DEPARTMENT OF WATER

County of Kauai

"Water has no Substitute -- Conserve It!"

RECEIVED

April 22, 1997

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GFG. OF ENVIOLENCE OUALITY CONTE

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 <u>negative declaration</u>. 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

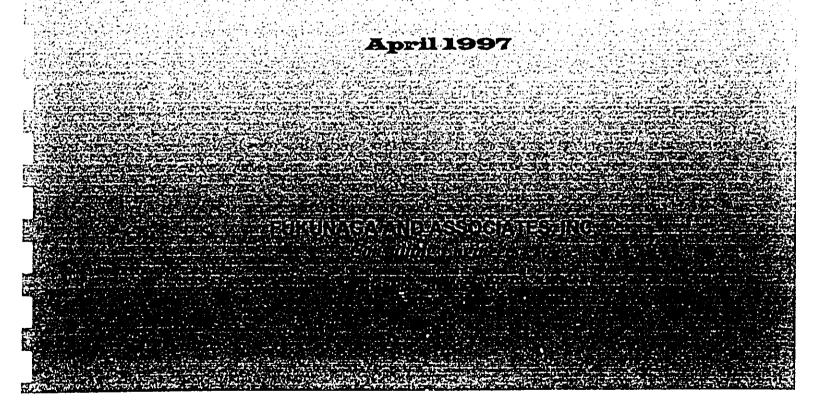
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1997-05-08-KA-FEA-Hanamaulu & FILE COPY Lihue Water Development Projects, Phase I ENVIRONMENTAL ASSESSMENT

LIHUE AND HANAMAULU WATER DEVELOPMENT PROJECTS, PHASE I

Pukaki Well and Hanamaulu Well No. 3

For the:
County of Kauai
DEPARTMENT OF WATER



1997-05-08-KA-FEA-Hanamaulu ; Lihue. Water Development Projects, Phase. I Phase I ENVIRONMENTAL

LIHUE AND HANAMAULU WATER DEVELOPMENT PROJECTS, PHASE I

ASSESSMENT

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, Hawali 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: <u>4/22/97</u>

Prepared by:

Fukunaga & Associates, Inc.

1388 Kapiolani Boulevard, Second Floor
Honolulu, Hawaii 96814

April 1997

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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

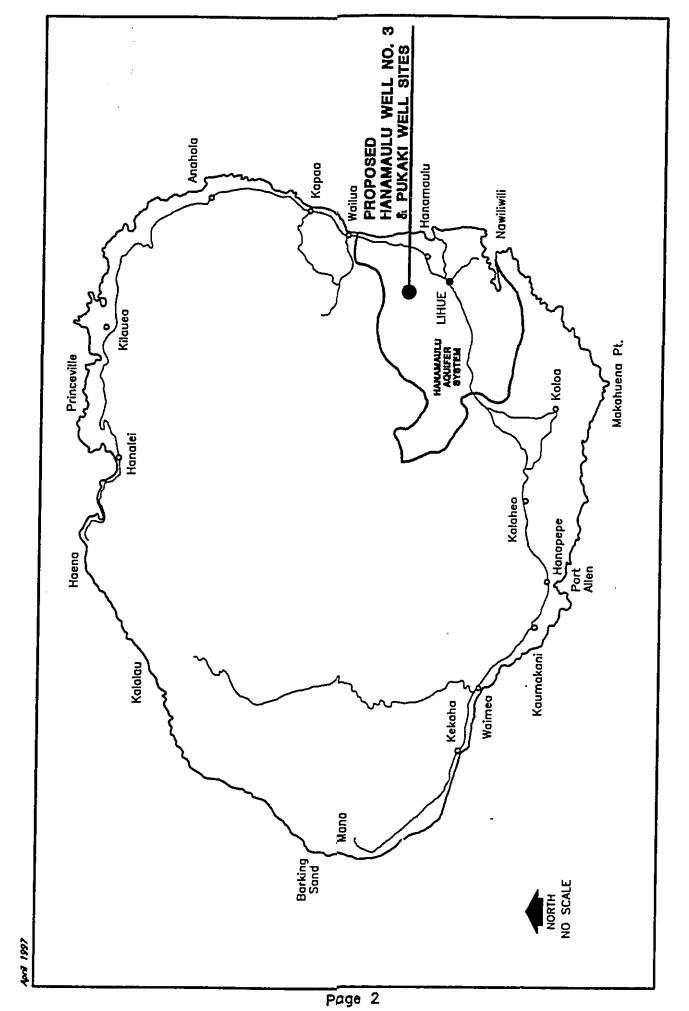
The proposing agency for this project is the County of Kauai Department of Water.

II. LIHUE WATER DEVELOPMENT PROJECT 96-1

A. LIHUE WATER PROJECT LOCATION

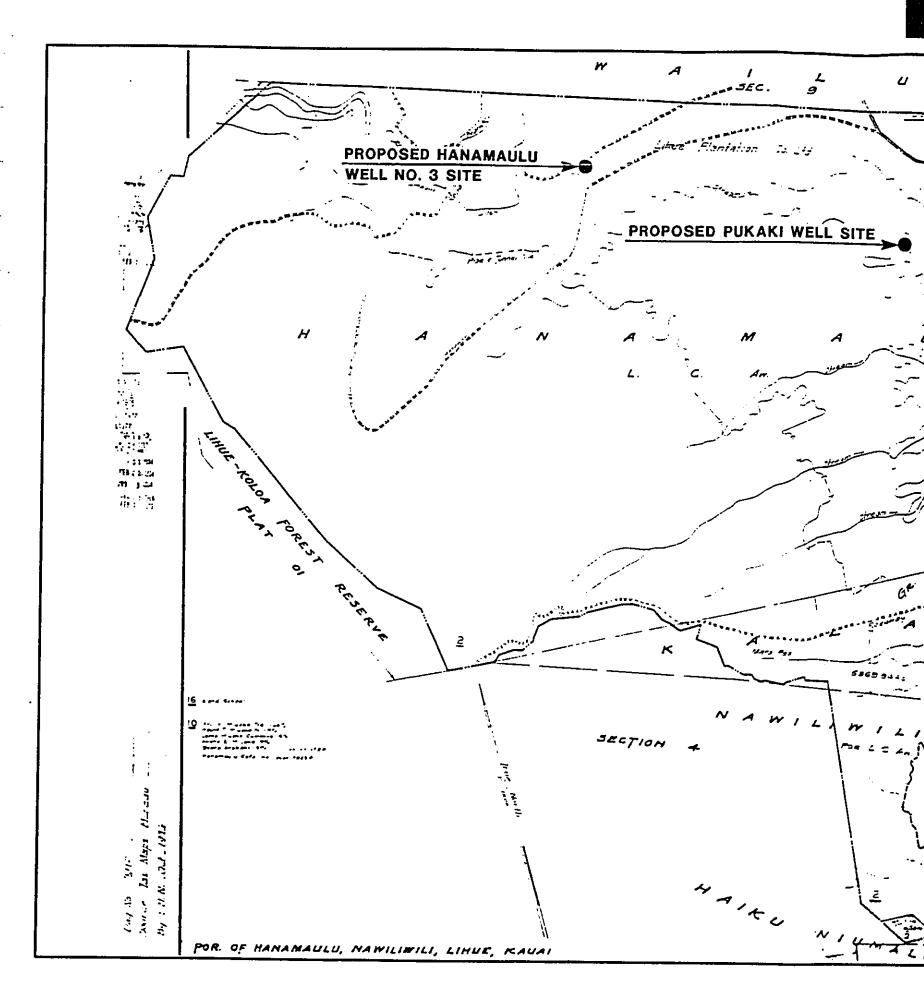
The proposed Pukaki Well project site is located approximately 3 miles northwest of Lihue, 0.1 miles west of Pukaki Reservoir (part of Hanamaulu Stream), 0.5 miles south of Aii Reservoir, and 0.7 miles southeast of Kapaia Reservoir. The project site is on lands owned by Lihue Plantation Company, Ltd., 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.

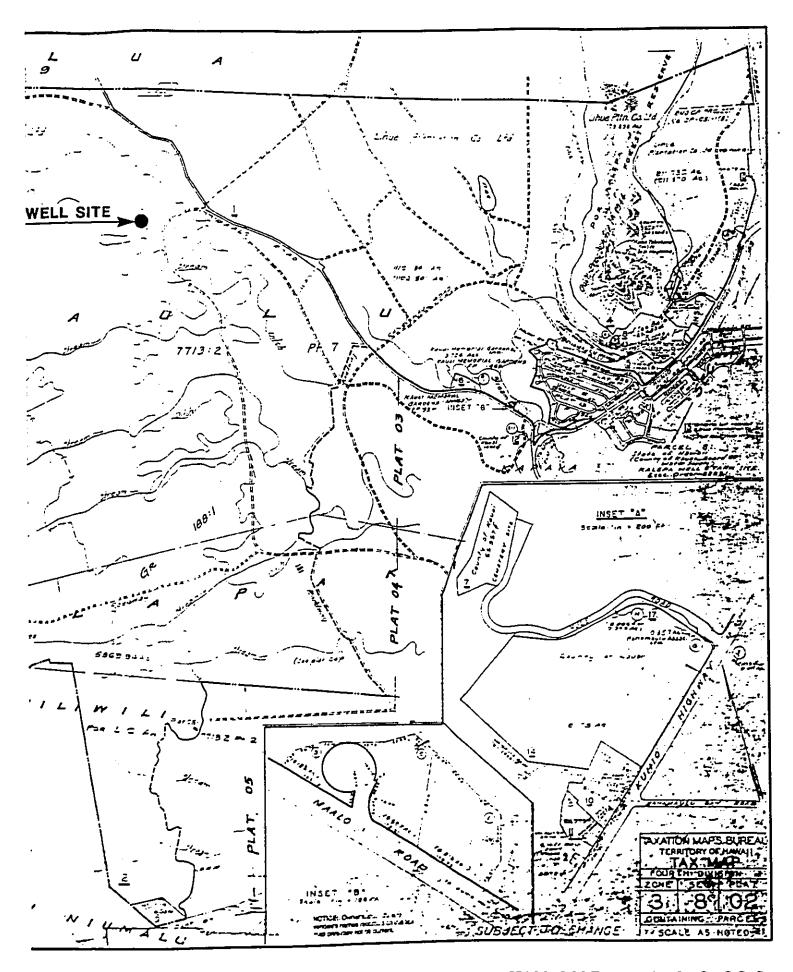


COUNTY OF KAUAI Lihue and Hanamaulu Water Development Projects

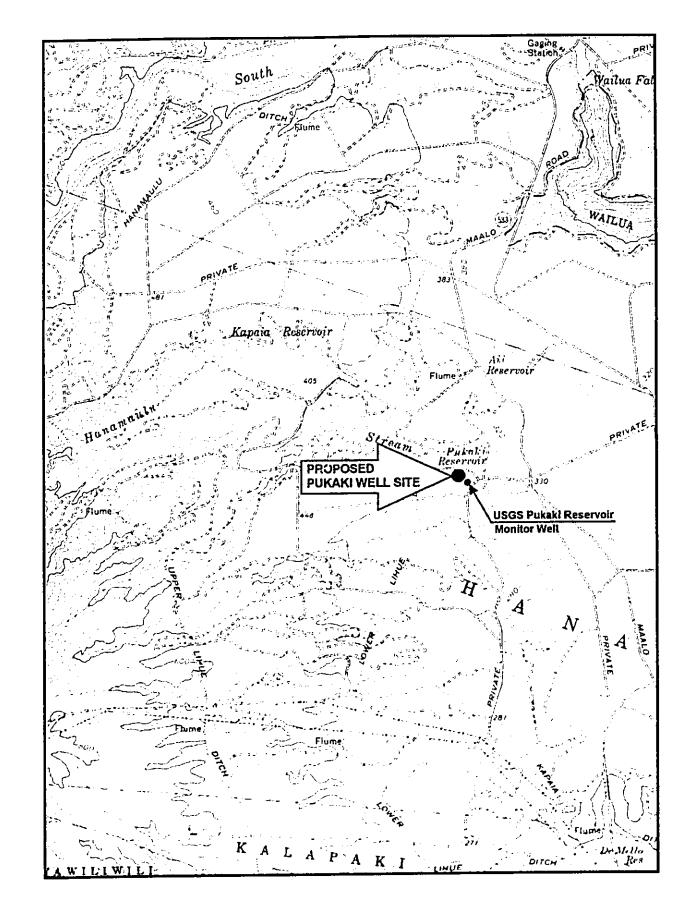
ISLAND OF KAUAI



Lihue and Hanamaulu Water Development Projects



TAX MAP KEY: 3-8-02:2



LOCATION MAP FIGURE II-2

Lihue Water Development Project

Page 4

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

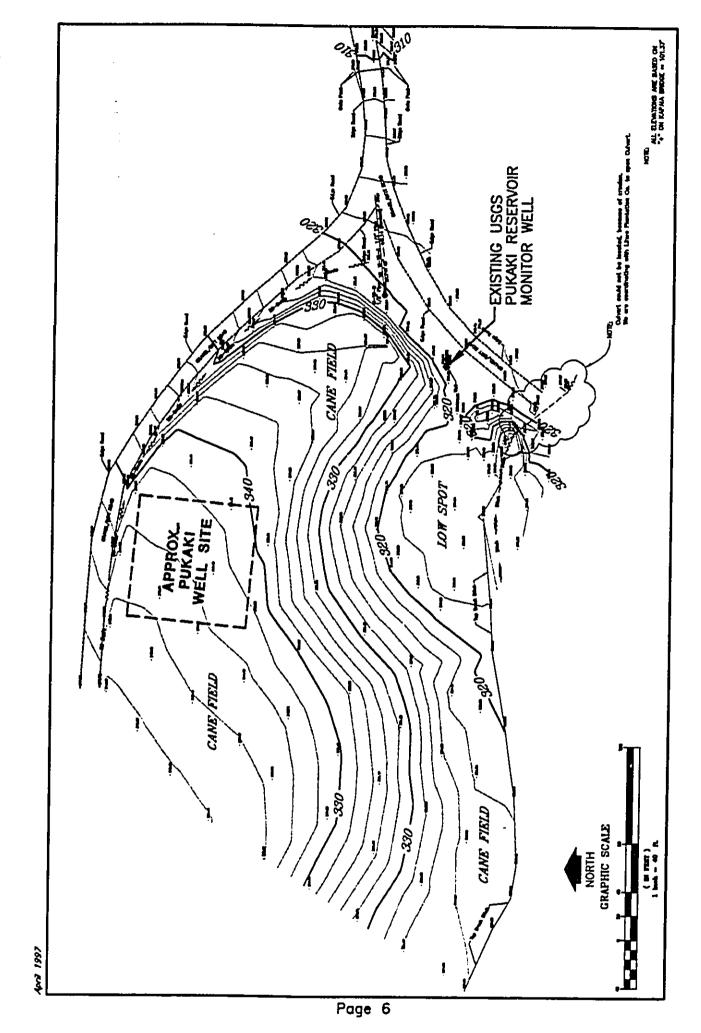
The proposed Pukaki Well project site is approximately 250 feet northwest of the USGS well. See Figure II-3. The USGS well will be capped and retained for well level monitoring purposes.

The proposed project includes the following major tasks:

- 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.

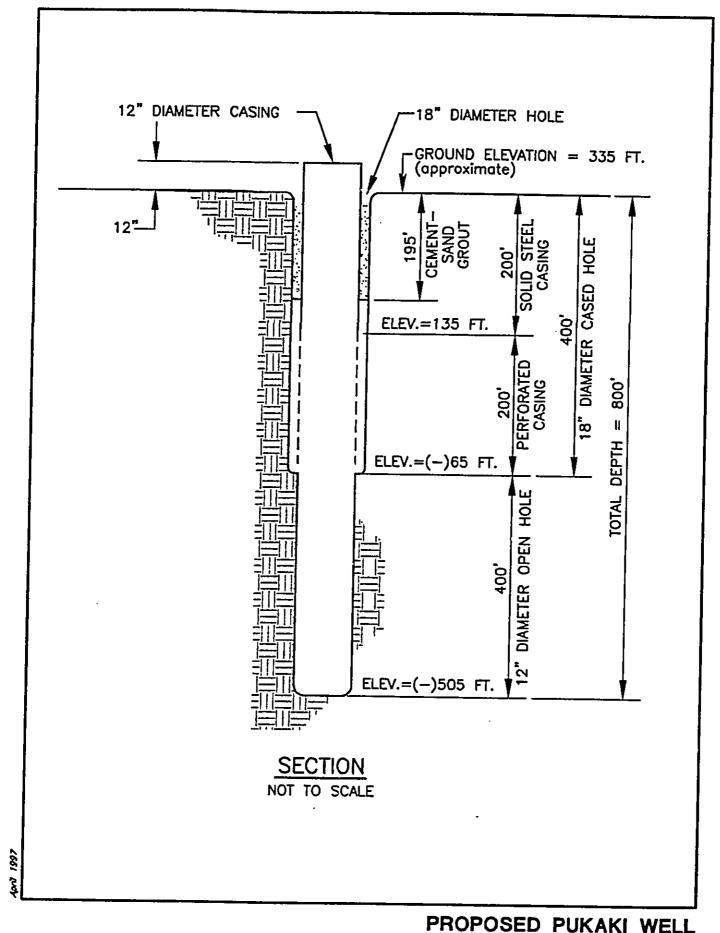
The proposed Lihue Water Development Project will be funded by a Special Purpose Grant from the Department of Housing and Urban Development. There are no restrictions on the water allocation for the project.



COUNTY OF KAUAI

Lihue Water Development Project

PROPOSED PUKAKI WELL SITE



PROPOSED PUKAKI WELL CROSS SECTION

Lihue Water Development Project

FIGURE II-4

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

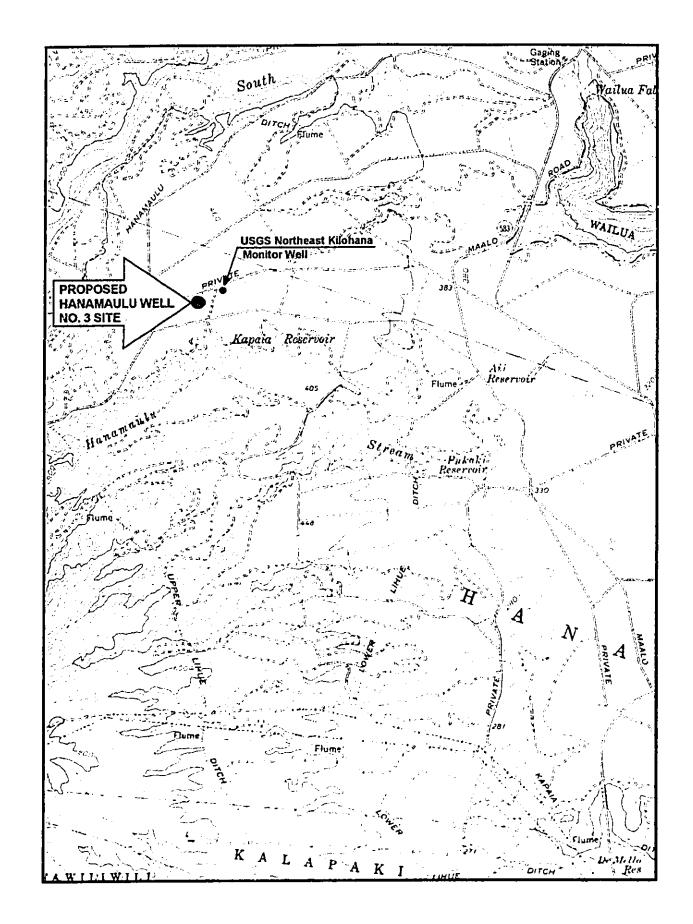
The U.S. Geological Survey (USGS) drilled and cased the Northeast Kilohana monitor well during the period from June 6 to August 1995 to study the hydrology and geology of the area. See Figure III-1. The ground elevation at the well is 466.42 feet. The well is 10 inches in diameter by 1,047 feet deep (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.

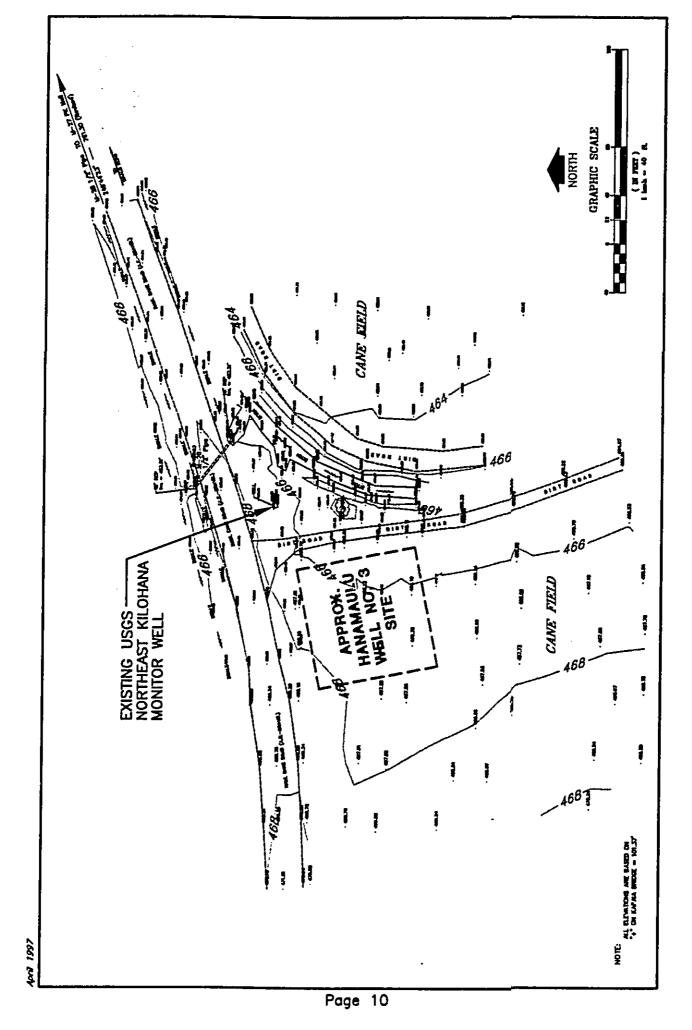
The proposed project includes the following major tasks:

- 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.



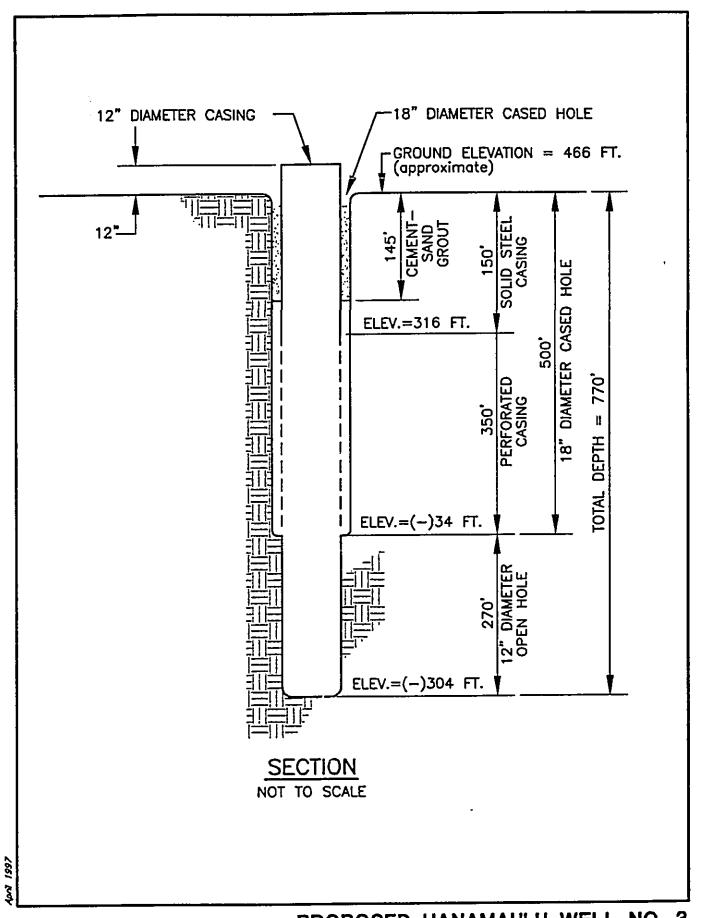
LOCATION MAP FIGURE III-1

Hanamaulu Water Development Project



PROPOSED HANAMAULU WELL NO. 3 SITE

COUNTY OF KAUAI Hanamaulu Water Development Project



PROPOSED HANAMAULU WELL NO. 3
CROSS SECTION

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

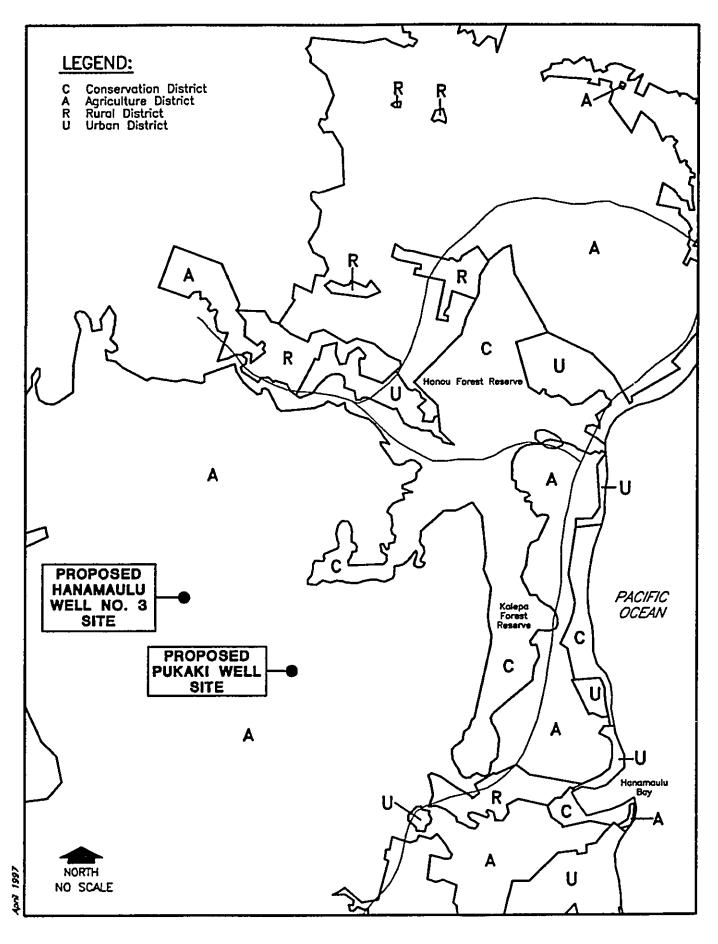
R Resort

RR Rural Residential

UR Urban

UMU Urban Mixed Use

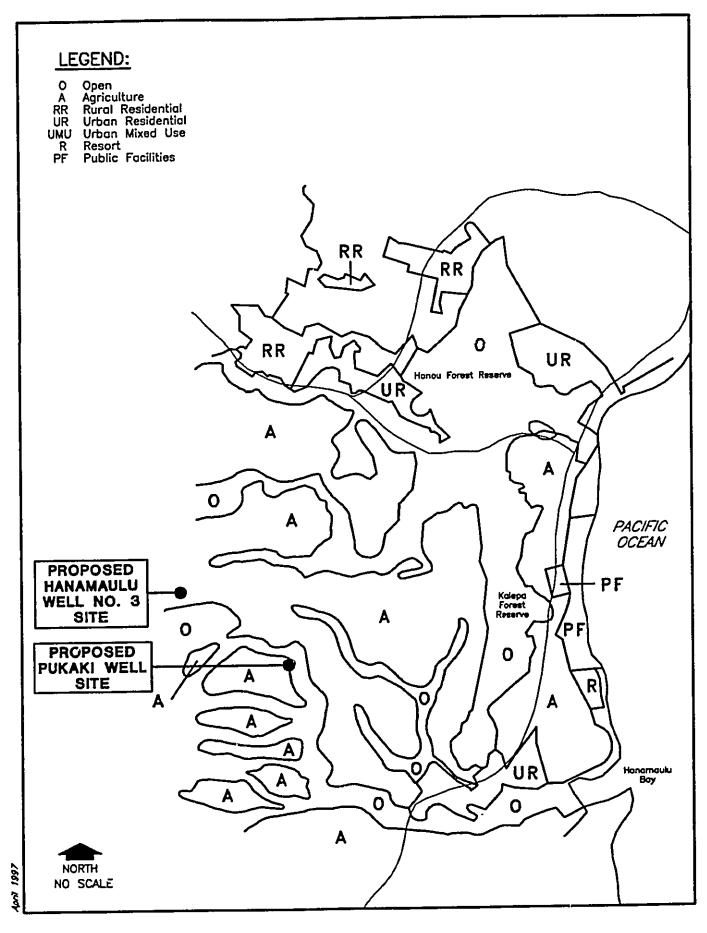
The project sites are located on lands that have been designated for Agriculture by both the State Land Use Commission and the County General Plan. See Figures IV-1 and IV-2 for zone designations. Special land use permits from the County of Kauai Department of Planning will be required for the well sites.



STATE LAND USE MAP

Lihue and Hanamaulu Water Development Projects
Page 13

FIGURE IV-1



KAUAI COUNTY GENERAL PLAN

Lihue and Hanamaulu Water Development Projects

FIGURE IV-2

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

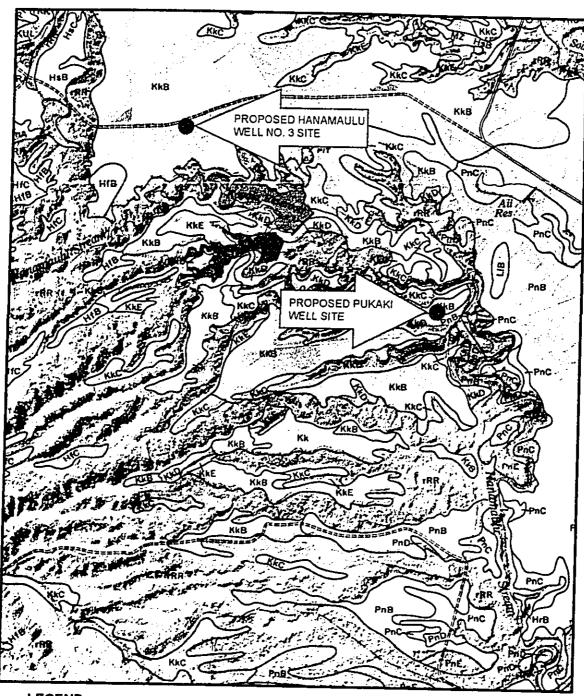
According to the Soil Survey issued in 1972 by the U.S. Department of Agriculture Soil Conservation Service (USDA-SCS), the soil in the area surrounding both of the proposed well sites are characterized as Kapaa silty clay, 3 to 8 percent slopes (KkB). The soil type is acidic, provides slow runoff, and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

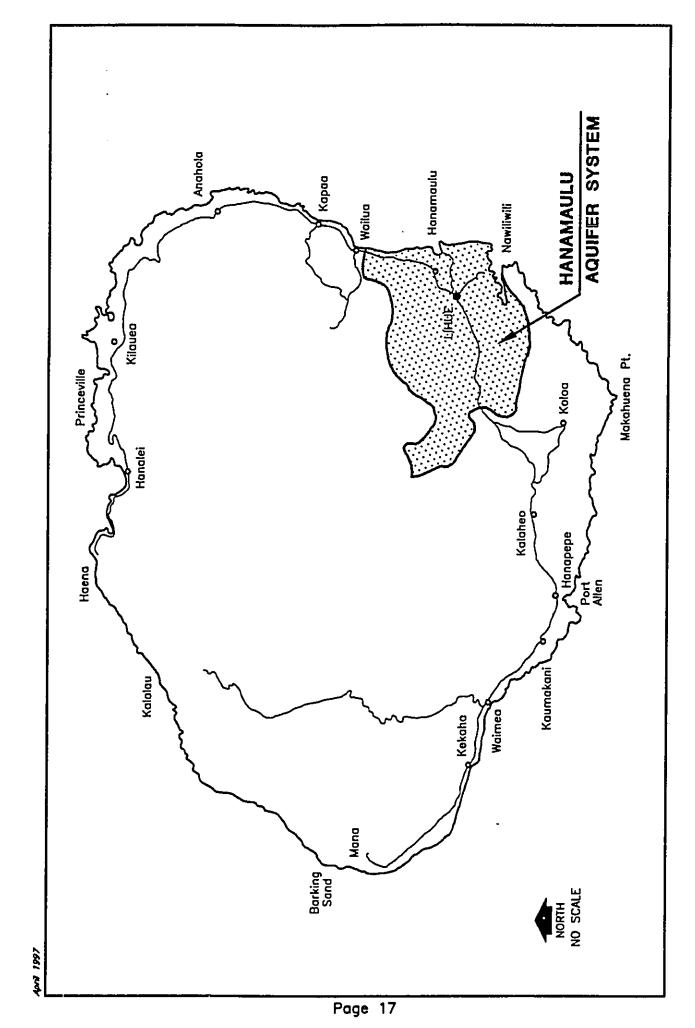
HIB HIB HIB HISB HIDA KKB KKC	Halli gravelly silty clay, 3-8% slopes Halli gravelly silty clay, 8-15% slopes Hanalei silty clay, deep water table Hanamaulu silty clay, 3-8% slopes Hanamaulu silty clay, 8-15% slopes Hanalei silty clay, 0-2% slopes Kapaa silty clay, 3-8% slopes Kapaa silty clay, 8-15% slopes	KkE Lib MZ PnB PnC PnD	Puhi silty clay loam, 15-25% slopes
	Kapaa silty clay, 8-15% slopes		Puni sity day loam, 15-25% slopes Puhi sity day loam, 25-40% slopes Rough broken land

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

COUNTY OF KAUAI

USDA/SCS SOIL MAP FIGURE IV-3

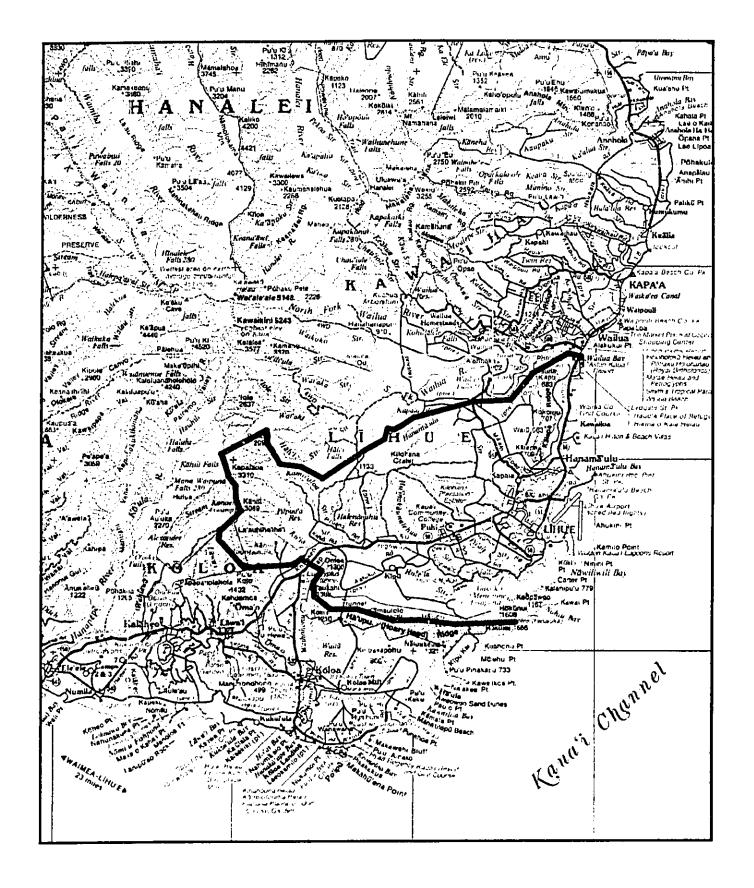
Lihue and Hanamaulu Water Development Projects



ISLAND OF KAUA! - HYDROLOGIC UNITS

COUNTY OF KAUAI
Lihue and Hanamaulu Water Development Projects

FIGURE IV-4



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

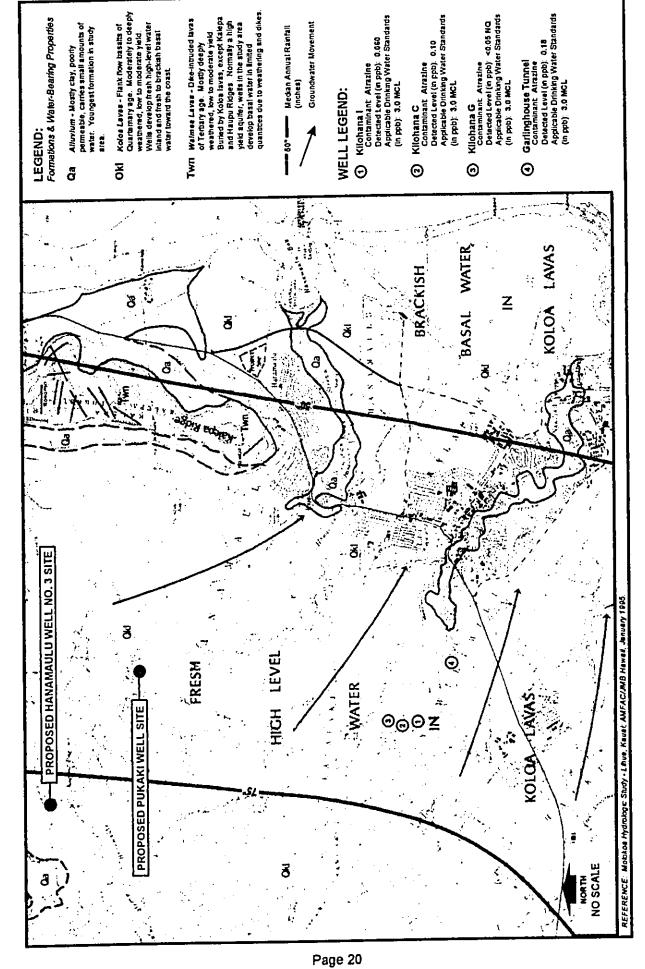
High-level groundwater results from the combination of high rainfall and overall low permeability of the Koloa lavas. High-level groundwater occurs as bodies of water perched on beds of relatively low permeability lavas, soil and ash, and occurs extensively within the study area. High-level groundwater 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.



REGIONAL GROUNDWATER MOVEMENT & GROUNDWATER CONTAMINATION COUNTY OF KAUAI

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)					
Kauai County Department of Water											
Garlinghouse Tunnel	x		5823-01	High-Level	1.152						
Kilohana A		X	5923-01	Basal	0.59						
Kilohana B	×		5923-02	High-Level	1.008						
Kilohana C	Х		5923-03	High-Level	0.144						
Kilohana F		Х	5923-04	High-Level	0.576						
Kilohana G	×		5923-05	High-Level	0.216						
Kilohana I	×		5923-07	High-Level	1.008						
Kokolau Tunnel ♦	Х		5725-01	High-Level	0.432						
Old Grammar School	×		5822-02	Basal	0.216						
Puhi 1	×		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						
TOTAL					6.379	2.739					
Lihue Plantation Company:											
Sugar Mill A			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

- Lihue Plantation Company, Ltd. Well Drilling and Waste Material Disposal
- 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

- AMFAC/JMB Hawaii, Inc., <u>Lihue-Hanamaulu Master Planned Community</u>, <u>Preliminary Engineering Report for Water Requirements</u>, 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, <u>Technical Reference Document for the Kauai Water Use and Development Plan</u>, 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 COMMENTAND RESPONSE

PUKAKIWELL



555 East Walnut Street Pasadana, California 91101 818 558 6400; Faz: 818 568 6324; 1 800 566 LABS (1 800 566 5227)

55 MAY | P9: 3'

in Abal

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 2 4 1996

Report#: 26390

.eport Summ	mary of positive results, PR26390		·	•
-		Result	MDL	UNITS
malyzed	960404046 PUKAKI		•	
4/10/96 J4/15/96 J4/15/96 4/10/96 J4/04/96 J4/04/96 4/12/96 4/21/96 J4/10/96 nalyzed	Data Entry Chromium, Total, ICAP/MS Nickel, Total, ICAP/MS Data Entry Nitrate Nitrate-N by IC Data Entry Data Entry Calcium, Total, ICAP 960404047 PUKAKI	04/17/96 7.0 8.5 04/12/96 0.88 0.2 04/18/96 04/23/96	5.000 5.000 .440 .100	UGL UGL MGL MGL MGL
14/10/96 4/15/96 34/15/96 34/10/96 4/04/96 4/04/96 34/12/96 1/21/96 4/10/96	Data Entry Chromium, Total, ICAP/MS Nickel, Total, ICAP/MS Data Entry Nitrate Nitrate-N by IC Data Entry Data Entry Calcium, Total, ICAP	04/17/96 11 24 04/12/96 0.88 0.2 04/18/96 04/23/96	5.000 5.000 .440 .100	UGL UGL MGL MGL MGL

Report Comments #26390

525 East Walnut Street Pazadena, California 91101 818 568 6400; Fax: 818 568 6224; 1 800 566 LABS (1 800 566 5227)

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.

Laboratory Report #26390

555 East Walout Street Passdena, California 51101 818 558 6400; Fast 818 568 6524; 1 800 566 LABS (1 800 556 5227)

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

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

Prepared	Analyzed	QC Batch#	Hethod	Analyce	Result	Onics	MOL	Dilution
'UKAKI	(960404	1046)	Sample	d on 04/02/96	·	·		
04/20/36	04/20/36	48285	(EPA/ML 200.7	Calcium, Total, ICAP	16	E2/1	5.0	1
	04/13/96	48328	(XZ/SX4500-CI	7) Cyanida	Ж	_g/l	0.025	1
04/08/96	04/11/96	44236	(ML/MPA 548.1) Endothall	100	_g/l	5.0	1
	04/08/96	48074	{ XPA/ML 340.2) Pluoride	CIK	=g/1	0.10	1
	04/11/96	48301	(ML/MPA 547) Glyphosata	300	ug/1	6.0	1
04/05/96	04/05/36	48032	(XPA/KL 245.1) Kercury	מא	ug/1	0.50	1
	04/04/96	48117 .	(ML/EPA 306.0) Mitrita, Mitrogen by IC). 200	mg/l	8.10	ı
04/11/96	04/13/96		(XPA 1613) 2,3,7,8 - 7000	מג	FGT.	1.6	1
			525 Semi	rolatiles by GC/MS				
04/10/96	04/17/96	44362) 2,4-Dimitrotoluena	מא	ug/1	0.10	1 .
04/10/96	04/17/96	48362	(HL/EPA 525.2) alpha-Chlordane	מא	ug/l	0.050	1
04/10/96	04/17/96	48362	(ML/EPA 525.2) Diazinon	NA	ug/1	0.10	1
04/10/56	04/17/96	48362	(ML/EPA 525.2	} Acenaphchylene	МЭ .	ug/l .	0.10	1
04/10/96	04/17/96	48362	{ HL/BPA 525.2) Alachlor	מא	ug/1	0.050	1
04/10/96	04/17/96	48362	(HL/EPA 525.2	} Aldrin	י סא	ug/1	0.050	1 7
04/10/96	04/17/96	48362	(HL/EPA 525.2) Anthracene	מא	ug/1	0.020	1
04/10/96	04/17/96	48362	{ NL/EPA 525.2) Atraxine	מא	ug/l	0.050	1
04/10/96	04/17/96	48362	(ML/EPA 525.2) Henz (a) Anthracene	כזא	ug/1	0.050	1
04/10/96	04/17/96	48362	(ML/EPA 525.2) Benzo(a)pyrene	מא	ug/l	0.020	1
04/10/96	04/17/96	48362	(ML/EPA 525.2) Berzo(b) Fluoranthene	מא	ug/l	0.020	1
04/10/96	04/17/96	44362	(HL/EPA 525.2) Benzo(g,h,i)Perylene	מא	ug/l	0.050	1
04/10/96	04/17/96	48362	(HL/EPA 525.2] Beszo(k) Pluoranthena	ND .	ug/1	0.020	1
04/10/96	04/17/96	48362	(ML/EPA 525.2) Di (2-Ethylhexyl) phrhalate	מא	ug/1	0.60	1
04/10/96	04/17/96	48362] Butylbensylphthalate	מא	ug/1	0.50	1
94/10/96	04/17/96	48362	[NL/EPA 525.2) Brosacil	ND	ug/1	3.0	1
04/10/96	04/17/96		(MC/EPA 525.2		מא	ug/l	0.050	1
04/10/96	04/17/96		[PC/EPA 525.2		מא	ug/1	0.020	1
04/10/96	04/17/96	•	(HL/EPA 525.2		ж	ug/1	0.020	1 .
04/10/96	04/17/96) Dibenz(a,h)Anthracene	_ .	ug/1	0.050	1 .
04/10/96	04/17/96) Di-{2-Ethylheryl}adipate	- פאנ	ug/1	0.60	1
04/10/36	04/17/36	48362	(ML/E7A 525.2] Disthylphthalate	מא	ug/1	0.50	.1

555 East Walout Street *
Passdans. California 51101
818 558 6400; Fast 818 568 6524;
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Propared	Analyzed	QC Batch#	Hethod	Analyce	Result	Vaits	HUL	Dilution
04/10/96	04/17/96	48362	(ML/EPA 525.2) Dieldrin	מא		0.20	1
04/10/96	04/17/96	48362	{ HL/ZPA 525.2) Dimethylphthalace	מא	ug/l	0.50	1
04/10/96	04/17/96	48362	(HL/EPA 525.2) Dimethoace	מא	ug/1	10	1
04/10/96	04/17/96	48362	(HL/EPA 525.2) Di-n-Butylphthalate	ND	ug/1	0.50	1
04/10/96	04/17/96	48362	(HL/EPA 525.2) Endrin	מא	ug/I	0.10	1
04/10/96	04/17/96	41362	(HL/EPA 525.2) Fluorene	מא	ug/1	0.050	1
04/10/96	04/17/96	48362	(HL/EPA \$25.2) gamma-Chlordane	מא	ug/1	0.050	1
04/10/96	04/17/96	48362	(ML/EPA \$25.2) Hexachlorobenzene	МО	ug/1	0.050	1
04/10/96	04/17/96	48362	(KL/SPA 525.2) Hexachlorocyclopentadiene	מא	ug/l	0.050	1
04/10/96	04/17/96	48362	(HL/EPA 525.2) Heptachlor	סא	ug/1	0.040	1
04/10/96	04/17/56	48362	(NL/EPA 525.2) Hepcachlor Epoxide	מזא	ug/1	0.020	1
04/10/96	04/17/96	48362	(HL/EPA 525.2) Indeno(1,2,3,c,d)Pyrene	מא	ug/1	0.050	1
14/10/96	04/17/96	48362	{ KL/EPA 525.2] Isophorone	פא	ug/1	0.50	1
14/10/96	04/17/96	48362	(HL/EPA 525.2) Lindage	KD	ug/1	0.020	1
24/10/96	04/17/96	48362	(HL/EPA 525.2) Hathoxychlor	מא	ug/1	0.050	1
14/10/96	04/17/96	48362	(HL/EPA 525.2) Metriburin	כא	ug/l	0.050	1
4/10/96	04/17/96	48362	(HL/EPA 525.2) Molinace	מא	ug/l	0.20	1
4/10/96	04/17/96	48362	(HL/EPA 525.2) Hetolachlor	ND	-9/1 ug/1	0.050	1 -===
14/10/96	04/17/96	48362	(HL/EPA 525.2) trans-Nonachlor	KD	ug/1	0.050	- ••
4/10/96	04/17/96	48362	(HG/EPA 525.2) Pentachlorophenol	. מא	ug/l	1.0	1 ; "
4/10/96	04/17/96	48362	(ML/EPA 525.2) Phenanthrene	מא	ug/l	0.020	·
4/10/96	04/17/96	48362	(HL/EPA 525.2) Prometrym	מא	ug/l	0.50	. 1
4/10/96	04/17/96	48362	(ML/BPA 525.2) Propachlor	מא .	ug/1	0.050	1
4/10/96	04/17/96	48362	(HL/BPA 525.2	Pyrene	כזג	ug/1	0.050	. 1
4/10/96	04/17/96	46362	(HL/EPA 525.2	Simarise	כא	ug/1	0.050	1
4/20/96	04/17/96	44362	(ML/EPA 525.2	Thiobencarb	מא	ug/1	0.20	1
4/10/96	04/17/96	48362	(HL/EPA 525.2	Trifluralin	מא	ug/1	0.10	1
		_	(Surrogace	Perylene-d12	106	. Y Rec		•
		•	AB1803 - E	DB and DBCP				
4/09/96	04/10/96	48377	(HL/EPA 504	Dibromochloropropane (DEC?)	כהו	ug/l	0.010	1
4/03/36	04/10/96	48379	[ML/EPA 504]	Ethylene Dibroside (EDS)	מא	ug/1	0.010	- 1
			(Surrogate)	1,2-dibromopropane	107	t Arc		-



555 East Walnut Street Pasadena, California 31101 818 568 6400: Fax: 818 568 6324; 1 800 566 LABS [1 800 566 5227]

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Preparai	Analyzed	QC Bacch	Herhod .	Analyce .	Result	Units	HDL	Dilution
			•					
			Aldicarbs					
	04/09/96	48177	(ML/EPA 531.1)	3-Hydroxycarbofuran	מא			
	04/09/96	48177	(HE/EPA 531.1)	Aldicarb (Temik)	מא מא	ug/1	2.0	1
	04/09/96	48177	(ML/EPA 531.1)		מא	ug/1	0.50	1
	04/09/96	48177	{ ML/EPA 531.1 }	Aldicarb sulfoxide	כא	ug/1	0.80	1
•	04/09/96	48177	(ML/EPA 531.1)	Baygon	מא	ug/1	0.50	1
	04/09/96	48177	(ML/EPA 531.1)	Carbofuran (Puradan)	115 C14	ug/1	2.0	1
	04/09/96	48177	(ML/EPA 531.1)	Carbaryl	כא	ug/1	0.90	1
	04/09/96	48177	(MC/EPA 531.1)		כא	ug/1	2.0	1
	04/09/96	48177	(ML/EPA 531.1)		מא	ug/1	2.0	1
	- 04/03/36	48177	(HL/SPA 531.1)	Oxanyl (Vydace)	מא	ug/1	1.0	1
			(Surrogate);	BOHC	102	ug/1	2.0	1
						* Rec		
74/08/96			Diquat and	Paraquat				
34/08/96	04/11/96	48295	(HTL/EPA 549) I	Diquae	מא	· (3		
10,00,30	04/11/96	48295	(EPA 549) I	Paraquat	מא	ug/l ug/l	0.40	1
				_	32	ug/ 1	2.0	1
34/09/96	04/12/96		Herbicides]	by 515.1				
24/09/96	04/12/96	48449	(ML/EPA 515.1) 2		ND.	ug/l		
34/09/96	04/12/96	48447	(MC/EPA 515.1) 2	.4.5-TP (Silvex)	מא	ug/l	0.22	1.1
24/09/96	04/12/96	48449	(ML/EPA 515.1) 2		מא	ug/1	9.22	1.1
24/09/96	04/12/96	48449	(ML/EPA 515.1) 2		מא '	ug/l	0.11 2.2	1.1
24/09/96	04/12/96	48449	(ML/EPA 515.1) D	ichlorprop	מא	ug/l	0.55	. 1.1
34/09/96	04/12/96	48449	(HCL/EPA 515.1) A	cifluorfen (qualitative)	מא	ug/1	0.33	1.1
14/09/96	04/12/96	48449	(HL/EPA 515.1) B		כזא	ug/1	0.22	1.1
34/09/96	04/12/96	· •	(MZ/EPA 515.1) Di	alapon (qualitative)	XC 3	ug/l	1.1	1.1
:4/09/96	04/12/36	48449	(NE/EPA 515.1) 3,	S-Dichlorobenzoic acid	כא	ug/1	0.66	1.1
	04/12/96		(ML/EPA 515.1) DO) CO	ug/1	0.22	1.1
	04/12/96	48449	(HG/EPA 515.1) DI	lcamba	ND CN	ug/1	C.CEE	1.1
•	04/12/96		(HT./EPA 515.1) DI		100	ug/1	0.22	1.1
	04/12/36 04/12/36	48449	(ML/EPA 515.1) Pe	mtachlorophenol	פונ	ug/1	0.22	1.1
	04/12/36	48449	(ML/MPA 515.1) PI	cloram	מע	ug/1	0.11	1.1
	// 76	48449	[NZ/EPA 515.1] 4-	Mitrophenol (qualitative)	מא	ug/1	5.5	1.1
			(Surrogate) 2,	4-Dichlorophenylacetic acid	84	t Res	2.3	1.1

925 East Walnut Street Pasadena, California 51161 818 558 6400; Par; 818 558 6224; 1 800 556 LABS (1 800 556 5227)

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Prepared	Analyzed	QC Batch#	Mechod	Analyte	Result	Unics	HOL	Dilucia
	•		· · · · ·					
			ICPMS Met	als				
04/15/96	04/15/96	48333	(EPA/HL 200.8) Arsenic, Total, ICAP/MS	מא	ug/1	5.0	1
04/15/96	04/15/96	48333	(EPA/HL 200.8) Barium, Total, ICAP/MS	מא	ug/1	. 70	1
14/15/96	04/15/96	48333	(EPA/HL 200.8) Beryllium, Total, ICAP/HS	NB	ug/l	1.0	İ
14/15/96	04/15/96	46333	(EPA/HL 200.8) Cadmium, Total, ICAP/HS	מא	ug/1	0.50	1
14/15/96	04/15/96	46333	(EPA/HS 200.8) Chromium, Total, ICAP/MS	7.0	ug/l	5.0	1
14/15/96	04/15/96	48333	(EPA/HL 200.8) Copper, Total, ICAP/MS	מא	ug/l	50	1
14/15/96	04/15/96	48333	(EPA/HL 200.8) Nickel, Total, ICAP/MS	1.5	ug/l	5.0	1
04/15/96	04/15/96	48333	(EPA/HL 200.8] Lead, Total, ICAP/HS	ND	ug/l	5.0	1
04/15/96	04/15/96	48333	(EPA/NL 200.8) Antimony, Total, ICAP/MS	בא	ug/l	2.0	1
04/15/96	04/15/96	48333	(EPA/ML 200.8) Selenium, Total, ICAP/HS	М	ug/1	5.0	1
04/15/96	04/15/96	48233	(EPA/HL 200.8) Thallium, Total, ICAP/HS	מא	ug/l	1.0	1
			Nitrate b	y IC as NO3 & N				
	04/04/96	48129) Nitrace-N by IC	0.2	mg/l	0.10	1
	04/04/96	48129	(HL/EPA 300) Mitrate	0.88	mg/l	0.44	ı.
			SDWA Pest	icides				
04/08/96	04/21/96	48514	(ML/EPA 508) PCB 1015 Aroclor	מא	ug/1	0.10	1
04/08/96	04/21/96	48584	(HL/EPA 508) PCB 1221 Aroclor	כוא	ug/l	0.10	1
04/08/96	04/21/96	48584	(HL/EPA 508) PCB 1232 Aroclor	מא	ug/l	0.10	1
04/08/96	04/21/96	48584	(ML/EPA 508) PCB 1242 Aroclor	CK	ug/l	0.10	1
04/08/96	04/21/96	48584	(HE/EPA SOR) PCE 1248 Aroclor	כא	ug/1	0.10	1
04/08/96	04/21/96	48584	(HL/EPA SOE) PCB 1254 Aroclor	מא	ug/l	0.14	1
04/08/96	04/21/96	48584	(HL/EPA 508) PCB 1260 Aroclor	Ю	ug/l	0.10	1
04/08/96	04/21/96	48584	(HL/EPA SOR) Alpha-BEC	כא	ug/1	0.010	1
04/08/96	04/21/96	42524	(HL/EPA 508) Alachlor (Alanex)) TI	ug/l	0.050	1
04/08/96	04/21/96	48584	(HL/EPA 508) Aldrin	ALC:	ug/1	0.010	1
04/08/96	04/21/96	48584	(ML/EZA SOR) Beta-BEC	жэ .	ug/1	0.010	1
04/08/56	04/21/96	48584	(HL/EPA 508) Cilordane	ND CH	ug/1	0.10	1
04/01/96	04/21/96	48584	(HL/E7A 500) Chlorthalonil (Drconil, Bravo)	כא	ug/1	0.010	1
04/01/76	04/21/96	48574	(HC/EPA 508) Delta-REC	כא	ug/1	0.010	1
04/08/96	04/21/96	48584	(HL/EPA 508) p.p' DDD	KD	ug/1	0.010	1
04/08/96	04/21/96	48534	(HZ/E7A 508) p.p' DDE	22	ug/1	0.010	1

Laboratory Report #26390

ESS East Walout Street Passadena, California 51101 818 553 6400; Fax: 818 562 6324; 1 800 568 LARS (1 800 556 5227)

Prepared	Analyzed	QC Batchs	Hethod	Analyce	Result	Units	HCL.	Dilutica
04/08/96	04/21/96	48584	(ML/EPA 508) p.p' DDT	ИО	ug/1	0.010	<u> </u>
04/08/96	04/21/96	48584	(ML/EPA 508) Dieldrin	מא	ug/1	6.010	1
04/08/96	04/21/96	48584	(HL/EPA 508) Endrin Aldehyde	מא	ug/1	0.010	1
04/08/96	04/21/96	48584	(HL/EPA SOR) Endrin	מא	ug/1	0.010	1
04/08/96	04/21/96	48584	(HL/EPA SCE) Endosulfan I (alpha)	ИD	ug/1	0.010	1
04/08/96	04/21/96	48584	(HL/EPA SOE) Endosulfan II (beta)	מא	. ug/1	0.010	1
04/08/96	04/21/96	48584	(HL/EPA 508) Endosulfan sulfate	מא	ug/1	0.010	1
04/08/96	04/21/96	48584	(HL/EPA 508) Reptachlor	מא	ug/1	0.010	1
04/08/96	04/21/96	48584	(HL/EPA 508) Reptachlor Epoxide	מא	ug/l	0.010	1
04/08/96	04/21/96	48584	(HL/EPA SOR) Lindane (gamma-BHC)	מא	ug/1	0.010	1
04/08/96	04/21/96	48584	(ML/EPA SOS) Methoxychlor	מא	ug/1	0.050	1
04/08/96	04/21/96	48584	(HL/EPA 508) Toxaphene	ОИ	ug/1	0.50	1
			(Surrogate) Dibutyl Chlorendate	112	t Rec	V.20	•
			{ Surrogace) Tetrachlorometaxylene	104	¥ Rec		
			Volatile	Organic Compounds				
	04/10/96	48288) 1,1,1,2-Tetrachloroethane	ND	ug/1		_
	04/10/96	48288) 1,1,1-Trichloroethane	ND	ug/1 ug/1	0.50	.1
	04/10/96	48288	(MG/EPA 502.2) 1.1.2.2-Tetrachloroschans	פוא	ug/l	0.50 0.50	1
	04/10/96	48288) 1,1,2-Trichloroethane	מא	ug/l		1
	04/10/96	46288) 1,1-Dichlornethane	מא	ug/1 ug/1	0.50	1
	04/10/96	48258	(ML/EPA 502.2) 1,1-Dichloroethene	מא	ug/1	0.50	1
	04/10/96	48288		} 1,1-Dichloropropene	מא		0.50	•
	04/10/96	4#288) 1,2,3-Trichloropropane	מא	ug/1	0.50	1
	04/10/96	46218) 1,2,3-Trichlorobenzene	מא	ug/1	0.50	1
	04/10/96	48268) 1,2,4-Trichlorobenzene	מא	ug/1	0.50	1
	04/10/96	48288) 1,2,4-Trimethylbenzene	. כא	ug/1	0.50	1
	04/10/96	48288) 1.2-Dichloroschane	ND	ug/1	0.50	1
	04/10/96	48288) 1.2-Dichlorobenzane	ND	ug/1	0.50	1
	04/10/96] 1,2-Dichloropropana	жэ	ug/1	0.50	1
	04/10/96) 1,3,5-Trimethylbenzene	ND ND	ug/1	0.50	1
	04/10/96) 1,3-Dichlorubenzene	KD CM	ug/1	0.50	1
	04/10/96			} 1.3-Dichloropropane	מא	ug/1	0.50	1
	04/10/96			1 1,4-Dichlorobenzene	ND ND	ug/1	0.50	1
	04/10/96 -) 2,2-Dichloropropane	_ ND	ug/1	0.50	1
	04/10/96) 2-Chlorotolume		0g/1	0.50	1
					• כא	ug/l	0.50	1



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Prepared	Analyzed	QC Batch#	Nethod .	Analyte	Result	Units	HDL	Dilution
	04/10/96	41218	(HL/EPA 502.2	} 4-Chlorotoluene	מא	ug/l	0.50	1
	04/10/96	48288	(HL/EPA 502.2] Bromodichlorosethane	מא	ug/1	0.50	1
	04/10/96	41288	(ML/EPA 502.2) Bearene	מא	ug/l	0.50	1 .
	04/10/96	41288	(HL/EPA 502.2) Bromobenzene	סא	ug/1	0.50	1
	04/10/36	48288	(ML/EPA SGI.I] Bromochloromachane	סא	ug/l	0.50	1
	04/10/96	48288	(HL/EPA 502.2) Bromomethane	סא	ug/l	0.50	1
	04/10/96	48288	(HL/EPA 502.2) cis-1,2-Dichloroethene	מא	ug/1	0.50	1
	04/10/96	48288	(HL/EPA 502.2) Chlorobenzene	ЯD	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Carbon tetrachloride	סוג	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) cis-1,3-Dichloropropens	מא	ug/l	0.50	1
	04/10/96	48288	(HL/EPA 502.2) Bromoform	, כונ	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Chloroform	מא	ug/l	0.50	1
•	04/10/56	48288	(ML/EPA 502.2) Chinroethane	מא	ug/l	0.50	1
	04/10/96	48288	{ HL/EPA 502.2) Chloromethane	מא	ug/1	0.50	ı
	04/10/96	48288	(ML/EPA 502.2) Dibromochloromethane	מא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) 1.2-Dibromo-3-chloropropage	ND CH	ug/1	1.0	1
	04/10/96	48288	(ML/EPA 502.2) Dibromomechane	מא	ug/l	0.50	1
•	04/10/96	48288	(ML/EPA 502.2) Dichlorodifluoromethans	מא	ug/1	0.50	
	04/10/96	42255	(HL/EPA 502.2) 1,2-Dibromoethane	מא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Sthylbenzene	ND	_ ug/l	0.50	1
	04/10/96	41218	(HL/BPA 502.2) Kexachlorobutadiene	MD	ug/l	0.50	
	04/10/96	48288	(ML/EPA 502.2) Isopropylbeniene	סא	ug/l	9.50	1
	04/10/96	48288	(HL/E7A 502.2) Hethylene chloride	מא	ug/l	a.50	1
	04/10/96	48288	(HL/EPA 502.2) m+p-Xylenes	מא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Naphthalene	מא	ug/1	0.50	1
	04/10/96	48288	(ML/EPA 502.2) n-Bucylbenzene	מא	ug/l	0.50	1
	04/10/96	48288	(HL/EPA 502.2] s-Propylbenzene	ND	ug/1	9.50	1
	04/10/96	48288	(ML/EPA 502.2) o-Tylene	МО	ug/l	0.50	.1
	04/10/96	48288	(ML/E7A 502.2) Tetrachloroethene	מא	ug/l	0.50	1
	04/10/96	48288	_) p-Isopropyltoluese	ND.	ug/l	0.50	1
	04/10/96	44284	(ML/27A 502.2] sec-Butylbenzene	מא	ug/l	0.50	1
	04/10/96	48288	(ML/27A 502.2) Styrene .	מא	ug/l	0.50	1
	04/10/96	48288	(ML/E2A 502.2) trans-1,2-Dichloroechese	מא	49/1	0.50	1
	04/10/96	48288	(ML/EPA 502.2	} tert-Butylbenzene	כא	ug/l	0.50	1
	04/10/96	44288) Trichloroschene	מא	ug/1	0.50	1
	04/10/36	48288	(KG/EPA 524.2) Trichlorocrifluoroechane (Preod	מא	ug/l	0.50	1

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Prepared	Analyzed	QC Batchs	Rethod	Analyte	Result	Units	HOL	Dilution
	04/10/96	48218	(ML/EPA 502.2) trans-1,3-Dichloropropene	מא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2] Toluene	ОИ	ug/l	0.50	1
	04/10/96	41218) Trichlorofluoromethane	ND .	ug/1	0.50	1
	04/10/96	48288	(HC/ZPA 502.2	} Vinyl chloride	HD.	ug/l	0.30	1
			(Surrogate) Bromofluorobenzene-ELCD	84	* Rec		
			(Surrogate) Brosofluorobenzene-PID	90	* Rec		
			(Surrogate) Chlorofluorobenzene-ELCD	92	¥ Rec		
			(Surrogate) Chlorofluorobezzene-PID	99	7 Rec		
UKAKI	(960404	1047)	Sampled	on 04/03/96				
04/10/96	04/10/96	41215	[NPA/KL 200.7) Calcium, Total, ICAP	15	mg/1	5.0	1
	04/13/96	4#32#	(KL/SK4500-CK	F) Cyanida) TO	ng/1	0.025	1
04/08/96	04/11/96	48296	(NL/EPA 548.1) Endothall	מא	ug/1	5.0	1
	04/02/96	48094	(EPA/ML 340.2) Pluoride)KD	=g/1	0.10	1
	04/11/96	48303	[ML/RPA 547) Clyphosata	מאנ	ug/1	€.0	1
04/05/96	04/05/96	48032	(EFA/NL 245.1) Kerrury	ю	ug/1	0.50	1
	04/04/96	48121	(ML/XPA 300.0) Mitrite, Mitrogen by IC)AD	mg/1	0.10	1
04/11/96	04/13/96		(XPA 1613) 2,3,7,8 - TCDD	χœ	FGL	0.27	1
	•		525 Semivo	platiles by GC/MS				
04/10/96	04/15/96	48362	(HL/ZPA 525.2) 2,4-Dimitrotoluene	מא	ug/l	0.10	1
04/10/96	04/15/96	48362	(ML/EPA 525.2) alpha-Chlordane .	מא	ug/1	0.050	1
04/19/96	04/15/96	48362	(HL/EPA 525.2) Diarinon	KA	ug/1	0.10	1
04/10/96	04/15/96	48362	(HL/EPA 525.2) Acenaphthylene	. אם	ug/1	0.10	1
04/10/96	04/15/96	48362	(ML/EPA 525.2] Alachlor	מא	ug/1	0.050	1
04/10/96	04/15/96	48362	(ML/EPA 525.2 ·) Aldrin	מא	ug/l	0.050	1
04/10/96	04/15/96	48362	(ML/EPA 525.2) Anthracese	סא	ug/l	0.020	1
04/10/96	04/15/96	48362	(HL/EPA 525.2) Atrazine	מא	ug/1	0.050	1
04/10/56	04/15/96	48362) Benz(a) Anthracene	מא	ug/1	0.050	1
04/10/96	04/15/96	48362	(NL/EPA 525.2) Benzo(a)pyrene	מא	ug/l	0.070	1
04/10/96	04/15/96	48362) Benzo(b) Fluoranthene	מא	ug/1	0.020	1
04/10/96	04/15/96	48362) Benio(g,h,i) Ferylana	מא	ug/1	0.050	1
04/10/96	04/15/96	48362) Benzo(k) Fluoranthene	NO	ug/1	0.020	1
04/10/96	04/15/96	44362		Di(2-Ethylhexyl)phthalate	מא	ug/1	0.60	1 '
04/10/96	04/25/96	48362] Butylbanzylphthalate	מא -	ug/1	0.50	1
04/10/96	04/15/94	48362	[ML/EPA 525.2) Bromacil	ж	. ug/l	2.0	



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Prepared		QC Batch#	Hethod	Analyte	Result	Units) HOL	Dilucion
04/10/96		48362	(HL/EPA 525.2			ug/1		
04/10/96 04/10/96	,,	48362	(HL/BPA 525.2		מא	ug/1	0.050 0.020	1
		48362	{ HL/RPA 525.2		ND	ug/1		1
04/10/96		48362) Dibenz(a,h)Anrhracene	פוא	ug/1	0.020	1
04/10/96	,,,	48362	(HL/EPA 525.2	Di-(2-Ethylhexyl)adipace	מא	ug/1 ug/1	0.050	1
04/10/96	,,	48362	(HL/EPA 525.2) Dischylphthalace	סא	-	0.60	1
04/10/96	· · · · ·	48362	(HL/EPA 525.2) Dieldrin	מא	ug/l	0.50	1
04/10/96		48362	(HL/EPA 525.2) Dimethylphthalate	מא	ug/1	0.20	1
	- 04/15/96	. 48362	(HL/EPA 525.2		מא	ug/1	0.50	1
04/10/96	,,	48362	(ML/EPA 525.2) Di-m-Butylphthalate	סא	ug/1	10	1 -
04/10/96	,,	48362	(ML/EPA 525.2		מא	ug/1	0.50	1
04/10/96		48362	(HL/EPA 525.2) Fluorene	ND	ug/1	0.10	1
04/10/96	04/15/96	48362	(KL/EPA 525.2) gamma-Chlordane	מא	ug/1	9.050	1
04/10/96	04/15/96	48362) Hexachlorobenzene	. מא	ug/1	0.050	1
04/10/96	04/15/96	48362.) Hexachlorocyclopentadiene	מא	ug/l	0.050	1
. 04/10/96	04/15/96	48362	(HL/STA 525.2) Heptachlor	מא	ug/1	0.053	1
04/10/96	04/15/96	48362] Heptachlor Epoxide	מא	ug/l	0.040	1
04/10/96	04/15/96	48362] Indeno(1,2,1,c,d)Pyrene	פא	ug/1	0.020	1
04/10/96	04/15/96	40362	(HL/EPA 525.2.) Isophorone		ug/l	0.053	1
04/10/96	04/15/96	48362	(HL/EPA 525.2		סא	ug/l	0.50	1
04/10/96	04/15/96	48362	(HL/EPA 525.2		מא	ug/l	0.011	1
04/10/96	04/15/96	48362	(HE/EPA 525.2		מא	ug/l	0.050	1 1 22
04/20/96	04/15/96		(ML/EPA 525.2		מא	ug/l	0.050	1
04/10/96	04/15/96		(HL/EPA 525.2		כא	ug/l	6.23	1
04/10/96	04/15/96		[HL/EPA 525.2]		מא	ug/l	0.050	1
04/10/96	04/15/96			Pentachlorophenol	жэ	ug/l	9.050	1
04/10/96	04/15/96		(HL/EPA 525.2)		, OM	ug/l	1.0	1
04/10/96	04/15/96		(HL/EPA 525.2)		כא	ug/l	0.020	1
04/10/96	04/15/96		(HL/EPA 525.2)		NO.	ug/1	0.50	1
04/10/96	04/15/96		(ML/EPA 525.2)		מא	ug/1	0.050	1
04/10/94	04/15/96		(ML/EPA 525.2)		מא ביא	ug/l	0.050	1
04/10/96	94/15/96		(ML/BPA 525.2)		מא	ug/l	0.050	1
04/10/96	04/15/96		(NL/RPA 525.2)		פא	ug/l	0.20	1
				Perylene-di2) C1	ug/l	0.10	1
			-	·	86	b •		



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7repared	Analyzed	QC Bacchs	жесрод	Analyte	Result	Units	HDL.	Dilution
			_					
	•		AB1803 -	EDB and DBCP				
04/09/96	04/10/96	48379	(KL/EPA SO4) Dibromochloropropane (DBCP)	מא	ug/1	0.010	1
04/09/96	04/10/96	48379	(HL/EPA 504) Ethylene Dibromide (EDB)	. מא	ug/l	A.010	1
			(Surrogate) 1,2-dibromopropane	116	₹ Xec		-
			Aldicarbs	3				
	04/09/96	48177	(ML/EPA 531.1) J-Hydroxycarbofuran	מא	ug/l	1.0	1
	04/09/96	48177) Aldicarb (Temik)	ND	ug/l	d-20	1
	04/09/96	48177	(ML/EPA 531.1) Aldicarb sulfone	מזג	ug/1	4.80	1
	04/09/96	48177) Aldicarb sulfoxide	מא	ug/1	0.50	1
	04/09/96	48177	(ML/EPA 531.1) Baygon	מא	ug/l	2-0	1
	04/09/96	48177	(ML/EPA 531.1) Carbofuran (Turadan)	מא	ug/1	9.30	i
	04/09/36	48177	(ML/EPA 531.1		מא	ug/1	2.0	1
	04/09/96	48177	(ML/EPA 531.1) Hethiocarb	מא	ug/1	2.0	1
	04/09/96	48177	(ML/EPA 531.1) Mechomyl	מא	ug/1	1.0	1
	04/09/96	48177) Oxamyl (Vydate)	ND	ug/l	2.0	·
			(Surrogate) BEMC	101	* Rec	•••	
			Diquat an	d Paraquat				
4/08/36	04/11/96	48295	(HL/EPA 549) Diquec	מא	49	- 45	
14/08/96	04/11/96	48295	{ EPA 549) Paraquat	מא	ug/l ug/l	0.40 2.0	1 ::
			Herbicida	s by 515.1	•			•
4/09/96	04/12/96	48449	(ML/EPA 515.1					
4/09/96	04/12/96	48449) 2.4,5-TP (Silvex)	ND	ug/l	0,20	.
4/09/96	04/12/96	48449	(HG/EPA_SIS.1		מא	ug/l	0,20	1
4/09/36	04/12/96	48449	(ML/EPA 515.1		מא	ug/l	0,10	1
/09/96	04/12/96	48449	(ML/EPA 515.1		מא	ug/l	2,0	1
/05/36	04/12/96	48449) Acifluorian (qualitative)	ND	ug/l	0,50	1
/09/96	04/12/96		(HL/EPA 515.1		מא	ug/1	0,20	1
/03/36	04/12/96) Dalapon (qualitative)	מאי	ug/l .	0.58	<u>.</u> .
/03/36	04/12/96] 3.5-Dichlorobenzoic acid	. מא	ug/1	1,0	1
1/09/96	04/12/96		(ML/EPA 515.1		, 100	ug/1	0.60	
1/09/36	04/12/96		(ML/EPA 515.1		ם אנ	ug/l	J.20	
				, sicense	XC 3	ug/l	0.080	. 1



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Prepared	Analyzed	GC Bacchi	Hethod •	Analyte	Result	Units	KOL	Dilucion
04/09/96	04/12/96	48449	(ML/EPA 515.1		פא	ug/1	0.20	·1
04/09/96	04/12/96	48449	(HL/EPA 515.1	Pentachlorophenol	מא	ug/1	0.040	1
04/09/96	04/12/96	48449	(HL/EFA 515.1		מא	ug/1	0.10	1 .
04/09/96	04/12/96	48449	(HL/EPA 515.1	4-Nitrophenol (qualicative)	מא	ug/1	5.0	1
			(Surrogate)	2.4-Dichlorophenylacetic acid	74	* Red		_
	•		ICPMS Meta	ls				
04/15/96	04/15/96	48333	(EPA/ML 200.8)	Arsenic, Total, ICAP/HS	ND	ug/1	5.0	1
04/15/96	04/15/96	48333		Barium, Total, ICAP/MS	ND	ug/l	10	1
04/15/96	04/15/96	48333		Beryllium, Total, ICAP/MS	מוא	ug/l	1.0	1
04/15/96	04/15/96	48333		Cadmium, Total, ICAP/KS	ND	ug/l	0.50	1
04/15/96	04/15/96	48333		Chromium, Total, ICAP/HS	11	ug/l	5.0	1
04/15/96	04/15/56	48333	(IPA/NL 200.E)	Copper, Total, ICAP/HS	מא	ug/1	50	1
04/15/96	04/15/96	48333	(EPA/HL 200.8)	Nickel, Total, ICAP/MS	24	ug/l	5.0	1
04/15/96	04/15/96	48333	{ IPA/HL 200.8 }	Lead, Total, ICAP/HS	иD	ug/1	5.0	1
04/15/96	04/15/96	44333	(EPA/HL 200.8)	Antimony, Total, ICAP/HS	מא	ug/l	2.0	- 1 ·
04/15/96	04/15/96	48333	(EPA/HL 200.E)	Selenium, Total, ICAP/MS	מא	ug/l	5.0	1
04/15/96	04/15/96	48333	(EPA/HL 200.E)	Thallium, Total, ICAP/HS	מא	ug/l	1.0	1
		•	Nitrate by	IC as NO3 & N				e made and
	04/04/96	48131	(EPA/HL 300.0)		0.2	s g/l	0.10	<u> </u>
	04/04/96	48131		Hitrate	. 0.88	mg/l	0.44	1 :.
			SDWA Pesti	cides				
04/08/96	04/21/96	48584	(HL/EPA 508 ')	PCB 1016 Aroclar	מזא	ug/1	0.10	
04/08/96	04/21/96	48584	(HL/EPA 508)	PG 1221 Aroclor	מא	ug/1	0.10	1
04/08/96	04/21/96	48584	(HE/RPA SOE)	PCD 1232 Aroclor	313	ug/1	0.10	1
04/08/96	04/21/96	48584	(HL/EPA 508)	PCS 1242 Aroclor	מא	ug/1	0.10	1
94/98/36	04/21/96	48584	(HC/EPA 508)	PC3 124# Aroclor	מא	ug/1	0.10	1
04/08/96	04/21/96	48584	(HG/EPA 508)	PCB 1254 Aroclar	3/70	ug/1	0.10	1
	04/21/96	48524	(ML/EPA SOE)	PG 1260 Arcclor	ND	ug/1	0.10	1
	04/21/96	48584	(ML/EPA SOE)	Alpha-BEC	מא	ug/1	0.010	1
	04/21/96	48584	(ML/EPA 508 ·)	Alachior (Alanex)	ж	ug/1	0.650	1
	04/22/96	48584	(NC/EPA SOE)	Aldria	מא	ug/1	0.010	1
	04/21/96	48584	(MG./EPA 508)	Beta-BEC	מא	ug/1	8.010	· ·
04/08/76	04/21/96	48584	(ML/EPA SOE)	Clordane .	NO	ug/l	0.10	1



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Prepared	Analyzed	QC Batch#	Hethod	Analyte	Result	Units	HOL	Dilucion
04/08/96	04/21/96	43584	(HL/EPA SON) Chlortbalonil (Drconil, Brave)	סא	ug/l	0.010	1
04/08/96	04/21/96	48584	(HL/EPA 508) Delta-BHC	מא	ug/l	0.010	1
04/08/96	04/21/96	48584	(HTL/EPA SOE	1 p.p. 000	מא	ug/l	0.010	1
04/08/96	04/21/96	48584	(ML/EPA 508) b.b. pos	מא	ug/l	0.010	1
04/08/96	04/21/96	42564	(HL/EPA 508) p.p. DDT	מא	ug/l	0.010	1
04/08/96	04/21/96	48584	(HL/EPA 50#) Dieldrin	מא	ug/l	0.010	1
04/08/96	04/21/96	48584	(HL/EPA 508	} Endrin Aldebyde	מא	ug/l	9.010	1
04/08/96	04/21/96	48584	(ML/EPA 508) Endrin	מא	ug/1	0.010	1
04/08/96	04/21/96	48584	(ML/EPA 508) Endosulfan I (alpha)	מא	ug/1	0.010	1
04/08/96	04/21/96	48584	(HL/EPA 508) Endosulfan II (beta)	מא	ug/1	0.010	1
04/02/96	04/21/96	41584	(HL/EPA 508) Endosulfan sulface	ND	ug/l	0.010	1
04/08/96	04/21/96	48584	(HL/EPA SOS) Heptachlor	מא	ug/1	0.010	1
04/02/96	04/21/96	48584	(HL/EPA SON) Reptachlor Epoxida	מא	ug/1	0.010	1
04/02/96	04/21/96	48584	(HL/EPA 508) Lindane (gamma-BHC)	מא	ug/l	0.010	1 .
04/02/96	04/21/96	48584	(HL/EPA SOS) Hethoxychlor	מא	ug/1	0.050	1
04/08/96	04/21/96	48584	(NE/EPA SOR) Toxaphene	סא	ug/l	0.50	1
			(Surrogace) Dibutyl Chlorendate	128	t Rec		
			(Surrogace) Tetrachlorometaxylene	116	t Rec		. :
			Volatile (Organic Compounds				
	04/10/96	40288) 1,1,1,2-Tetrachloroethage	ND.	ug/l	0.50	1
	04/10/96	48288) 1.1.1-Trichloroethane	ND	ug/1	0.50	1
	04/10/96	48288	(HL/EPA 502.2	1,1,2,2-Tetrachloroethane	ND	ug/1	0.50	1
	04/10/96	48288	{ ML/EPA 502.2) 1,1,2-Trichloroethane	מא	ug/1	0.50	1
	04/10/96	48288	(ML/EPA SGZ.2) 1,1-Dichloroethane	מא	ug/1	0.50	1
	04/10/96	48288	(HL/EPA 502.2) 1.1-Dichloroethene	מא	ug/1	0.50	1
	04/10/96	48268	(ML/EPA 502.2) 1,1-Dichloropropens	מא	ug/1	0.50	1
	04/10/96	48288	(ML/EPA 502.2) 1,2,3-Trichloropropane	מא	· ug/1	0.50	1
	04/10/96	40288	(HE/EPA 502.2	1.2.3-Trichlorobenzene	. אם	ug/1	0.50	1
	04/20/96	48288	(ML/EPA 502.2) 1,2,4-Trichlorobensene	סונ	ug/1	0.50	1
	04/10/96	48288	(ML/EPA 502.2] 1.2,4-Trincthylbenzene	. מא	ug/1	0.50	1
	04/10/96	48288	(ML/EPA 502.2) 1,2-Dichloroethane	מא	ug/1	0.50	1
	04/10/96	48286	{ ML/EPA 502.2) 1.2-Dichlorobenzana	ЖD	ug/1	0.50	1
	04/10/96	48288	[ML/EPA 502.2] 1,2-Dichloropropane	מא	ug/l	0.50	1 .
	04/10/96	48288	{ ML/EFA 502.2) 1,3,5-Trisethylbenzens		ug/1	0.50	1
•	04/10/96	48288	(ML/EPA 502.2)) 1,3-Dichlorobenzene	ж	ug/l	0.50	1

555 East Wainut Street Pasadena, California 51101 818 568 6400; Fax; 818 568 6224; 1 800 568 LABS (1 800 566 5227)

Prepared	Analyzed	QC Batch\$	Hethod	Analyce	Result	Onits	Ж ФГ	Dilucica
 	04/10/96	48288	(HL/EPA 502.2) 1,3-Dichloropropane	מא	ug/l	0.50	1
	04/10/96	48288	{ ML/EPA 502.2) 1,4-Dichlorobenzene	מע	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) 2,2-Dichloropropane	מוג	ug/1	0.50	1
	04/10/96	48288	(ML/EPA 502.2) 2-Chlorotoluene	ж .	ug/l	0.50	1
	04/10/96	48288	{ ML/EPA 502.2) 4-Chlorotoluene	מא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Browodichloromethane	סא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Benzene	מא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Browobenzene	מא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Brosochloromethane	ж э .	ug/l	0.50	1
	04/10/96	48288	(HL/EPA 502.2) Bromomethane .	מא	ug/1	0.50	1
	04/10/96	48288	(ML/EPA 502.2) cis-1.2-Dichloroethene	מא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Chlorobenzene	כזא	ug/l	0.50	1
•	04/10/96	48288	(ML/EPA 502.2) Carbon tetrachloride	מא	ug/1	0.50	1
	04/10/96	48268	(HL/EPA 502.2) cis-1,3-Dichloropropens	מא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Bromoform	כא	ug/l	0.50	1
	04/10/96	48258	(ML/EPA 502.2) Caloroform	NO	ug/1	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Chloroschane	מא	ug/l	0.50	1
	04/10/96	48288	(HL/EPA 502.2) Chlorosethane	3FD	ug/l	0.50	1
	04/10/96	41255	(HL/EPA 502.2) Dibromochloromethane	סא	ug/1	0.50	1
	04/10/96	48288	(HL/EPA 502.2) 1,2-Dibroso-3-chloropropane	מא	ug/1	1.0	1
	04/10/96	48288	(ML/EPA 502.2) Dibromomethane)(D)	ug/1	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Dichlorodifluoromethane	ND:	ug/l	0.50	1
	04/10/96	48288	(HL/EPA 502.2) 1,2-Dibromoethane	מא	ug/1	0.50	1
	04/10/96	48288	(HL/EPA 502.2) Ethylhenzene	מא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Hexachlorobutadiene	מא	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Imopropylbenzene	370	ug/l	0.50	3
	04/10/96	48288	(HL/EPA 502.2) Hethylene chloride	מא	ug/l	0.50	1
	04/10/96	48288	(HL/EPA 502.2) m-p-Tylenes	ЖD	ug/1	0.50	1
	04/10/96	48288	(ML/EPA 502.2) Maphchalene	מא	ug/l	0.50	1
	04/10/96	41288	(HL/EPA 502.2) n-Butylbenzene	SUD.	ug/1	0.50	1
	04/10/96	41211	(ML/EPA 502.2) n-Propylbenzene	סא	ug/1	0.50	1
	04/10/96	48288	(ML/EPA 502.2) o-Tylene	3FD	ug/l	0.50	1
	04/10/96	49288	(HL/EPA 502.2) Tetrachloroethene	313	ug/l	0.50	1
	04/10/96	48288	(ML/EPA 502.2) p-Isop rop yltoluene) En	ug/1	0.50	1
	04/10/96	48288	{ ML/EPA 502.2) sec-Butylbenzene	жэ	ug/l	0.50	1
	04/10/96	48288	(HC/ETA 502.2) Styrene	כא	ug/1	0.50	1



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pared	Analyzed	QC Batch#	Method		Analyce	Result	<u>-</u>		
	04/20/04						Units .	HOL	Dilucion
	04/10/96	48288	(HL/EPA 502.2	.)	trans-1,2-Dichlorocthese	ND			
	04/10/96	42225	(ML/EPA 502.2	1	terr-Butylbenzene		ug/1	0.50	1
	04/10/96	48288	(HL/EPA 502.2		Trichloroethene	ND	ug/l	0.50	1
	04/10/96	48288		•		מא	ug/1	0.50	1
	04/10/96	· =	(HL/EPA 524.2	-	Trichlorotrifluoroethane (Frees	מא	ug/1	a.5a	_
		48288	(HL/EPA 502.2	}	trans-1,1-Dichloropropens	מא	- -		ī
	04/10/96	48288	[HL/EPA 502.2	3	Toluene		ug/1	0.50	1
	04/10/96	48288	(HL/EPA 502.2			מא	ug/l	0.50	1
	04/10/96	+		•	Trichlorofluoromechane	מא	ug/1	0.50	1
	/ 20/ 36	48288	(ML/EPA 502.2)	Vizyl chloride	ND			_
			(Surrogate)	Bromofluorobenzena-ELCD		ug/l	0.30	1
			(Surrogate			86	₹ Rec		
					Bromofluorobenzene-PID	96	* Rec		
			(Surrogate)	Chlorofluorobenzene-ELCD	92	t Rec		
			(Surrogace)	Chlorofluorobenzene-PID	99	₹ Rec		

Laboratory QC Report #26390

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Kauai Water Department

	QC Batch #48032	Mercur	-X		•	
QC	Analyte	Spiked	lecovered	Tield (%)	Limits (%)	XFD (%)
rczi	Mercury	1.50	1.55	103.333	(\$5.00 - 115.00)	
LC32	Xecoury	1.50	1.51	100.667	(\$5.00 - 115.00)	2.6
KOLK	Hercury	MD				
X.	Xercury .	1.50	1.62	108.000	{ 80.00 - 120.00 }	
CZK	Xercury	1.50	1.63	108.667	{ 80.00 - 120.00 }	0.62
	QC Batch #48094	Fluori	de			
QC	Analyta	Spiked	lecovered	Tield (%)	Limits (%)	XPD (%)
LC51	Fluoride	0.87	0.85	97.701	(90.00 - 110.00)	
LC32	Fluoride	0.87	0.29	102.299	(90.00 - 110.00)	4.5
KELEK	Fluorida	סג				
MS	Fluoride	0.505	1.00	110.011	(80.00 - 120.00)	
N2D	Fluoride .	0.909	1.01	111.111	{ 80.00 - 120.00 }	1.00
	QC Batch #48117	Nitrit	e, Nitro	gen by	IC	
	· · · · · · · · · · · · · · · · · · ·					
oc.	Analyta	Spiked	Recovered	Yield (%)	Limits (%)	X20 (%)
•	_	Spiked		Y1=1d (%) 52.000	Limits (%) (90.00 - 110.00)	X20 (%)
LCSI	Analyta	_	Recovered			RPD (%)
Kerr TC23 TC21	Analyta Mitrita, Mitrogan by IC	1.0	Recovered	52.000	(90.00 - 110.00)	
rezz	Analyte Mitrite, Mitrogen by IC Mitrite, Mitrogen by IC Mitrite, Mitrogen by IC Mitrite, Mitrogen by IC	1.0	Recovered	52.000	(90.00 - 110.00) (90.00 - 110.00) (80.00 - 120.00)	
LCSI LCSI MBLE MS	Analyte Mitrite, Mitrogen by IC Mitrite, Mitrogen by IC Mitrite, Mitrogen by IC	1.0 1.0 סע	Recovered 0.92 0.91	92.000 91.000	(90.00 - 110.00) (90.00 - 110.00)	
LCSI LCSI MBLE MS	Analyte Mitrite, Mitrogen by IC Mitrite, Mitrogen by IC Mitrite, Mitrogen by IC Mitrite, Mitrogen by IC	1.0 1.0 MD 1.0	Recovered 0.92 0.91	92.000 91.000 95.000 95.000	(90.00 - 110.00) (90.00 - 110.00) (80.00 - 120.00) (80.00 - 120.00)	1.1
LCSI LCSI HOLK HS	Analyte Mitrite, Mitrogen by IC	1.0 1.0 MD 1.0	Recovered 0.92 0.91 0.95	92.000 91.000 95.000 95.000	(90.00 - 110.00) (90.00 - 110.00) (80.00 - 120.00) (80.00 - 120.00)	0.00
LCSI LCSZ MBLE MS MSD	Analyte Mitrite, Mitrogen by IC	1.0 1.0 MD 1.0 1.0	Recovered 0.92 0.91 0.95 0.95	92.000 91.000 95.000 95.000	(90.00 - 110.00) (90.00 - 110.00) (80.00 - 120.00) (80.00 - 120.00)	0.00
LCSI LCSI MS MSD	Analyta Mitrita, Mitrogan by IC Analyta	1.0 1.0 20 1.0 1.0 Nitrit	Recovered 0.92 0.91 0.95 0.95 c., Nitro	92.000 91.000 95.000 95.000 95.000	(90.00 - 110.00) (90.00 - 110.00) (80.00 - 120.00) (80.00 - 120.00)	0.00
Karr ress ress	Analyte Nitrite, Nitrogen by IC QC Batch #48121 Analyte Nitrite, Nitrogen by IC	1.0 1.0 2.0 1.0 1.0 Nitrit	Recovered 0.92 0.91 0.95 0.95 Ce, Nitro	92.000 91.000 95.000 95.000 95.000	(90.00 - 110.00) (90.00 - 110.00) (80.00 - 120.00) (80.00 - 120.00) IC Linits (%) (90.00 - 110.00)	3.1 0.00

Spikes which exceed limits and Nethod Blanks with positive results are highlighted by <u>Underlining.</u>

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MONTGOMERY WATSON LABORATORIES

525 East Walnut Street Pasadana, California 51101 818 558 6400; Fas: 818 568 6324; 1 800 568 LABS (1 800 558 5227) Laboratory QC Report #26390

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Kauai Water Department (continued)

	QC Batch #48129	Nitra	te by IC	as NO3	& N	
MRTX GC	Analyte Mitrate	Spiked ND	Recovered	Tield (%)	Limits (%)	RPD (%)
LCS1	Nitrata-H	2.5	2.46	98.400	(90.00 - 110.00)	
LC52	Mitrate-H	2.5	2.46	98.400	(90.00 - 110.00)	0.00
MS	Mitrate-W	2.5	2.47	58.800	{ 75.00 - 125.00 }	0.00
KSD	Mitrate-M .	2.5	2.49	99.600	(75.00 - 125.00)	0.81 '
•	QC Batch #48131	Nitrat	e by IC	as NO3	& N	
QC	Analyta	Spiked	Recovered	Tield (%)	Limits (%)	
KRLE	Mitrate	מע		1114 (4)	Profes (4)	RPD (%)
LCS1	Nitrata-N	2.5	2.46	58.400	(90.00 - 110.00)	
LCSI	Mitrate-W	2.5	2.47	96.800	(90.00 - 110.00)	0.41
XLS	Mitrate-M	2.5	2.68	107.200	{ 75.00 - 125.00 }	4.74
XSD	Mitrate-M	2.5	2.66	106.400	(75.00 - 125.00)	0.75
	QC Batch #48177	Aldica	.rbs			
Q C	Analyte	Spiked	Xecovered	Tield (%)	Limita (%)	4nm /63
LCS1	1-Rydroxycarbofuran	20.0	18.4	32.000	(85.00 - 120.00)	170 (1)
XX	3-Eydroxycarbofuran	מאנ			(-5100 - 220.00,)	
KS	3-Eydroxycarboforan	20.0	19.3	96.500	(70.00 - 130.00)	
LCS1	Aldicarb (Temik)	20.0	20.7	103.500	(#3.00 - 115.00)	
MILE	Aldicarb (Temik)	מע				
X2	Aldicarb (Tamik)	20.0	19.8	39.000	(70.00 - 130.00)	
LC31	Aldicarb sulfone	20.0	. 19.4	37.000	[84.00 - 128.00]	
MELX	Aldicarb solfone	200			·	
XS	Aldicarb sulfone	20.0	18.8	54.000	(£0.00 - 130.00 }	
LCSI	Aldicarb sulfoxide	20.0	18.9	94.500	(85.00 - 118.00)	
MILE	Aldicarb sulforida)ED				
)K2	Aldicarb sulfoxide .	20.0	18.8	34.000	(70.00 - 130.00)	
rc11	Baygon	20.0	20.6	103.000	(85.00 - 115.00).	
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Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining.

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Kauai Water Department (continued)

	•					
HBLK	Baygon	סא				
KS	Baygon	20.0	19.0	95.000	(70.00 - 130.00)	
rcsi	· Carbaryl ·	20.0	17.2	\$6.000	(85.00 - 119.00)	
MOLK	Carbaryl .	KD				
MS	Carbaryl	20.0	21.1	105.500	(70.00 - 130.00)	
LCS1	Carbofuran (Puradan)	20.0	20.4	102.000	(85.00 - 115.00 }	
HBLK	Carbofuran (Puradan)	ND				
MS	Carbofuran (Furadan)	20.0	18.7	93.500	(70.00 - 130.00)	
LCS1	Hethiocarb	20.0	16.9	84.500	(70.00 - 136.00)	
MBLK	Mathiocarb	מא		·	•	
MS	Hethiocarb	20.0	19.1	95.500	(70.00 - 130.00)	•
LCS1	. Hecpoming .	20.0	20.1	100.500	(85.00 - 115.00)	
MBLX	Hethomyl .	כוא				
MS	Hethomyl	20.0	18.7	93.500	(70.00 - 130.00)	
LCS1	Oxamyl (Vydace)	20.0	17.8	89.000	(85.00 - 115.00)	
MBLK	Oxamyl (Vydate)	HD CH	•			
MS	Oxamyl (Vydate)	20.0	18.2	51.000	(70.00 - 130.00)	
	QC Batch #48285	Calciv	m, Total	l, ICAP		•
gc	. Amelyte	Spiked	Recovered	Mield (#)	Limits (%)	2PD (%)
LC31	Calcium, Total, ICAP	50	47.7	95.400	(50.00 - 110.00)	•
LC52	Calcium, Total, ICAP	50	45.7	33.400	(90.00 - 110.00)	4.1
MILE	Calcium, Total, ICAP	XCD	•			
KS	Calcium, Total, ICAP	50	47.8	35.600	(\$0.00 - 120.00)	
KSD	Calcium, Total, ICAP	50	48.9	37.200	(\$0.00 - 120.00)	2.3
	QC Batch #48288	Volati	le Organ	nic Comp	ounds	
gc	Analyte	Spiked	Recovered	Tield (%)	Linits (%)	229 (%)
2012	1.1.1.2-Tetrachlorgethage	300	•			
LCS1	1,1,1-Trichlorosthens	4-0	4.0	100.000	{100.00 - 120.00 }	
LC32	1,1,1-Trichloroethene	4.0	3.9	97.500	(100.00 - 170.00)	2.5
MILE	1,1,1-Trichloroethene	350	_	•	_	
MILE	1,1,2,2-Tetrachlorgethane	300			•	
MILE	1,1,2-Trichloroethane	313				

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



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Passdeoa, California 21101
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Laboratory QC Report #26390

Kauai Water Department (continued)

				_			
Halk	1,1-Dichloroethane	סא					
HELK	1,1-Dichloroschene	סא					
HELK	1,1-Dichloropropene	CIK					
LCS1	1,2,3-Trichlorobenzene	4.0	3.7	92.500	(80.00 - 120.00)		
LCS2	1,2,3-Trichlorobenzene	4.0	3.9	37.500	(\$0.00 - 120.00)		
HOLK	1,2,3-Trichlorobenzene	מא			(45.00 - 120.00)	5.3	
MBLX	1,2,3-Trichloropropane	מא					
HBLK	1,2,4-Trichlorobenzene	מא					
HELK	1,2,4-Trimechylbenzene	מא					
MBLK	1,2-Dichlorobenzene	, ND					
HELK	1,2-Dichloroechane	מא					
MBLK	1,2-Dichloropropane	מא					
MBLK	1.3.5-Trimethylbenzene	ND					
MBLK	1,3-Dichlorobenzene	מא					
HBLK	1.3-Dichloropropane	סא					•
HOLK	1,4-Dichlorobenzene	ָ כוּא					
HBLK	2,2-Dichloropropane	מא					
MILE	2-Chlorotoluese	RD					
MBLK	4-Chlorotoluene	מא					
LCS1	Benzene	4.0	3.8	95.000	(80.00 - 120.00)		* *
rc23	Benzene	4.0	3.9	97.500	(80.00 - 120.00)	2.6	
HELK	Benzene	ND			22000,		
· HILK	Bromobensena	מא				•	
MBLK	Bromochloromethane	E					
LCS1	Bromodichloromechane	4.0	3.6	90.000	(20.00 - 120.00)	•	
LCS2	Brosodichloromechane	4.0	3.5	87.500	(80.00 - 120.00 }	2.8	
HBLK	Bromodichloromethane	מזא			•		
rcsi	Bresefora	4.0	3.6	90.000	(80.00 - 120.00)		
LCS2	Brosoform .	4.0	4.1	102.500	(80.00 - 120.00)	13	
HBLK	Bromoform	םא					
KBLE	Brososethane	ND					
rc21	Carbon tetrachloride	4.0	3.8	95.000	(80.00 - 120.00)		
rc23	Carbon terrachloride	. 4.0	3.9	97.500	{ 80.00 - 120.00 }	2.6	
KELE	Carbon tetrachloride	ND CH			·		
KBLK	Cilorobenzene	Ю					
KELK	Ciloroschans	100	•				
IC31	Chloroform '	4.0 -	. 3.8	9 5.000	(80.00 - 120.00)		
ress .	Clorofora	4.0	3.8	95.000	(80.00 - 120.00)	0.00	
	•				- ·		

Spikes which exceed Limits and Mcthod Blanks with positive results are highlighted by Enderlining.



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Laboratory QC Report #26390

Kauai Water Department (continued)

HBLX	Chloroform					
MBLX		סא				
LCSI		מא				
rcsz	Dibromochloromechane	4.0	3.6	\$0.000	1 / 20 00	
XBLE	Dibromochloromethane	4.0	4.0	100.000	· •0.00 - 120.00)	
HBLK	Dibromomethane	מא			(80.00 - 120.00 }	11
MBLK	Dichlorodifluoromethane	מא				
MBLX	Ethylbenzene	ND				
KIEK	Hexachlorobutadiene	כוג				
LCSI	Isopropylbenzene	מא		·		
LCS2	IsobrobAlpenzens	4.0	3.7	92.500		
HBLK	Isopropylhenzene	4.0	3.6	95.000	(80.00 - 120.00)	
KBLK	Methylene chloride	מא			(#0.00 - 120.00)	2.7
MBLK	Naphthalong	NC				
HBLK	Styrene	מא				
LCS1	Tetrachloroschens	. אם				
LCSZ	Terrachloroschens	4.0	3.8	9 5.000		•
HELK	Tetrachloroethene	4.0	3.5	97.500	(80.00 - 120.00)	
HELK	Toluene	סא		211200	(80.00 - 120.00)	2.6
LC51	Trichloroethene	מא			•	
LCS2	Trichloroschens	4.0	3.6	3 0.000		
MBLX	Trichloroschens	4.0	3.7	92.500	(80.00 - 120.00)	
MBLK	Trichlorofluoromechane	מא			(80.00 - 120.00 }	2.7
MILX	Trichlorotrifluoroethane (Preon	מא			•	
HBLK	Vinyl chloride	כזא				
HBLK	cis-1,2-Dichloroschene	מא				
MBLK	cis-1,1-Dichloropropens	מא				
KBLK	m-p-Xylenes	N.D.		•		
MILK	n-Surylbenzene	מא	•			
KOLK	n-Propylbenzene	מא				
MILE	o-Xylene	מא				
HILK	p-Isopropylcoluene	כא				
rcsi	sec-Butylbenzens .	מא				
LC23	sec-Bucylbenzene	4.0	3.6	90.000		
HOLK ,	sec-Burylbenzene	4.0	3.7	92.500	[80.00 - 120.00]	
MILE	tert-Butylbenzene	מא			(80.00 - 120.00)	2.7
LC21	trans-1,2-Dichloroethene	כא		•		
rc23	Erans-1,2-Dichloroschens .	4.0	3.8	35.000	1.80.00	
		4.0	3.9		(80.00 - 120.00)	
					(80.00 - 120.00 }	2.6

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



555 East Walout Street Pazadana, California 51101 818 558 6400; Faz: 818 568 6724; 1 800 566 LABS (1 800 556 5227) Laboratory QC Report #26390

Kauai Water Department (continued)

HBLK	trans-1,2-Dich		מא			•		
HBLK	trans-1,3-Dich	loropropene	CA					
	QC Batch #4	18295	Diquat	and Pa	raquat			
gc	Analyte		Spiked	Recovered	Tield (%)	Limits (%)	RPD (%)	
LC51	Diquet		10.0	9.85	38.500	(70.00 - 130.00)		
ЖLX	Diquet		XD					
KS	Diquet	•	10.0	10.8	105.000	(70.00 - 130.00)		
LC31	Paraquat		10.0	9.82	58.200	{ 70.00 - 130.00 }		
MIX	Paraquat		SEC.		•			
XS	Paraquat		10.0	10.3	103.000	(70.00 - 130.00 }		
	QC Batch #4	8296	Endoth	nall				
QC	Analyte		Spiked	Recovered	Yield (*)	Limits (%)	RPD (%)	
LCS1	Indothall		. 25	22.5	90.000	(58.00 - 137.00)		
XHLX	Endothall		מע	-				
	Endothell		25	21.0	84.000	(63.00 - 126.00 }		
	QC Batch #4	8301	Glypho	sate				
gc	Analyte	•	Spiked	Recovered	Tield (%)	Limita (%)	RIFO (N)	
LCS1	Glyphosate		50	49.5	55.000	(70.00 - 130.00)	,,,	
MRLY	Glyphosats		30					
M2	Glyphosate		50	46.0	92.000	(70.00 - 130.00)		
	QC Batch #4	8303	Glypho	sate			·	
g⊂	Analyta		Spiked	Recovered	Tield (%)	Limita (%)	(א) פעג	
LCSI	Glyphosata	•	50	49.5	99.000	(70.00 - 230.00)	~5 (1)	
MILE	Glyphosate		10		22227			_
X4	Clyphosate .		50	46.4	92.800	(70.00 - 130.00)		• •
		•						

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



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Kauai Water Department (continued)

	QC Batch #48328	Cyanic	de .			
ğC.	Analyte	Spiked	Recovered	Yield (%)	Limits (%) .	RPD (%)
LC51	Cyanida	0.10	0.0968	96,200	(90.00 - 110.00)	(1)
MILE	Cyanide	מא				
XS	Cyanide	0.10	0.0912	91.200	(80.00 - 120.00)	
KSD	Cyanide	. 0.10	0.0315	31.500	(#0.00 - 120.00)	0.33
	QC Batch #48333	ICPMS	Metals			
0 C	Analyte	Spikad	Recovered	Yield (%)	Limits (%)	
LC31	Antinony, Total, ICAP/HS	50	45.5	51.800	(85.00 - 115.00)	RPD (%)
MILE	Antimony, Total, ICAP/KS	מא		0.000	(45.00 - 113.00)	
LCSI	Arsenic, Total, ICAP/MS	20	13.7	98.500	(85.00 - 115.00)	
KRLI	Arsanic, Total, ICAP/KS	363		0.000	(05:00 - 113:00)	
FC21	Barium. Total, ICAP/MS	100	100.	100.000	(85.00 - 115.00)	
XX	Barium, Total, ICAP/MS	303		0.000	223100 /	
LC31	· Beryllium, Total, ICAP/MS	5	4.95	99.000	(85.00 - 115.00)	
MILE	Beryllium, Total, ICAP/MS) CO		0.000		
IC51	Cadmium, Total, ICAP/MS	20	20.0	100.000	(25.00 - 115.00)	
MELE	Cadmium, Total, ICAP/X5	300		0.000	,	
LC31	Chromium, Total, ICAP/MS	100	91.7	54.700	(#5.00 - 115.00)	
MILE	Circuits, Total, ICAP/XS)ACC		0.000	,	•
LCS1	Copper, Total, ICAP/MS	100	98.4	94.400	(25.00 - 115.00)	
KBLE LCS1	Copper, Total, ICAP/MS	300		0.000	·	
MILE MILE	Lead, Total, ICIP/MS	20	20.5	102.500	(\$5.00 - 115.00)	
LCSI	Lead, Total, ICIP/MS	XD	•	9.000	·	
MILE PULL	Mickel, Total, ICAP/MS	50	44.7	97.400	(85.00 - 115.00)	
LC51	Mickel, Total, ICD/MS	, XC)		0.000	,	
MELE MELE	Selenies, Total, ICNP/KS	20	14.1	30.500	(85.00 - 215.00)	
ics:	Selenium, Total, ICAP/MS	X D		0.000		
MILE MILE	Thellies, Total, ICN7/X5	20	19.7	98.500	(\$5.00 - 115.00)	
	Thellium, Total, ICAP/MS	303		0.000		

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



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Kauai Water Department (continued)

	QC Batch #48362	525 S	emivolat	iles by	GC/MS	
QC	Analyte	Spiked	Recovered	Tield (%)	Limits (%)	770 (5)
LC51	Acensphthylene	2	2.05	102.500	(70.00 - 130.00)	RPD (%)
MILE	Acenaphthylene	מא			1 10100 - 100,00 /	
KS	Acensphibylene	2	1.99	99.50a	(70.00 - 130.00 }	
LCS1	Machlor	2	2.21	110.500	{ 70.00 - 130.00 }	
MELT	Alachlor	כזג			, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Жā	Alachlor	2	2.18	109.000	(70.00 - 130.00)	
LCS1	Aldrin ·	2	1.93	56.500	(70.00 - 130.00)	
XXLX	Aldrin	100		211211	()0.00 - 250.00)	
X.S	Aldria	2	1.85	92.500	(70.00 - 130.00)	
LCSI	Anthracene	2	2.00	100.000	(70.00 - 130.00)	
x	Anthracens	מא		2001000	(10:00 - 130:00)	
X3	Anthracens	2	2.93	96.500	(70.00 - 130.00)	
LCS1	Atrazina	2	2.11	105.500	(70.00 - 130.00)	
XILK	Atracine	מא			(10100 - 130.00)	
KS	Atrasina	2	2.17	108.500	(70.00 - 130.00)	
LC51	Sens(a) Anthracens	2	2.06	103.000	(70.00 - 130.00)	
MILE	Benz (a) Anthracene	300			(,0000 - 130,00)	
X3	Senz (a) Anthracens	2	1.92	56.000	(70.00 - 130.00)	
LC51	Benzo(a)pyrene	2	1.37	38.500	(70.00 - 130.00)	
KELE	Benzo(a) pyrene	100		3-1005	(70.00 - 150.00)	
KS	Benzo(a)pyrene	2	1.72	86.000	(70.00 - 130.00)	
resi	Benzo (b) Fluoranthana	2	2.06	103.000	(70.00 - 130.00)	
XX	Senzo(b) Fluoranthene	X D			(,0.00 - 130,00)	
X5	Benzo (b) Fluoranthene	2	1.83	31.500	{ 70.00 - 130.00 }	
LCS1	Benzo(g,h,i)Perylana	2	1.46	73.000	(70.00 - 130.00)	
XILX	Benzo(g,h,i)Perylena	100		72.000	(10100 - 110.00)	
M3	Benzo(g,h,i)Perylana	. 2	1.34	69.000	(70.00 - 130.00)	•
IC31	Benzo(k) Fluoranthene	2	2.16	108.000	(70.00 - 130.00)	
MILE	Senso (k) Fluoranthene	X ED		2001000	(/0.00 - 130.00)	
XS .	Benso(k) Fluoranthene	2	1.96	95.000	(70.00 - 130.00)	
MILE	3romacil	X CO	· 	22,000	1 14140 - 130.00)	
MIL	Eutachior	· 3 53		•		
LC31	Butylbensylphthelate	2	2.41	120.500	{ 70.00 - 130.00 }	

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

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Kauai Water Department (continued)

HBLK	Butylbenrylphthalace				•
VOLY	anch mental but curific B	ND CK			
KS	Butylbenrylphthalate	2	2.19	109.500	(70.00 - 130.00)
LCS1	Caffeine	2	2.11	105.500	(70.00 - 130.00)
HBLK	Caffeine -	מא		203.300	(70.00 - 130.00)
HS	Caffeine	2	2.11	105.500	(70.00 - 130.00)
LCS1	Chrysene	2	1.19	34.500	(70.00 - 130.00)
KDLK	Chrysene	מא		34.300	(70.00 - 130.00)
MS	Chrysene	2	1.69	84.500	(70.00 - 130.00)
LCS1	Di (2-Ethylhexyl) phthalate	2	2.25	112.500	(70.00 - 130.00)
MBLE	Di (2-Ethylhexyl) phthalate	מונ			, 10.00 - 130.00)
HS	Di(2-Ethylhexyl)phthalace	2	2.38	119.000	(70.00 - 130.00)
LC51	Di-(2-Ethylhexyl)adipate	2	1.89	94.500	(70.00 - 130.00)
HBLX	Di-(2-Ethylhexyl) adipace	מא .		31.200	(10.00 - 130.00)
HS.	Di-(2-Ethylhexyl)adipace	2	1.71	85.500	(70.00 - 130.00)
LCS1	Di-n-Bucylphchalace	2	2.12	106.000	{ 70.00 - 130.00 }
KILK	Di-n-Bucylphthalace	מא	0.31 J		(10100 - 130.00)
HS	Di-n-Bucylphthalace	2	2.07	103.500	(70.00 - 130.00)
HBLK	Diazinon	מא			(10100 - 230,00)
LCS1	Dibenz (a, h) Anthracene	2	1.72	86.000	(70.00 - 130.00)
HBLK	Dibenz(a,h) Anthracene	מא			220,00 /
MS	Dibenz (a, h) Anthracene	2	1.39	69.500	(70.00 - 130.00)
KBLX	Dieldrin '	מא		<u> </u>	,
LCS1	Diethylphthalate	2	2.25	112.500	(70.00 - 130.00)
XIII	Diechylphchalace	ַמא			
2.4	Dischylphthalace	2	2.11	105.500	(70.00 - 130.00)
MILT	Dimethoate	מא			
LCS1	Dimethylphthalate	2	2.25	112.500	(70.00 - 130.00)
HOLK	Dimechylphthalate	כא			
KS	Dimechylphthalate	2	2.03	101.500	(70.00 - 130.00)
LCS1	Endrin	2	2.40	120.000	[70.00 - 130.00]
HULK	Endrin	כא			•
KS	Eadrin	2	2.12	106.000	(70.00 - 130.00)
LCS1	Pluorene	2	2.18	109.000	(70.00 - 130.00)
HELK	Fluorena	KD			
MS	Fluorene	2	2.07	103.500	(70.00 - 130.00)
LCS1	Beptachlor	. 3	1.27	53.500	(70.00 - 130.00)
MELE	Meptachlor	כא			
KS	Feptachlor	2	2.02	101.000	(70.00 - 130.00)

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

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Kauai Water Department (continued)

				· · · · · · · · · · · · · · · · · · ·	
LCS1	Reptachlor Epoxide	2	1.98		
MILK	Heptachlor Epoxide	פא	1.76	39.000	(70.00 - 130.00)
XS.	Reptachlor Epoxide	2	2.01	100.500	• • • • • • • • • •
LCS1	Hexachlorobenzene	2	1.81	\$0.500	(70.00 - 130.00)
MILK	Hexachlorobenzene	מא		30.500	(70.00 - 130.00)
HS	Hexachlorobenzene .	2	1.84	92.000	
LCS1	Hexachlorocyclopentadiene	2	1.89	94.500	(70.00 - 130.00)
HELK	Ecxachlorocyclopencadiene	מא		74.300	{ 40.00 - 130.00 }
MS	Hexachlorocyclopenzadiene	2	1.90	95.000	1 45 65
LCS1	Indeno (1, 2, 3, c, d) Pyrena	2	1.63	\$1.500	(40.00 - 130.00) (70.00 - 130.00)
MBLE	Indeno (1,2,3,c,d) Pyrene	מא		111300	(10.00 - 130.00)
KS	Indeno(1,2,3,c,d) Pyrene	2	1.39	69.500	{ 70.00 - 130.00 }
HBLK	Isophorone	מא	•		1 70100 - 130.00)
LCS1	Lindane	2	2.04	102.000	(70.00 - 130.00)
HBLK	Lindane	מא			(10.00 - 130.00)
MS	Lindane .	· ₂	1.91	95.500	(70.00 - 130.00 }
LCS1	Methoxychlor	2	2.37	118.500	(70.00 - 130.00)
MBLK	Methoxychlor	מא			
KS	Methoxychlor	` 2	2.12	106,000	(70.00 - 130.00)
XIEK	Hecolachlor	מא			232.00 /
XIEN	Hetribusin	ND			
LCS1	Molinare	2	2.20	119.000	(70.00 - 130.00)
HOLK	Holinate	מא			
MS	Holinate ·	2	2.10	105.000	(70.00 - 130.00)
LCS1	Pentachlorophenol	6	9.84	123.000	(70.00 - 130.00)
HELK	Pentachlorophenol	כזג			
צא	Pentachlorophenol	1	9.36	117.000	(70.00 - 130.00)
LCS1	Phenanthrene	2	2.08	104.000	(70.00 - 130.00)
HELK	Phenanthrene	MD			• •
rs	Phenanthrana	2	2.08	104.000	(70.00 - 130.00)
MILK	Prometrym	כא			
MILK	Propachlor	כזא			
LCS1	Pyrene	2	2.29	114.500	(70.00 - 130.00)
XJEK	Pyrene	כא			
KS	Pyrene	2	2.32	116.000	(70.00 - 130.00)
LCS1	Simarine	2	2.27	111.500	(70.00 - 130.00)
HBLE	Simazine	100			
25	Simazine	2	2.29	114.500	(70.00 - 130.00)

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



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Kauai Water Department (continued)

LCS1	Thiobencarb	2	2.19	109.500		•	
HBLX	Thiohemcarb	ND		109.500	(70.00 - 130.00)		
2H	Thiobencarb	2	2,10	105.000			
MILK	Trifluralin	ND		143.000	{ 70.00 - 130.00 }		
LCS1	alpha-Chlordane	2	2.03	101 200			
HBLX	alpha-Chlordane	ND.		101.500	[70.00 - 120.00 }		
HS	alpha-Chlordane	2	1.91				
LCS1	gamma-Chlordane ·	2	1.97	95.500	(70.00 - 130.00)		
HBLZ	gamma-Chlordane	מא	2.37	96.500	(70.00 - 130.00)		
MS	gamma-Chlordane	2	1.80	40.000			•
LCS1	trans-Nonachlor	2	1.87	90.000	(70.00 - 130.00)		
HBLX	trans-Nonachlor	מא	1.4.	53.500	(70.00 - 130.00)		
KS	trans-Nonachlor	.2	1.84	92.000	{ 70.00 - 130.00 }		
	QC Batch #48379		_				
		AB180	3 - EDB	and DBCI	?		
QC	Analyte	Spiked	Recovered	Tield (%)	Limits (%)		
DUP	Dibromochloropropane (DECP)	300	300		(0.00 - 20.00)	RPO (%)	
LCSI	Dibromochloropropame (DBC2)	0.10	0.09	30.000	(60.00 - 140.00)		
1032	Dibromochloropropane (DBC2)	6.10	0.09	30.000	(60.00 - 140.00)		
MILE	Dibromochloropropene (DECP)	300		301000	1 40.00 - 140.00)	0.00	•
M2	Dibromochloropropane (DECP)	0.10	0.09	30.000	/ 68 40 444 44	•	
DUP	Ethylene Dibromide (EDE)	XD	מע	30.000	(60.00 - 140.00)		.3.
rc31	Ethylene Dibromide (EDE)	0.10	6.10	100.000	(0.00 - 20.00)		
LCS2	Ethylene Dibromide (203)	0.10	0.05	30.000	(60.00 - 140.00)		
MILE	Rthylene Dibromide (EDE)	סע		30.000	(60.00 - 140.00)	11	
KI	Ethylene Dibromide (EDE)	9.10	0.10	100.000	(60.00 - 140.00)		
	QC Batch #48449 .	Eerbic	ides by	515.1			
QC	Analyte						
MILE	2.4.5-7	Spiked	Recovered	Yield (%)	Limits (%)	329 (%)	
LC31	2,4,5-T7 (Silver) '	100				•	
res:		0.50	0.50	100.000	{ 67.00 - 120.00 }		
MILE.	2.4.5-17 (511vez)	0.50	10.	•	[67.00 - 120.00]		
X4 .	2.4.5-TP (Silvex)	X C			•		•
	2.4.5-TP (SELVER)	0.50	0.45	35.000	(42.00 + 226.00)		

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



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Kauai Water Department (continued)

LCS1	2,4-¤	1.00	0.83	83.000	/ 77 00	
LCS2	2,4-D	1.00	ХA	43.000	(72.00 - 127.00)	
KBLK .	2,4-D	סא			(72.00 - 127.00)	
MS	2,4-D	1.00	0.77	77.000	(49.00 - 214.00 }	
HBLK	2,4-DB	מא		77.200	(43.00 - 214.00)	
HBLK	3,5-Dichlorobenzoic acid	כזו				
MILK	4-Nitrophenol (qualitative)	מא				
HBLK	Acifluorien (qualitative)	מא		•		
LCS1	Bentazon .	1.00	0.68	68.000	(75.00 - 134.00)	
LCS2	Bentazon	1.00	NA		(75.00 - 134.00)	
HBLK	Bentaron .	מא			1 12100 - 224.00 /	
MS	Bentazon	1.00	0.90	50.000	(70.00 - 170.00)	
MBLE	DCPA	ND			270,00 /	
LCS1	Dalapon (qualitative)	6.50	7.85	120.769	(40.00 - 160.00)	
TC23	Dalapon (qualitacive)	€.50	HA		(40.00 - 160.00)	
XJEH	Dalapon (qualitative)	כא			10000	
MS	Dalapon (qualitative)	6.50	7.67	118,000	(40.00 - 160.00)	
rczi	Dicamba	0.50	0.41	82.000	(38.00 - 232.00)	
LCS2	Dicamba	0.50	NA		(38.00 - 232.00)	·
HBLX .	Dicamba	מא		•		يشير فوقات
KS	Dicamba	0.50	0.48	36.000	(38.00 - 232.00 }	•
KBUK	Dichlosprop	כא				
rc21	Dinoseb .	1.00	0.50	. 50.000	(0.00 - #5.00)	عميده به
rc23	Dinoseb	1.00	NA		(0.00 - 85.00,)	• ••-
MIEN	Dinoseb	כא			•	
KS	Dinoseb	1.00	0.49	49.000	{ 0.00 - 85.00 }	
resi	Pentachlorophenol	0.50	0.29	58.000	(36.00 - 224.00)	
T=23	Pentachlorophenol	0.50	NA		(36.00 - 224.00)	
HELK	Pentachlorophenol	כא			•	
KS	Pentachlorophenol	0.50	0140	80.000	(36.00 - 224.00)	
LCS1	Picloran	0.50	0.37	74.000	(45.00 - 138.00)	
LC52	Picloran	0.50	KA		(45.00 - 138.00)	
XJEK	Picloran	בא .			-	
KS	Picloram	0.50	0.35	70.000	(45.00 - 138.00)	
				• .		•

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



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Kauai Water Department
(continued)

	QC Batch #48584	SDWA F	esticio	ies		
QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	R20 (%)
KBLK	Alachior (Alamax)	מא				
LCS1	Aldrin	0.050	0.015	30.000	(59.64 - 145.56)	
LCS2	Aldria	0.050	KA		(59.64 - 145.56)	
MLK	Aldria	כא				
XS	Aldría	0.050	0.032	64.000	(75.56 - 142.71)	
XBLX	Alpha-BEC	Œ				•
XBLE	Chlordan*	מע				
XX	Chlorthalonil (Drconil, Bravo)	מונ				
HELK	Delta-BEC .	XC				
LCS1	Dieldrin	0.100	0.105	105.000	(65.75 - 149.79)	
LC52	Dieldrin	0.100	¥X		(65.75 - 149.79)	
KBLE	Dieldrin	כהג				
KS	Dieldrin	0.100	0.112	112.000	(77.36 - 141.97)	
MBLE	Endosulian I (alpha)	מא				
KBLX	Endosulian II (beta)	סע	•			
MBLE .	Endosulfan sulfate	ЖD				
LCSL	End=in	0.100	0.123	123.000	{ 70.07 - 149.66 }	
IC32	Endrin	0.100	NA.		(70.07 - 149.66)	
MBLE	Endrin	NID.				
MS	Endrin	0.100	0.127	127.000	(86.46 - 138.80)	
XBLE	Endrin Aldebyde	מע				
LC51	Garma-REC (Lindane)	0.050	0.057	114.000	(81.57 - 148.43)	
LCSI	Gamma-BHC (Lindane)	0.050	XX		(#1.57 - 14#.43)	
MBLE	Gama-BEC (Lindane)	COR				
XS	Garras-BEC (Lindans)	0.050	0.054	116.000	(88.58 - 141.42)	
ic:i	Meptachlor	0.058	0.021	42.000	(60.95 - 145.71)	
LCSI	Esptachlor	9.050	727		(60.95 - 145.71)	
MRIT	Esptachlor	100				
X3	Heptachlor	0.050	0.036	72.000	(78.23 - 146.04)	
MILE	Negrachior Proxide	100				
MORTE	Methoxychlor	307)				
MOLE	PCB 1016 Aroclor	700				
MELE	PCS 1221 Armelor)				

Spikes which exceed Limits and Method Blanks with positive results are highlighted by <u>Enderlining.</u>



555 East Wainut Street Pazadeca, California 51101 818 558 6400; Faz: 818 568 6124; 1 800 566 LABS (1 800 566 5227) Laboratory QC Report #26390

XJEK	PCB 1232 Aroclor	מא		•	
Merk	PC 1242 Aroclor	מא			
H BLK	PG 1248 Aroclor	מא			
HBLK	PCB 1254 Aroclor .	מא			
MBLK	PCB 1260 Aroclor	מע			
MBLK .	Toxaphene	מא			
XJEH	p.p' D00	מא			
HBLX	p.pf DDE	מא	•		
LCS1	p.p' ppr	0.100	0.109	109.000	(37.03 - 169,44)
LCS2	p,p' מסד	0.100	на		(37.03 - 169.44)
MILK	p.p' DDT	מא			
KS	p,p' Dor	0.100	0.117	117.000	(57.41 - 158.86)

NORTHWEST KILOHANA WELL



525 East Walout Street Passidena, California 51101 818 558 6400; Fast 818 568 6124; 1 800 566 LABS (1 800 556 5227)

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



535 East Walout Street Passdessa, California 51101 818 562 6480; Fax: 818 562 6324; 1 800 566 LABS (1 800 566 5227) Report Comments #25316

Group Comments

Result for TCDD analysis submitted by Quanterra Environmenta 1 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

•			Result	MDL	UNITS
Analyzed	960131010 NORTHWEST KI				
22/27/96 22/15/96 21/31/96 22/07/96 21/31/96 22/10/96 22/07/96 22/05/96	Data Entry Chromium, Total, ICAP/MS Data Entry Di-n-Butylphthalate Nitrate Nitrate-N by IC Data Entry Data Entry Calcium, Flame AA	ficts for sugar 	02/28/96 14	5.000 .500 .440 .100	UGL MGL MGL MGL MGL

555 East Walnut Street Pasadena, California 57107 818 558 6400; Fax: 518 568 6324; 1 800 568 LABS (1 800 556 5227) paboratory 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	# Hethod	Analyte	Result	Units	HDL	Dilution
ORTENE	ST KILO	DEANA	(960131010)) Sampled or	1 01/30/96			
	02/05/96	45639	(HL/EPA 215.	1) Calcium, Flame AA	19	mg/l	1.0	1
	02/13/96	46059	(ML/SH4500-0	N F) Cyanide	. NO	mg/l	0.025	1
02/06/96	02/12/96	46026	(ML/EPA 548.	1) Endothall	NO	ug/l	5.0	1
	02/06/96	45770	(EPA/ML 340.	2) Fluoride	ЖО	mg/l	0.10	1
	02/05/96	45742	(HL/EPA 547) Glyphosate	ИÖ	ug/l	6.0	1
02/12/96	02/12/96	45984	(EPA/HL 245.	- •	NO	ug/l	0.50	1
	01/31/96	45601	(ML/EPA 300.	•		mg/l	0.10	1
02/02/96	02/09/96		(EPA 1613) 2,3,7,8 - тсео	סא	PGL	0.62	1
			525 Semi	volatiles by GC/	/ms			
02/05/96	02/07/96	45867	(ML/EPA 525.	2) 2,4-Dinitrotoluene	HO	ug/l	0.10	1
02/05/96	02/07/96	45867	(ML/EPA 525.	2) alpha-Chlordane	מא	ug/l	0.050	1
02/05/96	02/07/96	45867	(HL/EPA 525.	2) Acenaphthylene	מא	ug/l	0.10	1
02/05/96	02/07/96	45867	(ML/EPA 525.	2) Alachlor	NO	ug/l	0.050	1
02/05/96	02/07/96	45867	(ML/EPA 525.	2) Aldrin	NO	ug/l	0.050	1 .
02/05/96	02/07/96	45867	(ML/EPA 525.	2) Anthracene	סא	ug/l	0.020	1
02/05/96	02/07/96	45867	(ML/EPA 525.	2) Atrazine	NO	ug/l	0.050	1
02/05/96	02/07/96	45867	(HL/EPA 525.	2) Benz(a)Anthracene	ND	ug/l	0.050	1
02/05/96	02/07/96	45867		2) Benzo(a)pyrene	ND	ug/l	0.020	1
02/05/96	02/07/96	45867		2) Benzo(b)Fluoranthene	NO	ug/l	0.020	1
02/05/96	02/07/96	45867		2) Benzo(g,h,i)Perylene	ND	ug/l	0.050	1
02/05/96	02/07/96	45867		2) Benzo(k)Fluoranthene	NO	ug/l	0.020	1
02/05/96	02/07/96	45867	(ML/EPA 525.	2) Di(Z-Ethylhexyl)phthai	late NO	ug/l	0.60	1
02/05/96	02/07/96	45867		2) Butylbenzylphthalate	NO	ug/l	0.50	· 1
02/05/96	02/07/96	45867	(HL/EPA 525.		ND	ug/t	2.0	1
02/05/96	02/07/96	45867	(HL/EPA 525.	2) Butachlor	ND	ug/l	0.050	1
02/05/96	02/07/96	45867	(XL/EPA 525.		ND	ug/l	0.020	. 1
02/05/96	02/07/96	45867	(HL/EPA 525.	2) Chrysene	ND	ug/l	0.020	.1
02/05/96	02/07/96	45867		Z) Dibenz(a,h)Anthracene	ND	ug/l	0.050	1
02/05/96	02/07/96	45867		2) Di-(2-Ethylhexyl)adipa		ug/l	0.60	1 -
02/05/96	02/07/96	45867		Z) Diethylphthalate	סא	ug/l	0.50	. 1
72/05/96	02/07/96	45867	C HL/EPA 525.		. מא	ug/l	0.20	• • •

Laboratory Report #25316

555 East Walnut Street Pesadeca, California 31101 818 558 6400; Fax: 818 568 6524; I 800 566 LABS (1 800 566 5227)

Kauai Water Department (continued)

repared.	Analyzed	QC Batch#	Hethod	Analyte	Result	Uni ts	HOL	Dilution
2/05/96	02/07/96	45867	(HL/EPA 525.2) Dimethylphthalate	ND	ug/l	0.50	1
2/05/96	02/07/96	45867	(HL/EPA 525.2		ND	ug/l	10	1
:2/05/96	02/07/96	45867) Di-n-Butylphthalate	0.6	ug/l	0.50	1
72/05/96	02/07/96	45867	(HL/EPA 525.2		סא	ug/l	0.10	1
2/05/96	02/07/96	45867	(HL/EPA 525.2		מא	ug/l	0.050	1
2/05/96	02/07/96	45867	•) gamma-Chlordane	DH	ug/l	0.050	1
72/05/96	02/07/96	45867) Hexachlorobenzene	מא	ug/l	0.050	1
22/05/96	02/07/96	45867	•) Hexachlorocyclopentadiene	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	(HL/EPA 525.2		HD	ug/l	0.040	1
12/05/96	02/07/96	45867) Reptachlor Epoxide	ИО	ug/l	0.020	1
2/05/96	02/07/96	45867) Indeno(1,2,3,c,d)Pyrene	ND	ug/l	0.050	1
12/05/96	02/07/96	45867	(HL/EPA 525.2		ND	ug/l	0.50	1
12/05/96	- •	45867	(ML/EPA 525.2	•	ND	ug/l	0.020	1
12/05/96	02/07/96	45867	(HL/EPA 525.2) Hethoxychlor	СК	ug/l	0.050	1
:2/05/96	02/07/96	45867	(HL/EPA 525.2		ND	ug/l	0.050	1
:2/05/96	02/07/96	45267	(HL/EPA 525.2		KD	ug/l	0.20	1
12/05/96	02/07/96	45867	(HL/EPA 525.2		מא	ug/l	0.050	1
12/05/96	02/07/96	45867	(HL/EPA 525.2) trans-Nonachlor	ОИ	ug/l	0.050	1 .
2/05/96	02/07/96	45867	(HL/EPA 525.2) Pentachiorophenol	KD	ug/l	1.0	1 .
:2/05/96	02/07/96	45857	(HL/EPA 525.2) Phenanthrene	HD	us/l	0.020	1
:2/05/96	02/07/96	45867	(HL/EPA 525.2) Prometryn	ОN	ug/l	0.50	1
:2/05/96	02/07/96	45867	(HL/EPA 525.2) Propachlor	סא	ug/l	0.058	1
12/05/96	02/07/96	45867	(HL/EPA 525.2		פא	ug/l	0.050	1
2/05/96	02/07/96	45867	(HL/EPA 525-2) Simazine	ND	ug/l	0.050	1
72/05/96	02/07/96	45867	(HL/EPA 525.2) Thiobencarb	פא	ug/l	0.20	1
12/05/96	02/07/96	45867	(ML/EPA 525.2) Trifluralin	מא	ug/l	0.10	1
		•	(Surrogate) Perylene-d1Z	102	# Rec		
		•	AB1803 -	EDB and DBCP				
:2/23/96	02/27/96	46560	(ML/EPA 504) Dibromochloropropane (DBCP)	ИĎ	ug/l	0.010	1
12/23/96	02/27/96	46560	(ML/EPA 504) Ethylene Dibromide (EDB)	מא	ug/l	0.010	1
			Aldicarbs	i e				
	02/01/96	45562) 3-Hydroxycarbofuran	סא	ug/l	2.0	1
	02/01/96	45562) Aldicarb (Temik)	ND	ug/l	0.50	1
	02/01/96	45562) Aldicarb sulfone	פא	ug/l	0.80	1

EEE East Walnut Straet Pasadema, California 51101 818 568 6400; Fax: 818 568 6224; 1 800 568 LABS (1 800 566 5227) Laboratory Report #25316

Kauai Water Department (continued)

repared	Analyzed	QC Batch#	Hethod	Analyte	Result	Units	HOL	Dilution
	02/01/96	45562	(HL/EPA 531.1) Aldicarb sulfoxide	NO	ug/l	0.50	1
	02/01/96	45562	(HL/EPA 531.1	·	סא	ug/l	2.0	i
	02/01/96	45562) Carbofuran (Furadan)	ND	ug/l	0.90	1
	02/01/96	45562	(HL/EPA 531.1		סא	ug/l	2.0	1
	02/01/96	45562	C HL/EPA 531.1	•	סא	ug/l	2.0	1
	02/01/96	45562	C HL/EPA 531.1) Methomyl	סא	ug/l	1.0	1
	02/01/96	45562) Oxamyl (Vydate)	סא	ug/l	2.0	1
			(Surrogate) BDHC	100	# Rec		
			Diquat and	i Paraquat				
/06/96	02/08/96	45863	C HL/EPA 549) Diquat	ND	ug/l	0.40	1
/06/96	02/08/96	45863	(EPA 549) Paraquat	סא	ug/l	2.0	1
			Herbicide:	s by 515.1				
/08/96	02/10/96	46008	C HL/EPA 515.1) 2,4,5-T	NO	ug/l	0.20	1
/08/96	02/10/96	46008	(HL/EPA 515.1) 2,4,5-TP (Silvex)	מא	ug/l	0.20	1.
/08/96	02/10/96	46008	C KL/EPA 515.1) 2,4-0	ND	ug/l	0.10	1
/08/96	02/10/96	46008	(HL/EPA 515.1) 2,4-08	סא	ug/l	2.0	1 '
/08/96	02/10/96	46008	C HL/EPA 515.1	• •	NO	ug/l	0.50	1
/08/96	02/10/96	46008	C HL/EPA 5151) Acifluorfen (qualitative) -	XD	ug/l	0.20	1 .
/08/96	02/10/96	46008	C HL/EPA 515.1) Bentazon	סא	ug/l	0.50	1
/08/96	02/10/96	46008	C HL/EPA 515.1) Dalapon (qualitative)	סא	ug/l	1.0	1
/08/96	02/10/96	46008) 3,5-Dichlorobenzoic acid	מא	ug/t	0.60	1
/08/96	02/10/96	46008	C HL/EPA 515.1) DCPA	ND	ug/l	0.20	1
/08/96	02/10/96	46008	(HL/EPA 515.1) Dicamba	סא	u g /t	0.050	1
/08/96	02/10/96	46008	C HL/EPA 515.1) Dinoseb	סא	ug/l	0.20	1
/08/96	02/10/96	46008	C HL/EPA 515.1) Pentachlorophenol	NO	ug/t	0.040	1
/08/96	02/10/96	46008	C HL/EPA 515.1	•	סא	ug/l	0.10	1
/08/96	02/10/96	46008) 4-Nitrophenol (qualitative)	סא	tig/t	5.0	1
			(Surrogate) 2,4-Dichlorophenylacetic acid	105	% Rec		
			ICPMS Meta					
	02/15/96	46622) Arsenic, Total, ICM/HS	₩ □	ug/l	5.0	1 .
	02/15/96	46622 .	C EPA/HL 200.8) Barium, Total, ICAP/HS	NO	ug/t	10	1
	02/15/96	46622	C EPA/HL 200.8) Beryllium, Total, ICM/MS	KO	ug/l	1.0	1
	02/15/96	46622	C EPA/HL 200.8) Cadmium, Total, ICAP/HS	סא	∪g/t	0.50	1

Laboratory
, Report
#25316

555 East Walnut Street Paradena, California 51101 818 558 6400; Fax: 818 568 622(; 1 800 568 LABS (1 800 556 5227)

Kauai Water Department (continued)

epared	Analyzed	QC Batch#	Hethod	Analyte	Result	Units	ЮL	Dilution
	02/15/96	46622	8.005 2H/A93)) Chromium, Total, ICAP/MS	14	ug/l	5.0	1
	02/15/96	46622	(EPA/HL 200.8) Copper, Total, ICAP/HS	סא	ug/l	50	1
	02/15/96	46622	(EPA/HL 200.8) Nickel, Total, ICAP/MS	סג	ug/l	5.0	1
	02/15/96	46622	(EPA/HL 200.8) Lead, Total, ICAP/HS	פא	ug/l	5.0	1
	02/15/96	46622	(EPA/HL 200.8) Antimony, Total, ICAP/MS	סא	ug/l	2.0	1
	02/15/96	46622	(EPA/HL 200.8) Selenium, Total, ICAP/HS	Ю	ug/l	5.0	1
	02/15/96	46622	(EPA/HL 200.8) Thallium, Total, ICAP/MS	ND	ug/l	1.0	1
			Nitrate b	Y IC as NO3 & N				
	01/31/96	45604	(EPA/HL 300.0) Witrate-N by IC	0.1	mg/l	0.10	1
	01/31/96	45604	(ML/EPA 300) Hitrate	0.44	, mg/l	0.44	. 1
	•		SDWA Pest	icides				
/02/96	02/07/96	46568	(HL/EPA 508) PCS 1016 Araclar	ND	ug/l	0.10	1
02/96	02/07/96	46568	(HL/EPA 508) PC3 1221 Aroctor	ND	ug/l	0.10	1
/02/96	02/07/96	46568	(HL/EPA 508) PCB 1232 Aroctor	ND	ug/l	0.10	1
/02/96	02/07/96	46568	(HL/EPA 508) PCS 1242 Aroctor	סא	ug/l	0.:0	1
/02/96	02/07/96	46568	(HL/EPA 508) PCB 1248 Aroclor	ND	ug/l	0.10	1
/02/96	02/07/96	. 46568	(HL/EPA 508) PCB 1254 Aroclor	סא	ug/l	0.10	1
/02/96	02/07/96	46568	(HL/EPA 508) PCS 1260 Aractor	DK	ug/l	0.10	1
/02/96	02/07/96	46568	(HL/EPA 508) Alpha-BHC	. • אס	ug/l	0.010	1
/02/96	02/07/96	46568	(HL/EPA 508) Alachlor (Alanex)	ND	ug/l	0.050	1
/02/96	02/07/96	46568	(ML/EPA 508) Aldrin	ND	ug/l	0.010	1
/02/96	02/07/96	46568	(ML/EPA 508) Beta-BHC	סא	ug/l	0.018	1 .
/02/96	02/07/96	46568	(ML/EPA 508) Chlordane	ИО	ug/l	0.10	1
/02/96	02/07/96	46568	(HL/EPA 508) Chlorthalonil (Orconil, Bravo)	ИО	ug/l	0.010	1
02/96	02/07/96	46568	(HL/EPA 508) Delta-BHC	סא	ug/l	0.010	1
/02/96	02/07/96	46568	(HL/EPA 508) p,p' 000	פא	ug/l	0.010	1
702/96	02/07/96	46568 -	(HL/EPA 508) p,p' 00E	סא	ug/l	0.010	1
02/96	02/07/96	46568	(ML/EPA 508) p,p' 00T	סא	ug/l	0.010	1
/0Z/96	02/07/96	46568	C ML/EPA 508) Dieldrin	סא	ug/l	0.010	1
/02/96	02/07/96	46568	C HL/EPA 508) Endrin Aldehyde	מא	ug/l	0.010	1
/02/96	02/07/96	46568	(HL/EPA 508) Endrin	DX	ug/l	0.010	1
/02/96	02/07/96	46568	(ML/EPA 508) Endosulfan I (alpha)	סא	ug/l	0.010	1
/0Z/96	02/07/96	46568	(HL/EPA 508) Endosulfan II (beta)	- סא	ug/t	0.010	1
/02/96	02/07/96	46568	(HL/EPA 508) Endosulfan sulfate	но	ug/l	0.010	1

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525 East Walnut Street Pazadena, California 51101 E18 558 6400; Fax; E18 568 6224; 1 800 568 LABS [1 800 556 5227] Laboratory Report #25316

Kauai Water Department (continued)

³repared	Analyzed	GC Batch#	Method	Analyte	Result	Unics	HOL	Dilution
72/02/96	02/07/96	46568	(HL/EPA 508) Heptachlor	HO			
22/02/96	02/07/96	46568	C HL/EPA 508) Heptachlor Epoxide	מא	ug/l	0.010	1
32/02/96	02/07/96	46568	C HL/EPA 508) Lindane (gamma-BHC)	סא	ug/l	0.010	1
72/02/96	02/07/96	46568	(HL/EPA 508) Hethoxychlor	ND ND	ug/l	0.010	1
12/02/96	02/07/96	46568	(HL/EPA SOS) Toxaphene	NO	ug/(0.050	1
			(Surrogate) Dibutyl Chlorendate	· 116	ug/l	0.50	1
			(Surrogate) Tetrachlorometaxylene	98	% Rec % Rec		
		•	.Volatile	Organic Compounds				
	01/31/96	45547	(HL/EPA 502.2	1 1,1,1,2-Tetrachloroethane	סא	ug/l	0.50	•
	01/31/96	45547	(ML/EPA 502.2) 1,1,1-Trichloroethane	סא	ug/t	0.50	1
	01/31/96	45547	(HL/EPA 502.2) 1,1,2,2-Tetrachloroethane	но	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2) 1,1,2-Trichlorgethane	NO	ug/l	0.50	1
	01/31/96	45547) 1,1-Dichlorgethane	סא	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2) 1,1-0ichloroethene	ND	ug/t	0.50	1
	01/31/96	45547) 1,1-Dichloropropene	NO ·	ug/t	0.50	1
	01/31/96	45547	C ML/EPA 502.2) 1,2,3-Trichloropropane	NO	ug/l	0.50	1.
	01/31/96	45547	(ML/EPA 502.2) 1,2,3-Trichlorobenzene	סא	ug/l	0.50	• 1
	01/31/96	45547	C HL/EPA 502.2) 1,2,4-Trichtorobenzene	МО	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	(HL/EPA 502.2) 1,2-Dichloroethane	NO	ug/l	0.50	1
	01/31/96	45547	(ML/EPA 502.Z) 1,2-Dichlorobenzene	ND	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2) 1,2-0ichloropropane	מא	ug/l	0.50	1
	01/31/96 01/31/96	45547	(ML/EPA 502.2) 1,3,5-Trimethylbenzene	NO	ug/l	0.50	1
	01/31/96) 1,3-01chlorobenzene	OK	ug/l	0.50	1
	01/31/96) 1,3-Dichloropropane	סא	ug/l	0.50	1
	01/31/96	45547 45547	C HL/EPA 502.2) 1,4-01chlorobenzene	מא	ug/l	0.50	1
	01/31/96		C ML/EPA 502.2) Z,2-Dichloropropane	ND	ug/t	0.50	1
	01/31/96		C ML/EPA 502.2) Z-Chlorotoluene	HD	ug/t	0.50	1
	01/31/76) 4-Chlorotoluene	NO	ug/l	0.50	1
	01/31/96		ML/EPA 502.2) Bromodichtoromethane	ND	ug/l	0.50	1
	01/31/96		ML/EPA 502.2		ND	ug/L	0.50	1
	01/31/96		ML/EPA 502.2		סא	ug/l	0.50	1
	01/31/96		TL/EPA 502.2) Bromochloromethane	- 20	ug/l	0.50	1
	01/31/96		ML/EPA 502.2		ИВ	ug/l	0.50	1
		~,,,,,,	. nc/cra 302.2) cis-1,2-0ichlaraethene	ND	ug/l	0.50	1



555 East Walnut Street Paxadesa, California 57101 178 568 6400; Fax: 818 568 6724; 1 800 566 LABS [1 800 566 5227] Laboratory Report #25316

- Kauai Water Department (continued)

repared	Analyzed	QC Batch#	Hethod Analyte		Analyte	Result	Units	HOL	Dilution
	01/31/96	45547		_	Chlorobenzene	NO	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2	2)	Carbon tetrachloride	סא	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2	2)	cis-1,3-Dichloropropene	ND	ug/l	0.50	•
	01/31/96	45547	(HL/EPA 502.2	2)	Bromoform	סא	ug/l	0.50	1
	01/31/96	45547	C HL/EPA 502.2	2)	Chloroform	DN	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2	2)	Chloroethane	מא	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2	2)	Chloromethane	. סא	ug/l	0.50	1
	01/31/96	45547	C HL/EPA 502.2	2)	Dibromochloromethane	DИ	ug/l	0.50	1
	01/31/96	45547	(ML/EPA 502.2	2)	1,2-Dibromo-3-chloropropane	מא	ug/l	1.0	1
	01/31/96	45547	(ML/EPA 502.2	2)	Dibromomethane	ND	ug/l	0.50	i
	01/31/96	45547	(ML/EPA 502.2	2)	Dichlorodifluoromethane	מא	ug/l	0.50	1
	01/31/96	45547	(ML/EPA 502.2	2)	1,2-Dibromoethane	סא	ug/l	0.50	1
	- 01/31/96	45547	(HL/EPA 502.2	2)	Ethylbenzene	ИD	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2	?)	Hexachlorobutadiene	סא	ug/l	0.50	1
	01/31/96	45547	(ML/EPA 502.2	?)	Isopropylbenzene	ND	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2	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	(HL/EPA 502.2	2)	Haphthalene	ND	ug/l	0.50	· •
	01/31/96	45547	(HL/EPA 502.2	:)	n-Butylbenzene	מא	ug/l	0.50	1 .
	01/31/96	45547	(ML/EPA 502.2	2)	n-Propylbenzene	ND	ug/l	0.50	•
	01/31/96	45547	(ML/EPA 502.2	2)	o-Xylene	ND .	ug/l	0.50	· 1
	01/31/96	45547	(HL/EPA 502.2	:)	Tetrachloroethene	ND	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2	.)	p-Isopropyltoluene	מא	ug/l	0.50	1
	01/31/96	45547			sec-Buty(benzene	מא	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2			מא	ug/l	0.50	1
	01/31/96	45547	(HL/EPA 502.2	.)	trans-1,2-Dichloroethene	ND	ug/l	0.50	1
	01/31/96	45547			tert-Butylbenzene	. ND	ug/l	0.50	1
	01/31/96	45547			Trichloroethane	מא	ug/l	0.50	1
	01/31/96	45547			trans-1,3-Dichloropropene	HD	ug/l	0.50	1
	01/31/96	45547	C HL/EPA 502.2			ND	ug/l	0.50	1
	01/31/96	45547	C HL/EPA 502.2	•	Trichloroflucromethane	HD	ug/l	0.50	, 1
	01/31/96	45547	(ML/EPA 502.2			פא	ug/l	0.40	1
			(Surrogate		Bromafluorobenzene-ELCD	87	% Rec	4.40	•
			(Surrogate		Bromofluorobenzene-PID	93	Z Rec		
			(Surrogate		Chlorofluorobenzene-ELCO	92	Z Rec		
			(Surrogate		Chlorofluorobenzene-PID	97	I Rec		
			_	•		••	≈ xec		



555 East Walnut Street Fasadesa, California 51101 818 558 6400; Fast 818 568 6224; 1 800 568 LABS (1 800 568 5227) Laboratory Report #25316

Kauai Water Department (continued)

pared Analyzed QC Batch# Hethod Analyte Result Units HDL Dilution

Laboratory QC Report #25316

525 East Walnut Street Peradena, California 31101 818 568 6400: Fazz 818 568 6324; 1 800 566 LABS (1 800 566 5227)

Kauai Water Department

	QC Batch #45547		le Organ	~		
QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPO (≈)
HBLK	1,1,1,2-Tetrachloroethane	OK				
HBLK	1,1,1-Trichloroethane	NO				
HBLK	1,1,2,2-Tetrachloroethane	מא				
HBLK	1,1,2-Trichloroethane	מא				
HBLK	1,1-Dichloroethane	ND				
HBLK	1,1-Dichloroethene	ND				
HBLK	1,1-Dichloropropene	מא				
LCS1	1,2,3-Trichlorobenzene	10.0	10.2	102.000	(80.00 - 120.00)	
LCSZ	1,2,3-Trichlorobenzene	10.0	10.5	105.000	(80.00 - 120.00)	2.9
HBLK	1,2,3-Trichlorobenzene	D				
HBLK	1,2,3-Trichloropropane	ЯD				
HBLK	1,2,4-Trichlarobenzene	NO				
HBLK.	1,2,4-Trimethylbenzene	םא				
HBLK	1,2-Dichlorobenzene	ND				
HBLK	1,2-Dichloroethane	ИD				
MBLK	1,2-Dichloropropane	מא				
MBLK	1,3,5-Trimethylbenzene	OK	• •	•		
HBLK	1,3-Dichlorobenzene	ОК				
HBLK	1,3-Dichloropropane	סא				
MBLK	1,4-0ichlorobenzene	KD		•		
HSLK	2,2-Dichloropropane	HD				
HBLK	Z-Chlorotoluene	DK	•	•		
HBLK	4-Chlaratoluene	ND	_			
LCS1	Benzene	10.0	9.7	97.000	(80.00 - 120.00)	
LCS2.	Benz ene	10.0	9.8	98.000	(80.00 - 120.00)	1.0
HBLK	Benzene	KO			•	
HELK	Bromobenzene .	OK				
HELK	Bromochloromethane *	מא				
HBLK	Bromodichloromethane	ND				
HBLK	Bromoform	מא				
HBLK	Bromomethane	KD				
HBLK	Carbon tetrachloride	HO				
HBLK	Chlorobenzene	KD				
MBLK	Chloroethane	ХO				
HBLK	Chloroform	ND			•	
HBLK	Chloromethane	KD				



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Kauai Water Department (continued)

HELK	Oibromachtaramethane	NO				
HBLX	Dibromomethane	סא				
HELK.	Dichlorodifluoromethane	מא				
XJEK	Ethylbenzene	מא	•			
HBLK	Hexachlorobutadiene	ON				
LC31	Isopropylbenzene	10.0	9.6	96.000	(80.00 - 120.00)	
rcsz	Isopropylbenzena	10.0	9.8	98.000	(80.00 - 120.00)	2.1
HELK	Isopropylbenzene	סא		, , , , ,	(00100)	4.,
HBLK	Hethylene chloride	NO				
XBLK	Naphthalene	סא				
HBLK	Styrene	ND				
LCS1	Tetrachloroethene	10.0	9.2	92.000	(80.00 - 120.00)	
rcss	Tetrschloroethene	10.0	8.9	89_000	(80.00 - 120.00)	3.3
HBLX	Tetrachloroethene	ND		2.,,222	(00.00 ,	J - J
KBLK	Toluene	NO				
MBLK	Trichloroethene	, NO				
HBLK	Trichlorofluoromethane	סא			•	
MSLX	Vinyl chloride	סא				
MBLK	cis-1,2-Dichloroethene	ND				
HBLK	cis-1,3-Dichloropropene	סא				
HBLK	m-p-Xyl enes	סא				
HBLK	n-Buty(benzene	ХD				
MBLK	n-Propylbenzene	. ND				
MBLX	o-Xylene	סא				
HBLK	p-Isopropyltaluene	NO				
LC21	sec-Butylbenzene	10.0	9.5	95.000	(80.00 - 120.00)	
LCSZ	sec-Butylbenzene	10.0	9.8	98.000	(80.00 - 120.00)	3.1
HBLK	sec-Butylbenzene	NO			, ,,,,,,,,	J.,
HELK	tert-Butylbenzene	ND				
LCS1	trans-1,2-0ichloroethene	10.0	10.0	100,000	(80.00 - 120.00)	
rcss	trans-1,2-Dichloroethene	10.0	10.2	102.000	(89.00 - 120.00)	2.0
HBLK	trans-1,2-0 ichloroethene	XD	-		, , , , , ,	
MBCK	trans-1,3-Dichloropropene	NO				

Laboratory QC Report #25316

555 East Walnut Street Passdang, California 57107 818 568 6400; Fast 818 568 6524; 1 800 566 LABS (1 800 586 5227)

Kauai Water Department
. (continued)

	QC Batch #45562	Aldica	ırbs			
QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPO (%)
LCS1	3-Rydroxycarbofuran	20.0	20.9	104.500	(85.00 - 120.00)	
MBLK	3-Hydroxycarbofuran	מא				
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				
HS	Aldicarb (Temik)	20.0	21.0	105.000	(70.00 - 130.00)	
LCS1	Aldicarb sulfone	20.0	22.3	111.500	(84.00 - 128.00)	
MBLK	Aldicarb sulfone	OK				
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	DK				
HS	Aldicarb sulfoxide	20.0	21.4	107,000	(70.00 - 130.00)	
LCS1	Baygon	20.0	23.0	115.000	(85.00 - 115.00)	
MSLK	Baygon	ND				
HS	Baygon	20.0	21.5	107.500	(70.00 - 130.00)	
LCS1	Carbaryl	20.0	17.6	88.000	(85.00 - 119.00)	
HBLK	Carbaryl	סא				
'HS	Carbaryl	20.0	20.9	104.500	(70.00 - 130.00)	
LCS1	Carbofuran (Furadan)	20.0	22.9	114.500	(85.00 - 115.00)	•
HBLK	Carbofuran (Furadan)	ND				
HS	Carbofuran (Furadan)	20.0	21.6	108.000	(70.00 - 130.00)	
LC51	Methiocarb	20.0	16.2	81.000	(70.00 - 136.00)	
HBLK	Hethiocarb	סא				
MS	Methiocarb	20.0	20.4	102.000	(70.00 - 130.60)	
rcsi	Hethomyl	20.0	22.5	112.500	(85.00 - 115.00)	
HBLK	Kethomyl	ND				
MS	Hethomyl	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				
2H	Oxamyl (Vydate)	20.0	21.4	107.000	(70.00 - 130.00)	



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Kauai Water Department (continued)

	QC Batch #45601	Nitri	te, Nitr	ogen by	IC	
qc	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	700 483
LCS1	Nitrite, Nitrogen by IC	1.0	0.91	91.000	(90.00 - 110.00)	RPO (%)
LCSZ	Nitrite, Nitrogen by IC	1.0	0.93	93.000	(90.00 - 110.00)	
HBLK	Mitrite, Mitrogen by IC	מא		,5.000	(30.00 - 110.00)	2.2
HS	Mitrite, Mitrogen by IC	1.0	0.84	84.000	(80.00 - 120.00)	
MSD	Mitrite, Mitrogen by 10	1.0	0.84	84.000	(80.00 - 120.00)	0.00
	QC Eatch #45604	Nitrat	te by IC	EOM es	& N	
QC	Analyte .	Spiked	Recovered	Yield (%)	1 1-1 1995	
MBLK	Hitrate	סא	KCBOVCI CG	116(6 (%)	Limits (%)	* RPO (%)
LCS1 '	Nitrate-N	2.5	2.52	100.800	/ 00 00 - 440 00 1	
rcss	Nitrate-N	2.5	2.53	101.200	(90.00 - 110.00) (90.00 - 110.00)	2.40
HS.	Nitrate-N	2.5	2.64	105.600	(75.00 - 125.00)	0.40
HSO	Hitrate-H	2.5	2.54	105.600	(75.00 - 125.00)	0.00
	QC Batch #45639	Calciu	m, Flame	e AA		
CC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	***
LCS1	Calcium, Flame AA	50	48.3	96.600	(90.00 - 110.00)	RPO (%)
LCSZ	Calcium, Flame AA	50	48.3	96.600	(90.00 - 110.00)	0.00
HBLK	Calcium, Flame AA	NO		70.000	(30.00 - 110.00)	0.00
HS	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	61 } .	•		•	
	#	Glypho	sate			
CC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	505 4W1
LC21	Glyphosate	50	53	106.000		RPO (%)
MBLK	Glyphosate	NO .		100.000	(.70.00 - 130.00)	
HS	Glyphosate	•	54	105.000	(70.00 - 130.00)	

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Kauai Water Department (continued)

	QC Batch #45770	Fluori	de			
QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPO (%)
LCS1	Fluoride	0.87	0.85	101.149	(90.00 - 110.00)	
LCSZ	fluoride	0.87	0.88	101.149	(90.00 - 110.00)	0.00
HBLK	Fluoride	מא			• • • • • • • • • • • • • • • • • • • •	
HS	Fluoride	0.909	0.995	109.461	(80.00 - 120.00)	
HSD	Fluoride	0.909	0.982	108.031	(80.00 - 120.00)	1.3
	QC Batch #45863	Diquat	and Par	raquat		
oc .	- Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (≈)
LCS1	Diquat	10.0	12.9	129.000	(70.00 - 130.00)	KLD (W)
HBLK	Diquat	ND			(
НS	0 i quat	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			,	
HS	Paraquat	10.0	10.4	104.000	(70.00 - 130.00)	
	QC Batch #45867	525 Se	mivolati	les by	GC/MS	
QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPO (≈)
LCS1	Acenaphthylene	z	2.03	101.500	(70.00 - 130.00)	N. D (A)
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	. פא			•	
MS	Alachlor	Z	1.99	99.500	(70.00 - 130.00)	
LC\$1	Aldrin	2	1.74	87.000	(70.00 - 130.00)	•
HBLK	Aldrin	פג			•	
HS	Aldrin	2	1.74	87.000	(70.00 - 130.00)	
LCS1	Anthracene	2	2.00	100.000	(70.00 - 130.00)	
HBLK	Anthracene	ND		-	•	
ZK	Anthracene .	2	1.93	96.500	(70.00 - 130.00)	

ESS East Walnut Street
Passadena. California 51107
818 550 6400: Fax: \$18 568 6224:
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Kauai Water Department (continued)

					
LCS1	Atrazine	2	1.98	99.000	4 70 00 400 00
HBLK	Atrazine	ХD	*****	77.000	(70.00 - 130.00)
24	Atrazine	2	2.00	100.000	. 70 .00 .00
FC21	Benz(a)Anthracene	. 2	1.92	96.000	(70.00 - 130.00)
HBLK	Benz(a)Anthracene	מא	,2	70.000	(70.00 - 130.00)
MS	Benz(a)Anthracene	2	1.69	8/ 500	. =
LCS1	Benzo(a)pyrene	2	1.95	24.500	(70.00 - 130.00)
HBLK	Benzo(a)pyrene	KD.	1.73	97.500	(70.00 - 130.00)
2K	Benzo(a)pyrene	2	1.74	47 444	_
LCS1	Senzo(b)Fluoranthene	2	1.95	87.000	(70.00 - 130.00)
HBLK	Benzo(b)Fluoranthene	מא	1.75	97.500	(70.00 - 130.00)
HS	Benzo(b)Fluoranthene	2	1.73		
LCS1	Benzo(g,h,i)Perylene	2		86.500	(70.00 - 130.00)
MBLK	Benzo(g,h,i)Perylene	ND	2.19	109.500	(70.00 - 130.00)
MS	Benzo(g,h,i)Perylene	2	3 43		
LCS1	Benzo(k)Fluoranthene	2	2.03	101.500	(70.00 - 130.00)
HBLK	Benzo(k)Fluoranthene	AD	2.09	104.500	(70.00 - 130.00)
2H	Benzo(k)Fluoranthene	2			
HBLK	Bromacil	AD ND	1.89	94.500	(70.00 - 130.00)
HBLK	Butachlor	ND OK			
LCSI	Butylbenzylphthalace	2			
HBLK .	Butylbenzylphthalate	NO NO	1.87	93.500	(70.00 - 130.00)
2H	Butylbenzylphthalate	2			
LC51	Caffeine	2	1.72	86.000	(70.00 - 130.00)
HBLK	Caffeine	_	1.78	89.000	(70.00 - 130.00)
24	Caffeine	X0 2.			
LCS1	Chrysene	2	2.05	102.500	(70.00 - 130.00)
MBLK	Chrysene	_	1.81	90.500	(70.00 - 130.00)
MS	Cirysene	. 2			
LCS1	01(2-Ethylhexyl)phthalate	. 2	1.62	81.000	(70.00 - 130.00)
MBLK	0f(Z-Ethylhexyl)phthalate	AO NO	1.92	96.000	(70.00 - 130.00)
HS	DI(2-Ethylhexyl)phthalate	2 2	4.4-		
LCS1	· Di-(2-Ethylhexyl)adipate	2	1.20	90.000	(70.00 - 130.00)
HBLK	Oi-(2-Ethylhexyl)adipate	_	1.84	92.000	(70.00 - 130.00)
NS 2M	Di-(Z-Ethylhexyl)adipate	מא			
LCS1	Di-n-Butylphthalate	2	1.71	85.500	(70.00 - 130.00)
MBLE	Di-n-Butylphthalate	2	2.46	123.000	(70.00 - 130.00)
MS	Di-n-Sutylphthalate	KO -	•		
		Z	2.00	100.000	(70.00 - 130.00)



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Kauai Water Department (continued)

HBLK	Diazinon				
LCST	Dibenz(a,h)Anthracene	סא 2	2	••••	
HBLK	Dibenz(a,h)Anthracene	Z ND	2.08	104.000	(70.00 - 130.00)
HS.	Dibenz(a,h)Anthracene	2			
HBLK	Dieldrin	AD ND	1.90	95.000	(70.00 - 130.00)
LCST	Giethylphthalate	2	2.20		. •
MBLK	Diethylphthalate	ND	2.25	112.500	(70.00 - 130.00)
KS	Diethylphthalate	2	2.25	445 544	
HBLK	Dimethoate	ND.	2.0	112.500	(70.00 - 130.00)
LCS1	Dimethylphthalate	2	1.99	00 544	4 50 00 450 45
HBLK	Dimethylphthalate	מא	1.77	99.500	(70.00 - 130.00)
28	Dimethylphthalate	2	1.93	96.500	4 70 00 470 00 1
LCS1	Endrin	2	1.91	95.500	(70.00 - 130.00)
HBLK	Endrin	כא	****	73.300	(70.00 - 130.00)
H\$ ·	Endrin	2	1.69	84.500	(70.00 - 130.00)
LCS1	Fluorene	2	2.05	102.500	(70.00 - 130.00)
HBLK	fluorene	מא	2	102.500	(10.00 - 130.00)
2K	Fluorene	2	1.98	99.000	(70.00 - 130.00)
LCS1	Heptachlor	2	1.98	99.000	(70.00 - 130.00)
HBLK	Reptachior	ND.		,,,,,,,	(10:00 - 120:00)
HS	Heptachlor	2	2.02	101.000	(70.00 - 130.00)
FC21	Heptachlor Epoxide	2	1.85	92.500	(70.00 - 130.00)
HBLK	Reptachlor Epoxide	ND		,2,,,,,	(10.00 - 150,00)
MS	Heptachlor Epoxide	2	1.28	94.000	(70.00 - 130.00)
LCS1	Hexach Lorobenzene	2	1.78	89.000	(70.00 - 130.00)
MBLK	Kexachlorobenzene	ND		2	(10100 130100)
MS	Kexach Lorobenzene	2	1.67	83.500	(70.00 - 130.00)
FC21	Hexachlorocyclopentadiene	2	1.88	94.000	(40.00 - 130.00)
HBLK	Hexachlorocyclopentadiene	, פא		V - V-1-1	,,
MS	Hexachlorocyclopentadiene	2	1.92	96.000	(40.00 - 130.00)
LC51	Indeno(1,2,3,c,d)Pyrene	Z	2.04	102,000	(70.00 - 130.00)
HBLK	Indeno(1,2,3,c,d)Pyrene	NO			, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
NS.	Indeno(1,2,3,c,d)Pyrene	2	1.87	93.500	(70.00 - 130.00)
HBLK	Isophorone	מא			,
LCS1	Lindane	Ż	2.06	103.000	(70.00 - 130.00)
HBLK	Lindane	ND			
2K	Lindane	2	1.99	99.500	(70.00 - 130.00)
LCS1	Methoxychlor	Z	2.11	105.500	(70.00 - 130.00)



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Kauai Water Department (continued)

					
MBLK	Hethaxychlor	lin.			
HS	Hethoxychlor	ND 2	4 02	• • • • •	
HBLK	Hetalachlor	NO NO	1.92	96.000	(70.00 - 130.00)
HBLK	Hetribuzin	NO NO			
LCS1	Holinate	2			
MBLK	Holinate		2.23	111.500	(70.00 - 130.00)
HS 2H	Holinate	סא	• • •		
LCS1	Pentachlorophenol	2	2.06	103.000	(70.00 - 130.00)
HBLK	Pentachtorophenol	8	7.90	98.750	(70.00 - 130.00)
ZK	Pentachlorophenol	NO			
LCS1	Phenanthrene	8	8.09	101.125	(70.00 - 130.00)
MBLK	Phenanchrene	2	1.99	99.500	(70.00 - 130.00)
SK	Phenanthrene Phenanthrene	מא			
HBLK	Protection	2	1.92	96.000	(70.00 - 130.00)
HBLK	Propachlor	NO.			
LCS1	Pyrene	NO			
HBLX	Pyrene .	Z	1:88	94.000	(70.00 - 130.00)
HS	Pyrene	סג			
LCS1	Simazine	2	1.88	94.000	(70.00 - 130.00)
HBLK	Simazine	2	1.92	96.000	(70.00 - 130.00)
MS	Simizine	HO .			•
LCS1	Thiobencarb	2	1.95	97.500	(70.00 - 130.00)
HBLX	Thiobencarb	2	2.06	103.000	(70.00 - 130.00)
HS	Thiobencarb	סא			
HBLX	Trifluratin	2	1.92	96.000	(70.00 - 130.00)
LC51	alpha-Chlordane	HD			
HBLX	alpha-Chlordane	2 NO	1.89	94.500	(70.00 - 130.00)
ЖS	alpha-Chlordane	2	4 7		_
LCS1	gamma-Chlordane		1.78	89.000	(70.00 - 130.00)
MBLK	gama-Chiordane	2	1.73	89.000	(70.00 - 130.00)
NS	sama-Chlordane	סע			•
LCST	trans-Nonachtor	2	1.72	000.23	(70.00 - 130.00)
MBLE	trans-Monachion	2	1.21	90.500	(70.00 - 130.00)
MS	trans-Nonachtor	NO T			•
=	AL MAN LINE HERMAN P. C.	2	1.85	93.000	(70.00 - 130.00)



555 East Walnut Street Pasadena, California 51101 818 568 6400; Fax: 818 562 6124; 1 800 568 LABS [1 800 556 5227] Laboratory QC Report #25316

Kauai Water Department (continued)

	QC Batch #45984	Mercu	-Y			
QC	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
LCS1	Hercury	1.50	1.37	91.333	(85.00 - 115.00)	(,,,
LCS2	Hercury	1.50	1.37	91.333	(85.00 - 115.00)	0.00
HBLK	Hercury	ND				
HS	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	Herbio	ides by	515.1		
ac ·	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPD (%)
HBLK	2,4,5-T	ND		,,,,,	CIRILES (A)	KPU (A)
LCS1	2,4,5-TP (Silvex) -	0.500	0.53	106.000	(67.00 - 120.00)	
LCSZ	2,4,5-TP (Silvex) _	0.500	АК		(67.00 - 120.00)	
MBLK	2,4,5-TP (Silvex)	מא			(0,100 - 120100)	
24	2,4,5-TP (Silvex)	0.500	0.52	104.000	(42.00 - Z26.00)	
LCS1	2,4-0	1.00	0.94	94,000	(72.00 - 127.00)	
LCS2	2,4-0	1.00	на		(72.00 - 127.00)	
HSLK	Z,4-D	NO		•	(/2/00 / /2/.00)	
MS	2,4-0	1.00	0.91	91.000	(49.00 - 214.00)	
HBLK	2,4-08	סא		710000	(47.00	
MBLK	3,5-Dichlorobenzoic acid	פא				
HBLK	4-Mitrophenol (qualitative)	סא				
HBLK	5-Rydroxydicamba	מא				
MBLK	Acifluorfen (qualitative)	NO				
LCS1	Bentazon	1.00	0.94	94,000	(75.00 + 134.00)	
rcss	Bentazon	1.00	NA .		(75.00 - 134.00)	
HSLK	Sentazon	ND			(13100 134100)	
ZM	Bentazon	1.00	0.95	95.000	(70.00 - 170.00)	
HBLX	Chloramben (qualitative)	KD	-		, , , , , , , , , , , , , , , , , , , ,	
MILK	DCPA	ND				
HBLK	Dalapon (qualitative)	KD				
HBLK	Dicamba	NO		•		
HSLK	Dichlorprop	СК				



555 East Walnut Street Pasadena, California 51101 818 558 6402: Fas: 818 558 6224; 1 800 568 LABS (1 800 566 5227) Laboratory QC Report #25316

Kauai Water Department (continued)

MBLX	Dinoseb				······································	
HBLX		ND				
HSLX	Pentachlorophenol	סא				
אשנג	Pictoram	םא				
	QC Batch #46026	Endoti	hall			
CC	Analyte	Spiked	Recovered	Yield (%)	Linits (%)	RPO (%)
LCS1	Endothall	25	29.9	119.600	(58.00 - 137.00)	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,
HBLK	Endothall	. 80			•	
HS	Enclothall	25	25.0	104.000	(63.00 - 126.00)	
	QC Batch #46059	Cyanic	ie			
cc	Analyte	Spiked	Recovered	Yield (%)	- Limits (%)	RPO (%)
LCS1	Cyanide	0.10	0.0936	93.600	(90.00 - 110.00)	0 (,0,
HBLK	Cyanide	ND			. , ,	•.
2M	Cyanide	0.10	0.0946	94.600	(80.00 - 120.00)	
SCH	Cyanide .	0.10	0.0919	91.900	(80.00 + 120.00)	2.9
	QC Batch #46560	AB1803	- EDB a	and DECP	•	
90	Analyte	Spiked	Recovered	Yield (%)	Limits (%)	RPO (%)
DUP	Dibromochloropropane (DSCP)	ND	NA	•	(60.00 - 140.00)	• ()
LCS1	Oibromochloropropane (DBCP)	0.10	0.11	110.000	(60.00 - 140.00)	
rczs	Dibromochloropropane (DSC?)	0.10	0.11	110.000	(60.00 - 140.00)-	0.00
HBLK	Dibromochloropropane (DSC7)	Ю			•	
2M	Oibromochloropropane (DBCP)	0.10	HA		(60.00 - 140.00)	•
DUP	Ethylene Dibromide (EDB)	KD	HA		(60.00 - 140.00)	
LCS1	Ethylene Dibroside (EDB)	0.10	0.10	100.000	(60.00 - 140.00)	
rcss	Ethylene Dibromide (EDB)	0.10	0.10	100,000	(60.00 - 140.00)	0.00
HBLK	Ethylene Dibroside (EDB)	NO			•	
MS.	Ethylene Dibromide (EDB)	· 5 0.10 <u></u>	HA		(60.00 - 140.00)	
_		• • :			• • • • • • • • • • • • • • • • • • • •	7.

Laboratory QC Report #25316

555 East Walnut Street Passidena, California 97107 878 568 6400; Fast 818 568 6724; 1 800 568 LABS (1 800 566 5727)

Kauai Water Department (continued)

	QC Batch #46568	SDWA	Pesticid	les		
MBLK LCS1	Analyte Alachlor (Alanex) Aldrín	Spiked ND	Recovered	Yield (%)	Limits (%)	RPD (%)
LCSZ MBLK MS	Aldrin Aldrin	0.050 0.050 OK	0.047 HA	94.000	(56.00 - 116.00) (56.00 - 116.00)	
HBLK HBLK	Aldrin Alpha-8HC Chlordane Chlorthalonil (Drconil, Bravo)	0.050 ND ND	0.051	102.000	(56.00 - 116.00)	
HBLK LCS2 HBLK	Delta-SKC Dieldrin Dieldrin Dieldrin	СИ О.100 О.100 О.100 ИО-	0.111 HA	111.000	(57.00 - 117.00) (57.00 - 117.00)	
HBLK HBLK HBLK	Dieldrin Endosulfan I (alpha) Endosulfan II (beta) Endosulfan sulfate	0.100 ко хо ко	0.111	111.000	(57.00 - 117.00)	
LCS1 LCSZ HBLK HS	Endrin Endrin Endrin Endrin	0.100 0.100 NO	0.115 Na	115.000	(58.00 - 118.00) (58.00 - 118.00)	
HBLK LCS1	Endrin Aldehyde	0.100 ХО	0.116	116.000	(58.00 - 118.00)	
HBLK HBLK	Gamma-BHC (Lindane) Gamma-BHC (Lindane) Gamma-BHC (Lindane)	0.050 0.050 HD	E20.0 AH	106.000	(59.00 - 119.00) (59.00 - 119.00)	
HBFK FC25 FC21	Gamma-BHC (Lindane) Heptachlor Heptachlor	0.050 0.050 0.050 0.0	0.054 0.049 MA	108.000 98.000	(59.00 - 119.00) (63.00 - 133.00) (63.00 - 133.00)	
HBLK HBLK HBLK	Reptachlor Reptachlor Epoxide Rethoxychlor PCB 1016 Aroclor PCB 1221 Aroclor	ס.050 מא מא מא מא	0.052	104,000	(63.00 - 133.00)	



SSE East (Valout Street Pessidena, California 51101 818 568 6402 Fast 918 568 6324; 1 809 568 LABS (1 800 566 5227) Laboratory QC Report #25316

Kauai Water Department (continued)

							
HBLK	PCS 1232 Aroctor	סא					
HBLK	PCB 1242 Araclar	NO 80					
HBLK	PCB 1248 Arcelor	#D					
HBLK	PCB 1254 Aroctor	םוג	•				
HELK	PCS 1260 Araclar	ND					•
MBLX	Toxaphene	NO					
HBLK	p,p' 000	OK					
HBLK	p,p' 00E	מא					
LCS1	P,P' 00T	0.100	0.123	127 445			
LC22	P,P' 00T	0.100	NA NA	123.000	(.62.00 - 162.00)		
HBLK	p,p' 00T	NO	ла		(62.00 - 162.00)		
HS	P,P' 00T	0.100	0.122	470 444			
		3.700	0.122	122.000	(62.00 - 162.00)		
	QC Batch #46622	ICPMS	Metals				
			110000				
QC	Analyte	Spiked	Recovered	Yield (%)	timing and		
LCS1	Antimony, Total, ICAP/HS	50	49.8	99.600	Limits (%)	RPO (%)	
HBLX	Antimony, Total, ICAP/MS	KD		0.000	(85.00 - 115.00)		
LCS1	Arsenic, Total, ICAP/HS	20	21.6	108.000	/ 25 00		٠.
HBLK	Arsenic, Total, ICAP/HS	NO	2	0.000	(85.00 - 115.00)		-
rc21 ·	Barium, Total, ICAP/HS	100	99.6	99.600	1 25 00 ttr ea .		•
HBLK	Barium, Total, ICAP/HS	NO		0.000	(85.00 - 115.00)		
LC21	Beryllium, Total, ICAP/HS	5	4.87	97.400			
HBLK	Beryllium, Total, ICAP/HS	HD		0.000	(85.00 - 115.00)		
LC21	Cadmium, Total, ICAP/HS	ZO	19.4	97.000	/ 8E 00		
HBLK	Cadmium, Total, ICAP/HS	KD	.,,,	0.000	(85.00 - 115.00)		
LCS1	Chromium, Total, ICAP/MS	100	102	102.000	1 05 00 115 aa .		
MBLX	Chromium, Total, [CAP/HS	CN		0.000	(85.00 - 115.00)		
LCS1	Copper, Total, ICAP/HS	100	98.8	99.000	/ 85 00 115 00 1		
HELK	Copper, Total, ICXP/HS	NO	74.5	0.000	(85.00 - 115.00)		
FC21	Lead, Total, ICAP/HS	20	19.6	98.000	4 45 00 415 00 .		
MBCK	Lead, Total, ICAP/HS	XD		0.000	(85.00 - 115.00)		
LCS1	Hickel, Total, ICAP/HS	50	50.8	101.600	/ 15 00 415 44		
MBLX	Nickel, Total, ICAP/HS	ND	3-1-	0.000	(85.00 - 115.00)		
rcz1	Selenium, Total, ICAP/HS	20	20.3	101.500	A 25 00 . 117 00 1		
MBLK	Selenium, Total, ICM/HS	· NO -		0.000	c 85.00 - 115.00)		٠.
LCSI	Thallium, Total, ICAP/HS	20	20.3	102.000	/ BS 00 - *** **		
	•				(ES.00 - 115.00)		•



525 East Walnut Street Pasadena, California 21101 818 568 6400: Fax: 518 568 6224; 1 800 566 LABS (1 800 566 5227) Laboratory QC Report #25316

Kauai Water Department (continued)

HBLK Thallium, Total, ICAP/HS

NO

0.000

DRAFT ENVIRONMENTAL ASSESSMENT COMMENTAND RESPONSE

BENJAMM J CATETAMO



STATE OF HAWAII

OFFICE OF ENVIRONMENTAL QUALITY CONTROL

236 Boarts Editions 174(TT 2018 74: Podect Na. House and 10113 TELEWING PROST 6114 110

March 24, 1997

Hinger and Chief Engineer Department of Maker County of Kauai 4198 Pua Loke Street Lihue, Havaii 96766-5706

Dear Mr. Lau:

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

ĸ Thank you for the opportunity to raview the subject documents. have the following comments.

Segmentation

Section 11-200-7, Havail 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 Libum wells projects have the same purpose, are located in the same aquifar, 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

Kans and Diagrams ~

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

Hr. Lau Harch 24, 1997 Page 2

Amifer Status . Н

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; Pending installed capacity and/or use of the proposed <u>``</u>

project; authorized water use by the Commission of Water Resource Hanagement; and A description of the watershed and groundwater recharge 5

Mater and land Use Anelysis

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 region. Tr

1) County Development Plans; ii) historical Water supply and demand figures for the

reston;
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 caded lands are
vii) a description of impacts associated with the well's
vii) a description of impacts associated with the well's
distribution production facilities including pumps,
distribution pipelines, control davices, storage
facilities, access roads and accessory structures.

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. Lau Harch 24, 1997 Page 3

Contamination Analysis ç,

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 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.

Hatershed_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.

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 Hawailan groups such as DHML, OHA and local community associations.

Alternative Analysis ٥.

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.

Financial and Institutional Arrangements 50.

In some instances, a vell is developed by private financing or 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 Harch 24, 1997 Page 4

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

Sincerely,

Gary Gill Director

c: Fukunaga & Associates

DEPARTMENT OF WATER

County of Kenal

April 25, 1997

"Water has no Substitute - Conserve hi"

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

Dear Mr. Gill:

Haramaulu Water Development Project, Phase I - Haramaulu Well No. 3 Draft Environmental Assessments Liftue Water Development Project, Phase I - Pukaki Well Subject:

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.

Stamentation - ...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. 1. Comment:

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

Mass and Disgrams - Please show on the maps and/or diagrams the prevailing groundwater flow paths and any points or regions of known contamination. 2. Comment

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

Aculfer Status . Please provide the following information regarding the Aquifer's manus: 3. Comment:

ii) current water use totals... i) sustainable yield;

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.

b) 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."

Response:

– 1918 Past Na. (127), 245545. – Administration of P.A. Na. (127), 124 1724. Edge P. M. (127), 245 1725. – Past Na. (127), 244 1725. – Administration P.A.Na. (127), 244 1735. – Administration P.A.Na

Mr. Guy Gill, Director April 28, 1997

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

Nume	Primary Source	Standby Source	State Well No.	Aquifer	Pump Capacity	1996 Water Use (mgd)
Kausi County Department of Water	sat of Wate				(B)	
Ourlinghouse Tunnel	×		\$123-01	Hish.I and	5	
Kilohans A		×	191.65		7617	
Kilobana B	×		101.00	Dates.	0.39	
Klichana C	×		1971.61	Fight and	1.00	
Klichene F		×	1971.02	מויר ניינו	7.1	
Kilohana G	×		\$671.00	THE TANK	0.576	
Kilohus 1	×		2	ייינייי	0.216	
Kokolan Dunasi A	,		10-6746	High-Level	8	
	٠		23.55 E. S.	High-Level	0.432	
Old UTBER 503001	×		5022-02	Basal	0.216	
一里,	×		10->285	Basi	9711	
Puhi 2		×	\$124.01	Minh. I am.		
(HAT	×		\$17.04	7.5	10.1	
Kalepa Aldge Well .	×		1916	anta-ruse	213	
TOTAL				Dana	6.1.9	
Libue Plantation Company:		7			623	2:739
Chair Vill .						
offer will be		1	\$122-01	Bessi	0.43	010

Kokolau Tunzei presently not la use. Kalepa Ridge Well carrently in use. 1991 data. Per Littue Plactation, potable well not verified. • • •

- iv) The installed expacity 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. Guy Gill, Director

Page 3 April 21, 1997 vi) 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 Libue Town to Hanamaulu Bay, and in a north-south direction from Wailua River to Haupu Ridge." In the discussion on estimated groundwater yield, "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."

4. Comment: Water and Lead Use Analwin - Please provide a discussion of how waters from the well will be used, and an analysis of how the proport 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, easing 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: Puna 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 cavironmental assessment for the well development.

6. Comment: Contamination Analysis - A record of contamination problems in the squifer...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 bazardous materials should 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 dash 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: Watershed Impect 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, easing 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.

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[3] 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[3]. Drilling, easing 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."

Diffil. 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, easing 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: Engancial and Institutional Arransements - ... 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 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 Utban Development. The water produced by Hanamaulu Well No. 3, if developed, will be allocated to the Hanamaulu 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 Kausi will become the legal owner of the well site(s).

We hope the responses address your comments to your satisfaction.

Sincerely

HWA. Lau St. Emest Y.W. Lau Manager and Chief Engineer