lihue Plantation Company, Ltd., and identified by TMK 3-8-02:2. See Figures II-1 and II-2.

Upon successful completion of the well drilling and testing (Phase I), and construction of the well source improvements (Phase II), the Pukaki Well project site will be subdivided from Lihue Plantation Company lands, and the County of Kauai will become the legal owners of the well site.

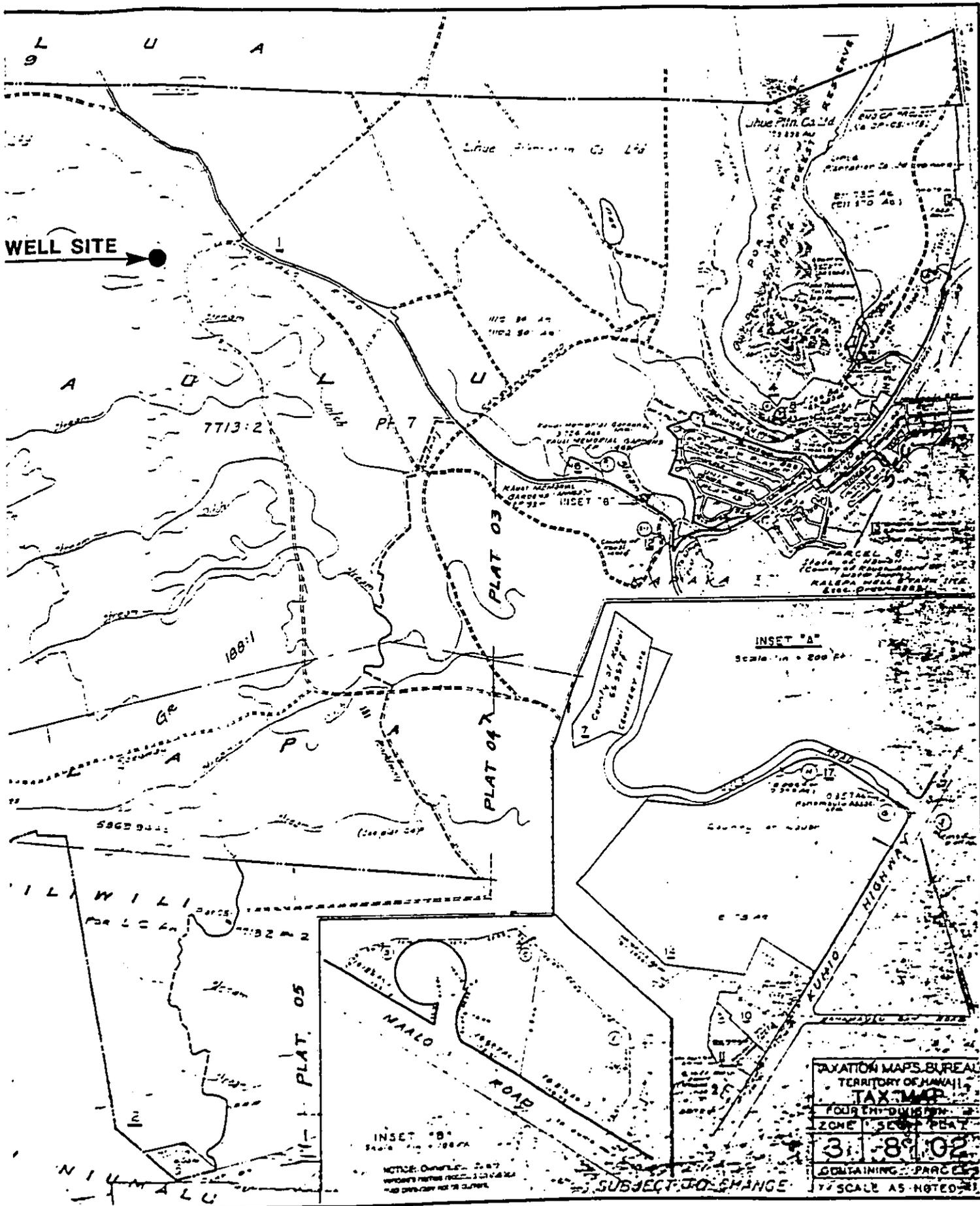
April 1997



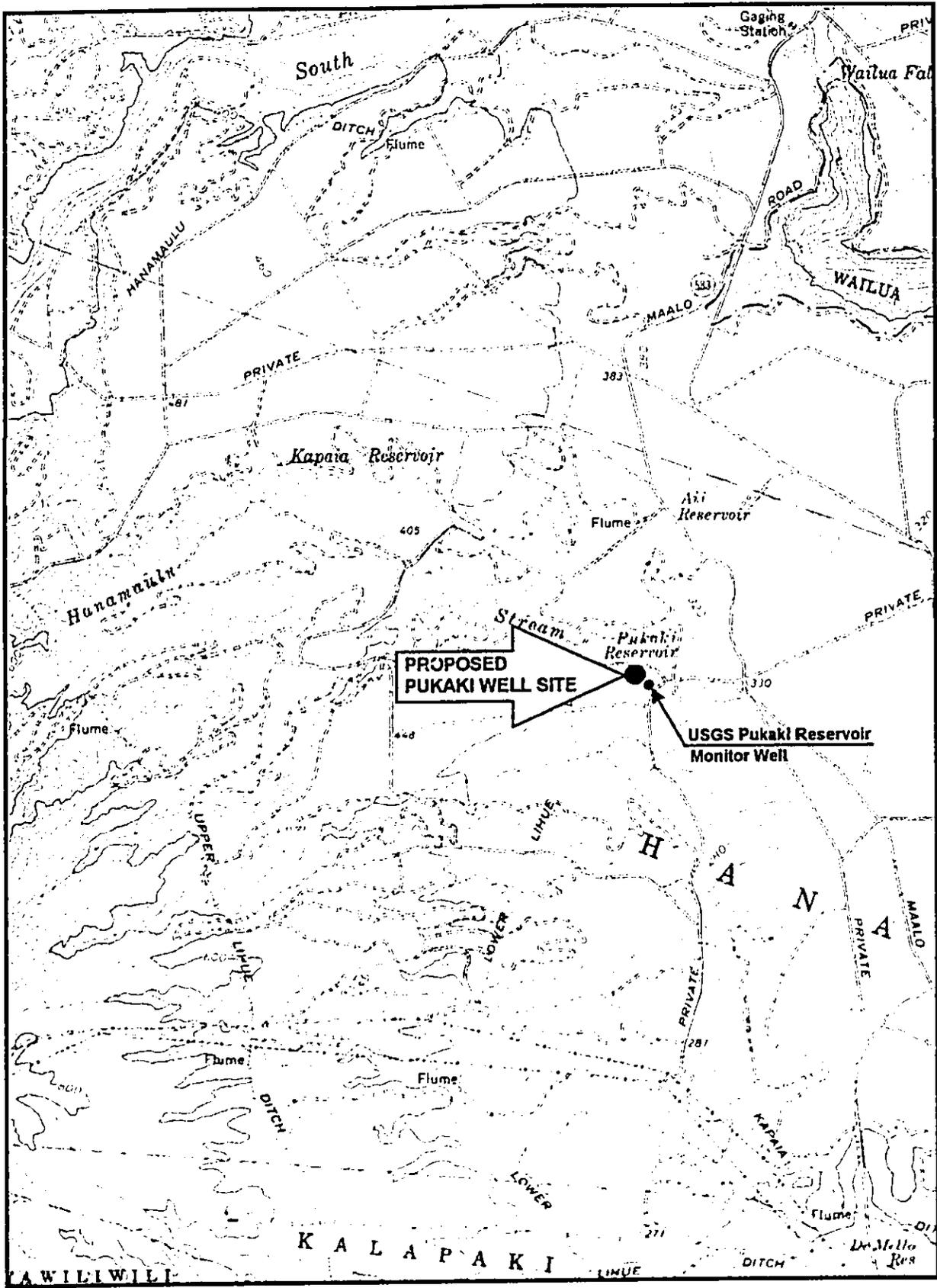
**COUNTY OF KAUAI**  
 Lihue and Hanamaulu Water Development Projects

**ISLAND OF KAUAI**  
**FIGURE I-1**





TAX MAP KEY: 3-8-02:2



## B. USGS INFORMATION

The USGS drilled and cased a monitor well near the Pukaki Reservoir during the period from February 22 to April 1996. See Figure II-2. The ground elevation at the well is 319.28 feet. The well is 10 inches in diameter by 1,147 feet deep (bottom is at -828 ft elevation), and the top 20 feet is cased with a 4 inch PVC pipe. During four days of sustained pumping at an average rate of 284 gallons per minute, the maximum drawdown was 145.51 (initial static water level elevation was 147.4 ft).

Water quality analyses were performed by Montgomery Watson Laboratories in April 1996, and results are included in the Appendix.

## C. PROPOSED PROJECT

The proposed Pukaki Well project site is approximately 250 feet northwest of the USGS well. See Figure II-3. The USGS well will be capped and retained for well level monitoring purposes.

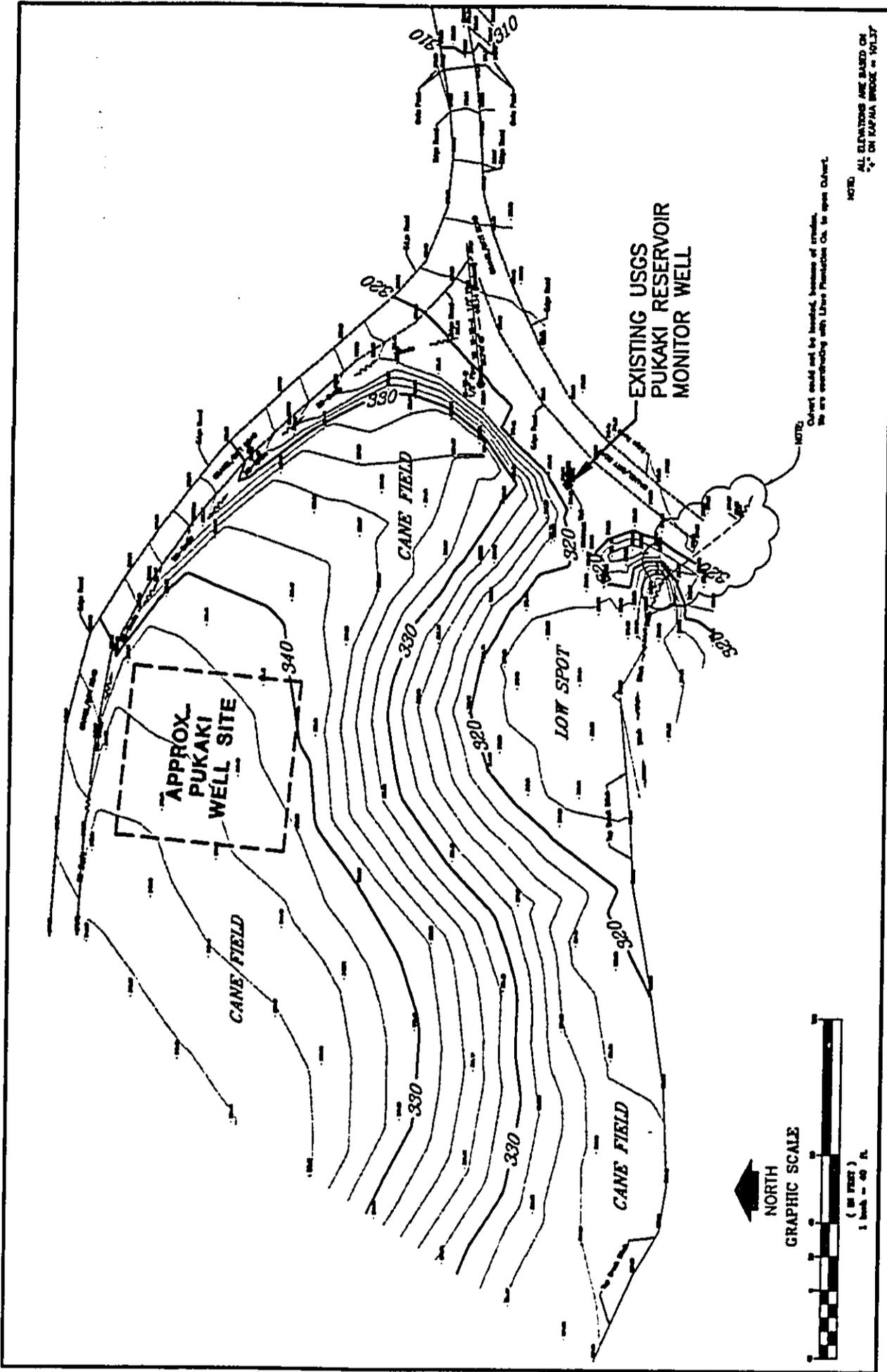
The proposed project includes the following major tasks:

1. Drilling a 12 inch diameter cased well to approximately 800 feet below an approximate ground surface elevation of 335 feet (similar to the USGS Pukaki Reservoir monitor well depth). The exact depth will depend on hydrogeologic field observations and evaluations.
2. Installing approximately 400 feet of 12 inch I.D. steel casing (bottom 200 feet perforated). Grouting the annular space surrounding the casing from the ground surface to a depth of approximately 195 feet. See Figure II-4.
3. Pump testing the aquifer at a rate up to 700 gallons per minute (gpm).
4. Obtaining water quality data and analyses in accordance with the Department of Health, Hawaii Administrative Rules, Title 11, Chapter 20 requirements.

The well design documents will conform with the Department of Land and Natural Resources (DLNR) well construction standards and will address best management practices. The time anticipated to complete the drilling, casing and testing is 6 months. The estimated cost is \$600,000.00.

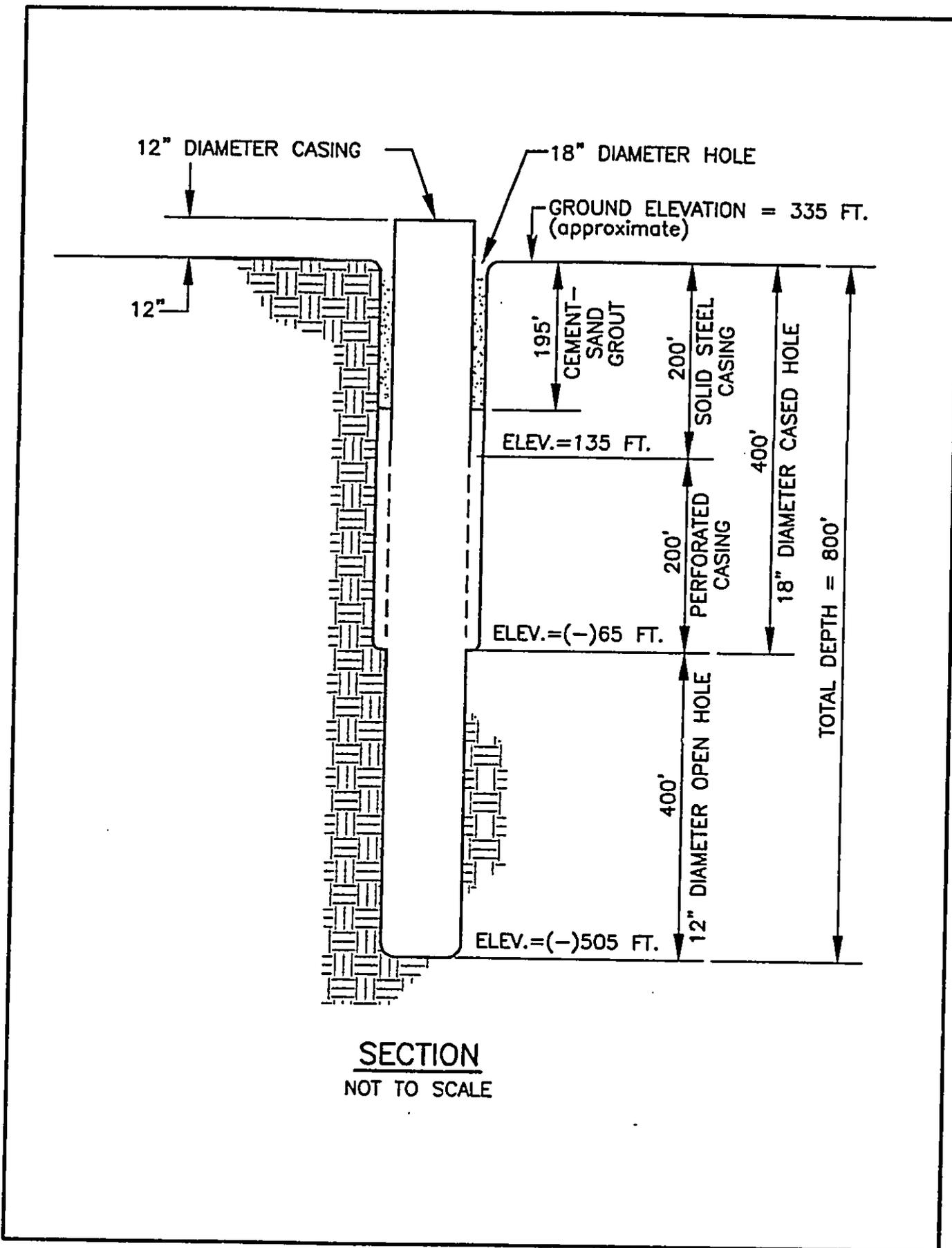
The proposed Lihue Water Development Project will be funded by a Special Purpose Grant from the Department of Housing and Urban Development. There are no restrictions on the water allocation for the project.

April 1997



COUNTY OF KAUAI  
Lihue Water Development Project

PROPOSED PUKAKI WELL SITE  
FIGURE II-3



April 1997

### III. HANAMAULU WATER DEVELOPMENT PROJECT 96-2

#### A. HANAMAULU WATER PROJECT LOCATION

The proposed Hanamaulu Well No. 3 project site is located approximately 4 miles northwest of Lihue, and 0.2 miles northwest of Kapaia Reservoir. The project site is on lands owned by Lihue Plantation Company, Ltd., and identified by TMK 3-8-02:2. See Figures II-1 and III-1.

Upon successful completion of the well drilling and testing (Phase I), and construction of the well source improvements (Phase II), the Hanamaulu Well No. 3 project site will be subdivided from Lihue Plantation Company lands, and the County of Kauai will become the legal owners of the well site.

#### B. USGS INFORMATION

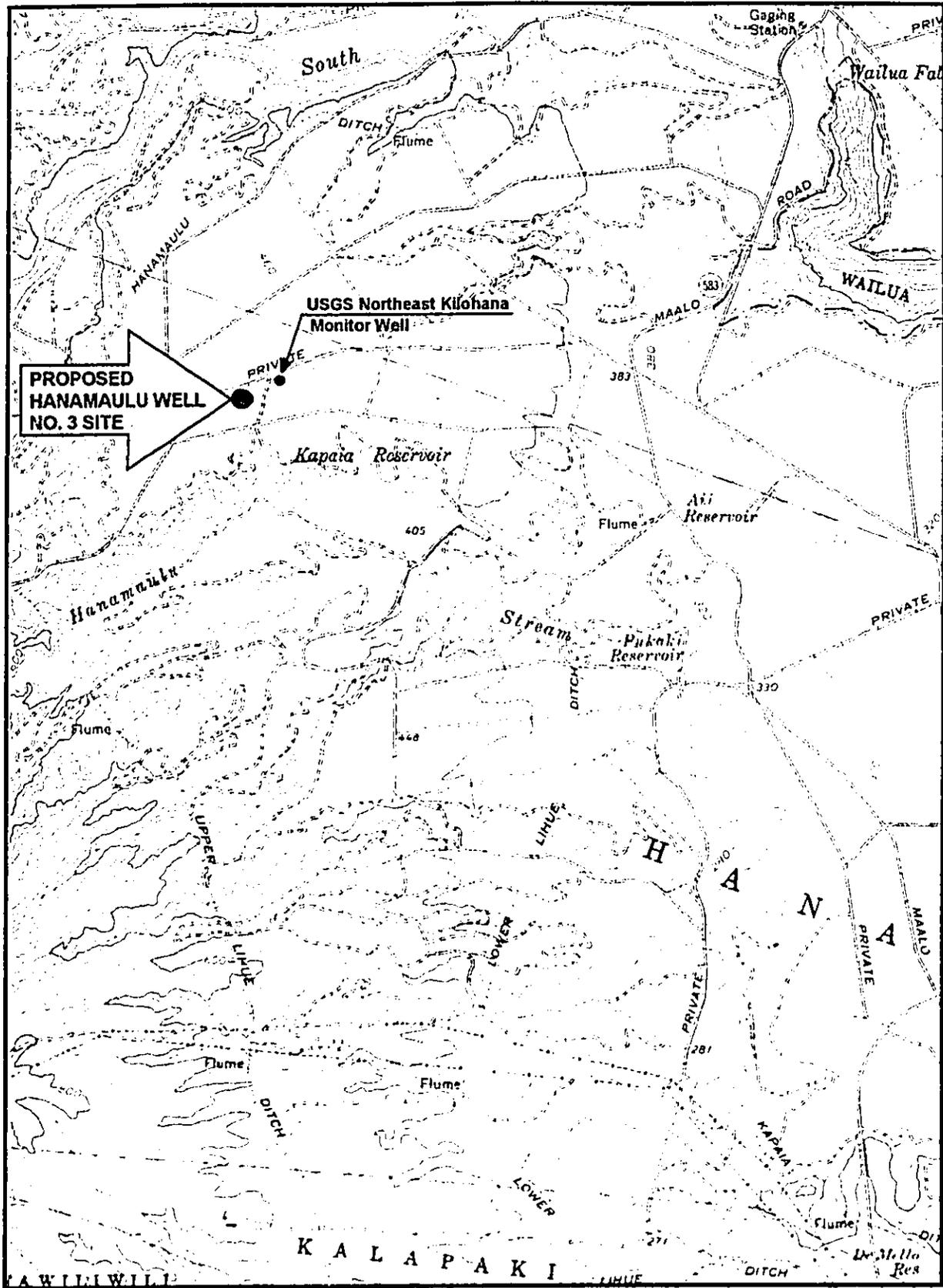
The U.S. Geological Survey (USGS) drilled and cased the Northeast Kilohana monitor well during the period from June 6 to August 1995 to study the hydrology and geology of the area. See Figure III-1. The ground elevation at the well is 466.42 feet. The well is 10 inches in diameter by 1,047 feet deep (bottom is at -581 ft elevation), and is cased with 4 inch steel pipe (alternating sections of solid and perforated walls) down to -566 feet elevation. During seven days of sustained pumping at an average rate of 316 gallons per minute, the maximum drawdown was 49.54 (initial static water level elevation was 375.5 ft).

#### C. PROPOSED PROJECT

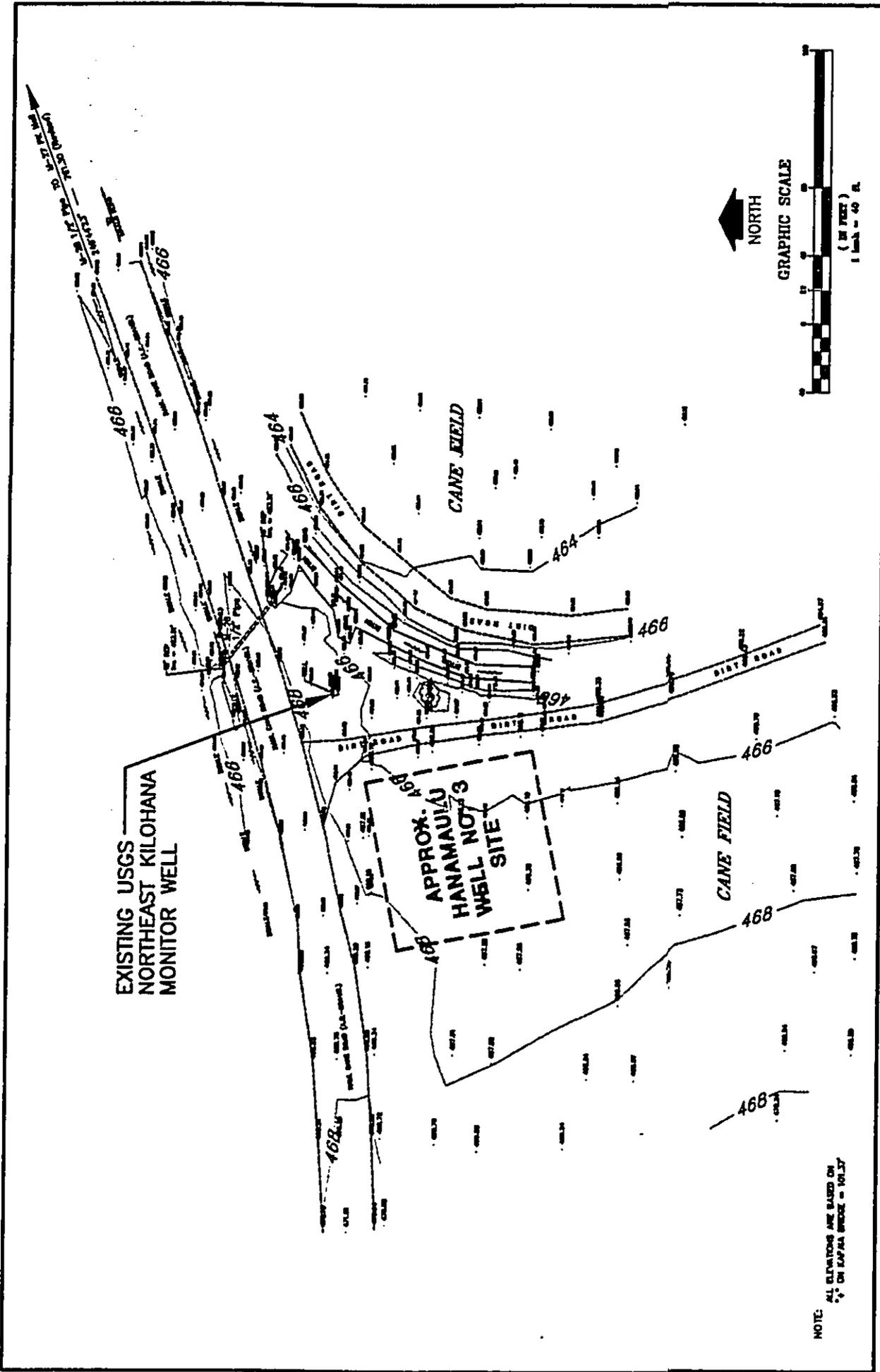
The proposed Hanamaulu Well No. 3 project site is approximately 150 feet southwest of the USGS well. See Figure III-2. The USGS well will be capped and retained for well level monitoring purposes.

The proposed project includes the following major tasks:

1. Drilling a 12 inch diameter cased well to approximately 770 feet below an approximate ground surface elevation of 466 feet (similar to the USGS Northeast Kilohana monitor well depth). The exact depth will depend on hydrogeologic field observations and evaluations.
2. Installing approximately 500 feet of 12 inch I.D. steel casing (bottom 350 feet perforated). Grouting the annular space surrounding the casing from the ground surface to a depth of approximately 145 feet. See Figure III-3.



April 1997

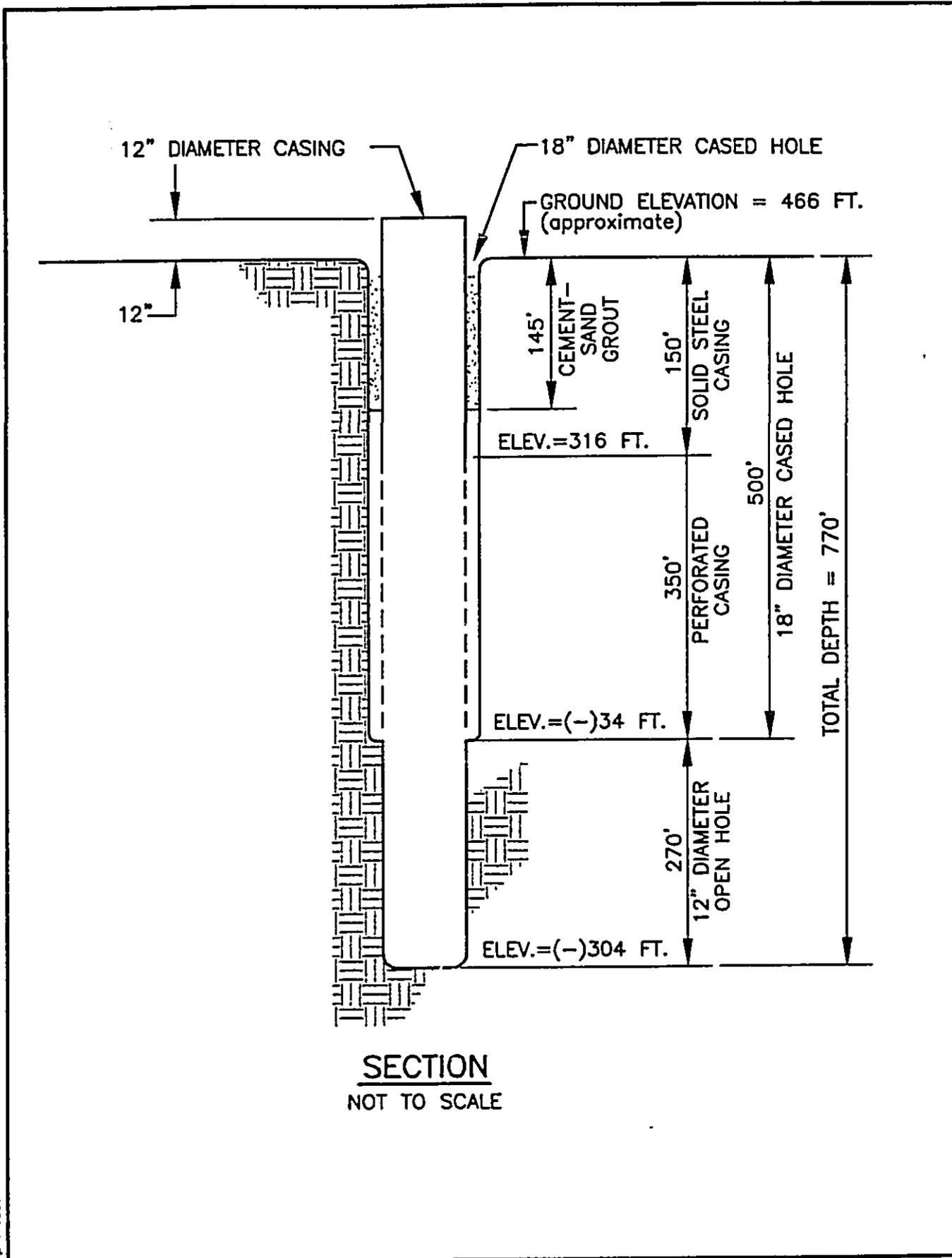


**COUNTY OF KAUAI**

Hanamaulu Water Development Project

**PROPOSED HANAMAULU WELL NO. 3 SITE**

FIGURE III-2



April 1997

**PROPOSED HANAMAULU WELL NO. 3  
CROSS SECTION**

**COUNTY OF KAUAI**

Hanamaulu Water Development Project

**FIGURE III-3**

3. Pump testing the aquifer at a rate up to 700 gallons per minute (gpm).
4. Obtaining water quality data and analyses in accordance with the Department of Health, Hawaii Administrative Rules, Title 11, Chapter 20 requirements.

The well design documents will conform with the Department of Land and Natural Resources (DLNR) well construction standards and will address best management practices. The time anticipated to complete the drilling, casing and testing is 6 months. The estimated cost is \$600,000.00.

The proposed Hanamaulu Water Development Project will serve the low and moderate income residents of the Hanamaulu community, and will be funded by a Community Development Block Grant from the Department of Housing and Urban Development. The water produced by Hanamaulu Well No. 3, if developed, will be allocated to the Hanamaulu community.

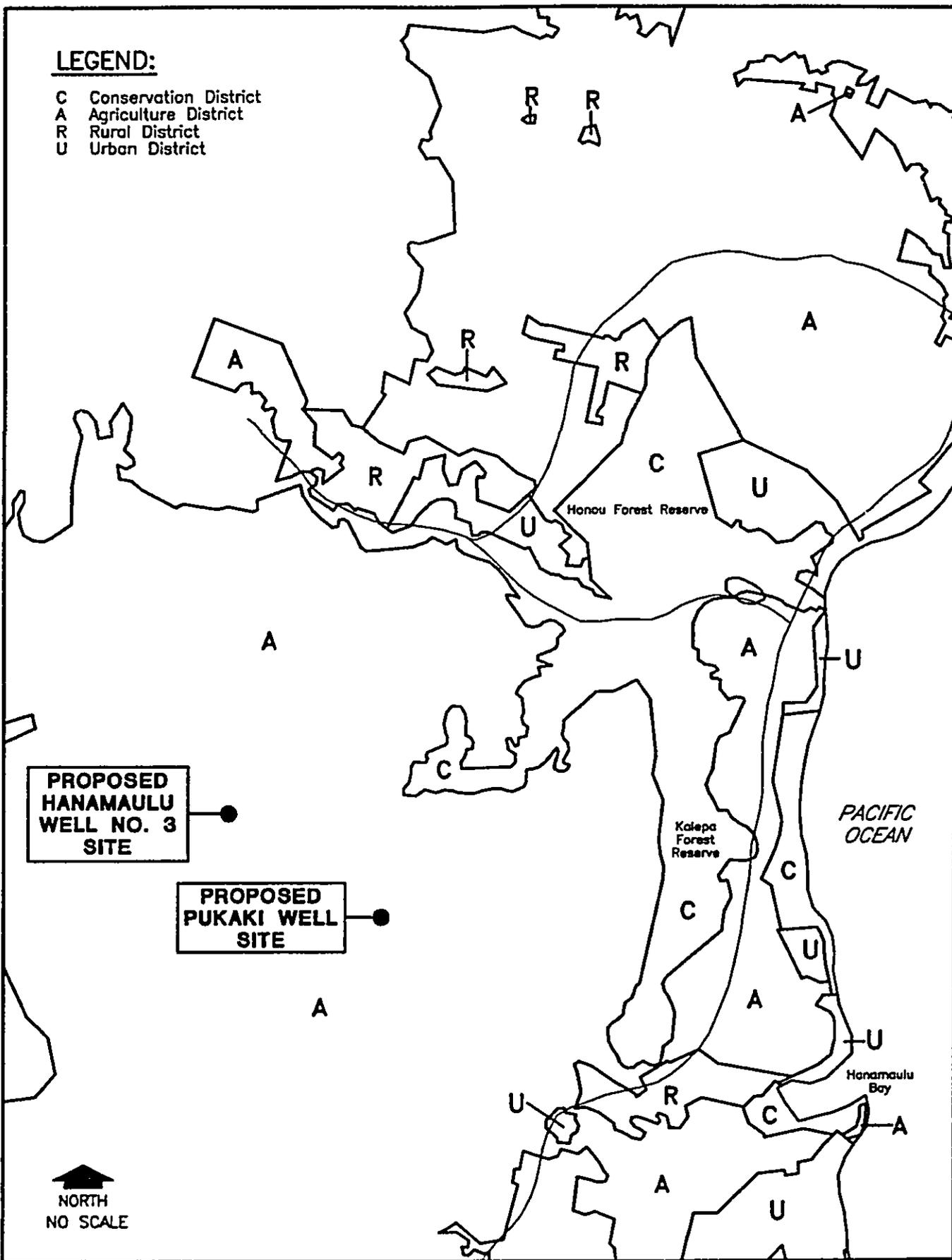
#### IV. DESCRIPTION OF THE ENVIRONMENT - COMMON TO BOTH PROJECTS

##### A. LAND CLASSIFICATION AND ZONING

Land use policies are governed by State and County laws and regulations. The State Land Use Commission classifies all State lands as either Urban, Rural, Agricultural, or Conservation with the intent to accommodate growth and development and to retain the natural resources of the area. More detailed land use zoning for the State designated land classifications are regulated by the Comprehensive Zoning Ordinance (CZO) for the County of Kauai. County zoning designations include:

A	Agriculture
O	Open
PF	Public Facilities
R	Resort
RR	Rural Residential
UR	Urban
UMU	Urban Mixed Use

The project sites are located on lands that have been designated for Agriculture by both the State Land Use Commission and the County General Plan. See Figures IV-1 and IV-2 for zone designations. Special land use permits from the County of Kauai Department of Planning will be required for the well sites.



**COUNTY OF KAUAI**

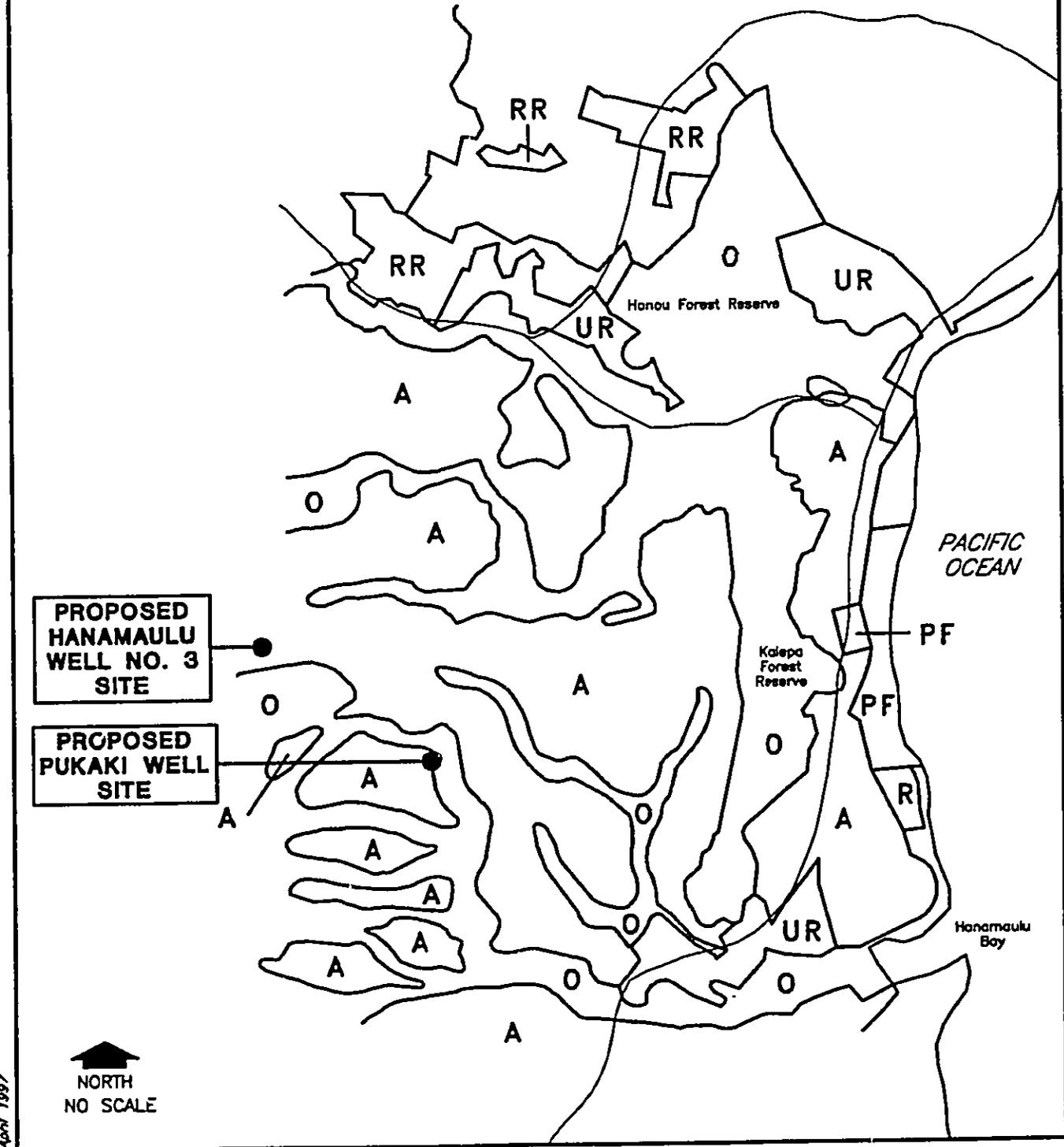
**STATE LAND USE MAP**

Lihue and Hanamaulu Water Development Projects

FIGURE IV-1

**LEGEND:**

- O Open
- A Agriculture
- RR Rural Residential
- UR Urban Residential
- UMU Urban Mixed Use
- R Resort
- PF Public Facilities



## B. PHYSICAL FEATURES

### 1. Topography

The proposed Pukaki Well site is on a knoll in sugar cane fields, and adjacent to an existing private cane haul road.

The proposed Hanamaulu Well No. 3 site is located on a relatively flat area currently used for cultivating sugar cane, and is adjacent to an existing private cane haul road. A small irrigation ditch which flows to Kapaia Reservoir lies to the east of the site.

### 2. Soils

According to the Soil Survey issued in 1972 by the U.S. Department of Agriculture Soil Conservation Service (USDA-SCS), the soil in the area surrounding both of the proposed well sites are characterized as Kapaa silty clay, 3 to 8 percent slopes (KkB). The soil type is acidic, provides slow runoff, and there is little erosion hazard. See Figure IV-3.

### 3. Hydrogeology

The hydrogeologic study area covers most of the area designated as the Hanamaulu Aquifer System by the State Commission on Water Resource Management (1990). The aquifer system extends in an east-west direction from Waialeale-Kahili Mountains west of Lihue Town to Hanamaulu Bay, and in a north-south direction from Wailua River to Haupu Ridge. See Figures IV-4 and IV-5. The study area is situated in the "Lihue Depression," a large somewhat circular geologic feature in the eastern part of the island, bounded by the Waialeale-Kahili Mountains on the west, Makaleha Mountain on the north, Kalepa Ridge on the east and Haupu Ridge on the south.

#### a. Volcanic Activity

The "Lihue Depression" was formed by a collapse on the eastern slopes of Kauai during the shield-building period more than two million years ago (Waimea Canyon volcanic series). A long period of erosion followed the shield-building period and the island became deeply eroded. Kalepa Ridge and Haupu Ridge are outlying remnants of the thin-bedded Waimea Canyon lavas (Napali formation). The now-buried deep erosional gap between Kalepa and Haupu Ridges was cut by a major stream.



**LEGEND:**

HfB	Halii gravelly silty clay, 3-8% slopes	KkD	Kapaa silty clay, 15-25% slopes
HfC	Halii gravelly silty clay, 8-15% slopes	KkE	Kapaa silty clay, 25-40% slopes
HrB	Hanalei silty clay, deep water table	Lib	Lihue gravelly silty clay
HsB	Hanamaulu silty clay, 3-8% slopes	MZ	Marsh
HsC	Hanamaulu silty clay, 8-15% slopes	PnB	Puhi silty clay loam, 3-8% slopes
HnA	Hanalei silty clay, 0-2% slopes	PnC	Puhi silty clay loam, 8-15% slopes
KkB	Kapaa silty clay, 3-8% slopes	PnD	Puhi silty clay loam, 15-25% slopes
KkC	Kapaa silty clay, 8-15% slopes	PnE	Puhi silty clay loam, 25-40% slopes
		rRR	Rough broken land

SOURCE: Soil Survey of Island of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii,  
U.S. Department of Agriculture, Soil Conservation Services, August 1972.

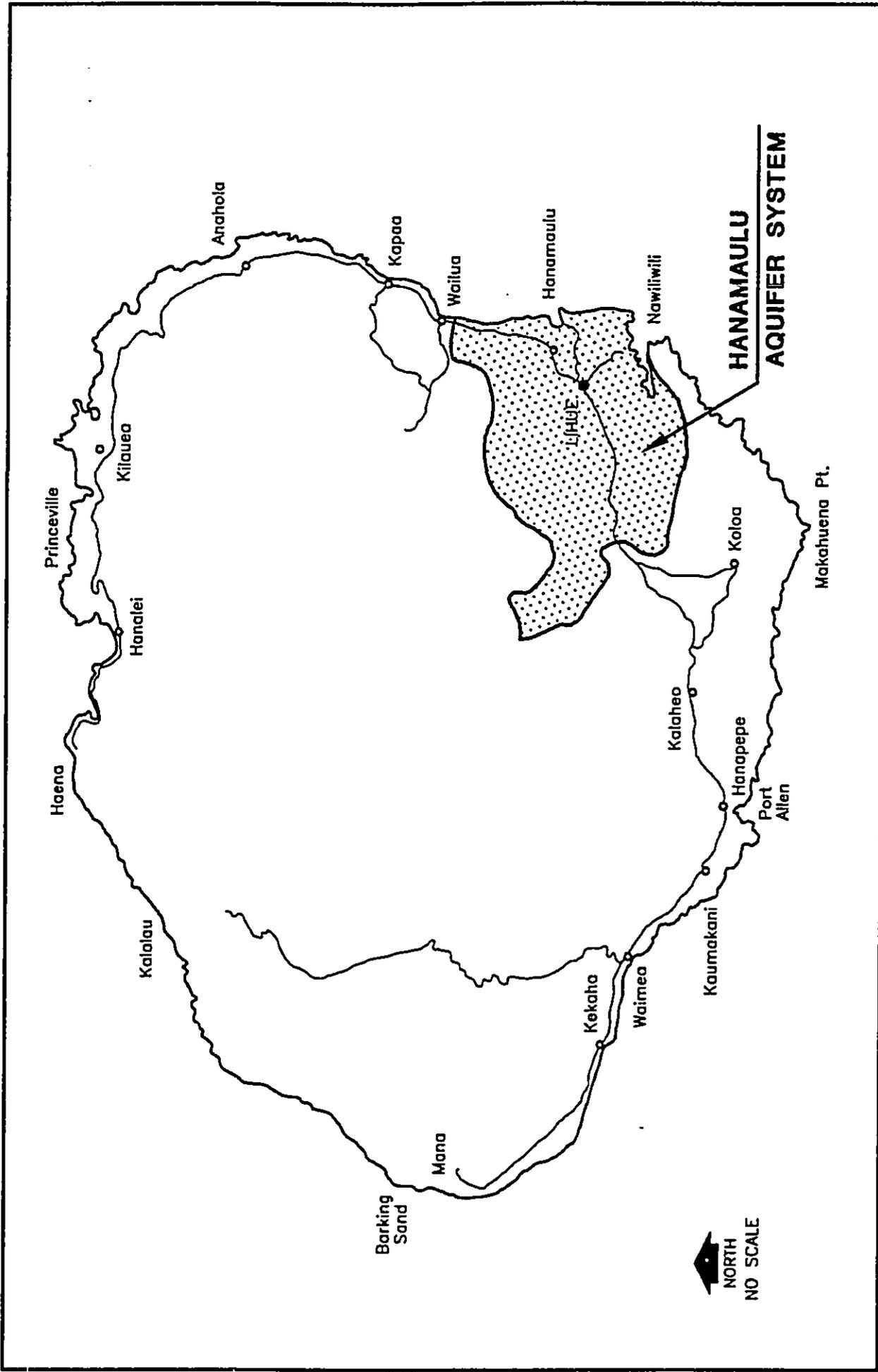
COUNTY OF KAUAI

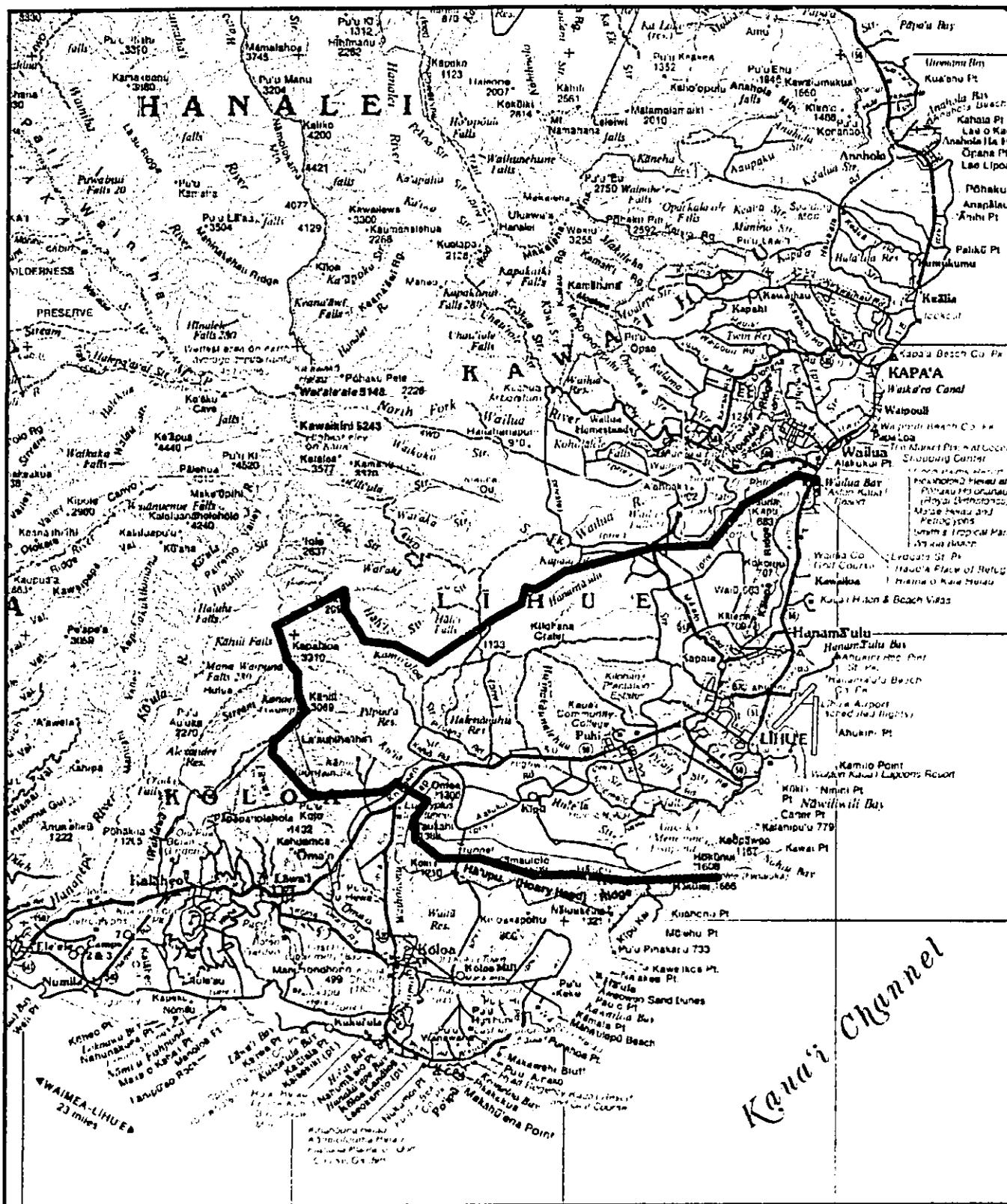
Lihue and Hanamaulu Water Development Projects

USDA/SCS SOIL MAP

FIGURE IV-3

April 1997





COUNTY OF KAUAI

**HANAMAULU AQUIFER SYSTEM**

Lihue and Hanamaulu Water Development Projects

FIGURE IV-5

Volcanic activity resumed with the eruption of the Koloa volcanic series. Lavas of the Koloa volcanic series were more massive and less permeable than the Napali formation, and buried much of the eastern half of the island.

In the "Lihue Depression" a small subsidiary shield volcano developed from Kilohana Crater. Lava flows and ash deposits gradually filled the southern half of the depression, flowing seaward around the southern end of Kalepa Ridge and building the gentle ground slopes of the Lihue Town area.

b. High-Level Groundwater

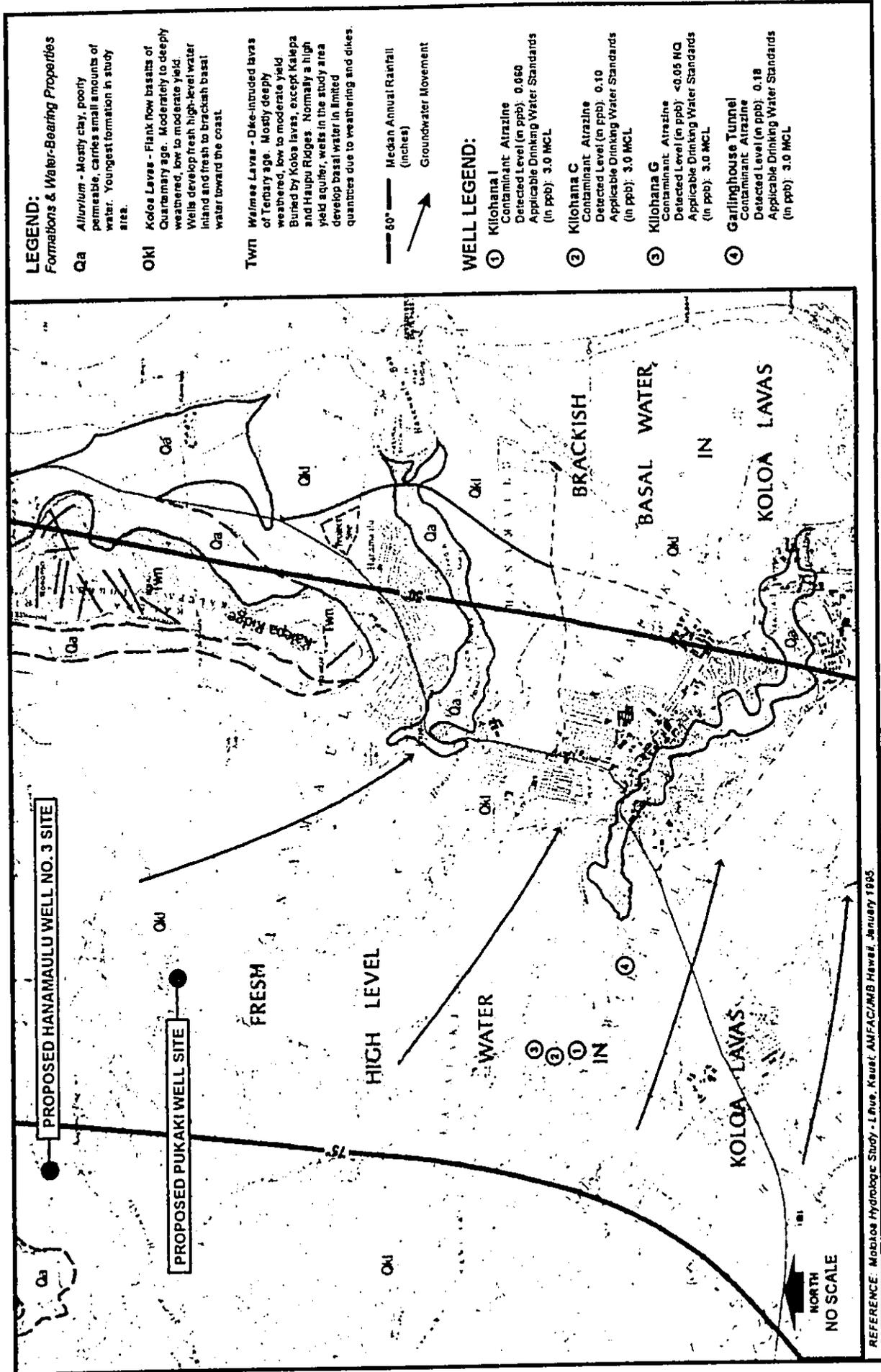
High-level groundwater results from the combination of high rainfall and overall low permeability of the Koloa lavas. High-level groundwater occurs as bodies of water perched on beds of relatively low permeability lavas, soil and ash, and occurs extensively within the study area. High-level groundwater was first confirmed by a deep exploratory well drilled in 1961 at the old Lihue Grammar School site. Groundwater elevation measurements in the exploratory well during drilling revealed a 438-foot thick body of fresh high-level groundwater extending to a depth of 248 feet below mean sea level. A number of test holes about 1.5 miles mauka of the exploratory well also confirmed the occurrence of high-level groundwater.

c. Basal Groundwater

The 1961 investigations and measurements at the old Lihue Grammar School exploratory well also determined the occurrence of basal groundwater in the underlying layers of the high-level groundwater. The top of the basal aquifer was determined to be approximately 180 feet to 248 feet below mean sea level.

d. Regional Groundwater Movement

The general movement of groundwater in the study area is eastward and southeastward. See Figure IV-6. Groundwater in the northern part of the study area was determined to move mostly southward toward Lihue, but some may move northward toward Wailua River.



COUNTY OF KAUAI **REGIONAL GROUNDWATER MOVEMENT & GROUNDWATER CONTAMINATION**  
Lihue and Hanamaulu Water Development Projects **FIGURE IV-6**

e. Estimated Groundwater Yield

According to the State Water Resources Protection Plan, Vol. I and II (June 1990), the Hanamaulu Aquifer System receives an average rainfall volume of 217 million gallons per day (mgd), of which about 48% is lost to evapotranspiration, 16% is lost to runoff, and 36% or 79 mgd becomes groundwater. The sustainable yield of the Hanamaulu Aquifer System has been estimated at approximately 40 mgd.

f. Existing Wells and Water Use

The existing producing potable water wells within the Hanamaulu Aquifer are listed in the following table.

Name	Primary Source	Standby Source	State Well No.	Aquifer	Pump Capacity (mgd)	1996 Water Use (mgd)
<b>Kauai County Department of Water</b>						
Garlinghouse Tunnel	X		5823-01	High-Level	1.152	
Kilohana A		X	5923-01	Basal	0.59	
Kilohana B	X		5923-02	High-Level	1.008	
Kilohana C	X		5923-03	High-Level	0.144	
Kilohana F		X	5923-04	High-Level	0.576	
Kilohana G	X		5923-05	High-Level	0.216	
Kilohana I	X		5923-07	High-Level	1.008	
Kokolau Tunnel ♦	X		5725-01	High-Level	0.432	
Old Grammar School	X		5822-02	Basal	0.216	
Puhi 1	X		5824-01	Basal	0.288	
Puhi 2		X	5824-03	High-Level	0.144	
Puhi 3	X		5824-05	High-Level	0.432	
Kalepa Ridge Well ♣	X		5921-01	Basal	0.173	
<b>TOTAL</b>					<b>6.379</b>	<b>2.739</b>
<b>Lihue Plantation Company:</b>						
Sugar Mill ♠			5822-01	Basal	0.53	0.30

- ♦ Kokolau Tunnel presently not in use.
- ♣ Kalepa Ridge Well currently in use.
- ♠ 1991 data. Per Lihue Plantation, potable well not verified.

The domestic potable water consumption for 1996 supplied by the Lihue Water System (County of Kauai) was approximately 2.74 mgd.

4. Climate

The mean annual rainfall throughout the study area ranges from 50 inches a year near the coast to 200 inches a year in the mauka area. The temperature ranges from an average high of 80°F to an average low of 65°F. The northeasterly trade winds which prevail throughout the year, result in winds with velocities averaging 20 miles per hour.

5. Flood and Tsunami

The Federal Emergency Management Agency Flood Insurance Rate Map (FIRM) panel 150002 0140C dated March 4, 1987, designates the well sites within Zone X, areas determined to be outside of the 500-year flood plain. Therefore, impact of the projects on the flood zones is not expected.

C. WATER QUALITY

Water quality analyses were not obtained for the USGS Northeast Kilohana monitor well (located near Hanamaulu Well No. 3). However, water quality analyses from the USGS Pukaki Reservoir monitor well (about 1 mile southeast of the Hanamaulu Well No. 3 site) and the Northwest Kilohana monitor well (about 2 miles west of the Hanamaulu Well No. 3 site) are available, and indicate that the well waters meet the chemical safe drinking water standards. See Appendix.

The proposed wells are located in the midst of an existing sugar cane field, and are subject to potential contamination from the leaching of fertilizers and herbicides used in cultivation. Nitrate, a good indicator of contamination by fertilizers, was found to occur in an almost pristine concentration of 0.2 milligrams per liter (mg/l) as nitrate-nitrogen at the Pukaki Reservoir monitor well, and 0.1 mg/l at the Northwest Kilohana monitor well. These concentrations are well within the primary drinking water standard of 10 mg/l (nitrate-nitrogen). Atrazine, an herbicide, has been reported at less than 0.00005 to 0.0002 mg/l in the Kilohana Wells I, C, and G, and at the Garlinghouse Tunnel. See Figure IV-6. These values are well below the maximum contaminant level of 0.003 mg/l (State CWRM, Water Quality Plan, 1992, p. III-19, and the Department of Health Administrative Rules Chapter 11-20, 1992). However, water quality analyses of the Pukaki Reservoir and Northwest Kilohana monitor wells did not find atrazine at detectable levels.

Upon completion of drilling the proposed Hanamaulu Well No. 3 and Pukaki Well, water quality tests will be performed in accordance with the Department of Health, Hawaii Administrative Rules, Title 11, Chapter 20, Potable Water System rules.

#### D. ARCHAEOLOGICAL AND HISTORICAL CONSIDERATIONS

The project sites are located in the middle of cultivated cane fields. The State Historic Preservation Division records indicate that there are no known archeological sites at the project locations. Drilling, casing and testing of each well will be confined to a small area of about 100 feet by 100 feet. If construction work uncovers any archaeological remains, work will cease and an archaeological survey will be conducted.

There are no homes nor historical buildings or facilities within 2 miles of the project site.

#### E. FLORA

The surrounding vegetation for miles around is cultivated sugar cane. The lands are highly disturbed, and the existence of endangered species in the project area is unlikely.

#### F. FAUNA

Animals found in the area include field mice, rats, geckos, and small feral animals. Birds include doves of various kinds, mynahs, cardinals, and pheasants. Amphibians such as toads and frogs are also found in the area. The project sites are highly disturbed, and it is unlikely that any rare or endangered species of animal life inhabit the areas.

### V. PROBABLE IMPACTS AND MITIGATIVE MEASURES - COMMON TO BOTH PROJECTS

#### A. SHORT TERM IMPACTS

##### 1. Construction Related

Anticipated short term impacts are associated with construction activity required to drill, case and test the wells. The Contractor will be required to conform with the DLNR well construction standards and best management practices. Increased intermittent traffic, noise, dust, and vehicular and equipment emissions can be expected. These

impacts will not be significant because the sites are small, there are no homes within two miles of the sites, and the sites are surrounded by cane fields. There will not be any site grading, therefore, dust generation will be minimal. The construction related impacts will be short-term and temporary. Equipment noise controls will be implemented according to Department of Health guidelines. Dust control will be maintained by sprinkling with water when needed.

Drilling of the wells will result in the need to dispose of drill cuttings, possible foaming agents (biodegradable detergents) depending on the drilling method used, and a limited amount of pumped well testing waters. Disposal of drill cuttings and foaming agents, if used, will be the Contractor's responsibility and shall be handled and disposed of in an environmentally safe manner in accordance with Lihue Plantation Company requirements and Department of Health (DOH) guidelines. The pumped well water quality is expected to be of potable water quality. The pumped water from Hanamaulu Well No. 3 will be discharged into an unlined irrigation ditch flowing to Kapaia Reservoir. The pumped water from Pukaki Well will be discharged into an existing drainage ditch which connects to a tributary of Hanamaulu Stream flowing from Pukaki Reservoir. Measures will be taken to avoid and prevent erosion and siltation. The Contractor will be responsible for obtaining approval from Lihue Plantation Company and the DOH for his waste disposal methods; a National Pollutant Discharge Elimination System (NPDES) Permit may be required by the DOH depending on the Contractor's selected waste disposal methods.

## 2. Hydrogeology

Possible temporary fluctuations of the groundwater table may occur during testing of the well. However, based on initial hydrogeological studies, the fluctuations should be minimal.

## B. LONG TERM IMPACTS

There will be no long term negative impacts on historical and archaeological sites, and minimal impacts are expected on the general environment. If the well testing indicates that a safe and adequate supply of potable water can be supplied from the wells, then planning for future permanent improvements will proceed (Phase II).

The proximity of the Hanamaulu Well No. 3 site to the irrigation ditch and Kapaia Reservoir, and the proximity of the Pukaki Well site to the drainage ditch and Pukaki Reservoir indicates the possibility of streamflow reduction.

The pump test data will be analyzed for possible impacts. If streamflow is impacted, a petition to amend the interim instream flow standard will be submitted to the State Commission on Water Resource Management. Approval for the pump installation permit (Phase II) would then be contingent on approval of the instream flow standard amendment.

## **VI. ALTERNATIVES TO THE PROPOSED PROJECTS**

### **A. ABANDON PROPOSED PROJECT**

Growth and expansion of the Lihue service area has generated potable water demands that have surpassed the capacities of the existing well sources. Additionally, existing pumpage has been reduced by more than 20 percent because of the large demands and dropping well water levels. Abandoning the projects will result in limiting further growth and housing developments in the Lihue area until alternate water sources are identified and developed. This is contrary to the County's long-range regional development plan.

### **B. ALTERNATIVE SITES**

The siting of exploratory wells is based on hydrologic, hydrogeologic, land ownership and availability, and engineering studies for the particular location. The County of Kauai considered several alternate sites and will be drilling additional exploratory wells at several nearby sites.

### **C. ALTERNATIVE WATER SOURCES**

Alternative water sources such as desalination and use of surface water were considered, but rejected because of higher construction, operation, maintenance and administration costs.

## **VII. PERMITS AND APPROVALS REQUIRED**

### **A. APPROVALS**

1. Lihue Plantation Company, Ltd.  
Well Drilling and Waste Material Disposal
2. State Department of Health  
Engineering report conforming to Section 11-20-29 after testing and before using well water.

3. State Office of Environmental Quality Control  
Environmental Assessment for Well Drilling
4. County of Kauai Department of Water  
Environmental Assessment for Well Drilling
5. County of Kauai Planning Department  
Land Use approval/permit for water source site in Agriculture zone land.

**B. PERMITS**

1. State Commission on Water Resource Management
  - a. Well Construction Permit
  - b. Water Use Permit (Phase II)
  - c. Pump Installation Permit (Phase II)
2. State Department of Health
  - a. Noise Permit from Noise and Radiation Branch

**VIII. AGENCIES AND ORGANIZATIONS CONSULTED**

**A. FEDERAL GOVERNMENT**

U.S. Department of Agriculture, Soils Conservation Service  
U.S. Department of the Interior, Fish and Wildlife Service  
U.S. Department of the Interior, Geological Survey

**B. STATE GOVERNMENT**

Department of Agriculture  
Department of Land and Natural Resources  
    Commission on Water Resource Management  
    State Historic Preservation Division  
Department of Hawaiian Home Lands  
Department of Health  
    Clean Water Branch  
    Noise and Radiation Branch  
    Safe Drinking Water Branch  
Office of Environmental Quality Control  
Office of Hawaiian Affairs

**C. COUNTY GOVERNMENT**

Planning Department  
Department of Public Works  
Department of Water

## **IX. FINDINGS AND DETERMINATION**

### **A. FINDINGS**

Based upon the guidelines and provisions of Title 11, Chapter 200, Environmental Impact Statement Rules and Chapter 343, HRS, the findings of this environmental assessment are:

1. Drilling, casing and testing of the proposed Hanamaulu Well No. 3 and Pukaki Well will provide data on the feasibility of developing the wells for potable water use. Waste materials resulting from drilling and pump testing of the wells will be disposed of in an environmentally safe manner in accordance with Lihue Plantation requirements and State Department of Health guidelines.
2. There are no known historic or archaeological sites that would be destroyed or adversely affected by these projects.
3. There are no known endangered species of flora or fauna in the immediate area of the project sites that would be disturbed.
4. Dust, noise and some increase in traffic are expected during construction, but these will be temporary and are controllable. Their impacts to the environment are expected to be minimal.
5. There are no environmentally sensitive areas such as flood plains, tsunami zones, geologically hazardous land, estuary, or coastal water immediately near the project sites or that will be adversely affected by the projects.

### **B. DETERMINATION**

Based upon the above data and analyses, the proposed projects are not anticipated to have significant adverse impacts on the coastal waters, local ecology, hydrology, and atmosphere. Mitigative measures will be implemented as deemed necessary and as required by the governmental agencies. A Negative Declaration determination (Environmental Impact Statement document is not required) is anticipated.

**X. REFERENCES**

1. AMFAC/JMB Hawaii, Inc., Lihue-Hanamaulu Master Planned Community, Preliminary Engineering Report for Water Requirements, September 16, 1994. Prepared by Kodani and Associates, Inc.
2. AMFAC/JMB Hawaii, Molokoa Hydrologic Study, Lihue, Kauai, January 1995. Prepared by Water Resources Associates.
3. County of Kauai, Department of Water, Technical Reference Document for the Kauai Water Use and Development Plan, January 1990. Prepared by R.M. Towill Corporation.
4. State of Hawaii, Commission on Water Resource Management, Department of Land and Natural Resources, State Water Resources Protection Plan, Vol. I & II, June 1990. Prepared by George A.L. Yuen & Associates, Inc.
5. U.S. Department of Agriculture, Soil Conservation Service, Soil Survey, Islands of Kauai, Oahu, Maui, Molokai, and Lanai, State of Hawaii, August 1972.
6. University of Hawaii, Department of Geography, Atlas of Hawaii, Second Edition, University of Hawaii Press, 1983.

**APPENDIX:**

**WATER QUALITY ANALYSES**

**Pukaki Well**

**Northwest Kilohana Well**

**DRAFT ENVIRONMENTAL**

**ASSESSMENT**

**COMMENT AND RESPONSE**

**PUKAKI WELL**



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

*Wayne*

08 MAY 1 1996

COUNTY OF KAUAI

Laboratory Report

for

Kauai Water Department  
P.O. Box 1706

Lihue, HI 96766

Attention: Wayne Hinazumi  
Fax: (808) 245-5813

MONTGOMERY WATSON LABS.  
SUBMITTED ON  
APR 24 1996  
*Hillary*  
HDS Hillary Strayer

Report#: 26390

Report Summary of positive results, PR26390

			Result	MDL	UNITS
analyzed	960404046	PUKAKI			
4/10/96	Data Entry		04/17/96		--
4/15/96	Chromium, Total, ICAP/MS		7.0	5.000	UGL
4/15/96	Nickel, Total, ICAP/MS		8.5	5.000	UGL
4/10/96	Data Entry		04/12/96		--
4/04/96	Nitrate		0.88	.440	MGL
4/04/96	Nitrate-N by IC		0.2	.100	MGL
4/12/96	Data Entry		04/18/96		--
4/21/96	Data Entry		04/23/96		--
4/10/96	Calcium, Total, ICAP		16	5.000	MGL
analyzed	960404047	PUKAKI			
4/10/96	Data Entry		04/17/96		--
4/15/96	Chromium, Total, ICAP/MS		11	5.000	UGL
4/15/96	Nickel, Total, ICAP/MS		24	5.000	UGL
4/10/96	Data Entry		04/12/96		--
4/04/96	Nitrate		0.88	.440	MGL
4/04/96	Nitrate-N by IC		0.2	.100	MGL
4/12/96	Data Entry		04/18/96		--
4/21/96	Data Entry		04/23/96		--
4/10/96	Calcium, Total, ICAP		15	5.000	MGL



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Report  
Comments  
#26390

---

**Group Comments**

(ML525) J indicates that the result is below reporting limit  
Result for TCDD analysis submitted by Quanterra  
Environmental Services.  
(508) LCS recoveries fail low for heptachlor and aldrin -  
use 525 data for these compounds. LCS recovery fails high  
for endrin. Reference QIR-GC-96-070.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
Report  
#26390

Kauai Water Department  
Wayne Hinazumi  
P.O. Box 1706  
Lihue, HI 96766

Samples Received  
04-apr-1996 14:42:33

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>PUKAKI (960404046)                      Sampled on 04/02/96</b>								
04/10/96	04/10/96	48285	( EPA/ML 200.7 )	Calcium, Total, ICAP	16	mg/l	5.0	1
	04/11/96	48228	( ML/SM4500-CN 7 )	Cyanide	ND	mg/l	0.025	1
04/08/96	04/11/96	48236	( ML/EPA 548.1 )	Endothall	ND	ug/l	5.0	1
	04/08/96	48094	( EPA/ML 340.2 )	Fluoride	ND	mg/l	0.10	1
	04/11/96	48301	( ML/EPA 547 )	Glyphosate	ND	ug/l	6.0	1
04/05/96	04/05/96	48032	( EPA/ML 245.1 )	Mercury	ND	ug/l	0.50	1
	04/04/96	48117	( ML/EPA 306.0 )	Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
04/11/96	04/11/96		( EPA 1613 )	2,3,7,8 - TCDF	ND	PGL	1.6	1
<b>525 Semivolatiles by GC/MS</b>								
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	2,4-Dinitrotoluene	ND	ug/l	0.10	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	alpha-Chlordane	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Diazinon	NA	ug/l	0.10	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Acenaphthylene	ND	ug/l	0.10	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Alachlor	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Aldrin	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Anthracene	ND	ug/l	0.020	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Atrazine	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Benzo(a)Anthracene	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Benzo(a)pyrene	ND	ug/l	0.020	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Benzo(b)Fluoranthene	ND	ug/l	0.020	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Benzo(g,h,i)Perylene	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Benzo(k)Fluoranthene	ND	ug/l	0.020	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Di(2-Ethylhexyl)phthalate	ND	ug/l	0.60	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Butylbenzylphthalate	ND	ug/l	0.50	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Bromacil	ND	ug/l	2.0	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Butachlor	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Caffeine	ND	ug/l	0.020	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Chrysene	ND	ug/l	0.020	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Dibenz(a,h)Anthracene	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Di-(2-Ethylhexyl)adipate	ND	ug/l	0.60	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Diethylphthalate	ND	ug/l	0.50	1



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 5400 Fax: 818 568 6324  
1 800 568 LABS (1 800 566 5277)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Bacch#	Method	Analyte	Result	Units	MDL	Dilution
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Dieldrin	ND	ug/l	0.20	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Dimethylphthalate	ND	ug/l	0.50	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Dimethoate	ND	ug/l	10	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Di-n-Butylphthalate	ND	ug/l	0.50	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Endrin	ND	ug/l	0.10	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Fluorene	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	gamma-Chlordane	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Hexachlorobenzene	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Hexachlorocyclopentadiene	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Heptachlor	ND	ug/l	0.040	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Heptachlor Epoxide	ND	ug/l	0.020	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Indeno(1,2,3,c,d)Pyrene	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Isophorone	ND	ug/l	0.50	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Lindane	ND	ug/l	0.020	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Methoxychlor	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Mecribuzin	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Molinax	ND	ug/l	0.20	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Metolachlor	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	trans-Nonachlor	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Pentachlorophenol	ND	ug/l	1.0	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Phenanthrene	ND	ug/l	0.020	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Propetryn	ND	ug/l	0.50	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Propachlor	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Pyrene	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Simazine	ND	ug/l	0.050	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Thiobencarb	ND	ug/l	0.20	1
04/10/96	04/17/96	48362	( ML/EPA 525.2 )	Trifluralin	ND	ug/l	0.10	1
			( Surrogate )	Perylene-d12	106	ug/l		
				<b>AB1803 - EDB and DBCP</b>				
04/09/96	04/10/96	48379	( ML/EPA 504 )	Dibromochloropropane (DBCP)	ND	ug/l	0.010	1
04/09/96	04/10/96	48379	( ML/EPA 504 )	Ethylene Dibromide (EDB)	ND	ug/l	0.010	1
			( Surrogate )	1,1-dibromopropane	107	ug/l		



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400 Fax: 818 568 6324  
1 800 566 LABS (1 800 566 5223)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Bacchs	Method	Analyte	Result	Units	MDL	Dilution
<b>Aldicarb</b>								
	04/09/96	48177	( ML/EPA 531.1 )	3-Hydroxycarbofuran	ND	ug/l	2.0	1
	04/09/96	48177	( ML/EPA 531.1 )	Aldicarb (Temik)	ND	ug/l	0.50	1
	04/09/96	48177	( ML/EPA 531.1 )	Aldicarb sulfone	ND	ug/l	0.80	1
	04/09/96	48177	( ML/EPA 531.1 )	Aldicarb sulfoxide	ND	ug/l	0.50	1
	04/09/96	48177	( ML/EPA 531.1 )	Baygon	ND	ug/l	2.0	1
	04/09/96	48177	( ML/EPA 531.1 )	Carbofuran (Puradan)	ND	ug/l	0.90	1
	04/09/96	48177	( ML/EPA 531.1 )	Carbaryl	ND	ug/l	2.0	1
	04/09/96	48177	( ML/EPA 531.1 )	Mechiocarb	ND	ug/l	2.0	1
	04/09/96	48177	( ML/EPA 531.1 )	Methowyl	ND	ug/l	2.0	1
	04/09/96	48177	( ML/EPA 531.1 )	Oxaryl (Vydate)	ND	ug/l	2.0	1
			( Surrogate )	BDMC	102	† Rec		
<b>Diquat and Paraquat</b>								
34/08/96	04/11/96	48295	( ML/EPA 549 )	Diquat	ND	ug/l	0.40	1
34/08/96	04/11/96	48295	( EPA 549 )	Paraquat	ND	ug/l	2.0	1
<b>Herbicides by 515.1</b>								
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	2,4,5-T	ND	ug/l	0.22	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	2,4,5-TP (Silvex)	ND	ug/l	0.22	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	2,4-D	ND	ug/l	0.11	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	2,4-DB	ND	ug/l	2.2	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	Dichlorprop	ND	ug/l	0.55	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	Acifluorfen (qualitative)	ND	ug/l	0.22	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	Bentazon	ND	ug/l	0.55	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	Dalapon (qualitative)	ND	ug/l	1.1	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	3,5-Dichlorobenzoic acid	ND	ug/l	0.66	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	DCPA	ND	ug/l	0.22	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	Dicamba	ND	ug/l	0.088	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	Dinoseb	ND	ug/l	0.22	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	Pentachlorophenol	ND	ug/l	0.044	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	Picloram	ND	ug/l	0.11	1.1
34/09/96	04/12/96	48449	( ML/EPA 515.1 )	4-Nitrophenol (qualitative)	ND	ug/l	5.5	1.1
			( Surrogate )	2,4-Dichlorophenylacetic acid	84	† Rec		



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>ICPMS Metals</b>								
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Arsenic, Total, ICAP/MS	ND	ug/l	5.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Barium, Total, ICAP/MS	ND	ug/l	10	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Beryllium, Total, ICAP/MS	ND	ug/l	1.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Cadmium, Total, ICAP/MS	ND	ug/l	0.50	1
04/15/96	04/15/96	48333	( EPA/MS 200.8 )	Chromium, Total, ICAP/MS	7.0	ug/l	5.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Copper, Total, ICAP/MS	ND	ug/l	50	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Nickel, Total, ICAP/MS	8.5	ug/l	5.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	5.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Antimony, Total, ICAP/MS	ND	ug/l	2.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Selenium, Total, ICAP/MS	ND	ug/l	5.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Thallium, Total, ICAP/MS	ND	ug/l	1.0	1
<b>Nitrate by IC as NO3 &amp; N</b>								
	04/04/96	48129	( EPA/ML 300.0 )	Nitrate-N by IC	0.2	mg/l	0.10	1
	04/04/96	48129	( ML/EPA 300 )	Nitrate	0.88	mg/l	0.44	1
<b>SDWA Pesticides</b>								
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1015 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1221 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1232 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1242 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1248 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1254 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1260 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Alpha-BHC	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Alachlor (Alanex)	ND	ug/l	0.050	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Aldrin	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Beta-BHC	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Chlordane	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Chlorthalonil (Drconil, Bravo)	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Delta-BHC	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	p,p' DDD	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	p,p' DDE	ND	ug/l	0.010	1



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5227)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MCL	Dilution
04/08/96	04/21/96	48584	( ML/EPA 508 )	p,p' DDT	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Dieldrin	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Endrin Aldehyde	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Endrin	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Endosulfan I (alpha)	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Endosulfan II (beta)	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Endosulfan sulfate	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Heptachlor	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Heptachlor Epoxide	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Lindane (gamma-BHC)	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Methoxychlor	ND	ug/l	0.050	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Toxaphene	ND	ug/l	0.50	1
			( Surrogate )	Dibutyl Chloroendate	112	µ Rec		
			( Surrogate )	Tetrachloroethaxylene	104	µ Rec		
<b>Volatile Organic Compounds</b>								
	04/10/96	48288	( ML/EPA 502.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,1-Dichloroethene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,1-Dichloropropene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,2-Dichlorobenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,3-Dichlorobenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,3-Dichloropropene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,4-Dichlorobenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	2-Chlorotoluene	ND	ug/l	0.50	1



**MONTGOMERY WATSON LABORATORIES**

528 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	04/10/96	48288	( ML/EPA 502.2 )	4-Chlorocouluane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Bromodichloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Benzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Bromobenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Bromochloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Bromomethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	cis-1,2-Dichloroethene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Chlorobenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Carbon tetrachloride	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Bromoform	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Chloroform	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Chloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Chloromethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Dibromochloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	1
	04/10/96	48288	( ML/EPA 502.2 )	Dibromoethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,2-Dibromoethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Ethylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Methylene chloride	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	m-p-Xylenes	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Naphthalene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	o-Xylene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Tetrachloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Styrene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	trans-1,2-Dichloroethene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Trichloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon)	ND	ug/l	0.50	1



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 562 6400; Fax: 818 562 6321;  
1 800 562 LABS (1 800 566 5227)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution	
	04/10/96	48288	( ML/EPA 502.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1	
	04/10/96	48288	( ML/EPA 502.2 )	Toluene	ND	ug/l	0.50	1	
	04/10/96	48288	( ML/EPA 502.2 )	Trichlorofluoromethane	ND	ug/l	0.50	1	
	04/10/96	48288	( ML/EPA 502.2 )	Vinyl chloride	ND	ug/l	0.30	1	
			( Surrogate )	Bromofluorobenzene-ELCD	84	† Rec			
			( Surrogate )	Bromofluorobenzene-PID	90	† Rec			
			( Surrogate )	Chlorofluorobenzene-ELCD	92	† Rec			
			( Surrogate )	Chlorofluorobenzene-PID	99	† Rec			
PUKAKI (960404047)				Sampled on 04/03/96					
	04/10/96	04/10/96	48285	( EPA/ML 200.7 )	Calcium, Total, ICAP	15	mg/l	5.0	1
		04/13/96	48328	( ML/SM4500-CN F)	Cyanide	ND	mg/l	0.025	1
	04/08/96	04/11/96	48296	( ML/EPA 548.2 )	Endothall	ND	ug/l	5.0	1
		04/08/96	48094	( EPA/ML 340.2 )	Fluoride	ND	mg/l	0.10	1
		04/12/96	48303	( ML/EPA 547 )	Glyphosate	ND	ug/l	6.0	1
	04/05/96	04/05/96	48032	( EPA/ML 245.1 )	Mercury	ND	ug/l	0.50	1
		04/04/96	48121	( ML/EPA 300.0 )	Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
	04/11/96	04/13/96		( EPA 1613 )	2,3,7,8 - TCDF	ND	PCB	0.87	1
				525 Semivolatiles by GC/MS					
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	2,4-Dinitrotoluene	ND	ug/l	0.10	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	alpha-Chlordane	ND	ug/l	0.050	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Diazinon	NA	ug/l	0.10	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Acenaphthylene	ND	ug/l	0.10	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Alachlor	ND	ug/l	0.050	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Aldrin	ND	ug/l	0.050	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Anthracene	ND	ug/l	0.020	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Atrazine	ND	ug/l	0.050	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Benzo(a)Anthracene	ND	ug/l	0.050	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Benzo(a)pyrene	ND	ug/l	0.020	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Benzo(b)Fluoranthene	ND	ug/l	0.020	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Benzo(g,h,i)Perylene	ND	ug/l	0.050	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Benzo(k)Fluoranthene	ND	ug/l	0.020	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Di(2-Ethylhexyl)phthalate	ND	ug/l	0.60	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Dicylanrylphthalate	ND	ug/l	0.50	1
	04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Bromacil	ND	ug/l	2.0	1



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 556 LABS (1 800 556 5227)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Bucachlor	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Caffeine	ND	ug/l	0.020	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Chrysene	ND	ug/l	0.020	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Dibenz(a,h)Anthracene	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Di-(2-Ethylhexyl)adipate	ND	ug/l	0.60	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Diethylphthalate	ND	ug/l	0.50	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Dieldrin	ND	ug/l	0.20	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Dimethylphthalate	ND	ug/l	0.50	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Dinethoate	ND	ug/l	10	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Di-n-Butylphthalate	ND	ug/l	0.50	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Endrin	ND	ug/l	0.10	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Fluorene	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	gamma-Chlordane	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Hexachlorobenzene	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Hexachlorocyclopentadiene	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Heptachlor	ND	ug/l	0.040	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Heptachlor Epoxide	ND	ug/l	0.020	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Indeno(1,2,3-c,d)Pyrene	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Isophorone	ND	ug/l	0.50	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Lindane	ND	ug/l	0.020	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Mecborychlor	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Metribuzin	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Molinate	ND	ug/l	0.20	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Metolachlor	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	trans-Nonachlor	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Pentachlorophenol	ND	ug/l	1.0	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Phenanthrene	ND	ug/l	0.020	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Propetryn	ND	ug/l	0.50	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Propachlor	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Pyrene	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Sinazine	ND	ug/l	0.050	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Thiobencarb	ND	ug/l	0.20	1
04/10/96	04/15/96	48362	( ML/EPA 525.2 )	Trifluralin	ND	ug/l	0.10	1
04/10/96	04/15/96	48362	( Surrogate )	Perylene-d12	ND	ug/l	0.10	1



**MONTGOMERY WATSON LABORATORIES**

535 East Walnut Street  
Pasadena, California 91107  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
<b>AB1803 - EDB and DBCP</b>								
04/09/96	04/10/96	48179	( ML/EPA 504 )	Dibromochloropropane (DBCP)	ND	ug/l	0.010	1
04/09/96	04/10/96	48179	( ML/EPA 504 )	Ethylene Dibromide (EDB)	ND	ug/l	0.010	1
			( Surrogate )	1,2-dibromopropane	118	µ Rec		
<b>Aldicarb</b>								
	04/09/96	48177	( ML/EPA 531.1 )	3-Hydroxycarbofuran	ND	ug/l	1.0	1
	04/09/96	48177	( ML/EPA 531.1 )	Aldicarb (Temik)	ND	ug/l	0.50	1
	04/09/96	48177	( ML/EPA 531.1 )	Aldicarb sulfone	ND	ug/l	0.80	1
	04/09/96	48177	( ML/EPA 531.1 )	Aldicarb sulfoxide	ND	ug/l	0.50	1
	04/09/96	48177	( ML/EPA 531.1 )	Baygon	ND	ug/l	2.0	1
	04/09/96	48177	( ML/EPA 531.1 )	Carbofuran (Turadan)	ND	ug/l	0.90	1
	04/09/96	48177	( ML/EPA 531.1 )	Carbaryl	ND	ug/l	2.0	1
	04/09/96	48177	( ML/EPA 531.1 )	Methiocarb	ND	ug/l	2.0	1
	04/09/96	48177	( ML/EPA 531.1 )	Methomyl	ND	ug/l	1.0	1
	04/09/96	48177	( ML/EPA 531.1 )	Oxamyl (Vydate)	ND	ug/l	2.0	1
			( Surrogate )	EDMC	101	µ Rec		
<b>Diquat and Paraquat</b>								
04/08/96	04/11/96	48295	( ML/EPA 549 )	Diquat	ND	ug/l	0.40	1
04/08/96	04/11/96	48295	( EPA 549 )	Paraquat	ND	ug/l	2.0	1
<b>Herbicides by 515.1</b>								
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	2,4,5-T	ND	ug/l	0.20	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	2,4,5-TP (Silvex)	ND	ug/l	0.20	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	2,4-D	ND	ug/l	0.10	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	2,4-DB	ND	ug/l	2.0	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	Dichlorprop	ND	ug/l	0.50	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	Acifluorfen (qualitative)	ND	ug/l	0.20	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	Bentazon	ND	ug/l	0.50	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	Dalapon (qualitative)	ND	ug/l	1.0	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	3,5-Dichlorobenzoic acid	ND	ug/l	0.60	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	DCPA	ND	ug/l	0.20	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	Dicamba	ND	ug/l	0.080	1



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	Dinoseb	ND	ug/l	0.20	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	Pentachlorophenol	ND	ug/l	0.040	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	Picloram	ND	ug/l	0.10	1
04/09/96	04/12/96	48449	( ML/EPA 515.1 )	4-Nitrophenol (qualitative)	ND	ug/l	5.0	1
			( Surrogate )	2,4-Dichlorophenylacetic acid	74	† Rec		
<b>ICPMS Metals</b>								
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Arsenic, Total, ICAP/MS	ND	ug/l	5.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Barium, Total, ICAP/MS	ND	ug/l	10	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Beryllium, Total, ICAP/MS	ND	ug/l	1.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Cadmium, Total, ICAP/MS	ND	ug/l	0.50	1
04/15/96	04/15/96	48333	( EPA/MS 200.8 )	Chromium, Total, ICAP/MS	11	ug/l	5.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Copper, Total, ICAP/MS	ND	ug/l	50	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Nickel, Total, ICAP/MS	24	ug/l	5.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	5.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Antimony, Total, ICAP/MS	ND	ug/l	2.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Selenium, Total, ICAP/MS	ND	ug/l	5.0	1
04/15/96	04/15/96	48333	( EPA/ML 200.8 )	Thallium, Total, ICAP/MS	ND	ug/l	1.0	1
<b>Nitrate by IC as NO3 &amp; N</b>								
	04/04/96	48131	( EPA/ML 300.0 )	Nitrate-N by IC	0.2	ug/l	0.10	1
	04/04/96	48131	( ML/EPA 300 )	Nitrate	0.88	ug/l	0.44	1
<b>SDWA Pesticides</b>								
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1016 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1221 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1232 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1242 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1248 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1254 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	PCB 1260 Aroclor	ND	ug/l	0.10	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Alpha-BHC	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Alachlor (Alanex)	ND	ug/l	0.050	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Aldrin	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Beta-BHC	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Chlordane	ND	ug/l	0.10	1



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
04/08/96	04/21/96	48584	( ML/EPA 508 )	Chlorobalonil (Drconil, Bravo)	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Delta-BHC	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	p,p' DDD	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	p,p' DDE	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	p,p' DDT	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Dieldrin	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Endrin Aldehyde	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Endrin	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Endosulfan I (alpha)	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Endosulfan II (beta)	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Endosulfan sulfate	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Heptachlor	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Heptachlor Epoxide	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Lindane (gamma-BHC)	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Methoxychlor	ND	ug/l	0.050	1
04/08/96	04/21/96	48584	( ML/EPA 508 )	Toxaphene	ND	ug/l	0.50	1
			( Surrogate )	Dibutyl Chlorodate	128	† Rec		
			( Surrogate )	Tetrachloroethylene	116	† Rec		
Volatile Organic Compounds								
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,1,1-Trichloroethane	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,1,2-Trichloroethane	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,1-Dichloroethane	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,1-Dichloroethene	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,1-Dichloropropane	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,2,3-Trichloropropane	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,2,4-Trisethylbenzene	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,2-Dichloroethane	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,2-Dichlorobenzene	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,2-Dichloropropane	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,2,5-Trimethylbenzene	ND	ug/l	0.50	1
04/10/96	04/21/96	48288	( ML/EPA 502.2 )	1,3-Dichlorobenzene	ND	ug/l	0.50	1



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400 Fax: 818 568 6324  
1 800 568 LABS (1 800 566 5277)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	04/10/96	48288	( ML/EPA 502.2 )	1,3-Dichloropropane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,4-Dichlorobenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	2,2-Dichloropropane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	2-Chlorotoluene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	4-Chlorotoluene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Bromodichloromethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Benzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Bromobenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Bromochloromethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Bromomethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	cis-1,2-Dichloroethene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Chlorobenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Carbon tetrachloride	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Bromoform	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Chloroform	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Chloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Chloroacethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Dibromochloroethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	1
	04/10/96	48288	( ML/EPA 502.2 )	Dibromomethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	1,2-Dibromoethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Ethylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Methylene chloride	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	m-p-Xylenes	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Naphthalene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	o-Xylene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Tetrachloroethene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Styrene	ND	ug/l	0.50	1



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 566 5277)

Laboratory  
Report  
#26390

Kauai Water Department  
(continued)

pared	Analyzed	QC Bacch#	Method	Analyte	Result	Units	MDL	Dilution
	04/10/96	48288	( ML/EPA 502.2 )	trans-1,2-Dichloroethene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Trichloroethene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 524.2 )	Trichlorotrifluoroethane (Freon	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Toluene	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Trichlorofluoromethane	ND	ug/l	0.50	1
	04/10/96	48288	( ML/EPA 502.2 )	Vinyl chloride	ND	ug/l	0.30	1
			( Surrogate )	Bromofluorobenzene-ELCD	86	† Rec		
			( Surrogate )	Bromofluorobenzene-PID	96	† Rec		
			( Surrogate )	Chlorofluorobenzene-ELCD	92	† Rec		
			( Surrogate )	Chlorofluorobenzene-PID	99	† Rec		



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 566 5277)

Laboratory  
QC Report  
#26390

Kauai Water Department

QC Batch #48032 Mercury

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Mercury	1.50	1.35	103.333	( 85.00 - 115.00 )	
LCS2	Mercury	1.50	1.51	100.667	( 85.00 - 115.00 )	2.6
MBLK	Mercury	ND				
MS	Mercury	1.50	1.62	108.000	( 80.00 - 120.00 )	
MSD	Mercury	1.50	1.63	108.667	( 80.00 - 120.00 )	0.62

QC Batch #48094 Fluoride

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Fluoride	0.87	0.85	97.701	( 90.00 - 110.00 )	
LCS2	Fluoride	0.87	0.89	102.299	( 90.00 - 110.00 )	4.6
MBLK	Fluoride	ND				
MS	Fluoride	0.909	1.00	110.011	( 80.00 - 120.00 )	
MSD	Fluoride	0.909	1.01	111.111	( 80.00 - 120.00 )	1.00

QC Batch #48117 Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrite, Nitrogen by IC	1.0	0.92	92.000	( 90.00 - 110.00 )	
LCS2	Nitrite, Nitrogen by IC	1.0	0.91	91.000	( 90.00 - 110.00 )	1.1
MBLK	Nitrite, Nitrogen by IC	ND				
MS	Nitrite, Nitrogen by IC	1.0	0.95	95.000	( 80.00 - 120.00 )	
MSD	Nitrite, Nitrogen by IC	1.0	0.95	95.000	( 80.00 - 120.00 )	0.00

QC Batch #48121 Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrite, Nitrogen by IC	1.0	0.91	91.000	( 90.00 - 110.00 )	
LCS2	Nitrite, Nitrogen by IC	1.0	0.93	93.000	( 90.00 - 110.00 )	2.2
MBLK	Nitrite, Nitrogen by IC	ND				
MS	Nitrite, Nitrogen by IC	1.0	0.81	81.000	( 80.00 - 120.00 )	
MSD	Nitrite, Nitrogen by IC	1.0	0.81	81.000	( 80.00 - 120.00 )	0.00

Spikes which exceed limits and Method Blanks with positive results are highlighted by Underlining.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5227)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

QC Batch #48129

Nitrate by IC as NO3 & N

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLX	Nitrate	ND				
LCS1	Nitrate-N	2.5	2.46	98.400	( 90.00 - 110.00 )	
LCS2	Nitrate-N	2.5	2.46	98.400	( 90.00 - 110.00 )	0.00
MS	Nitrate-N	2.5	2.47	98.800	( 75.00 - 125.00 )	
MSD	Nitrate-N	2.5	2.43	97.600	( 75.00 - 125.00 )	0.81

QC Batch #48131

Nitrate by IC as NO3 & N

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLX	Nitrate	ND				
LCS1	Nitrate-N	2.5	2.46	98.400	( 90.00 - 110.00 )	
LCS2	Nitrate-N	2.5	2.47	98.800	( 90.00 - 110.00 )	0.41
MS	Nitrate-N	2.5	2.68	107.200	( 75.00 - 125.00 )	
MSD	Nitrate-N	2.5	2.66	106.400	( 75.00 - 125.00 )	0.75

QC Batch #48177

Aldicarb

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	3-Hydroxycarbofuran	20.0	18.4	92.000	( 85.00 - 120.00 )	
MBLX	3-Hydroxycarbofuran	ND				
MS	3-Hydroxycarbofuran	20.0	19.3	96.500	( 70.00 - 130.00 )	
LCS1	Aldicarb (Temik)	20.0	20.7	103.500	( 83.00 - 115.00 )	
MBLX	Aldicarb (Temik)	ND				
MS	Aldicarb (Temik)	20.0	19.8	99.000	( 70.00 - 130.00 )	
LCS1	Aldicarb sulfone	20.0	19.4	97.000	( 84.00 - 128.00 )	
MBLX	Aldicarb sulfone	ND				
MS	Aldicarb sulfone	20.0	18.8	94.000	( 60.00 - 130.00 )	
LCS1	Aldicarb sulfoxide	20.0	18.9	94.500	( 85.00 - 118.00 )	
MBLX	Aldicarb sulfoxide	ND				
MS	Aldicarb sulfoxide	20.0	18.8	94.000	( 70.00 - 130.00 )	
LCS1	Baygon	20.0	20.6	103.000	( 85.00 - 115.00 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5227)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

MBLK	Baygon	ND				
MS	Baygon	20.0	19.0	95.000	( 70.00 - 130.00 )	
LCS1	Carbaryl	20.0	17.2	86.000	( 85.00 - 119.00 )	
MBLK	Carbaryl	ND				
MS	Carbaryl	20.0	21.1	105.500	( 70.00 - 130.00 )	
LCS1	Carbofuran (Furadan)	20.0	20.4	102.000	( 85.00 - 115.00 )	
MBLK	Carbofuran (Furadan)	ND				
MS	Carbofuran (Furadan)	20.0	18.7	93.500	( 70.00 - 130.00 )	
LCS1	Methiocarb	20.0	16.9	84.500	( 70.00 - 116.00 )	
MBLK	Methiocarb	ND				
MS	Methiocarb	20.0	19.1	95.500	( 70.00 - 130.00 )	
LCS1	Methomyl	20.0	20.1	100.500	( 85.00 - 115.00 )	
MBLK	Methomyl	ND				
MS	Methomyl	20.0	18.7	93.500	( 70.00 - 130.00 )	
LCS1	Oxamyl (Vydate)	20.0	17.8	89.000	( 85.00 - 115.00 )	
MBLK	Oxamyl (Vydate)	ND				
MS	Oxamyl (Vydate)	20.0	18.2	91.000	( 70.00 - 130.00 )	

QC Batch #48285

Calcium, Total, ICAP

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Calcium, Total, ICAP	50	47.7	95.400	( 90.00 - 110.00 )	
LCS2	Calcium, Total, ICAP	50	49.7	99.400	( 90.00 - 110.00 )	4.1
MBLK	Calcium, Total, ICAP	ND				
MS	Calcium, Total, ICAP	50	47.8	95.600	( 80.00 - 120.00 )	
MSD	Calcium, Total, ICAP	50	48.9	97.800	( 80.00 - 120.00 )	2.3

QC Batch #48288

Volatile Organic Compounds

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLK	1,1,1,2-Tetrachloroethane	ND				
LCS1	1,1,1-Trichloroethane	4.0	4.0	100.000	(100.00 - 120.00 )	
LCS2	1,1,1-Trichloroethane	4.0	3.9	<u>97.500</u>	(100.00 - 120.00 )	2.5
MBLK	1,1,1-Trichloroethane	ND				
MBLK	1,1,2,2-Tetrachloroethane	ND				
MBLK	1,1,2-Trichloroethane	ND				

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5277)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

MBLK	1,1-Dichloroethane	ND				
MBLK	1,1-Dichloroethene	ND				
MBLK	1,1-Dichloropropene	ND				
LCS1	1,2,3-Trichlorobenzene	4.0	3.7	92.500	( 80.00 - 120.00 )	
LCS2	1,2,3-Trichlorobenzene	4.0	3.9	97.500	( 80.00 - 120.00 )	5.3
MBLK	1,2,3-Trichlorobenzene	ND				
MBLK	1,2,3-Trichloropropane	ND				
MBLK	1,2,4-Trichlorobenzene	ND				
MBLK	1,2,4-Trimethylbenzene	ND				
MBLK	1,2-Dichlorobenzene	ND				
MBLK	1,2-Dichloroethane	ND				
MBLK	1,2-Dichloropropane	ND				
MBLK	1,3,5-Trimethylbenzene	ND				
MBLK	1,3-Dichlorobenzene	ND				
MBLK	1,3-Dichloropropane	ND				
MBLK	1,4-Dichlorobenzene	ND				
MBLK	2,2-Dichloropropane	ND				
MBLK	2-Chlorotoluene	ND				
MBLK	4-Chlorotoluene	ND				
LCS1	Benzene	4.0	3.8	95.000	( 80.00 - 120.00 )	
LCS2	Benzene	4.0	3.9	97.500	( 80.00 - 120.00 )	2.6
MBLK	Benzene	ND				
MBLK	Bromobenzene	ND				
MBLK	Bromochloromethane	ND				
LCS1	Bromodichloromethane	4.0	3.6	90.000	( 80.00 - 120.00 )	
LCS2	Bromodichloromethane	4.0	3.5	87.500	( 80.00 - 120.00 )	2.8
MBLK	Bromodichloromethane	ND				
LCS1	Bromoform	4.0	3.6	90.000	( 80.00 - 120.00 )	
LCS2	Bromoform	4.0	4.1	102.500	( 80.00 - 120.00 )	13
MBLK	Bromoform	ND				
MBLK	Bromomethane	ND				
LCS1	Carbon tetrachloride	4.0	3.8	95.000	( 80.00 - 120.00 )	
LCS2	Carbon tetrachloride	4.0	3.9	97.500	( 80.00 - 120.00 )	2.6
MBLK	Carbon tetrachloride	ND				
MBLK	Chlorobenzene	ND				
MBLK	Chloroethane	ND				
LCS1	Chloroform	4.0	3.8	95.000	( 80.00 - 120.00 )	
LCS2	Chloroform	4.0	3.8	95.000	( 80.00 - 120.00 )	0.00

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

MBLK	Chloroform	ND					
MBLK	Chloromethane	ND					
LCS1	Dibromochloromethane	4.0	3.6	90.000	( 80.00 - 120.00 )		
LCS2	Dibromochloromethane	4.0	4.0	100.000	( 80.00 - 120.00 )		11
MBLK	Dibromochloromethane	ND					
MBLK	Dibromomethane	ND					
MBLK	Dichlorodifluoromethane	ND					
MBLK	Ethylbenzene	ND					
MBLK	Hexachlorobutadiene	ND					
LCS1	Isopropylbenzene	4.0	3.7	92.500	( 80.00 - 120.00 )		
LCS2	Isopropylbenzene	4.0	3.8	95.000	( 80.00 - 120.00 )		2.7
MBLK	Isopropylbenzene	ND					
MBLK	Methylene chloride	ND					
MBLK	Naphthalene	ND					
MBLK	Styrene	ND					
LCS1	Tetrachloroethene	4.0	3.8	95.000	( 80.00 - 120.00 )		
LCS2	Tetrachloroethene	4.0	3.9	97.500	( 80.00 - 120.00 )		2.6
MBLK	Tetrachloroethene	ND					
MBLK	Toluene	ND					
LCS1	Trichloroethene	4.0	3.6	90.000	( 80.00 - 120.00 )		
LCS2	Trichloroethene	4.0	3.7	92.500	( 80.00 - 120.00 )		2.7
MBLK	Trichloroethene	ND					
MBLK	Trichlorofluoromethane	ND					
MBLK	Trichlorotrifluoroethane (Freon)	ND					
MBLK	Vinyl chloride	ND					
MBLK	cis-1,2-Dichloroethene	ND					
MBLK	cis-1,3-Dichloropropene	ND					
MBLK	m,p-Xylenes	ND					
MBLK	n-Butylbenzene	ND					
MBLK	n-Propylbenzene	ND					
MBLK	o-Xylene	ND					
MBLK	p-Isopropyltoluene	ND					
LCS1	sec-Butylbenzene	4.0	3.6	90.000	( 80.00 - 120.00 )		
LCS2	sec-Butylbenzene	4.0	3.7	92.500	( 80.00 - 120.00 )		2.7
MBLK	sec-Butylbenzene	ND					
MBLK	tert-Butylbenzene	ND					
LCS1	trans-1,2-Dichloroethene	4.0	3.8	95.000	( 80.00 - 120.00 )		
LCS2	trans-1,2-Dichloroethene	4.0	3.9	97.500	( 80.00 - 120.00 )		2.6

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5277)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

MBLK trans-1,2-Dichloroethene ND  
MBLK trans-1,3-Dichloropropene ND

QC Batch #48295      Diquat and Paraquat

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCSI	Diquat	10.0	9.85	98.500	( 70.00 - 130.00 )	
MBLK	Diquat	ND				
MS	Diquat	10.0	10.8	108.000	( 70.00 - 130.00 )	
LCSI	Paraquat	10.0	9.82	98.200	( 70.00 - 130.00 )	
MBLK	Paraquat	ND				
MS	Paraquat	10.0	10.3	103.000	( 70.00 - 130.00 )	

QC Batch #48296      Endothall

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCSI	Endothall	25	22.5	90.000	( 58.00 - 137.00 )	
MBLK	Endothall	ND				
MS	Endothall	25	21.0	84.000	( 63.00 - 126.00 )	

QC Batch #48301      Glyphosate

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCSI	Glyphosate	50	49.5	99.000	( 70.00 - 130.00 )	
MBLK	Glyphosate	ND				
MS	Glyphosate	50	46.0	92.000	( 70.00 - 130.00 )	

QC Batch #48303      Glyphosate

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCSI	Glyphosate	50	49.5	99.000	( 70.00 - 130.00 )	
MBLK	Glyphosate	ND				
MS	Glyphosate	50	46.4	92.800	( 70.00 - 130.00 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlines.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

QC Batch #48328

Cyanide

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCSI	Cyanide	0.10	0.0968	96.800	( 90.00 - 110.00 )	
MGLX	Cyanide	ND				
MS	Cyanide	0.10	0.0912	91.200	( 80.00 - 120.00 )	
MSD	Cyanide	0.10	0.0915	91.500	( 80.00 - 120.00 )	0.33

QC Batch #48333

ICPMS Metals

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCSI	Antimony, Total, ICAP/MS	50	45.9	91.800	( 85.00 - 115.00 )	
MGLX	Antimony, Total, ICAP/MS	ND		0.000		
LCSI	Arsenic, Total, ICAP/MS	20	19.7	98.500	( 85.00 - 115.00 )	
MGLX	Arsenic, Total, ICAP/MS	ND		0.000		
LCSI	Barium, Total, ICAP/MS	100	100.	100.000	( 85.00 - 115.00 )	
MGLX	Barium, Total, ICAP/MS	ND		0.000		
LCSI	Beryllium, Total, ICAP/MS	5	4.95	99.000	( 85.00 - 115.00 )	
MGLX	Beryllium, Total, ICAP/MS	ND		0.000		
LCSI	Cadmium, Total, ICAP/MS	20	20.0	100.000	( 85.00 - 115.00 )	
MGLX	Cadmium, Total, ICAP/MS	ND		0.000		
LCSI	Chromium, Total, ICAP/MS	100	98.7	98.700	( 85.00 - 115.00 )	
MGLX	Chromium, Total, ICAP/MS	ND		0.000		
LCSI	Copper, Total, ICAP/MS	100	98.4	98.400	( 85.00 - 115.00 )	
MGLX	Copper, Total, ICAP/MS	ND		0.000		
LCSI	Lead, Total, ICAP/MS	20	20.5	102.500	( 85.00 - 115.00 )	
MGLX	Lead, Total, ICAP/MS	ND		0.000		
LCSI	Nickel, Total, ICAP/MS	50	48.7	97.400	( 85.00 - 115.00 )	
MGLX	Nickel, Total, ICAP/MS	ND		0.000		
LCSI	Selenium, Total, ICAP/MS	20	18.1	90.500	( 85.00 - 115.00 )	
MGLX	Selenium, Total, ICAP/MS	ND		0.000		
LCSI	Thallium, Total, ICAP/MS	20	19.7	98.500	( 85.00 - 115.00 )	
MGLX	Thallium, Total, ICAP/MS	ND		0.000		

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

QC Batch #48362

525 Semivolatiles by GC/MS

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCSI	Acanaphthylene	2	2.05	102.500	( 70.00 - 130.00 )	
MELX	Acanaphthylene	ND				
MS	Acanaphthylene	2	1.99	99.500	( 70.00 - 130.00 )	
LCSI	Alachlor	2	2.21	110.500	( 70.00 - 130.00 )	
MELX	Alachlor	ND				
MS	Alachlor	2	2.18	109.000	( 70.00 - 130.00 )	
LCSI	Aldrin	2	1.93	96.500	( 70.00 - 130.00 )	
MELX	Aldrin	ND				
MS	Aldrin	2	1.85	92.500	( 70.00 - 130.00 )	
LCSI	Anthracene	2	2.00	100.000	( 70.00 - 130.00 )	
MELX	Anthracene	ND				
MS	Anthracene	2	1.93	96.500	( 70.00 - 130.00 )	
LCSI	Atrazine	2	2.11	105.500	( 70.00 - 130.00 )	
MELX	Atrazine	ND				
MS	Atrazine	2	2.17	108.500	( 70.00 - 130.00 )	
LCSI	Benzo(a)Anthracene	2	2.06	103.000	( 70.00 - 130.00 )	
MELX	Benzo(a)Anthracene	ND				
MS	Benzo(a)Anthracene	2	1.92	96.000	( 70.00 - 130.00 )	
LCSI	Benzo(a)pyrene	2	1.97	98.500	( 70.00 - 130.00 )	
MELX	Benzo(a)pyrene	ND				
MS	Benzo(a)pyrene	2	1.72	86.000	( 70.00 - 130.00 )	
LCSI	Benzo(b)Fluoranthene	2	2.06	103.000	( 70.00 - 130.00 )	
MELX	Benzo(b)Fluoranthene	ND				
MS	Benzo(b)Fluoranthene	2	1.83	91.500	( 70.00 - 130.00 )	
LCSI	Benzo(g,h,i)Perylene	2	1.46	73.000	( 70.00 - 130.00 )	
MELX	Benzo(g,h,i)Perylene	ND				
MS	Benzo(g,h,i)Perylene	2	1.38	<u>69.000</u>	( 70.00 - 130.00 )	
LCSI	Benzo(k)Fluoranthene	2	2.16	108.000	( 70.00 - 130.00 )	
MELX	Benzo(k)Fluoranthene	ND				
MS	Benzo(k)Fluoranthene	2	1.90	95.000	( 70.00 - 130.00 )	
MELX	Bromacil	ND				
MELX	Butachlor	ND				
LCSI	Butylbenzylphthalate	2	2.41	120.500	( 70.00 - 130.00 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

MBLK	Butylbenzylphthalate	ND			
MS	Butylbenzylphthalate	2	2.19	109.500	( 70.00 - 130.00 )
LCSI	Caffeine	2	2.11	105.500	( 70.00 - 130.00 )
MBLK	Caffeine	ND			
MS	Caffeine	2	2.11	105.500	( 70.00 - 130.00 )
LCSI	Chrysene	2	1.89	94.500	( 70.00 - 130.00 )
MBLK	Chrysene	ND			
MS	Chrysene	2	1.69	84.500	( 70.00 - 130.00 )
LCSI	Di(2-Ethylhexyl)phthalate	2	2.25	112.500	( 70.00 - 130.00 )
MBLK	Di(2-Ethylhexyl)phthalate	ND			
MS	Di(2-Ethylhexyl)phthalate	2	2.38	119.000	( 70.00 - 130.00 )
LCSI	Di-(2-Ethylhexyl)adipate	2	1.89	94.500	( 70.00 - 130.00 )
MBLK	Di-(2-Ethylhexyl)adipate	ND			
MS	Di-(2-Ethylhexyl)adipate	2	1.71	85.500	( 70.00 - 130.00 )
LCSI	Di-n-Bucylphthalate	2	2.12	106.000	( 70.00 - 130.00 )
MBLK	Di-n-Bucylphthalate	ND			
MS	Di-n-Bucylphthalate	2	2.07	103.500	( 70.00 - 130.00 )
MBLK	Diacinon	ND			
LCSI	Dibenz(a,h)Anthracene	2	1.72	86.000	( 70.00 - 130.00 )
MBLK	Dibenz(a,h)Anthracene	ND			
MS	Dibenz(a,h)Anthracene	2	1.39	<u>69.500</u>	( 70.00 - 130.00 )
MBLK	Dieldrin	ND			
LCSI	Diethylphthalate	2	2.25	112.500	( 70.00 - 130.00 )
MBLK	Diethylphthalate	ND			
MS	Diethylphthalate	2	2.11	105.500	( 70.00 - 130.00 )
MBLK	Dimethoate	ND			
LCSI	Dimethylphthalate	2	2.25	112.500	( 70.00 - 130.00 )
MBLK	Dimethylphthalate	ND			
MS	Dimethylphthalate	2	2.03	101.500	( 70.00 - 130.00 )
LCSI	Endrin	2	2.40	120.000	( 70.00 - 130.00 )
MBLK	Endrin	ND			
MS	Endrin	2	2.12	106.000	( 70.00 - 130.00 )
LCSI	Fluorene	2	2.18	109.000	( 70.00 - 130.00 )
MBLK	Fluorene	ND			
MS	Fluorene	2	2.07	103.500	( 70.00 - 130.00 )
LCSI	Heptachlor	2	1.87	93.500	( 70.00 - 130.00 )
MBLK	Heptachlor	ND			
MS	Heptachlor	2	2.02	101.000	( 70.00 - 130.00 )

Spikes which exceed Limits and Method blanks with positive results are highlighted by Underlining.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LAHS (1 800 566 5227)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

LCSI	Heptachlor Epoxide	2	1.98	99.000	( 70.00 - 130.00 )
MSLX	Heptachlor Epoxide	ND			
MS	Heptachlor Epoxide	2	2.01	100.500	( 70.00 - 130.00 )
LCSI	Hexachlorobenzene	2	1.81	90.500	( 70.00 - 130.00 )
MSLX	Hexachlorobenzene	ND			
MS	Hexachlorobenzene	2	1.84	92.000	( 70.00 - 130.00 )
LCSI	Hexachlorocyclopentadiene	2	1.89	94.500	( 40.00 - 130.00 )
MSLX	Hexachlorocyclopentadiene	ND			
MS	Hexachlorocyclopentadiene	2	1.90	95.000	( 40.00 - 130.00 )
LCSI	Indeno(1,2,3,c,d) Pyrene	2	1.63	81.500	( 70.00 - 130.00 )
MSLX	Indeno(1,2,3,c,d) Pyrene	ND			
MS	Indeno(1,2,3,c,d) Pyrene	2	1.39	<u>69.500</u>	( 70.00 - 130.00 )
MSLX	Isophorone	ND			
LCSI	Lindane	2	2.04	102.000	( 70.00 - 130.00 )
MSLX	Lindane	ND			
MS	Lindane	2	1.91	95.500	( 70.00 - 130.00 )
LCSI	Methoxychlor	2	2.37	118.500	( 70.00 - 130.00 )
MSLX	Methoxychlor	ND			
MS	Methoxychlor	2	2.12	106.000	( 70.00 - 130.00 )
MSLX	Metolachlor	ND			
MSLX	Metribuzin	ND			
LCSI	Molinate	2	2.20	110.000	( 70.00 - 130.00 )
MSLX	Molinate	ND			
MS	Molinate	2	2.10	105.000	( 70.00 - 130.00 )
LCSI	Pentachlorophenol	8	9.84	123.000	( 70.00 - 130.00 )
MSLX	Pentachlorophenol	ND			
MS	Pentachlorophenol	8	9.36	117.000	( 70.00 - 130.00 )
LCSI	Phenanthrene	2	2.08	104.000	( 70.00 - 130.00 )
MSLX	Phenanthrene	ND			
MS	Phenanthrene	2	2.08	104.000	( 70.00 - 130.00 )
MSLX	Proetryn	ND			
MSLX	Propachlor	ND			
LCSI	Pyrene	2	2.29	114.500	( 70.00 - 130.00 )
MSLX	Pyrene	ND			
MS	Pyrene	2	2.32	116.000	( 70.00 - 130.00 )
LCSI	Sinazine	2	2.27	113.500	( 70.00 - 130.00 )
MSLX	Sinazine	ND			
MS	Sinazine	2	2.29	114.500	( 70.00 - 130.00 )

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400; Fax 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

LCSI	Thiobencarb	2	2.19	109.500	( 70.00 - 130.00 )
MBLX	Thiobencarb	ND			
MS	Thiobencarb	2	2.10	105.000	( 70.00 - 130.00 )
MBLX	Trifluralin	ND			
LCSI	alpha-Chlordane	2	2.03	101.500	( 70.00 - 130.00 )
MBLX	alpha-Chlordane	ND			
MS	alpha-Chlordane	2	1.91	95.500	( 70.00 - 130.00 )
LCSI	gamma-Chlordane	2	1.97	98.500	( 70.00 - 130.00 )
MBLX	gamma-Chlordane	ND			
MS	gamma-Chlordane	2	1.80	90.000	( 70.00 - 130.00 )
LCSI	trans-Nonachlor	2	1.87	93.500	( 70.00 - 130.00 )
MBLX	trans-Nonachlor	ND			
MS	trans-Nonachlor	2	1.84	92.000	( 70.00 - 130.00 )

QC Batch #48379

AB1803 - EDB and DBCP

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
DUP	Dibromochloropropane (DBCP)	ND	ND		( 0.00 - 20.00 )	
LCSI	Dibromochloropropane (DBCP)	0.10	0.09	90.000	( 60.00 - 140.00 )	
LCSI	Dibromochloropropane (DBCP)	0.10	0.09	90.000	( 60.00 - 140.00 )	0.00
MBLX	Dibromochloropropane (DBCP)	ND				
MS	Dibromochloropropane (DBCP)	0.10	0.09	90.000	( 60.00 - 140.00 )	
DUP	Ethylene Dibromide (EDB)	ND	ND		( 0.00 - 20.00 )	
LCSI	Ethylene Dibromide (EDB)	0.10	0.10	100.000	( 60.00 - 140.00 )	
LCSI	Ethylene Dibromide (EDB)	0.10	0.09	90.000	( 60.00 - 140.00 )	11
MBLX	Ethylene Dibromide (EDB)	ND				
MS	Ethylene Dibromide (EDB)	0.10	0.10	100.000	( 60.00 - 140.00 )	

QC Batch #48449

Eerbicides by 515.1

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLX	2,4,5-T	ND				
LCSI	2,4,5-TP (Silvax)	0.50	0.50	100.000	( 67.00 - 120.00 )	
LCSI	2,4,5-TP (Silvax)	0.50	ND		( 67.00 - 120.00 )	
MBLX	2,4,5-TP (Silvax)	ND				
MS	2,4,5-TP (Silvax)	0.50	0.43	98.000	( 42.00 - 226.00 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

LCS1	2,4-D	1.00	0.83	83.000	( 72.00 - 127.00 )
LCS2	2,4-D	1.00	NA		( 72.00 - 127.00 )
MBLK	2,4-D	ND			
MS	2,4-D	1.00	0.77	77.000	( 49.00 - 214.00 )
MBLK	2,4-DB	ND			
MBLK	3,5-Dichlorobenzoic acid	ND			
MBLK	4-Nitrophenol (qualitative)	ND			
MBLK	Acifluorfen (qualitative)	ND			
LCS1	Bentazon	1.00	0.68	<u>68.000</u>	( 75.00 - 134.00 )
LCS2	Bentazon	1.00	NA		( 75.00 - 134.00 )
MBLK	Bentazon	ND			
MS	Bentazon	1.00	0.90	90.000	( 70.00 - 170.00 )
MBLK	DCPA	ND			
LCS1	Dalapon (qualitative)	6.50	7.85	120.769	( 40.00 - 160.00 )
LCS2	Dalapon (qualitative)	6.50	NA		( 40.00 - 160.00 )
MBLK	Dalapon (qualitative)	ND			
MS	Dalapon (qualitative)	6.50	7.67	118.000	( 40.00 - 160.00 )
LCS1	Dicamba	0.50	0.41	82.000	( 38.00 - 232.00 )
LCS2	Dicamba	0.50	NA		( 38.00 - 232.00 )
MBLK	Dicamba	ND			
MS	Dicamba	0.50	0.48	96.000	( 38.00 - 232.00 )
MBLK	Dichlorprop	ND			
LCS1	Dinoseb	1.00	0.50	50.000	( 0.00 - 85.00 )
LCS2	Dinoseb	1.00	NA		( 0.00 - 85.00 )
MBLK	Dinoseb	ND			
MS	Dinoseb	1.00	0.49	49.000	( 0.00 - 85.00 )
LCS1	Pentachlorophenol	0.50	0.29	58.000	( 36.00 - 224.00 )
LCS2	Pentachlorophenol	0.50	NA		( 36.00 - 224.00 )
MBLK	Pentachlorophenol	ND			
MS	Pentachlorophenol	0.50	0.40	80.000	( 36.00 - 224.00 )
LCS1	Picloran	0.50	0.37	74.000	( 45.00 - 138.00 )
LCS2	Picloran	0.50	NA		( 45.00 - 138.00 )
MBLK	Picloran	ND			
MS	Picloran	0.50	0.35	70.000	( 45.00 - 138.00 )

Spikes which exceed limits and Method Blanks with positive results are highlighted by Underlining.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5227)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

QC Batch #48584

SDWA Pesticides

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MSLX	Alachlor (Alanax)	ND				
LCS1	Aldrin	0.050	0.015	<u>30.000</u>	( 59.64 - 145.56 )	
LCS2	Aldrin	0.050	NA		( 59.64 - 145.56 )	
MSLX	Aldrin	ND				
MS	Aldrin	0.050	0.032	<u>64.000</u>	( 75.56 - 142.71 )	
MSLX	Alpha-BHC	ND				
MSLX	Chlordane	ND				
MSLX	Chlorthalonil (Drconil, Bravo)	ND				
MSLX	Delta-BHC	ND				
LCS1	Dieldrin	0.100	0.105	105.000	( 65.75 - 149.79 )	
LCS2	Dieldrin	0.100	NA		( 65.75 - 149.79 )	
MSLX	Dieldrin	ND				
MS	Dieldrin	0.100	0.112	112.000	( 77.36 - 141.97 )	
MSLX	Endosulfan I (alpha)	ND				
MSLX	Endosulfan II (beta)	ND				
MSLX	Endosulfan sulfate	ND				
LCS1	Endrin	0.100	0.123	123.000	( 70.07 - 149.66 )	
LCS2	Endrin	0.100	NA		( 70.07 - 149.66 )	
MSLX	Endrin	ND				
MS	Endrin	0.100	0.127	127.000	( 86.46 - 138.80 )	
MSLX	Endrin Aldehyde	ND				
LCS1	Gamma-BHC (Lindane)	0.050	0.057	114.000	( 81.57 - 148.43 )	
LCS2	Gamma-BHC (Lindane)	0.050	NA		( 81.57 - 148.43 )	
MSLX	Gamma-BHC (Lindane)	ND				
MS	Gamma-BHC (Lindane)	0.050	0.058	116.000	( 88.58 - 141.42 )	
LCS1	Heptachlor	0.050	0.021	<u>42.000</u>	( 60.95 - 145.71 )	
LCS2	Heptachlor	0.050	NA		( 60.95 - 145.71 )	
MSLX	Heptachlor	ND				
MS	Heptachlor	0.050	0.036	<u>72.000</u>	( 78.23 - 146.04 )	
MSLX	Heptachlor Epoxide	ND				
MSLX	Methoxychlor	ND				
MSLX	PCB 1016 Aroclor	ND				
MSLX	PCB 1221 Aroclor	ND				

Spikes which exceed limits and Method blanks with positive results are highlighted by underlining.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5227)

Laboratory  
QC Report  
#26390

Kauai Water Department  
(continued)

---

MBLK	PCB 1232 Aroclor	ND				
MBLK	PCB 1242 Aroclor	ND				
MBLK	PCB 1248 Aroclor	ND				
MBLK	PCB 1254 Aroclor	ND				
MBLK	PCB 1260 Aroclor	ND				
MBLK	Toxaphene	ND				
MBLK	p,p' DDD	ND				
MBLK	p,p' DDE	ND				
LCS1	p,p' DDT	0.100	0.109	109.000	( 37.03 - 169.44 )	
LCS2	p,p' DDT	0.100	NA		( 37.03 - 169.44 )	
MBLK	p,p' DDT	ND				
MS	p,p' DDT	0.100	0.117	117.000	( 57.41 - 158.86 )	

Spikes which exceed limits and Method Blanks with positive results are highlighted by Underlining.

**NORTHWEST KILOHANA WELL**



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

LABORATORY

26 MAR 11 AM 11:24

Laboratory Report

for

Kauai Water Department  
P.O. Box 1706

Lihue, HI 96766

Attention: Wayne Hinazumi  
Fax: (808) 245-5813

*New Version*

HDS Hillary Strayer

Report#: 25316



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6480; Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5227)

Report  
Comments  
#25316

---

**Group Comments**

Result for TCDD analysis submitted by Quanterra Environmental Services.  
(508) Sample analyzed following a continuing calibration std which failed high for endosulfan sulfate, methoxychlor and dibutyl chlorendate surrogate. Reference QIR-GC-96-037.

Report Summary of positive results, PR25316

Analyzed	960131010	NORThWEST KILOHANA	Result	MDL	UNITS
02/27/96	Data Entry		02/28/96		--
02/15/96	Chromium, Total, ICAP/MS		14	5.000	UGL
01/31/96	Data Entry		02/01/96		--
02/07/96	Di-n-Butylphthalate		0.6	.500	UGL
01/31/96	Nitrate		0.44	.440	MGL
01/31/96	Nitrate-N by IC		0.1	.100	MGL
02/10/96	Data Entry		02/12/96		--
02/07/96	Data Entry		02/28/96		--
02/05/96	Calcium, Flame AA		19	1.000	MGL



MONTGOMERY WATSON LABORATORIES

595 East Walnut Street  
Pasadena, California 91107  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5227)

Laboratory  
Report  
#25316

Kauai Water Department  
Wayne Hinazumi  
P.O. Box 1706  
Lihue, HI 96766

Samples Received  
31-jan-1996 12:31:29

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
DRTEWEST KILOHANA (960131010)      Sampled on 01/30/96								
	02/05/96	45639	( ML/EPA 215.1 )	Calcium, Flame AA	19	mg/l	1.0	1
	02/13/96	46059	( ML/SM4500-CN F)	Cyanide	ND	mg/l	0.025	1
02/06/96	02/12/96	46026	( ML/EPA 548.1 )	Endothall	ND	ug/l	5.0	1
	02/06/96	45770	( EPA/ML 340.2 )	Fluoride	ND	mg/l	0.10	1
	02/05/96	45742	( ML/EPA 547 )	Glyphosate	ND	ug/l	6.0	1
02/12/96	02/12/96	45984	( EPA/ML 245.1 )	Mercury	ND	ug/l	0.50	1
	01/31/96	45601	( ML/EPA 300.0 )	Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
02/02/96	02/09/96		( EPA 1613 )	2,3,7,8 - TCDF	ND	PGL	0.62	1
525 Semivolatiles by GC/MS								
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	2,4-Dinitrotoluene	ND	ug/l	0.10	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	alpha-Chlordane	ND	ug/l	0.050	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Acenaphthylene	ND	ug/l	0.10	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Alachlor	ND	ug/l	0.050	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Aldrin	ND	ug/l	0.050	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Anthracene	ND	ug/l	0.020	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Atrazine	ND	ug/l	0.050	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Benz(a)Anthracene	ND	ug/l	0.050	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Benzo(a)pyrene	ND	ug/l	0.020	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Benzo(b)Fluoranthene	ND	ug/l	0.020	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Benzo(g,h,i)Perylene	ND	ug/l	0.050	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Benzo(k)Fluoranthene	ND	ug/l	0.020	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Di(2-Ethylhexyl)phthalate	ND	ug/l	0.60	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Butylbenzylphthalate	ND	ug/l	0.50	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Bromcil	ND	ug/l	2.0	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Butachlor	ND	ug/l	0.050	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Caffeine	ND	ug/l	0.020	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Chrysene	ND	ug/l	0.020	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Dibenz(a,h)Anthracene	ND	ug/l	0.050	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Di-(2-Ethylhexyl)adipate	ND	ug/l	0.60	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Diethylphthalate	ND	ug/l	0.50	1
02/05/96	02/07/96	45867	( ML/EPA 525.2 )	Dieldrin	ND	ug/l	0.20	1



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5271)

Laboratory  
Report  
#25316

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Dimethylphthalate	ND	ug/l	0.50	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Dimethoate	ND	ug/l	10	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Di-n-Butylphthalate	0.6	ug/l	0.50	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Endrin	ND	ug/l	0.10	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Fluorene	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	gamma-Chlordane	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Hexachlorobenzene	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Hexachlorocyclopentadiene	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Heptachlor	ND	ug/l	0.040	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Heptachlor Epoxide	ND	ug/l	0.020	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Indeno(1,2,3,c,d)Pyrene	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Isophorone	ND	ug/l	0.50	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Lindane	ND	ug/l	0.020	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Methoxychlor	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Metribuzin	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Molinate	ND	ug/l	0.20	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Metolachlor	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	trans-Nonachlor	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Pentachlorophenol	ND	ug/l	1.0	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Phenanthrene	ND	ug/l	0.020	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Prometryn	ND	ug/l	0.50	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Propachlor	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Pyrene	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Simazine	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Thiobencarb	ND	ug/l	0.20	1
12/05/96	02/07/96	45867	( ML/EPA 525.2 )	Trifluralin	ND	ug/l	0.10	1
			( Surrogate )	Perylene-d12	102	% Rec		
<b>AB1803 - EDB and DBCP</b>								
12/23/96	02/27/96	46560	( ML/EPA 504 )	Dibromochloropropane (DBCP)	ND	ug/l	0.010	1
12/23/96	02/27/96	46560	( ML/EPA 504 )	Ethylene Dibromide (EDB)	ND	ug/l	0.010	1
<b>Aldicarb</b>								
	02/01/96	45562	( ML/EPA 531.1 )	3-Hydroxycarbofuran	ND	ug/l	2.0	1
	02/01/96	45562	( ML/EPA 531.1 )	Aldicarb (Temik)	ND	ug/l	0.50	1
	02/01/96	45562	( ML/EPA 531.1 )	Aldicarb sulfone	ND	ug/l	0.80	1



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5227)

Laboratory  
Report  
#25316

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MOL	Dilution
	02/01/96	45562	( ML/EPA 531.1 )	Aldicarb sulfoxide	ND	ug/l	0.50	1
	02/01/96	45562	( ML/EPA 531.1 )	Baygon	ND	ug/l	2.0	1
	02/01/96	45562	( ML/EPA 531.1 )	Carbofuran (Furadan)	ND	ug/l	0.90	1
	02/01/96	45562	( ML/EPA 531.1 )	Carbaryl	ND	ug/l	2.0	1
	02/01/96	45562	( ML/EPA 531.1 )	Methiocarb	ND	ug/l	2.0	1
	02/01/96	45562	( ML/EPA 531.1 )	Methomyl	ND	ug/l	1.0	1
	02/01/96	45562	( ML/EPA 531.1 )	Oxamyl (Vydate)	ND	ug/l	2.0	1
			( Surrogate )	BDHC	100	% Rec		
<b>Diquat and Paraquat</b>								
1/06/96	02/08/96	45863	( ML/EPA 549 )	Diquat	ND	ug/l	0.40	1
1/06/96	02/08/96	45863	( EPA 549 )	Paraquat	ND	ug/l	2.0	1
<b>Herbicides by 515.1</b>								
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	2,4,5-T	ND	ug/l	0.20	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	2,4,5-TP (Silvex)	ND	ug/l	0.20	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	2,4-D	ND	ug/l	0.10	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	2,4-DB	ND	ug/l	2.0	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	Dichlorprop	ND	ug/l	0.50	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	Acifluorfen (qualitative)	ND	ug/l	0.20	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	Bentazon	ND	ug/l	0.50	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	Dalapon (qualitative)	ND	ug/l	1.0	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	3,5-Dichlorobenzoic acid	ND	ug/l	0.60	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	DCPA	ND	ug/l	0.20	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	Dicamba	ND	ug/l	0.080	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	Dinoseb	ND	ug/l	0.20	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	Pentachlorophenol	ND	ug/l	0.040	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	Picloram	ND	ug/l	0.10	1
1/08/96	02/10/96	46008	( ML/EPA 515.1 )	4-Nitrophenol (qualitative)	ND	ug/l	5.0	1
			( Surrogate )	2,4-Dichlorophenylacetic acid	105	% Rec		
<b>ICPMS Metals</b>								
	02/15/96	46622	( EPA/ML 200.8 )	Arsenic, Total, ICAP/MS	ND	ug/l	5.0	1
	02/15/96	46622	( EPA/ML 200.8 )	Barium, Total, ICAP/MS	ND	ug/l	10	1
	02/15/96	46622	( EPA/ML 200.8 )	Beryllium, Total, ICAP/MS	ND	ug/l	1.0	1
	02/15/96	46622	( EPA/ML 200.8 )	Cadmium, Total, ICAP/MS	ND	ug/l	0.50	1



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400 Fax: 818 568 6324  
1 800 568 LABS (1 800 568 5227)

Laboratory  
Report  
#25316

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MDL	Dilution
	02/15/96	46622	( EPA/MS 200.8 )	Chromium, Total, ICAP/MS	14	ug/l	5.0	1
	02/15/96	46622	( EPA/ML 200.8 )	Copper, Total, ICAP/MS	ND	ug/l	50	1
	02/15/96	46622	( EPA/ML 200.8 )	Nickel, Total, ICAP/MS	ND	ug/l	5.0	1
	02/15/96	46622	( EPA/ML 200.8 )	Lead, Total, ICAP/MS	ND	ug/l	5.0	1
	02/15/96	46622	( EPA/ML 200.8 )	Antimony, Total, ICAP/MS	ND	ug/l	2.0	1
	02/15/96	46622	( EPA/ML 200.8 )	Selenium, Total, ICAP/MS	ND	ug/l	5.0	1
	02/15/96	46622	( EPA/ML 200.8 )	Thallium, Total, ICAP/MS	ND	ug/l	1.0	1
				<b>Nitrate by IC as NO3 &amp; N</b>				
	01/31/96	45604	( EPA/ML 300.0 )	Nitrate-N by IC	0.1	mg/l	0.10	1
	01/31/96	45604	( ML/EPA 300 )	Nitrate	0.44	mg/l	0.44	1
				<b>SDWA Pesticides</b>				
2/02/96	02/07/96	46568	( ML/EPA 508 )	PCB 1016 Aroclor	ND	ug/l	0.10	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	PCB 1221 Aroclor	ND	ug/l	0.10	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	PCB 1232 Aroclor	ND	ug/l	0.10	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	PCB 1242 Aroclor	ND	ug/l	0.10	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	PCB 1248 Aroclor	ND	ug/l	0.10	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	PCB 1254 Aroclor	ND	ug/l	0.10	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	PCB 1260 Aroclor	ND	ug/l	0.10	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Alpha-BHC	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Alachlor (Alanex)	ND	ug/l	0.050	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Aldrin	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Beta-BHC	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Chlordane	ND	ug/l	0.10	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Chlorthalonil (Dreconil, Bravo)	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Delta-BHC	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	p,p' DDD	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	p,p' DDE	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	p,p' DDT	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Dieldrin	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Endrin Aldehyde	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Endrin	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Endosulfan I (alpha)	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Endosulfan II (beta)	ND	ug/l	0.010	1
2/02/96	02/07/96	46568	( ML/EPA 508 )	Endosulfan sulfate	ND	ug/l	0.010	1



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5227)

Laboratory  
Report  
#25316

Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MOL	Dilution
12/02/96	02/07/96	46568	( ML/EPA 508	) Heptachlor	ND	ug/l	0.010	1
12/02/96	02/07/96	46568	( ML/EPA 508	) Heptachlor Epoxide	ND	ug/l	0.010	1
12/02/96	02/07/96	46568	( ML/EPA 508	) Lindane (gamma-BHC)	ND	ug/l	0.010	1
12/02/96	02/07/96	46568	( ML/EPA 508	) Methoxychlor	ND	ug/l	0.050	1
12/02/96	02/07/96	46568	( ML/EPA 508	) Toxaphene	ND	ug/l	0.50	1
			( Surrogate	) Dibutyl Chlorodate	116	% Rec		
			( Surrogate	) Tetrachlorometaxylene	98	% Rec		
<b>Volatile Organic Compounds</b>								
	01/31/96	45547	( ML/EPA 502.2	) 1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,1,1-Trichloroethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,1,2-Trichloroethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,1-Dichloroethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,1-Dichloroethene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,1-Dichloropropene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,2,3-Trichloropropane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,2-Dichloroethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,2-Dichlorobenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,2-Dichloropropane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,3-Dichlorobenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,3-Dichloropropane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 1,4-Dichlorobenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 2,2-Dichloropropane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 2-Chlorotoluene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) 4-Chlorotoluene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) Bromodichloromethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) Benzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) Bromobenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) Bromochloromethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) Bromoethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2	) cis-1,2-Dichloroethene	ND	ug/l	0.50	1



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400; Fax: 818 568 6324  
1 800 566 LABS (1 800 566 5227)

Laboratory  
Report  
#25316

- Kauai Water Department  
(continued)

Prepared	Analyzed	QC Batch#	Method	Analyte	Result	Units	MOL	Dilution
	01/31/96	45547	( ML/EPA 502.2 )	Chlorobenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Carbon tetrachloride	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Bromoform	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Chloroform	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Chloroethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Chloromethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Dibromochloromethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	1,2-Dibromo-3-chloropropane	ND	ug/l	1.0	1
	01/31/96	45547	( ML/EPA 502.2 )	Dibromomethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Dichlorodifluoromethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	1,2-Dibromoethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Ethylbenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Hexachlorobutadiene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Isopropylbenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Methylene chloride	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	m-p-Xylenes	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Naphthalene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	n-Butylbenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	n-Propylbenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	o-Xylene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Tetrachloroethene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	p-Isopropyltoluene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	sec-Butylbenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Styrene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	trans-1,2-Dichloroethene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	tert-Butylbenzene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Trichloroethene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Toluene	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Trichlorofluoromethane	ND	ug/l	0.50	1
	01/31/96	45547	( ML/EPA 502.2 )	Vinyl chloride	ND	ug/l	0.40	1
			( Surrogate )	Bromofluorobenzene-ELCD	87	% Rec		
			( Surrogate )	Bromofluorobenzene-PID	93	% Rec		
			( Surrogate )	Chlorofluorobenzene-ELCD	92	% Rec		
			( Surrogate )	Chlorofluorobenzene-PID	97	% Rec		



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5227)

**Laboratory  
Report  
#25316**

Kauai Water Department  
(continued)

---

Sample	Analyzed	QC Batch#	Method	Analyte	Result	Units	MOL	Dilution
--------	----------	-----------	--------	---------	--------	-------	-----	----------

---



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400 Fax: 818 568 6326  
1 800 568 LABS (1 800 568 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department

QC Batch #45547

Volatile Organic Compounds

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLK	1,1,1,2-Tetrachloroethane	ND				
MBLK	1,1,1-Trichloroethane	ND				
MBLK	1,1,2,2-Tetrachloroethane	ND				
MBLK	1,1,2-Trichloroethane	ND				
MBLK	1,1-Dichloroethane	ND				
MBLK	1,1-Dichloroethene	ND				
MBLK	1,1-Dichloropropene	ND				
LCS1	1,2,3-Trichlorobenzene	10.0	10.2	102.000	( 80.00 - 120.00 )	
LCS2	1,2,3-Trichlorobenzene	10.0	10.5	105.000	( 80.00 - 120.00 )	2.9
MBLK	1,2,3-Trichlorobenzene	ND				
MBLK	1,2,3-Trichloropropane	ND				
MBLK	1,2,4-Trichlorobenzene	ND				
MBLK	1,2,4-Trimethylbenzene	ND				
MBLK	1,2-Dichlorobenzene	ND				
MBLK	1,2-Dichloroethane	ND				
MBLK	1,2-Dichloropropane	ND				
MBLK	1,3,5-Trimethylbenzene	ND				
MBLK	1,3-Dichlorobenzene	ND				
MBLK	1,3-Dichloropropane	ND				
MBLK	1,4-Dichlorobenzene	ND				
MBLK	2,2-Dichloropropane	ND				
MBLK	2-Chlorotoluene	ND				
MBLK	4-Chlorotoluene	ND				
LCS1	Benzene	10.0	9.7	97.000	( 80.00 - 120.00 )	
LCS2	Benzene	10.0	9.8	98.000	( 80.00 - 120.00 )	1.0
MBLK	Benzene	ND				
MBLK	Bromobenzene	ND				
MBLK	Bromochloromethane	ND				
MBLK	Bromodichloromethane	ND				
MBLK	Bromoform	ND				
MBLK	Bromomethane	ND				
MBLK	Carbon tetrachloride	ND				
MBLK	Chlorobenzene	ND				
MBLK	Chloroethane	ND				
MBLK	Chloroform	ND				
MBLK	Chloromethane	ND				

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400 Fax: 818 568 6324  
1 800 568 LABS (1 800 566 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

MBLK	Dibromochloromethane	ND				
MBLK	Dibromomethane	ND				
MBLK	Dichlorodifluoromethane	ND				
MBLK	Ethylbenzene	ND				
MBLK	Hexachlorobutadiene	ND				
LCS1	Isopropylbenzene	10.0	9.6	96.000	( 80.00 - 120.00 )	
LCS2	Isopropylbenzene	10.0	9.8	98.000	( 80.00 - 120.00 )	2.1
MBLK	Isopropylbenzene	ND				
MBLK	Methylene chloride	ND				
MBLK	Naphthalene	ND				
MBLK	Styrene	ND				
LCS1	Tetrachloroethene	10.0	9.2	92.000	( 80.00 - 120.00 )	
LCS2	Tetrachloroethene	10.0	8.9	89.000	( 80.00 - 120.00 )	3.3
MBLK	Tetrachloroethene	ND				
MBLK	Toluene	ND				
MBLK	Trichloroethene	ND				
MBLK	Trichlorofluoromethane	ND				
MBLK	Vinyl chloride	ND				
MBLK	cis-1,2-Dichloroethene	ND				
MBLK	cis-1,3-Dichloropropene	ND				
MBLK	m-p-Xylenes	ND				
MBLK	n-Butylbenzene	ND				
MBLK	n-Propylbenzene	ND				
MBLK	o-Xylene	ND				
MBLK	p-Isopropyltoluene	ND				
LCS1	sec-Butylbenzene	10.0	9.5	95.000	( 80.00 - 120.00 )	
LCS2	sec-Butylbenzene	10.0	9.8	98.000	( 80.00 - 120.00 )	3.1
MBLK	sec-Butylbenzene	ND				
MBLK	tert-Butylbenzene	ND				
LCS1	trans-1,2-Dichloroethene	10.0	10.0	100.000	( 80.00 - 120.00 )	
LCS2	trans-1,2-Dichloroethene	10.0	10.2	102.000	( 80.00 - 120.00 )	2.0
MBLK	trans-1,2-Dichloroethene	ND				
MBLK	trans-1,3-Dichloropropene	ND				

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

QC Batch #45562

Aldicarbs

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	3-Hydroxycarbofuran	20.0	20.9	104.500	( 85.00 - 120.00 )	
MBLK	3-Hydroxycarbofuran	ND				
MS	3-Hydroxycarbofuran	20.0	21.8	109.000	( 70.00 - 130.00 )	
LCS1	Aldicarb (Temik)	20.0	18.5	92.500	( 83.00 - 115.00 )	
MBLK	Aldicarb (Temik)	ND				
MS	Aldicarb (Temik)	20.0	21.0	105.000	( 70.00 - 130.00 )	
LCS1	Aldicarb sulfone	20.0	22.3	111.500	( 84.00 - 129.00 )	
MBLK	Aldicarb sulfone	ND				
MS	Aldicarb sulfone	20.0	21.3	106.500	( 60.00 - 130.00 )	
LCS1	Aldicarb sulfoxide	20.0	20.8	104.000	( 85.00 - 138.00 )	
MBLK	Aldicarb sulfoxide	ND				
MS	Aldicarb sulfoxide	20.0	21.4	107.000	( 70.00 - 130.00 )	
LCS1	Baygon	20.0	23.0	115.000	( 85.00 - 115.00 )	
MBLK	Baygon	ND				
MS	Baygon	20.0	21.5	107.500	( 70.00 - 130.00 )	
LCS1	Carbaryl	20.0	17.6	88.000	( 85.00 - 119.00 )	
MBLK	Carbaryl	ND				
MS	Carbaryl	20.0	20.9	104.500	( 70.00 - 130.00 )	
LCS1	Carbofuran (Furadan)	20.0	22.9	114.500	( 85.00 - 115.00 )	
MBLK	Carbofuran (Furadan)	ND				
MS	Carbofuran (Furadan)	20.0	21.6	108.000	( 70.00 - 130.00 )	
LCS1	Methiocarb	20.0	16.2	81.000	( 70.00 - 136.00 )	
MBLK	Methiocarb	ND				
MS	Methiocarb	20.0	20.4	102.000	( 70.00 - 130.00 )	
LCS1	Methomyl	20.0	22.5	112.500	( 85.00 - 115.00 )	
MBLK	Methomyl	ND				
MS	Methomyl	20.0	20.9	104.500	( 70.00 - 130.00 )	
LCS1	Oxamyl (Vydate)	20.0	21.3	106.500	( 85.00 - 115.00 )	
MBLK	Oxamyl (Vydate)	ND				
MS	Oxamyl (Vydate)	20.0	21.4	107.000	( 70.00 - 130.00 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400 Fax: 818 568 6324  
1 800 566 LABS (1 800 566 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

**QC Batch #45601**

**Nitrite, Nitrogen by IC**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrite, Nitrogen by IC	1.0	0.91	91.000	( 90.00 - 110.00 )	
LCS2	Nitrite, Nitrogen by IC	1.0	0.93	93.000	( 90.00 - 110.00 )	2.2
MBLK	Nitrite, Nitrogen by IC	ND				
MS	Nitrite, Nitrogen by IC	1.0	0.84	84.000	( 80.00 - 120.00 )	
MSD	Nitrite, Nitrogen by IC	1.0	0.84	84.000	( 80.00 - 120.00 )	0.00

**QC Batch #45604**

**Nitrate by IC as NO3 & N**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLK	Nitrate	ND				
LCS1	Nitrate-N	2.5	2.52	100.800	( 90.00 - 110.00 )	
LCS2	Nitrate-N	2.5	2.53	101.200	( 90.00 - 110.00 )	0.40
MS	Nitrate-N	2.5	2.64	105.600	( 75.00 - 125.00 )	
MSD	Nitrate-N	2.5	2.64	105.600	( 75.00 - 125.00 )	0.00

**QC Batch #45639**

**Calcium, Flame AA**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Calcium, Flame AA	50	48.3	96.600	( 90.00 - 110.00 )	
LCS2	Calcium, Flame AA	50	48.3	96.600	( 90.00 - 110.00 )	0.00
MBLK	Calcium, Flame AA	ND				
MS	Calcium, Flame AA	50	49.6	99.200	( 80.00 - 120.00 )	
MSD	Calcium, Flame AA	50	45.8	91.600	( 80.00 - 120.00 )	8.0

**QC Batch #45742**

**Glyphosate**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Glyphosate	50	53	106.000	( 70.00 - 130.00 )	
MBLK	Glyphosate	ND				
MS	Glyphosate	50	54	108.000	( 70.00 - 130.00 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underline.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400 Fax: 818 568 6324  
1 800 568 LABS (1 800 568 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

**QC Batch #45770**

**Fluoride**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Fluoride	0.87	0.88	101.149	( 90.00 - 110.00 )	
LCS2	Fluoride	0.87	0.88	101.149	( 90.00 - 110.00 )	0.00
HBLK	Fluoride	ND				
MS	Fluoride	0.909	0.995	109.461	( 80.00 - 120.00 )	
MSD	Fluoride	0.909	0.982	108.031	( 80.00 - 120.00 )	1.3

**QC Batch #45863**

**Diquat and Paraquat**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Diquat	10.0	12.9	129.000	( 70.00 - 130.00 )	
HBLK	Diquat	ND				
MS	Diquat	10.0	10.8	108.000	( 70.00 - 130.00 )	
LCS1	Paraquat	10.0	12.6	126.000	( 70.00 - 130.00 )	
HBLK	Paraquat	ND				
MS	Paraquat	10.0	10.4	104.000	( 70.00 - 130.00 )	

**QC Batch #45867**

**525 Semivolatiles by GC/MS**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Acenaphthylene	2	2.03	101.500	( 70.00 - 130.00 )	
HBLK	Acenaphthylene	ND				
MS	Acenaphthylene	2	1.93	96.500	( 70.00 - 130.00 )	
LCS1	Alachlor	2	2.03	101.500	( 70.00 - 130.00 )	
HBLK	Alachlor	ND				
MS	Alachlor	2	1.99	99.500	( 70.00 - 130.00 )	
LCS1	Aldrin	2	1.74	87.000	( 70.00 - 130.00 )	
HBLK	Aldrin	ND				
MS	Aldrin	2	1.74	87.000	( 70.00 - 130.00 )	
LCS1	Anthracene	2	2.00	100.000	( 70.00 - 130.00 )	
HBLK	Anthracene	ND				
MS	Anthracene	2	1.93	96.500	( 70.00 - 130.00 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400 Fax: 818 568 6324  
1 800 568 LABS (1 800 568 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

LCS1	Atrazine	2	1.98	99.000	( 70.00 - 130.00 )
MBLK	Atrazine	NO			
MS	Atrazine	2	2.00	100.000	( 70.00 - 130.00 )
LCS1	Benzo(a)Anthracene	2	1.92	96.000	( 70.00 - 130.00 )
MBLK	Benzo(a)Anthracene	NO			
MS	Benzo(a)Anthracene	2	1.69	84.500	( 70.00 - 130.00 )
LCS1	Benzo(a)pyrene	2	1.95	97.500	( 70.00 - 130.00 )
MBLK	Benzo(a)pyrene	NO			
MS	Benzo(a)pyrene	2	1.74	87.000	( 70.00 - 130.00 )
LCS1	Benzo(b)Fluoranthene	2	1.95	97.500	( 70.00 - 130.00 )
MBLK	Benzo(b)Fluoranthene	NO			
MS	Benzo(b)Fluoranthene	2	1.73	86.500	( 70.00 - 130.00 )
LCS1	Benzo(g,h,i)Perylene	2	2.19	109.500	( 70.00 - 130.00 )
MBLK	Benzo(g,h,i)Perylene	NO			
MS	Benzo(g,h,i)Perylene	2	2.03	101.500	( 70.00 - 130.00 )
LCS1	Benzo(k)Fluoranthene	2	2.09	104.500	( 70.00 - 130.00 )
MBLK	Benzo(k)Fluoranthene	NO			
MS	Benzo(k)Fluoranthene	2	1.89	94.500	( 70.00 - 130.00 )
MBLK	Bromacil	NO			
MBLK	Butachlor	NO			
LCS1	Butylbenzylphthalate	2	1.87	93.500	( 70.00 - 130.00 )
MBLK	Butylbenzylphthalate	NO			
MS	Butylbenzylphthalate	2	1.72	86.000	( 70.00 - 130.00 )
LCS1	Caffeine	2	1.78	89.000	( 70.00 - 130.00 )
MBLK	Caffeine	NO			
MS	Caffeine	2	2.05	102.500	( 70.00 - 130.00 )
LCS1	Chrysene	2	1.81	90.500	( 70.00 - 130.00 )
MBLK	Chrysene	NO			
MS	Chrysene	2	1.62	81.000	( 70.00 - 130.00 )
LCS1	Di(2-Ethylhexyl)phthalate	2	1.92	96.000	( 70.00 - 130.00 )
MBLK	Di(2-Ethylhexyl)phthalate	NO			
MS	Di(2-Ethylhexyl)phthalate	2	1.80	90.000	( 70.00 - 130.00 )
LCS1	Di-(2-Ethylhexyl)adipate	2	1.84	92.000	( 70.00 - 130.00 )
MBLK	Di-(2-Ethylhexyl)adipate	NO			
MS	Di-(2-Ethylhexyl)adipate	2	1.71	85.500	( 70.00 - 130.00 )
LCS1	Di-n-Butylphthalate	2	2.46	123.000	( 70.00 - 130.00 )
MBLK	Di-n-Butylphthalate	NO			
MS	Di-n-Butylphthalate	2	2.00	100.000	( 70.00 - 130.00 )

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 568 LABS (1 800 566 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

MBLK	Diazinon	ND			
LCS1	Dibenz(a,h)Anthracene	2	2.08	104.000	( 70.00 - 130.00 )
MBLK	Dibenz(a,h)Anthracene	ND			
MS	Dibenz(a,h)Anthracene	2	1.90	95.000	( 70.00 - 130.00 )
MBLK	Dieldrin	ND			
LCS1	Diethylphthalate	2	2.25	112.500	( 70.00 - 130.00 )
MBLK	Diethylphthalate	ND			
MS	Diethylphthalate	2	2.25	112.500	( 70.00 - 130.00 )
MBLK	Dimethoate	ND			
LCS1	Dimethylphthalate	2	1.99	99.500	( 70.00 - 130.00 )
MBLK	Dimethylphthalate	ND			
MS	Dimethylphthalate	2	1.93	96.500	( 70.00 - 130.00 )
LCS1	Endrin	2	1.91	95.500	( 70.00 - 130.00 )
MBLK	Endrin	ND			
MS	Endrin	2	1.69	84.500	( 70.00 - 130.00 )
LCS1	Fluorene	2	2.05	102.500	( 70.00 - 130.00 )
MBLK	Fluorene	ND			
MS	Fluorene	2	1.98	99.000	( 70.00 - 130.00 )
LCS1	Heptachlor	2	1.98	99.000	( 70.00 - 130.00 )
MBLK	Heptachlor	ND			
MS	Heptachlor	2	2.02	101.000	( 70.00 - 130.00 )
LCS1	Heptachlor Epoxide	2	1.85	92.500	( 70.00 - 130.00 )
MBLK	Heptachlor Epoxide	ND			
MS	Heptachlor Epoxide	2	1.88	94.000	( 70.00 - 130.00 )
LCS1	Hexachlorobenzene	2	1.78	89.000	( 70.00 - 130.00 )
MBLK	Hexachlorobenzene	ND			
MS	Hexachlorobenzene	2	1.67	83.500	( 70.00 - 130.00 )
LCS1	Hexachlorocyclopentadiene	2	1.88	94.000	( 40.00 - 130.00 )
MBLK	Hexachlorocyclopentadiene	ND			
MS	Hexachlorocyclopentadiene	2	1.92	96.000	( 40.00 - 130.00 )
LCS1	Indeno(1,2,3,c,d)Pyrene	2	2.04	102.000	( 70.00 - 130.00 )
MBLK	Indeno(1,2,3,c,d)Pyrene	ND			
MS	Indeno(1,2,3,c,d)Pyrene	2	1.87	93.500	( 70.00 - 130.00 )
MBLK	Isophorone	ND			
LCS1	Lindane	2	2.06	103.000	( 70.00 - 130.00 )
MBLK	Lindane	ND			
MS	Lindane	2	1.99	99.500	( 70.00 - 130.00 )
LCS1	Methoxychlor	2	2.11	105.500	( 70.00 - 130.00 )

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



MONTGOMERY WATSON LABORATORIES

221 East Walnut Street  
Pasadena, California 91101  
818 568 6400; Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

MBLK	Methoxychlor	ND			
MS	Methoxychlor	2	1.92	96.000	( 70.00 - 130.00 )
MBLK	Metolachlor	ND			
MBLK	Metribuzin	ND			
LCS1	Molinate	2	2.23	111.500	( 70.00 - 130.00 )
MBLK	Molinate	ND			
MS	Molinate	2	2.06	103.000	( 70.00 - 130.00 )
LCS1	Pentachlorophenol	8	7.90	98.750	( 70.00 - 130.00 )
MBLK	Pentachlorophenol	ND			
MS	Pentachlorophenol	8	8.09	101.125	( 70.00 - 130.00 )
LCS1	Phenanthrene	2	1.99	99.500	( 70.00 - 130.00 )
MBLK	Phenanthrene	ND			
MS	Phenanthrene	2	1.92	96.000	( 70.00 - 130.00 )
MBLK	Propetryn	ND			
MBLK	Propachlor	ND			
LCS1	Pyrene	2	1.88	94.000	( 70.00 - 130.00 )
MBLK	Pyrene	ND			
MS	Pyrene	2	1.88	94.000	( 70.00 - 130.00 )
LCS1	Simazine	2	1.92	96.000	( 70.00 - 130.00 )
MBLK	Simazine	ND			
MS	Simazine	2	1.95	97.500	( 70.00 - 130.00 )
LCS1	Thiobencarb	2	2.06	103.000	( 70.00 - 130.00 )
MBLK	Thiobencarb	ND			
MS	Thiobencarb	2	1.92	96.000	( 70.00 - 130.00 )
MBLK	Trifluralin	ND			
LCS1	alpha-Chlordane	2	1.89	94.500	( 70.00 - 130.00 )
MBLK	alpha-Chlordane	ND			
MS	alpha-Chlordane	2	1.78	89.000	( 70.00 - 130.00 )
LCS1	gamma-Chlordane	2	1.73	89.000	( 70.00 - 130.00 )
MBLK	gamma-Chlordane	ND			
MS	gamma-Chlordane	2	1.72	86.000	( 70.00 - 130.00 )
LCS1	trans-Nonachlor	2	1.81	90.500	( 70.00 - 130.00 )
MBLK	trans-Nonachlor	ND			
MS	trans-Nonachlor	2	1.86	93.000	( 70.00 - 130.00 )

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underline.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400 Fax: 818 568 6324;  
1 800 568 LABS (1 800 568 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

QC Batch #45984

Mercury

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Mercury	1.50	1.37	91.333	( 85.00 - 115.00 )	
LCS2	Mercury	1.50	1.37	91.333	( 85.00 - 115.00 )	0.00
MBLK	Mercury	ND				
MS	Mercury	1.50	1.45	96.667	( 85.00 - 115.00 )	
HSD	Mercury	1.50	1.36	90.667	( 85.00 - 115.00 )	6.4

QC Batch #46008

Herbicides by 515.1

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLK	2,4,5-T	ND				
LCS1	2,4,5-TP (Silvex)	0.500	0.53	106.000	( 67.00 - 120.00 )	
LCS2	2,4,5-TP (Silvex)	0.500	NA		( 67.00 - 120.00 )	
MBLK	2,4,5-TP (Silvex)	ND				
MS	2,4,5-TP (Silvex)	0.500	0.52	104.000	( 42.00 - 226.00 )	
LCS1	2,4-D	1.00	0.94	94.000	( 72.00 - 127.00 )	
LCS2	2,4-D	1.00	NA		( 72.00 - 127.00 )	
MBLK	2,4-D	ND				
MS	2,4-D	1.00	0.91	91.000	( 49.00 - 214.00 )	
MBLK	2,4-DB	ND				
MBLK	3,5-Dichlorobenzoic acid	ND				
MBLK	4-Nitrophenol (qualitative)	ND				
MBLK	5-Hydroxydicamba	ND				
MBLK	Acifluorfen (qualitative)	ND				
LCS1	Bentazon	1.00	0.94	94.000	( 75.00 - 134.00 )	
LCS2	Bentazon	1.00	NA		( 75.00 - 134.00 )	
MBLK	Bentazon	ND				
MS	Bentazon	1.00	0.95	95.000	( 70.00 - 170.00 )	
MBLK	Chloramben (qualitative)	ND				
MBLK	DOPA	ND				
MBLK	Dalapon (qualitative)	ND				
MBLK	Dicamba	ND				
MBLK	Dichlorprop	ND				

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



**MONTGOMERY WATSON LABORATORIES**

535 East Walnut Street  
Pasadena, California 91101  
818 568 6400 Fax: 818 568 6324  
1 800 568 LABS (1 800 566 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

MBLK	Dinoseb	NO
MBLK	Pentachlorophenol	NO
MBLK	Pictoram	NO

**QC Batch #46026                      Endothall**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPO (%)
LCS1	Endothall	25	29.9	119.600	( 58.00 - 137.00 )	
MBLK	Endothall	NO				
MS	Endothall	25	26.0	104.000	( 63.00 - 126.00 )	

**QC Batch #46059                      Cyanide**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPO (%)
LCS1	Cyanide	0.10	0.0936	93.600	( 90.00 - 110.00 )	
MBLK	Cyanide	NO				
MS	Cyanide	0.10	0.0946	94.600	( 80.00 - 120.00 )	
MSD	Cyanide	0.10	0.0919	91.900	( 80.00 - 120.00 )	2.9

**QC Batch #46560                      AE1803 - EDB and DBCP**

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPO (%)
DUP	Dibromochloropropane (DBCP)	NO	NA		( 60.00 - 140.00 )	
LCS1	Dibromochloropropane (DBCP)	0.10	0.11	110.000	( 60.00 - 140.00 )	
LCS2	Dibromochloropropane (DBCP)	0.10	0.11	110.000	( 60.00 - 140.00 )	0.00
MBLK	Dibromochloropropane (DBCP)	NO				
MS	Dibromochloropropane (DBCP)	0.10	NA		( 60.00 - 140.00 )	
DUP	Ethylene Dibromide (EDB)	NO	NA		( 60.00 - 140.00 )	
LCS1	Ethylene Dibromide (EDB)	0.10	0.10	100.000	( 60.00 - 140.00 )	
LCS2	Ethylene Dibromide (EDB)	0.10	0.10	100.000	( 60.00 - 140.00 )	0.00
MBLK	Ethylene Dibromide (EDB)	NO				
MS	Ethylene Dibromide (EDB)	0.10	NA		( 60.00 - 140.00 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400; Fax: 818 568 6224  
1 800 568 LABS (1 800 568 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

QC Batch #46568		SDWA Pesticides				
QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
MBLK	Atachlor (Alanex)	ND				
LCS1	Aldrin	0.050	0.047	94.000	( 56.00 - 116.00 )	
LCS2	Aldrin	0.050	NA		( 56.00 - 116.00 )	
MBLK	Aldrin	ND				
MS	Aldrin	0.050	0.051	102.000	( 56.00 - 116.00 )	
MBLK	Alpha-BHC	ND				
MBLK	Chlordane	ND				
MBLK	Chlorthalonil (Drconil, Bravo)	ND				
MBLK	Delta-BHC	ND				
LCS1	Dieldrin	0.100	0.111	111.000	( 57.00 - 117.00 )	
LCS2	Dieldrin	0.100	NA		( 57.00 - 117.00 )	
MBLK	Dieldrin	ND				
MS	Dieldrin	0.100	0.111	111.000	( 57.00 - 117.00 )	
MBLK	Endosulfan I (alpha)	ND				
MBLK	Endosulfan II (beta)	ND				
MBLK	Endosulfan sulfate	ND				
LCS1	Endrin	0.100	0.115	115.000	( 58.00 - 118.00 )	
LCS2	Endrin	0.100	NA		( 58.00 - 118.00 )	
MBLK	Endrin	ND				
MS	Endrin	0.100	0.116	116.000	( 58.00 - 118.00 )	
MBLK	Endrin Aldehyde	ND				
LCS1	Gamma-BHC (Lindane)	0.050	0.053	106.000	( 59.00 - 119.00 )	
LCS2	Gamma-BHC (Lindane)	0.050	NA		( 59.00 - 119.00 )	
MBLK	Gamma-BHC (Lindane)	ND				
MS	Gamma-BHC (Lindane)	0.050	0.054	108.000	( 59.00 - 119.00 )	
LCS1	Heptachlor	0.050	0.049	98.000	( 63.00 - 133.00 )	
LCS2	Heptachlor	0.050	NA		( 63.00 - 133.00 )	
MBLK	Heptachlor	ND				
MS	Heptachlor	0.050	0.052	104.000	( 63.00 - 133.00 )	
MBLK	Heptachlor Epoxide	ND				
MBLK	Methoxychlor	ND				
MBLK	PCB 1016 Aroclor	ND				
MBLK	PCB 1221 Aroclor	ND				

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



**MONTGOMERY WATSON LABORATORIES**

555 East Walnut Street  
Pasadena, California 91101  
818 568 6400 Fax: 818 568 6324;  
1 800 566 LABS (1 800 566 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

MBLK	PCB 1232 Aroclor	ND			
MBLK	PCB 1242 Aroclor	ND			
MBLK	PCB 1248 Aroclor	ND			
MBLK	PCB 1254 Aroclor	ND			
MBLK	PCB 1260 Aroclor	ND			
MBLK	Toxaphene	ND			
MBLK	p,p' DDD	ND			
MBLK	p,p' DDE	ND			
LCS1	p,p' DDT	0.100	0.123	123.000	( 62.00 - 162.00 )
LCS2	p,p' DDT	0.100	NA		( 62.00 - 162.00 )
MBLK	p,p' DDT	ND			
MS	p,p' DDT	0.100	0.122	122.000	( 62.00 - 162.00 )

QC Batch #46622

ICPMS Metals

QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPO (%)
LCS1	Antimony, Total, ICAP/MS	50	49.8	99.600	( 85.00 - 115.00 )	
MBLK	Antimony, Total, ICAP/MS	ND		0.000		
LCS1	Arsenic, Total, ICAP/MS	20	21.6	108.000	( 85.00 - 115.00 )	
MBLK	Arsenic, Total, ICAP/MS	ND		0.000		
LCS1	Barium, Total, ICAP/MS	100	99.6	99.600	( 85.00 - 115.00 )	
MBLK	Barium, Total, ICAP/MS	ND		0.000		
LCS1	Beryllium, Total, ICAP/MS	5	4.87	97.400	( 85.00 - 115.00 )	
MBLK	Beryllium, Total, ICAP/MS	ND		0.000		
LCS1	Cadmium, Total, ICAP/MS	20	19.4	97.000	( 85.00 - 115.00 )	
MBLK	Cadmium, Total, ICAP/MS	ND		0.000		
LCS1	Chromium, Total, ICAP/MS	100	102	102.000	( 85.00 - 115.00 )	
MBLK	Chromium, Total, ICAP/MS	ND		0.000		
LCS1	Copper, Total, ICAP/MS	100	98.8	98.800	( 85.00 - 115.00 )	
MBLK	Copper, Total, ICAP/MS	ND		0.000		
LCS1	Lead, Total, ICAP/MS	20	19.6	98.000	( 85.00 - 115.00 )	
MBLK	Lead, Total, ICAP/MS	ND		0.000		
LCS1	Nickel, Total, ICAP/MS	50	50.8	101.600	( 85.00 - 115.00 )	
MBLK	Nickel, Total, ICAP/MS	ND		0.000		
LCS1	Selenium, Total, ICAP/MS	20	20.3	101.500	( 85.00 - 115.00 )	
MBLK	Selenium, Total, ICAP/MS	ND		0.000		
LCS1	Thallium, Total, ICAP/MS	20	20.3	102.000	( 85.00 - 115.00 )	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.



MONTGOMERY WATSON LABORATORIES

555 East Walnut Street  
Pasadena, California 91107  
818 568 6400 Fax: 818 568 6224  
1 800 566 LABS (1 800 566 5227)

Laboratory  
QC Report  
#25316

Kauai Water Department  
(continued)

---

MBLK	Thallium, Total, ICAP/MS	ND	0.000
------	--------------------------	----	-------

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

**DRAFT ENVIRONMENTAL  
ASSESSMENT  
COMMENT AND RESPONSE**

BENJAMIN J. CATETANO  
DIRECTOR



STATE OF HAWAII  
OFFICE OF ENVIRONMENTAL QUALITY CONTROL

126 SOUTH ROYAL HAWAII STREET  
HONOLULU, HAWAII 96813  
TELEPHONE: 808/537-4100  
FACSIMILE: 808/537-4100

CLARY GAIL  
DIRECTOR

Mr. Lau  
March 24, 1997  
Page 2

3. Aquifer Status

Please provide the following information regarding the aquifer's status:

- i) sustainable yield;
- ii) current water use totals, including subtotals for individual users;
- iii) current installed capacity, including subtotals for individual wells and/or groups of wells within the aquifer;
- iv) pending installed capacity and/or use of the proposed project;
- v) authorized water use by the Commission of Water Resource Management; and
- vi) A description of the watershed and groundwater recharge area.

4. Water and Land Use Analysis

Please provide a discussion of how waters from the well will be used, and an analysis of how the proposed well development may affect land and water uses on the island and in the region. The analysis should include a discussion of the following:

- i) County Development Plans;
- ii) historical water supply and demand figures for the region;
- iii) plans for future water development within the aquifer;
- iv) how the well may affect existing water sources;
- v) any secondary or cumulative impacts by promoting land uses that alter the area's hydrology;
- vi) an assessment of the well's impact on major land owners in the region and a declaration if ceded lands are involved; and
- vii) 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.

5. Pump Test Data

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. Any provisions for future use and monitoring of wells not placed into production should also be described.

Mr. Ernest Y.W. Lau  
Manager and Chief Engineer  
Department of Water  
County of Kauai  
4398 Pua Loke Street  
Lihue, Hawaii 96766-5706

Dear Mr. Lau:

Subject: Draft Environmental Assessments for the Hanamaulu and Lihue Water Development Projects

Thank you for the opportunity to review the subject documents. We have the following comments.

1. Segmentation

Section 11-200-7, Hawaii Administrative Rules, states that "a group of actions proposed by an agency or applicant shall be treated as a single action when . . . the actions in question are essentially identical and a single statement will adequately address the impacts of each individual action and those of the group of actions as a whole."

The Hanamaulu and Lihue wells projects have the same purpose, are located in the same aquifer, and are essentially identical to one another. Accordingly, we believe that the EIS rules require that one final environmental assessment be prepared to evaluate the direct, indirect and cumulative impacts of both projects.

2. Maps and Diagrams

Please show on maps and/or diagrams the prevailing groundwater flow paths and any points or regions of known contamination.

Mr. Lau  
March 24, 1997  
Page 3

6. Contamination Analysis

A record of contamination problems in the aquifer due to saltwater intrusion, heavy metals, volatile and non-volatile organic compounds, biological agents, and radioactivity. If contamination exists, the sources and duration of the contamination should be listed. Water quality data from nearby wells should be presented as wells as any anticipated need for treatment or filtering systems. Any hazardous materials used and/or produced during drilling and treatment should be described. The method of handling these hazardous materials should also be disclosed.

7. Watershed Impact Analysis

Please include a discussion of the potential effects the well development may have on down gradient streams and wetlands, including relevant elevation data for the well and the potentially affected surface waters. If potential impacts exist, a monitoring program for the surface waters should be included.

8. Archaeological and Cultural Impact Assessment

Please provide a description of the archaeological and cultural significance of the region, including an on-site survey as well as consultations with Native Hawaiian groups such as DPHL, OHA and local community associations.

9. Alternative Analysis

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

10. Financial and Institutional Arrangements

In some instances, a well is developed by private financing or in return for a water allocation credit to supply an urban development. The EA should include a full discussion of any institutional, financial or land use arrangements or commitments related to developing the well and delivering water to end users. All permits or governmental approvals required to fulfill these commitments should be listed.

Mr. Lau  
March 24, 1997  
Page 4

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

Sincerely,



Gary Gill  
Director

c: Wukunaga & Associates

**DEPARTMENT OF WATER**  
County of Kauai

"Water has no Substitute - Conserve It!"

April 25, 1997

Mr. Gary Gill, Director  
Office of Environmental Quality Control  
236 South Berzanski Street, Suite 702  
Honolulu, Hawaii 96813

Dear Mr. Gill:

Subject: Draft Environmental Assessments  
Lihue Water Development Project, Phase I - Pukaki Well  
Hanalei Water Development Project, Phase I - Hanamaulu Well No. 3

Thank you for your review and comments on the Draft EAs. This letter is in response to the comments in your letter dated March 24, 1997.

1. Comment: **Segmentation** - ...we believe that the EIS rules require that one final environmental assessment be prepared to evaluate the direct, indirect and cumulative impacts of both projects.

Response: One Final EA for both projects will be prepared and submitted.

2. Comment: **Maps and Diagrams** - Please show on the maps and/or diagrams the prevailing groundwater flow paths and any points or regions of known contamination.

Response: A figure showing the prevailing groundwater flow paths and points of known contamination, namely strazine, will be included in the Final EA. The detected levels of strazine are well below the maximum contaminant level.

3. Comment: **Aquifer Status** - Please provide the following information regarding the aquifer's status:

- i) sustainable yield;
- ii) current water use totals...
- iii) current installed capacity...
- iv) pending installed capacity; and/or use of the proposed project;
- v) authorized water use by the CWRM; and
- vi) A description of the watershed and groundwater recharge area.

Response: i) As stated in the discussion on the estimated groundwater yield, the sustainable yield of the Hanamaulu Aquifer System has been estimated at approximately 40 mgd.

- 010 Paa Laha Street, Lihue, Kauai, Hawaii 97590 P. O. Box 0724, Lihue, HI 97560-0724 -  
Phone No. (808) 245-6522 - ADJUTANT GENERAL FAX No. (808) 245-6523 - Engineering/Planning FAX No. (808) 245-3113

Mr. Gary Gill, Director  
Page 2  
April 28, 1997

- ii) The domestic potable water consumption for 1996 supplied by the Lihue Water System (County of Kauai) was approximately 2.74 mgd.
- iii) The existing producing potable water wells within the Hanamaulu Aquifer are listed in the following table which has been incorporated into the EA document.

Name	Primary Source	Standby Source	State Well No.	Aquifer	Pump Capacity (mgd)	1996 Water Use (mgd)
Kauai County Department of Water						
Carlinghouse Tunnel	X		5923-01	High-Level	1.152	
Kilohana A		X	5923-01	Basal	0.39	
Kilohana B	X		5923-02	High-Level	1.008	
Kilohana C	X		5923-03	High-Level	0.144	
Kilohana F		X	5923-04	High-Level	0.576	
Kilohana G	X		5923-05	High-Level	0.216	
Kilohana I	X		5923-07	High-Level	1.008	
Kokolou Tunnel *	X		5725-01	High-Level	0.432	
Old Grammar School	X		5822-02	Basal	0.216	
P-101's	X		5924-01	Basal	0.288	
Publ 2		X	5824-03	High-Level	0.144	
Publ 3	X		5824-05	High-Level	0.432	
Kaiepa Ridge Well *	X		5921-01	Basal	0.173	
TOTAL					6.379	2.739
Lihue Plantation Company:						
Sugar Mill *			5822-01	Basal	0.53	0.30

- \* Kokolou Tunnel presently not in use.
- \* Kaiepa Ridge Well currently in use.
- \* 1991 data. For Lihue Plantation, potable well not verified.

- iv) The installed capacity of the proposed project cannot be determined until the exploratory well testing is accomplished.
- v) Authorized water use by the CWRM is applicable to designated water management areas. There are no designated water management areas on the island of Kauai.

Mr. Gary Gill, Director  
Page 3  
April 28, 1997

v) As stated in the discussion on hydrogeology and shown in the figures, "the aquifer system extends in an east-west direction from Waialeale-Kahili Mountains west of Lihue Town to Hanalei Bay, and in a north-south direction from Waialua River to Haupu Ridge." In the discussion on estimated groundwater yield, "the Hanalei Aquifer System receives an average rainfall volume of 217 million gallons per day (mgd), of which about 48% is lost to evapotranspiration, 16% is lost to runoff, and 36% or 79 mgd becomes groundwater."

4. Comment: Water and Land Use Analysis - Please provide a discussion of how waters from the well will be used, and an analysis of how the proposed well development may affect land and water uses on the island and in the region.

Response: The draft environmental assessments were written to address only the drilling, casing and testing of the exploratory wells. If testing proves successful and development of the wells proceeds, an environmental assessment will be prepared and submitted for the development of the wells at which time this issue will be addressed.

5. Comment: Pump Test Data

Response: Pump test data will be available after the exploratory wells are drilled and tested. If the wells are developed, the data will be included in the subsequent environmental assessment for the well development.

6. Comment: Contamination Analysis - A record of contamination problems in the aquifer... 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. Any hazardous materials used and/or produced during drilling and treatment should be described. The method of handling these hazardous materials should also be disclosed.

Response: As stated in the discussion on water quality, the only record of contamination is that of atrazine. The detected levels are well below the maximum contaminant level. Water quality data from nearby wells are presented in the draft EAs and do not show any signs of atrazine. There is no anticipated need for treatment or filtering systems. No hazardous materials are used and/or produced during drilling.

7. Comment: Waterbed Impact Analysis - Please include a discussion of the potential effects the well development may have on down gradient streams and wetlands...

Mr. Gary Gill, Director  
Page 4  
April 28, 1997

Response: The draft environmental assessments were written to address only the drilling, casing and testing of the exploratory wells. If testing proves successful and development of the wells proceeds, an environmental assessment will be prepared and submitted for the development of the wells at which time this issue will be addressed.

8. Comment: Archaeological and Cultural Impact Assessment - Please provide a description of the archaeological and cultural significance of the region, including an on-site survey as well as consultation with Native Hawaiian groups such as DHHL, OHA, and local community associations.

Response: As stated in the discussion on the archaeological and historical considerations, "the project site[s] is located in the middle of a cultivated cane field. The State Historic Preservation Division records indicate that there are no known archaeological sites at the project location[s]. Drilling, casing and testing of the well will be confined to a small area of about 100 feet by 100 feet. If construction work uncovers any archaeological remains, work will cease and an archaeological survey will be conducted."

DHHL and OHA were contacted and informed about the projects, and have yet to respond. Comments will be addressed when received.

9. Comment: Alternative Analysis - Please provide a list of alternatives to new groundwater development and their related costs...

Response: The draft environmental assessments were written to address only the drilling, casing and testing of the exploratory wells. If testing proves successful and development of the wells proceeds, an environmental assessment will be prepared and submitted for the development of the wells at which time this issue will be addressed.

10. Comment: Financial and Institutional Arrangements - ... The EA should include a full discussion of any institutional, financial or land use arrangements or commitments related to developing the well and delivering water to end users. All permits or governmental approvals required to fulfill these commitments should be listed.

Response: The proposed Hanalei Water Development Project will serve the low and moderate income residents of the Hanalei community, and will be funded by a Community Development Block Grant from the Department of Housing and Urban Development. The water produced by Hanalei Well No. 3, if developed, will be allocated to the Hanalei community.

Mr. Gary Gill, Director  
Page 5  
April 28, 1997

The proposed Lihue Water Development Project will be funded by a Special Purpose Grant from the Department of Housing and Urban Development. There are no restrictions on the water allocation for the project.

As stated in the EA, upon successful development of the well(s), the well site(s) will be subdivided from Lihue Plantation lands and the County of Kauai will become the legal owner of the well site(s).

We hope the responses address your comments to your satisfaction.

Sincerely,



Ernest Y.W. Lau  
Manager and Chief Engineer

et

