ALAN M. ARAKAWA
Mayor

GEORGE Y. TENGAN
Director

JEFFREY T. PEARSON, P.E.
Deputy Director

DEPARTMENT OF WATER SUPPLY
COUNTY OF MAUI
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793-2155
www.mauiwater.org

November 25, 2003

Ms. Genevieve Salmonson, Director
Office of Environmental Quality Control
235 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

Dear Ms. Salmonson:

Subject: Finding of No Significant Impact (FONSI) for Pookela Well Development
TMK 2-4-12:028
Makawao, Maui, Hawaii

The County of Maui Department of Water Supply has reviewed the comments received during the 30-day public comment period which began on October 8, 2003. The agency has determined that this project will not have significant environmental effects and has issued a FONSI. Please publish this notice in the OEQC Environmental Notice as soon as practicable

We have enclosed a completed OEQC Publication Form and four copies of the final EA. Please call Mr. Larry Winter at (808) 270-7835 if you have any questions.

Sincerely,

GEORGE Y. TENGAN
Director

/LW:sc
Enclosures: OEQC form
Final EA - 4 copies

"By Water All Things Find Life"

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / lainc@aloha.com / www.lainc.org

May 28, 2003

Mr. George Young, Chief, Regulatory Branch
U.S. Army Corps of Engineers
Pacific Ocean Division
Building 230
Fort Shafter, HI 96858-5440

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

Dear Mr. Young,

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Attachment

FUKUNAGA&ASSOCIATES,INC.

DEPARTMENT OF THE ARMY
U. S. ARMY ENGINEER DISTRICT, HONOLULU
FT. SHAFTER, HAWAII 96858-5440

REPLY TO ATTENTION OF

May 30, 2003

Regulatory Branch

Ms. Lynn Malinger
Fukunaga & Associates, Inc.
1388 Kapiolani Blvd., 2nd Floor
Honolulu, Hawaii 96814

Dear Ms. Malinger:

This responds to your request for determination of Department of the Army (DA) permit requirements for the proposed Maui County Department of Water Supply Pookela Well Development Project which will be located within the existing 2.2-acre Pookela Tank site near Makawao, Maui (TMK 2-4-12: 28). We have reviewed the project information you provided with respect to the Corps' authority to issue Department of the Army (DA) permits under Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

The site map accompanying your request indicates that the project would not involve any work in streams. Via a telephone conversation on May 30, 2003 with Mr. Peter Galloway of my staff, you affirmed that there are no wetlands present at the project site.

Based on the information you provided, I have determined that the site of the proposed activity does not include any waters of the United States subject to the regulatory authority of the Corps of Engineers; therefore, the project will not require a DA permit.

File No. 200300432 has been assigned to this project. Should you have questions concerning this determination, please contact Mr. Galloway by telephone at (808) 438-8416 or by fax at (808) 438-4060. Written correspondence concerning this action should be directed to: Regulatory Branch (CEPOH-EC-R/P. Galloway); U.S. Army Engineer District, Honolulu; Building 230; Fort Shafter, Hawaii 96858-5440.

Sincerely,

George P. Young, P.E.
Chief, Regulatory Branch

1388 KAPIOLANI BLVD. / 2ND FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

October 6, 2003

Mr. George Young, Chief, Regulatory Branch
U.S. Army Corps of Engineers
Pacific Ocean Division
Building 230
Fort Shafter, HI 96858-5440

Attention: Mr. Peter Galloway

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Gentlemen:

Thank you for your comment letter dated May 30, 2003. As a follow-up, we are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

1388 KAPIOLANI BLVD. / 2ND FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / fainc@aloha.com / www.fainc.org

May 28, 2003

Mr. Lawrence Yamamoto, Acting State Conservationist
USDA Natural Resources Conservation Service
P.O. Box 50004
Honolulu, HI 96850-0050

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

Dear Mr. Yamamoto,

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Attachment

1388 KAPIOLANI BLVD. / 2ND FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

October 6, 2003

Mr. Lawrence Yamamoto, Acting State Conservationist
USDA Natural Resources Conservation Service
P.O. Box 50004
Honolulu, HI 96850-0050

SUBJECT: Draft Environmental Assessment – Pookela Well Development

Dear Mr. Yamamoto,

As a follow-up to our pre-assessment consultation letter of May 28, 2003, we are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / fainc@aloha.com / www.fainc.org

May 28, 2003

Pacific Islands Administrator
Department of the Interior
Fish & Wildlife Services
300 Ala Moana Boulevard, Room 3-122
Honolulu, HI 96813

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Attachment

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October 6, 2003

Pacific Islands Administrator
Department of the Interior
Fish & Wildlife Services
300 Ala Moana Boulevard, Room 3-122
Honolulu, HI 96813

SUBJECT: Draft Environmental Assessment – Pookela Well Development

As a follow-up to our pre-assessment consultation letter of May 28, 2003, we are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 948-9339 / office@fainc.org / www.fainc.org

August 27, 2003

Haiku Community Association
20 North Lanikai Place
Haiku, HI 96708

Attention: Mr. Lloyd Fischel, Secretary

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1200 to 1400 gallons per minute and 800 to 1000 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Katahara Malinger, P.E.

Attachment

FUKUNAGA & ASSOCIATES, INC.

Subject: Re: Preconsult for Pookela Well Development Project
From: Fukunaga & Associates <office@fainc.org>
Date: Mon, 15 Sep 2003 09:42:30 -1000
To: LFischel@aol.com
BCC: Jacky.Takakura@co.maui.hi.us

Mr. Fischel,

I spoke with Jacky Takakura of Maui DWS and she is informed of the subject project. In addition, Pookela Well will not be used to serve the Haiku water system. Therefore, we do not plan to attend the Haiku Community Association meeting on Sept. 18.

Lynn Malinger
FUKUNAGA & ASSOCIATES, INC.

LFischel@aol.com wrote:

> Lynn, Thank you.
>
> Will anyone from your organization be able to make it to our Sept. 18th Haiku Community Association Meeting to answer questions and provide support for the project?
>
> Warmest regards,
>
> LLoyd Fischel
>
> << Subj: Preconsult for Pookela Well Development Project
> Date: 9/12/2003 4:18:35 PM Pacific Daylight Time
> From: fainc@aloha.com (Fukunaga & Associates, Inc.)
> Reply-to: <A HREF="mailto:office@fainc.org">office@fainc.org</A>
> To: lfischel@aol.com
>
> File: HAIKUpreconLtr.pdf (3393269 bytes)
> DL Time (TCP/IP): < 8 minutes
>
> <!DOCTYPE html PUBLIC "-//W3C//DTD HTML 4.01 Transitional//EN">
>
> <head>
> <title></title>
> </head>
>
> Mr. Fischel,
>
> As requested, we are transmitting herewith a PDF of the original letter andmap.
>
> Lynn Malinger
> Fukunaga & Associates, Inc.
>
> ---------- Headers ----------
> Return-Path: <fainc@aloha.com>
> Received: from rly-xk06.mx.aol.com (rly-xk06.mail.aol.com [172.20.83.44]) by air-xk02.mail.aol.com (v95.13) with ESMTP id MAILINXK23-7353f625427178; Fri, 12 Sep 2003 19:18:28 -0400
> Received: from orngca-mls03.socal.rr.com (mls03.hawaii.rr.com [66.75.160.40]) by rly-xk06.mx.aol.com (v95.1) with ESMTP id MAILRELAYINXK67-7353f625427178; Fri, 12 Sep 2003 19:17:59 -0400
> Received: from aloha.com (rrcs-west-67-52-74-69.biz.rr.com [67.52.74.69])
> by orngca-mls03.socal.rr.com (8.11.4/8.11.3) with ESMTP id h8CNGFo01917
> for <lfischel@aol.com>; Fri, 12 Sep 2003 16:16:15 -0700 (PDT)

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August 28, 2003

Kula Community Association
P.O. Box 417
Kula, HI 96790

Attention: Ms. Karolyn Mossman, President

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

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Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Katahara Malinger, P.E.

Attachment

FUKUNAGA & ASSOCIATES, INC.

Subject: Preconsultation for Pookela Well Development Draft Environmental Assessment
From: "Fukunaga & Associates, Inc." <fainc@aloha.com>
Date: Fri, 12 Sep 2003 13:35:46 -1000
To: info@kulamaui.com

This is to follow up on our letter dated August 28, 2003 regarding the preconsultation for the Pookela Well Development Draft EA.

If you would like us to address any comments prior to the publication of the Draft EA, please notify us. Otherwise, we will plan to send a copy of the published Draft EA for your review and comment in accordance with the environmental review process.

Thank you,
Lynn Malinger
Fukunaga & Associates, Inc.

9/23/03
left msg for Karolyn Mossman 878-2982

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

October 6, 2003

Ms. Karolyn Mossman, President
Kula Community Association
P.O. Box 417
Kula, HI 96790

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Dear Ms. Mossman,

As a follow-up to our pre-assessment consultation letter of August 28, 2003, we are transmitting the Draft Environmental Assessment for the subject project for the Kula Community Association review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

August 29, 2003

Makawao Main Street Association
c/o Tri-Isle Main Street Resource Center
2035 Main Street, Suite 1
Wailuku, HI 96793

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment –
Pookela Well Development

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

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Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Katahara Malinger, P.E.

Attachment

FUKUNAGA & ASSOCIATES, INC.

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October 6, 2003

Ms. Jocelyn Perreira
Wailuku Main Street Association, Inc.
Tri-Isle Main Street Resource Center
2035 Main Street, Suite 1
Wailuku, HI 96793

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Dear Ms. Perreira,

As requested, we are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

October 6, 2003

Ms. Madilyn Denbeau
Makawao Main Street Association
c/o 1061 Kokomo Road
Haiku, HI 96708

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Dear Ms. Denbeau,

Ms. Jocelyn Perreira requested that we transmit a copy of the Draft Environmental Assessment for the subject project for the Makawao Main Street Association review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 948-9339 / office@fainc.org / www.fainc.org

August 27, 2003

Pukalani Community Association
P.O. Box 880189
Pukalani, HI 96788

Attention: Mr. Aric Nakashima

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

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Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Katahara Malinger, P.E.

Attachment

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October 6, 2003

Pukalani Community Association
P.O. Box 880189
Pukalani, HI 96788

Attention: Mr. Aric Nakashima

SUBJECT: Draft Environmental Assessment – Pookela Well Development

As a follow-up to our pre-assessment consultation letter of August 27, 2003, we are transmitting the Draft Environmental Assessment for the subject project for the Pukalani Community Association review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

FUKUNAGA & ASSOCIATES, INC.

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 948-9339 / office@fainc.org / www.fainc.org

October 6, 2003

Makawao Public Library
1159 Makawao Avenue
Makawao, HI 96768

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

We are transmitting the Draft Environmental Assessment for the subject project in accordance with the environmental review process. Please make this reference available to the public. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

APPENDIX C
COMMENTS AND RESPONSES

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

November 5, 2003

Mr. Lynn Malinger
Fukunaga & Associates, Inc.
1388 Kapiolani Blvd., 2nd Floor
Honolulu, Hawaii 96814

Dear Mr. Malinger:

RE: Draft Environmental Assessment for the Pookela Well Development
Located at TMK 2-4-012: 028, Makawao, Hawaii (LTR 2003/3991)

The Maui Planning Department has the following comments to offer on the above referenced document:

1. What is the estimated time frame of construction?

2. Written comments and responses to the comments obtained during the pre-consultation process should be included in the Draft EA document.

3. Section II.A. and C. How is the proposed project consistent with the water priorities and the County's Water Use Development Plan?

4. Section III.A. The listing of the Maui County Comprehensive Zoning designations is incorrect. In addition, the next paragraph should state "Lands designated for Agriculture by both the State Land Use Commission, (~~County General Plan~~) County Zoning, and the Community Plan surround the project site."

5. Section III.B.4. The report indicates that the CWRM has developed an aquifer classification system. In addition to identifying the aquifers, does the resource also provide general characteristics of the aquifer (e.g., salinity, ecological importance, etc.)?

250 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96793
PLANNING DIVISION (808) 270-7735; ZONING DIVISION (808) 270-7253; FACSIMILE (808) 270-7634

The report states that the CWRM database lists two (2) registered wells within the Makawao Aquifer System. Provide the location of these wells in relation to the proposed well. Provide a discussion of the water quality for the two (2) registered wells.

6. Indicate the project site location on Figures 7, 8, 9, and 11 (pages 14, 15, 17, and 19, respectively).

7. Section III.C.2. Are there any drywells and/or injection wells that may potentially impact the aquifer?

8. Section IV.B.2.a. The report states that the well was designed and constructed with a 500 feet deep sanitary seal in order to protect the well water quality from potential flows in the gulch located 150 feet to the north. Please provide further analysis as to how the sanitary seal is sufficient in protecting the well water quality from potential flows in the gulch. For example, how is the vertical distance between saturation from potential stream flows and the sanitary seal sufficient?

   The impacts associated with the discharge of air and flushing water from the existing drain should be evaluated and provided in the report.

9. Section IV.B. A Cultural Impacts Assessment is required, which is separate and distinct from the archaeological/historic analysis.

10. Section VII. Confirm and identify funding/source. This section of the report indicates that the project "...*may be* funded by Federal Funds..."

11. Are the laboratory and subcontracted laboratories used to conduct the water quality analysis approved and certified by the State Department of Health?

Thank you for the opportunity to provide comments. If you have any further questions, please contact Ms. Kivette A. Caigoy, Staff Planner, of this office at 270-7735.

Sincerely,

MICHAEL W. FOLEY
Planning Director

MWF:KAC:lar
c: Wayne Botelho, Deputy Planning Director
Clayton Yoshida, Planning Program Administrator
Kivette A. Calgoy, Staff Planner
Project File
General File
K:\WP_DOCS\PLANNING\EA\2003\PookelaWell\DEAComments.wpd

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December 5, 2003

Mr. Michael W. Foley
Planning Director
County of Maui, Department of Planning
250 South High Street
Wailuku, Maui, Hawaii 96793

Attention: Ms. Kivette A. Caigoy

Dear Mr. Foley:

Subject: Comments on Draft Environmental Assessment
Pookela Well Development

Thank you for your comments on the Draft EA for the subject project. This letter is in response to your letter dated November 5, 2003.

1. COMMENT: *What is the estimated time frame of construction?*
RESPONSE: Construction is anticipated to start in mid to late 2004.

2. COMMENT: *Written comments and responses to the comments obtained during the pre-consultation process should be included in the Draft EA document.*
RESPONSE: Duly noted.

3. COMMENT: *Section II.A. and C. How is the proposed project consistent with the water priorities and the County's Water Use Development Plan?*
RESPONSE: Pookela Well is consistent with the Maui General Plan 2000 water priorities as stated in Section II.A:

> The proposed project is consistent with the General Plan objectives for water, and specifically moves toward achieving Objective 1. "To provide an adequate supply of potable and irrigation water to meet the needs of Maui County's residents." The additional potable groundwater source located in the heart of Upcountry Maui to serve the community addresses the following specific policies:
>
> a. *Support the improvement of water transmission systems to those areas which historically experience critical water supply problems provided the improvements are consistent with the water priorities and the County's Water Use Development Plan provisions for the applicable community plan area.*
>
> b. *Meet or exceed Federal quality standards for the potable water supply.*
>
> c. *Develop improved systems to provide better fire protection.*
>
> g. *Seek new sources of water by exploration in conjunction with other government agencies.*

> i. *Develop sufficient water supply during drought seasons so as to keep agricultural activities viable.*
>
> j. *Support the planning, preservation and development of water resources and systems which service Hawaiian Home Lands.*

With respect to the Maui County Water Use and Development Plan (WUDP), the drought conditions that have been experienced were not addressed in the assessment of the Makawao Water System in the 1990 report; however the issue was addressed in the 1992 Draft WUDP, but this plan was not formally adopted. The following paragraph has been added to the EA at the beginning of Section II.C.:

> The water restrictions in Upcountry Maui resulting from drought conditions and low water levels in ditches and reservoirs were not addressed in the assessment of the Makawao Water System in the 1990 Maui County Water Use and Development Plan (WUDP). The 1990 WUDP states, "the capacity of the Kamole Weir is more than sufficient to meet projected needs to the year 2010." The 1992 Draft WUDP does address drought conditions and "strongly recommended that groundwater sources be developed as an integral part of the future water supply system for Makawao." The 1992 WUDP was not formally adopted, but the intent to develop groundwater sources is evident.

4. COMMENT: *Section III.A. The listing of the Maui County Comprehensive Zoning designations is incorrect. In addition, the next paragraph should state "Lands designated for Agriculture by both the State Land Use Commission, County Zoning, and the Community Plan surround the project site."*
RESPONSE: Revised.

5. COMMENT: *Section III.B.4. The report indicates that the CWRM has developed an aquifer classification system. In addition to identifying the aquifers, does the resource also provide general characteristics of the aquifer (e.g., salinity, ecological importance, etc.)?*
RESPONSE: The *Water Resources Protection Plan*, June 1990, does not provide general characteristics of the aquifer (e.g., salinity, ecological importance, etc.). "Briefly stated, the Protection Plan shall inventory the water resources of the State, determine their sustainable yields based on available data, and recommend means of conserving and augmenting such water resources."

COMMENT: *The report states that the CWRM database lists two (2) registered wells within the Makawao Aquifer System. Provide the location of these wells in relation to the proposed well. Provide a discussion of the water quality for the two (2) registered wells.*
RESPONSE: Figure 8 was revised to show the well locations. The salinity of the wells has been included in the table. However, according to CWRM and Department of Health, Safe Drinking Water Branch (DOH-SDWB), they have no water quality information on these wells. The wells are private, used primarily for irrigation, and do not provide potable water service to more than 25 people.

6. COMMENT: *Indicate the project site location on Figures 7, 8, 9, and 11 (pages 14, 15, 17 and 19, respectively).*
RESPONSE: Revised.

7. COMMENT: *Section III.C.2. Are there any drywells and/or injection wells that may potentially impact the aquifer?*
RESPONSE: According to DOH-SDWB, there are two sites with injection wells within the Makawao Aquifer. There are 6 injection wells for untreated domestic wastewater located at Seabury Hall, approximately 3500 feet south. Two are at ground elevation 1870 feet msl and 15 feet deep, and 4 at about 1890 feet msl and 20 feet deep. The second site is the Kula Experiment Station located 6.25 miles south with a single injection well 17 feet deep at ground elevation 3100 feet msl. This injection well receives a combination of domestic wastewater and laboratory glassware wash water.

   As discussed in the EA, Pookela Well taps the basal aquifer at an elevation of 11 feet msl. The bottom of the closest and deepest injection well is at 1855 feet msl. Therefore, there is over 1800 feet of vertical separation in addition to the 3500 feet of horizontal separation from the closest injection well. Although data show no evidence of perched water in the area, several hundred feet of unsaturated zone (Kula lavas, which are poorly permeable) separate the perched water that may exist from the basal water. The layers are hydrologically disconnected. In addition, the well was designed and constructed with a 500 foot deep sanitary seal, the bottom of which is at 1310 feet msl. The well is sealed through the entire formation of Kula lavas. Therefore, the hydrogeology, sanitary seal, and horizontal and vertical separation from the injection wells will protect the well water quality.

   In addition, the fecal coliform test result was negative and nitrates, an indicator of contamination (typically indicates fertilizer, animal or human waste contamination), was extremely low at only 0.51 mg/L. The maximum contaminant level for nitrate is 10 mg/L. The horizontal and vertical separation and the water quality indicate that these injection wells do not affect the water quality of Pookela Well. Finally, a disinfectant residual will be maintained, and DWS and DOH will continue to monitor the water quality to ensure compliance with Federal and State drinking water standards.

8. COMMENT: *Section IV.B.2.a. The report states that the well was designed and constructed with a 500 feet deep sanitary seal in order to protect the well water quality from potential flows in the gulch located 150 feet to the north. Please provide further analysis as to how the sanitary seal is sufficient in protecting the well water quality from potential flows in the gulch. For example, how is the vertical distance between saturation from potential stream flows and the sanitary seal sufficient?*
RESPONSE: The gulch is approximately 150 feet north of the project site and has a bottom elevation of approximately 1720 feet msl. Pookela Well taps the basal aquifer at approximately 11 feet msl, and data show no evidence of perched water in the area. Several hundred feet of unsaturated zone (Kula lavas, which are poorly permeable) separate the perched water from the basal water. The layers are hydrologically disconnected; therefore Pookela Well will not impact potential streamflow. In addition, the well was designed and

constructed with a 500 foot deep sanitary seal, the bottom of which is at 1310 feet msl, 410 feet below the gulch bottom. The well is sealed through the entire formation of Kula lavas. Therefore, the hydrogeology, sanitary seal, and horizontal and vertical separation from the gulch will protect the well water quality from potential flows in this gulch.

   COMMENT: *The impacts associated with the discharge of air and flushing water from the existing drain should be evaluated and provided in the report.*
RESPONSE: The existing drain outlet is in an area that has large trees adjacent to it, and it is well protected by the heavy root growth from these trees. The amount of flushing water discharged at the outlet should be less than drainage flows experienced at the outlet in the past, therefore the impacts from flushing water should be negligible. No air is discharged at the drain outlet as it is released through the discharge piping.

9. COMMENT: *Section IV.B. A Cultural Impacts Assessment is required which is separate and distinct from the archaeological/historic analysis.*
RESPONSE: Revised to include discussion of the Cultural Impact Assessment.

10. COMMENT: *Section VII. Confirm and identify funding/source. This section of the report indicates that the project "...may be funded by Federal Funds..."*
RESPONSE: Funding for this project is undetermined at this time. MDWS is considering pursuing an SRF loan; therefore, the SRF loan requirements for the environmental process have been addressed. If MDWS chooses not to pursue the loan or it is not approved, funds will be provided by MDWS Revenue Funds under the Capital Improvement Program.

11. COMMENT: *Are the laboratory and subcontracted laboratories used to conduct the water quality analysis approved and certified by the State Department of Health?*
RESPONSE: The subcontracted laboratory responsible for the synthetic organic chemical analyses included in Report #104250 published in the Draft EA was not certified by DOH; the other laboratories were certified. MDWS did have additional samples and tests, and these Reports #104249 and #104183 have been included in the Final EA. Report #104249 did use the same uncertified subcontracted laboratory for the synthetic organic chemical analyses; however certified laboratories performed all Report #104183 analyses.

We hope the responses address your comments to your satisfaction. The Final EA is forthcoming.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

cc: Larry Winter, MDWS

ALAN M. ARAKAWA
Mayor

GILBERT S. COLOMA-AGARAN
Director

MILTON M. ARAKAWA, A.I.C.P.
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS AND ENVIRONMENTAL MANAGEMENT
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Development Services Administration

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

JOHN D. HARDER
Solid Waste Division

November 17, 2003

Ms. Lynn Malinger
FUKUNAGA & ASSOCIATES
1388 Kapiolani Boulevard, 2nd Floor
Honolulu, Hawaii 96814

Dear Ms. Malinger:

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT
POOKELA WELL DEVELOPMENT
TMK: (2) 2-4-012:028

We reviewed the subject draft environmental assessment and have the following comments:

1. Submit a plan for black wattle tree disposal, grinding, etc., mentioned on page 25, "The black wattle trees on the site will be removed and disposed."

2. Insufficient information is provided as to the amount and duration of excess water discharge. It is recommended that information be provided to alleviate potential downstream effects. The channel into which discharge will occur crosses over Brewer Road and Kea Road in Makawao. Discharged water could cause debris and mud to accumulate on the aforementioned roads causing hazards to motorists. Provide probable impacts and mitigative measures.

If you have any questions regarding this letter, please call Milton Arakawa at (808) 270-7845.

Very truly yours,

for GILBERT S. COLOMA-AGARAN
Director

GSCA:MA:msc
S:\LUCA\CZM\pookelawell_dea_24012028_msc.03.wpd

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

November 21, 2003

Mr. Gilbert S. Coloma-Agaran, Director
County of Maui
Department of Public Works and Environmental Management
200 South High Street
Wailuku, Maui, Hawaii 96793

Attention: Mr. Milton Arakawa

Dear Gentlemen:

Subject: *Comments on Draft Environmental Assessment*
Pookela Well Development

Thank you for your comments on the Draft EA for the subject project. This letter is in response to your letter dated November 17, 2003.

1. A plan for the disposal of the black wattle trees will be submitted during the design process.

2. Section IV.B.2.a. Surface Water of the Final EA has been revised as follows:

> The operation of the deep well pump requires the discharge of air and flushing water before the well water can be conveyed to the tank. The flushing water would be discharged to the existing drainline from the 2 MG tank. The quality of the flushing water generally would be potable. The existing drain outlet is in an area that has large trees adjacent to it, and it is well protected by the heavy root growth from these trees. The amount of flushing water discharged at the outlet should be less than drainage flows experienced at the outlet in the past, therefore the impacts from flushing water should be negligible.

We hope the responses address your comments to your satisfaction. The Final EA is forthcoming.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

cc: Larry Winter, MDWS

LINDA LINGLE
GOVERNOR

GENEVIEVE SALMONSON
DIRECTOR

STATE OF HAWAII
OFFICE OF ENVIRONMENT QUALITY CONTROL
236 SOUTH BERETANIA STREET
SUITE 702
HONOLULU, HAWAII 96813
TELEPHONE (808) 586-4185
FACSIMILE (808) 586-4186

November 6, 2003

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

Dear Mr. Tengan:

Subject: Draft Environmental Assessment for the Pookela Well Development, Maui

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

1. Please evaluate the impact of this project on cultural resources.

2. For assistance in completing the assessment, please review the guidelines for assessing well development projects available at http://www.state.hi.us/health/oeqc/guidance/wells.html

Sincerely,

Genevieve Salmonson
Director

c: Fukunaga and Associates, Inc.

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

November 21, 2003

Ms. Genevieve Salmonson, Director
State of Hawaii
Office of Environmental Quality Control
236 South Beretania Street, Suite 702
Honolulu, Hawaii 96813

SUBJECT: Comments on Draft Environmental Assessment –
Pookela Well Development

Dear Ms. Salmonson,

Thank you for your review and comment on the Draft EA. This letter is written on behalf of the County of Maui, Department of Water, in response to your comment letter dated November 6, 2003.

The following evaluation of the impact of this project on cultural resources has been included in the Final EA in Section III.D. Archaeological, Historical and Cultural Considerations:

> The Pookela Tank site, operated by DWS for over 20 years, is fenced to control access for security, and public health and safety. This project will not alter the use of the site, as it will continue to serve as a water service facility. The tank site encompasses 2.186 acres and was formerly ranch lands owned by Kaonoulu Ranch Co., Ltd., similar to the surrounding 213 acres currently open and used for grazing. There are no trails, streams, caves, native plants, or other cultural resources on the site, which indicate traditional practices or customary usage. Additionally, as discussed further below in Section IV.B.2.a. Surface Water, impacts to streamflow, which might be used for cultural uses are not anticipated. In light of the above background and based on discussion with the Office of Environmental Quality Control staff, further Cultural Impact Assessment is not required for this project.

We hope this response addresses your comments to your satisfaction.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

cc: Larry Winter, MDWS

FUKUNAGA & ASSOCIATES, INC.

PHONE (808) 594-1888

FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

October 16, 2003

Ms. Lynn Malinger
Fukunaga & Associates
1388 Kapiolani Boulevard – 2nd Floor
Honolulu, HI 96814

SUBJECT: POOKELA WELL DEVELOPMENT – DEA

Dear Ms. Malinger:

Thank you for the opportunity to review and comment on the above referenced project to develop the Pookela Well on property owned by the Maui County Department of Water Supply.

The Office of Hawaiian Affairs (OHA) requests that you amend the *Archaeological and Historical Considerations* (page 23) and the *Archeological/Historical Sites* (page 26) sections to reflect that if any archaeological remains are discovered, work will stop immediately and the State Historic Preservation Division and the Maui Island Burial Council be contacted.

If you have any questions, please contact Jerry B. Norris at 594-1847 or email him at jerryn@oha.org.

Sincerely,

Peter L. Yee
Director
Nationhood and Native Rights Division

1388 KAPIOLANI BLVD. / 2ND FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

November 21, 2003

Mr. Peter L. Yee, Director
Nationhood and Native Rights Division
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Attention: Mr. Jerry B. Norris

SUBJECT: Comments on Draft Environmental Assessment –
Pookela Well Development

Gentlemen:

Thank you for your review and comment on the Draft EA. This letter is in response to your comment letter dated October 16, 2003.

Section III.D. Archaeological, Historical and Cultural Considerations and Section IV.B.7. Archaeological, Historical and Cultural Impacts have been revised to state, "If construction work uncovers any archaeological remains, work will stop immediately and the State Historic Preservation Division and the Maui Island Burial Council will be contacted."

We hope this response addresses your comments to your satisfaction. The Final EA is forthcoming.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Lynn Malinger

cc: Larry Winter, MDWS

LINDA LINGLE
GOVERNOR OF HAWAII

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

In reply, please refer to:
CWB

10062CEC.03

October 14, 2003

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

**Subject: Draft Environmental Assessment (DEA) for Pookela Well Development by the Maui County Department of Water Supply (MDWS)
Island of Maui, State of Hawaii**

Thank you for the opportunity to provide comments on the DEA prepared for the subject project. The following are our comments:

1. Chapter 11-54 of the Hawaii Administrative Rules defines the term "brackish waters" as "waters with dissolved inorganic ion concentrations (salinity) greater than 0.5 parts per thousand, but less than thirty-two parts per thousand." This is different from page 20 of the DEA which defines brackish water as the "water has a chloride concentration ranging from 250 mg/L to 19,500 mg/L."

2. A National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for the discharge, either directly or indirectly, of treated hydrotesting effluent into State waters, including the tributary to Mailiko Gulch.

3. An NPDES permit for the proposed construction activity is not a mandatory requirement at this time if the total disturbed area is less than one-quarter of an acre (see p. 23, item III.E) or less than half an acre (see p.23, item IV.A.2). However, site-specific Best Management Practices and adequate and effective erosion control devices shall be properly implemented and maintained during the project construction period. Disturbed area shall be permanently stabilized immediately after the completion of the proposed construction activities.

Should you have any questions, please contact Mr. Edward Chen of the Engineering Section, Clean Water Branch, at 586-4309.

Sincerely,

for DENIS R. LAU, P.E., CHIEF
Clean Water Branch

c: Chief, DEHP/Maui

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

November 21, 2003

Mr. Denis R. Lau, Chief
Department of Health
Clean Water Branch
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Attention: Mr. Edward Chen

SUBJECT: Comments on Draft Environmental Assessment –
Pookela Well Development

Gentlemen:

Thank you for your review and comment on the Draft EA. This letter is in response to your comment letter dated October 14, 2003.

1. The definition of "brackish water" in Section III.C.1. Pookela Well is revised accordingly: "Chapter 11-54 of the Hawaii Administrative Rules defines "brackish waters" as waters with dissolved inorganic ion concentrations (salinity) greater than 0.5 parts per thousand [500 mg/L], but less than thirty-two parts per thousand [32,000 mg/L]."
2. A sentence is added in Section IV.A.3. Excess Water Discharge, "The Contractor will be required to obtain an NPDES general permit if his construction methods discharge into state water, including the tributary of Maliko Gulch."
3. The total disturbed area is less than one-quarter of an acre. The Contractor will be required to implement site-specific Best Management Practices and adequate and effective erosion control devices during the project construction period. Disturbed areas will be permanently stabilized immediately after the completion of the construction activities. These will be addressed in the construction documents.

We hope these responses address your comments to your satisfaction. The Final EA is forthcoming.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

cc: Larry Winter, MDWS

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O.BOX 3378
HONOLULU, HAWAII 96801-3378

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

In reply, please refer to:
EMD/SDWB

October 16, 2003

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

Dear Ms. Malinger:

SUBJECT: COMMENTS ON THE DRAFT ENVIRONMENTAL ASSESSMENT FOR POOKELA WELL DEVELOPMENT, MAUI, HAWAII
TMK: 2-4-12:28, SEPTEMBER 2003

We have reviewed the Draft Environmental Assessment (EA) for the Pookela Well Development, Maui, Hawaii, dated September 2003, as requested and note that the Maui County Department of Water Supply (DOWS) may pursue Drinking Water State Revolving Fund (DWSRF) funding for this project.

We acknowledge that the report includes an extensive section to comply with the DWSRF environmental review requirements. The latest revision of the Environmental Review process was updated on September 11, 2003, and included the cross-cutter: Environmental Justice, Executive Order 12898. Please include a review of this cross-cutter in the Final Environmental Assessment document. Enclosed is the latest version of the DWSRF Environmental Review procedure and DWSRF Boiler Plates for your use.

In the report please also include the statement that notes that the Maui County DOWS may pursue DWSRF funding for this project.

The inclusion of the above noted items will ensure compliance with DWSRF environmental review and public participation requirements. Please forward a copy of the final environmental assessment when completed.

If you have any questions or comments, please contact Denise Dang of the Safe Drinking Water Branch, at 586-4258. Also if you would like a soft-copy of the enclosures call or email Denise Dang at ddang@eha.health.state.hi.us.

Sincerely,

for WILLIAM WONG, P.E., CHIEF
Safe Drinking Water Branch
Environmental Management Division

DD:sm

Enclosures

c: 1. Wastewater Branch (w/o enclosures)
2. George Tengan (w/enclosures)
Maui County DOWS
200 South High Street
Wailuku, Hawaii 96793-2155
3. Larry Winter (w/enclosures)
Maui County DOWS

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

November 21, 2003

Mr. William Wong
State Department of Health
Safe Drinking Water Branch
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Attention: Ms. Denise Dang

SUBJECT: Comments on Draft Environmental Assessment –
Pookela Well Development

Dear Mr. Wong,

Thank you for your review and comment on the Draft EA. This letter is in response to your comment letter dated October 16, 2003.

1. The following review of the Environmental Justice cross-cutter is included in the Final EA: This project will not have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. Pookela Well Development will have no significant impact on the environment and will benefit the general public in the area by providing an additional safe source of drinking water.

2. The EA states that MDWS may pursue DWSRF funding in Section VII. Hawaii Drinking Water State Revolving Fund Program.

We hope these responses address your comments to your satisfaction. The Final EA, Notice of Determination, and certification form will be submitted to you when the FEA is submitted to OEQC for publication.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Lynn Malinger

cc: Larry Winter, MDWS

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

LD-NAV

October 24, 2003
POOKELAWELLMAUI.RCM

Lynn Malinger
Fukunaga & Associates, Inc.
1388 Kapiolani Blvd., 2nd Floor
Honolulu, Hawaii 96814

Dear Ms. Malinger:

Subject: Draft Environmental Assessment (DEA) - TMK: (2) 2-4-12: 028
Pookela Well Development

Thank you for the opportunity to review and comment on the subject matter.

The Department of Land and Natural Resources' (DLNR) Land Division made available or distributed a copy of the DEA pertaining to the subject matter to the following DLNR Divisions for their review and comment:

- Division of Aquatic Resources
- Division of Forestry and Wildlife
- Division of State Parks
- Engineering Division
- Commission on Water Resource Management
- Office of Conservation and Coastal Lands
- Land-Maui District Land Office

Attached is a copy of the Engineering Division comments. Based on the attached responses the Department of Land and Natural Resources has no other comment to offer.

If you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C: MDLO

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
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FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809
October 10, 2003

LD/NAV
Ref.: POOKELAWELLMAUI.COM

Suspense Date: 10/21/03

MEMORANDUM:

TO:
XXX Division of Aquatic Resources (DD)
*XXX Division of Forestry & Wildlife
*XXX Division of State Parks (DD)
Division of Boating and Ocean Recreation
*XXX Commission on Water Resource Management
*XXX Office of Conservation and Coastal Lands
XXX Engineering Division (DD)
XXX Maui District Land Office (DD)

FROM: Dierdre S. Mamiya, Administrator
Land Division

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
Applicant: COM Department of Water Supply
Proposed: Pookela Well Development
TMK: (2) 2-4-012: 028
Consultant: Fukunaga & Associates, Inc. (808 944-1821)

RECEIVED
LAND DIVISION
2003 OCT 20 P 4:21
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

Please review the DEA pertaining to the subject matter and submit your comments if any on Division letterhead (signed and dated) by the suspense date.

*NOTE: One copy of the DEA is available for your review in the Land Division Office, Room 220.

Should you need more time to review the document, please contact Nick Vaccaro at ext.: 7-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

(X) We have no comments.
( ) Comments attached.

Division: _____
Signed: _____

Title: _____
Date: MICHAEL G. BUCK, ADMINISTRATOR
DIVISION OF FORESTRY AND WILDLIFE
OCT 15 2003

LINDA LINGLE
GOVERNOR OF HAWAII

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DIVISION OF
LAND MANAGEMENT
2003 OCT 15 PM 1:35

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809
October 10, 2003

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
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BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
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HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

LD/NAV
Ref.: POOKELAWELLMAUI.COM

Suspense Date: 10/21/03

MEMORANDUM:

TO:
XXX Division of Aquatic Resources (DD)
*XXX Division of Forestry & Wildlife
*XXX Division of State Parks (DD)
Division of Boating and Ocean Recreation
*XXX Commission on Water Resource Management
*XXX Office of Conservation and Coastal Lands
XXX Engineering Division (DD)
XXX Maui District Land Office (DD)

FROM: Dierdre S. Mamiya, Administrator
Land Division

RECEIVED
LAND DIVISION
2003 OCT 20 P 12:08
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

SUBJECT: DRAFT ENVIRONMENTAL ASSESSMENT (DEA)
Applicant: COM Department of Water Supply
Proposed: Pookela Well Development
TMK: (2) 2-4-012: 028
Consultant: Fukunaga & Associates, Inc. (808 944-1821)

Please review the DEA pertaining to the subject matter and submit your comments if any on Division letterhead (signed and dated) by the suspense date.

*NOTE: One copy of the DEA is available for your review in the Land Division Office, Room 220.

Should you need more time to review the document, please contact Nick Vaccaro at ext.: 7-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

(✓) We have no comments.
( ) Comments attached.

Division: MDLO
Signed: James K. Kongo
Title: District Land Agent
Date: 10-16-03

LINDA LINGLE
GOVERNOR OF HAWAII

RECEIVED
LAND DIVISION
2003 OCT 22 P 2:08
DEPT. OF LAND & NATURAL RESOURCES
STATE OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809
October 10, 2003

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
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CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

LD/NAV
Ref.: POOKELAWELLMAUI.COM

Suspense Date: 10/21/03

MEMORANDUM:

TO:
XXX Division of Aquatic Resources (DD)
*XXX Division of Forestry & Wildlife
*XXX Division of State Parks (DD)
Division of Boating and Ocean Recreation
*XXX Commission on Water Resource Management
*XXX Office of Conservation and Coastal Lands
XXX Engineering Division (DD)
XXX Maui District Land Office (DD)

FROM: Dierdre S. Mamiya, Administrator
Land Division

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Should you need more time to review the document, please contact Nick Vaccaro at ext.: 7-0384.

If this office does not receive your comments by the suspense date, we will assume there are no comments.

( ) We have no comments.
(X) Comments attached.

Division: Engineering
Signed: Eric T. Hirano
Title: Chief Engineer
Date: 10/21/03

DEPARTMENT OF LAND AND NATURAL RESOURCES
ENGINEERING DIVISION

LD/NAY
Ref: Pod Kela Well Maui.com

COMMENTS

(✓) We confirm that the project site according to the Flood Insurance Rate Map (FIRM) is located in Zone C.

( ) Please note that the project site according to the Flood Insurance Rate Map (FIRM) is located in Zone ___.

( ) Please note that the correct Flood Zone Designation for the project site according to the Flood Insurance Rate Map (FIRM) is _____.

( ) Please note that the project must comply with the rules and regulations of the National Flood Insurance Program (NFIP), whenever work is required within a flood zone. If there are questions regarding the NFIP, please contact the State Coordinator, Mr. Sterling Yong, of the Department of Land and Natural Resources at 587-0248. If there are questions regarding flood ordinances, please call the applicable County coordinators below:

- ( ) Mr. Robert Sumimoto at (808) 523-4254 or Mr. Mario Siu Li at (808) 523-4247 of the City and County of Honolulu, Department of Planning and Permitting.
- ( ) Mr. Kelly Gomes at (808) 961-8327 (Hilo) or Mr. Kiran Emler at (808) 327-3530 (Kona) of the County of Hawaii, Department of Public Works.
- ( ) Mr. Francis Cerizo at (808) 270-7771 of the County of Maui, Department of Planning.
- ( ) Mr. Wallace Kudo at (808) 241-6620 of the County of Kauai, Department of Public Works.

( ) The applicant should include project water demands and infrastructure required to meet water demands. Please note that the implementation of any State-sponsored projects requiring water service from the Honolulu Board of Water Supply system must first obtain water allocation credits from the Engineering Division before it can receive building permit and/or water meter.

( ) The applicant should provide the water demands and calculations to the Engineering Division so that it can be included in the State Water Projects Plan Update.

( ) Additional Comments: _____

( ) Other: _____

Should you have any questions, please call Mr. Andrew Monden of the Planning Branch at 587-0229.

Signed: Eric T. Hirano
ERIC T. HIRANO, CHIEF ENGINEER

Date: 10/21/03

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION
POST OFFICE BOX 621
HONOLULU, HAWAII 96809

November 6, 2003

POOKELAWELLMAUI.RCM 2
LD-NAV

Lynn Malinger
Fukunaga & Associates, Inc.
1388 Kapiolani Blvd., 2nd Floor
Honolulu, Hawaii 96814

Dear Ms. Malinger:

Subject: Draft Environmental Assessment (DEA) - TMK: (2) 2-4-12: 028
Pookela Well Development

This is a follow-up to our letter (Ref: POOKELAWELLMAUI.RCM) to you dated October 24, 2003, pertaining to the subject matter.

Enclosed please find a copy of the Division of Aquatic Resources' comment.

The Department of Land and Natural Resources has no other comment to offer.

If you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at 1-808-587-0384.

Very truly yours,

DIERDRE S. MAMIYA
Administrator

C: MDLO

25

SUSPENSE DATE: 10/21/03

STATE OF HAWAII
Department of Land and Natural Resources
DIVISION OF AQUATIC RESOURCES

MEMORANDUM

TO: for William Devick, Administrator
FROM: Annette Tagawa, Aquatic Biologist
SUBJECT: Comments on Pookela Well Development, Ref. No. POOKELAWELLMAUI.COM
Comments Requested By Dierdre S. Mamiya, Administrator Land Division
Date of Request 1/10/03 Date Received 10/13/03

Summary of Project

Title: Pookela Well Development

Project By: COM Dept. of water Supply

Location: Island of Maui, Hawaii

Brief Description:

The applicant proposes to develop the Pookela Well into a production well to accommodate the increasing water demands in the Upcountry Maui area. Developing Pookela Well into a production well will involve: 1) installation of a submersible pump, 2) Pump discharge piping and appurtenances, 3) Pump control building, 4) Pump controls, 5) Chlorination facilities, 6) Radio telemetry link to the existing 2MG Pookela Tank and Central Baseyard, 7) Electrical work, including upgrading existing service, 8) drainage improvements, and 9) asphalt concrete paving.

Comments:

The Division of Aquatic Resources has no objection to this request since the proposed project is not expected to have adverse impact on aquatic resource values in this area. However, the Division is concerned because the project site is located near one of the tributaries of Maliko Gulch. Maliko Gulch is known to provide habitat for some native stream animals.

Construction activities could have short term impacts on aquatic resources such as temporary turbidity, biota displacement and disturbance. We strongly recommend that mitigative measures should be taken during construction to prevent contaminants such as sediment, pollutants, petroleum products, and debris from possibly entering the aquatic environment. We also suggest that site work be scheduled for periods of minimal rainfall and lands denuded of vegetation be replanted or covered as quickly as possible to control erosion.

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

November 21, 2003

Ms. Annette Tagawa, Aquatic Biologist
Department of Land and Natural Resources
Division of Aquatic Resources
P.O. Box 621
Honolulu, Hawaii 96809

SUBJECT: Comments on Draft Environmental Assessment –
Pookela Well Development

Dear Ms. Tagawa,

Thank you for your review and comment on the Draft EA. This letter is in response to your comment letter dated October 21, 2003.

As stated in the EA in Section IV.A. Short Term Impacts:

1. Erosion

   Less than one-quarter of an acre will be graded to accommodate the new facilities associated with the well development. The disturbed area will either be paved or grassed. The Contractor will be required to implement erosion and sediment control measures during construction. Grading and soil disturbance will be minimized, and areas that are disturbed will be properly graded and revegetated to prevent erosion. The Contractor will be instructed to minimize the time of construction, retain ground cover until the latest practicable date to complete construction, and construct drainage control features early in the construction time schedule. Continued maintenance will be required for ninety days from the accepted completion date of the planting period to ensure proper revegetation.

2. Excess Water Discharge

   Disposal of excess water generated from hydrotesting and chlorination of the project components, and storm water runoff will be accomplished by the Contractor in compliance with all applicable National Pollutant Discharge Elimination System (NPDES) requirements. The Contractor will be required to obtain an NPDES general permit if his construction methods discharge into state waters, including the tributary of Maliko Gulch.

FUKUNAGA & ASSOCIATES, INC.

We hope this response addresses your comments to your satisfaction. The Final EA is forthcoming to DLNR, Land Division.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

cc: Larry Winter, MDWS
Dierdre Mamiya, Administrator/Nicholas A. Vaccaro
Department of Land and Natural Resources
Land Division

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
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KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

HAWAI'I HISTORIC PRESERVATION
DIVISION REVIEW

Log #2003.2322
Doc #: 0311CD22

Applicant/Agency: Lynn Malinger
Address: Fukunaga & Associates
1388 Kapi'olani Blvd, 2nd Floor
Honolulu, Hawaii 96814

SUBJECT: Chapter 6E-8 Historic Preservation Review –Draft Environmental Assessment – Pookela Well Development
Ahupua'a: Makawao
District, Island: Makawao, Maui
TMK: (2) 2-4-012:028

1. We believe there are no historic properties present, because:

✓ a) intensive cultivation has altered the land
___ b) residential development/urbanization has altered the land
✓ c) previous grubbing/grading has altered the land
___ d) an acceptable archaeological assessment or inventory survey found no historic properties
✓ e) other: See SHPD DOC NO.: 0306CD47/LOG NO.: 2003.0943

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

✓ Thus, we believe that "no historic properties will be affected" by this undertaking

Staff: Cathleen A. Dagher Date: 10 November 2003
Cathleen A. Dagher
Assistant Maui/Lana'i Island Archaeologist
(808) 692-8023

NRCS
Natural Resources Conservation Service
P.O. Box 50004
Honolulu, HI 96850
808-541-2600

United States Department of Agriculture

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

October 16, 2003

FUKUNAGA AND ASSOCIATES, Inc.
1388 Kapiolani Blvd., Second Floor
Honolulu, Hawaii 96814

Attention: Ms. Lynn Malinger;

Subject: Draft Environmental Assessment for Pookela Well Development

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

Thank you for the opportunity to review this document.

Sincerely,

LAWRENCE T. YAMAMOTO
State Conservationist

cc: Larry Winter; MDWS; 200 South High Street; Wailuku, Hawaii 96734

The Natural Resources Conservation Service provides leadership in a partnership effort to help people conserve, maintain, and improve our natural resources and environment.

An Equal Opportunity Provider and Employer

DEPARTMENT OF WATER SUPPLY
County of Maui *Maui, Hawaii*

2003-12-23-MA-FEA-

POOKELA WELL DEVELOPMENT
Final Environmental Assessment

Maui, Hawaii
Tax Map Key: 2-4-12:28

December 2003

FUKUNAGA AND ASSOCIATES, INC.
Consulting Engineers
1388 Kapiolani Boulevard, Second Floor
Honolulu, Hawaii 96814
(808) 944-1821

1440
x 1100
144000
1440
1,584000
1.584

Project Summary

Project:	Pookela Well Development
Proposing Agency:	County of Maui, Department of Water Supply
Proposed Action:	Develop Pookela Well into a production well, which generally will involve installation of a submersible pump (1100 gpm), pump controls, discharge piping and appurtenances, control building, chlorination facilities, radio telemetry and electrical work, and site improvements.
Determination:	Finding of No Significant Impact
Tax Map Key:	2-4-12:28 and associated drainage easement
Property Owner:	County of Maui
State Land Use District:	Agriculture
County Zoning:	Agriculture
Consultation:	County of Maui, Department of Planning County of Maui, Department of Public Works and Environmental Management Office of Environmental Quality Control Office of Hawaiian Affairs State Department of Agriculture State Department of Hawaiian Home Lands State Department of Health State Department of Land and Natural Resources State Historic Preservation Division UHM Environmental Center UHM Water Resource Research Center U.S. Army Corps of Engineers, Pacific Ocean Division U.S. Department of Agriculture, Natural Resource Conservation Service U.S. Department of the Interior Fish & Wildlife Services Haiku Community Association Kula Community Association Makawao Main Street Association Pukalani Community Association

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A. POOKELA WELL WATER QUALITY
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I. PROJECT DESCRIPTION

A. PURPOSE OF THE PROJECT

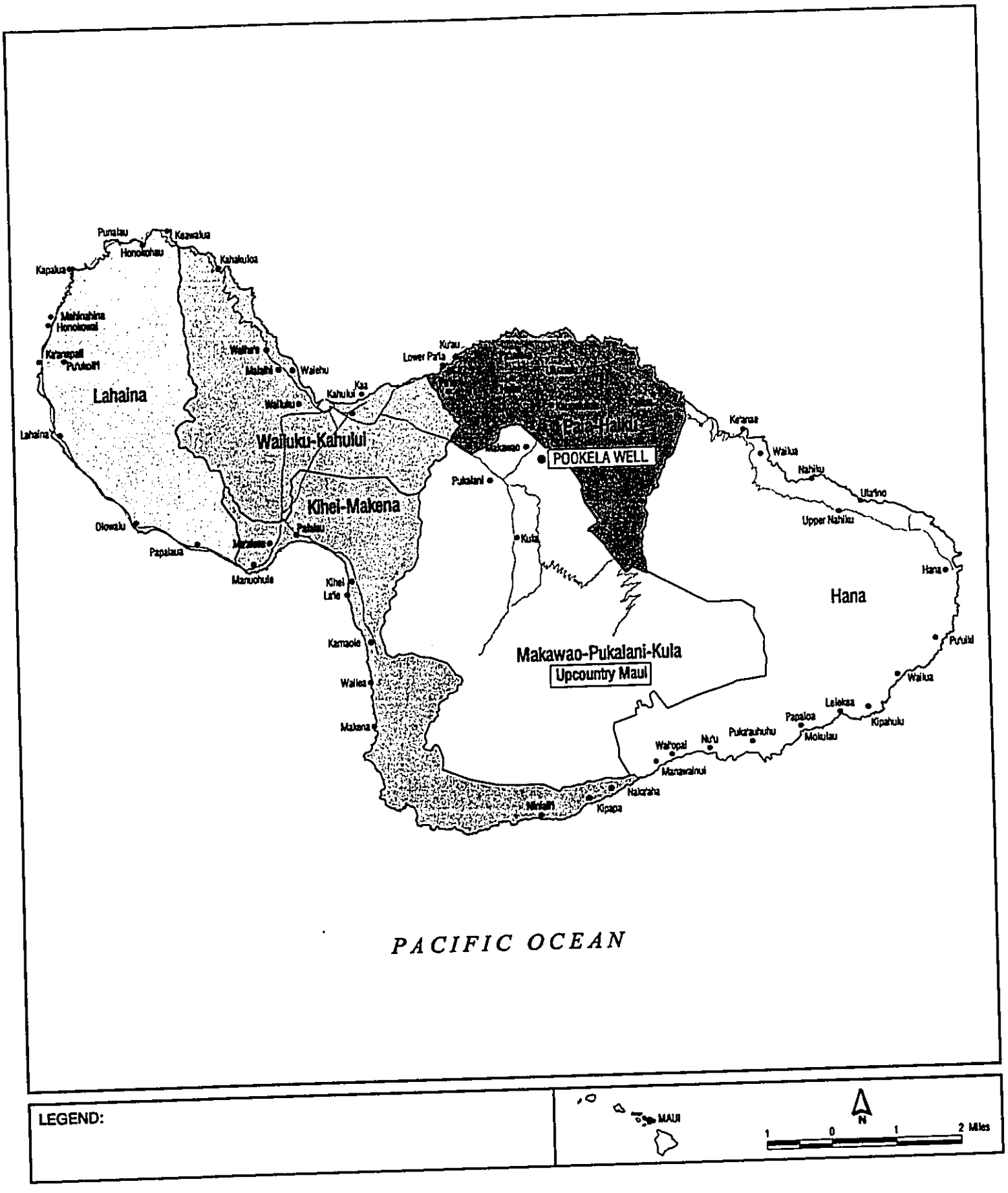
Upcountry Maui encompasses the communities of Haiku, Kaupakulua, Makawao, Pukalani and Kula on the northern slopes of Haleakala; and is characterized by a rural and agricultural setting, which the communities strive to preserve. (See **Figure 1** for the island map.) Accordingly, water demands of the area are basically agricultural and domestic. Upcountry Maui is primarily served by surface water sources, which are supplied by rainfall (surface runoff) and are highly susceptible to drought conditions.

Drought conditions and water restrictions are a common occurrence for Upcountry Maui; the Maui County Board of Water Supply last declared a drought emergency on December 4, 2002.

Due to the insufficient water supply in the area, there also has been the need to regulate the issuance of water meters for many years. The *Kula Rule* enacted in November 1977 regulated "the issuance of water meters and the approval of subdivision applications from the upper Kula waterline and lower Kula waterline." This rule limited the size of new meters on the upper Kula waterline to five-eighths inch (size of a standard residential meter) and no new agricultural meters were allowed; and new meters on the lower Kula waterline were limited to one and one-half inch. The *Kula Rule* was extended or amended several times until it expired in March 1993. However, a few days before expiration, the Board of Water Supply recognized a "shortage condition," and implemented a *Shortage Finding*. This finding stated that the Upcountry water systems did not have sufficient water supply to meet fire protection, domestic and irrigation needs; and new meters could not be issued without detriment to the existing water services in the regulated area. The *Shortage Finding* not only affected Upper and Lower Kula, but also Makawao, Haiku and Pukalani. Following the *Shortage Finding*, since November 2, 1994, the Maui County Department of Water Supply (DWS) has maintained a priority list of applicants who were denied water service.

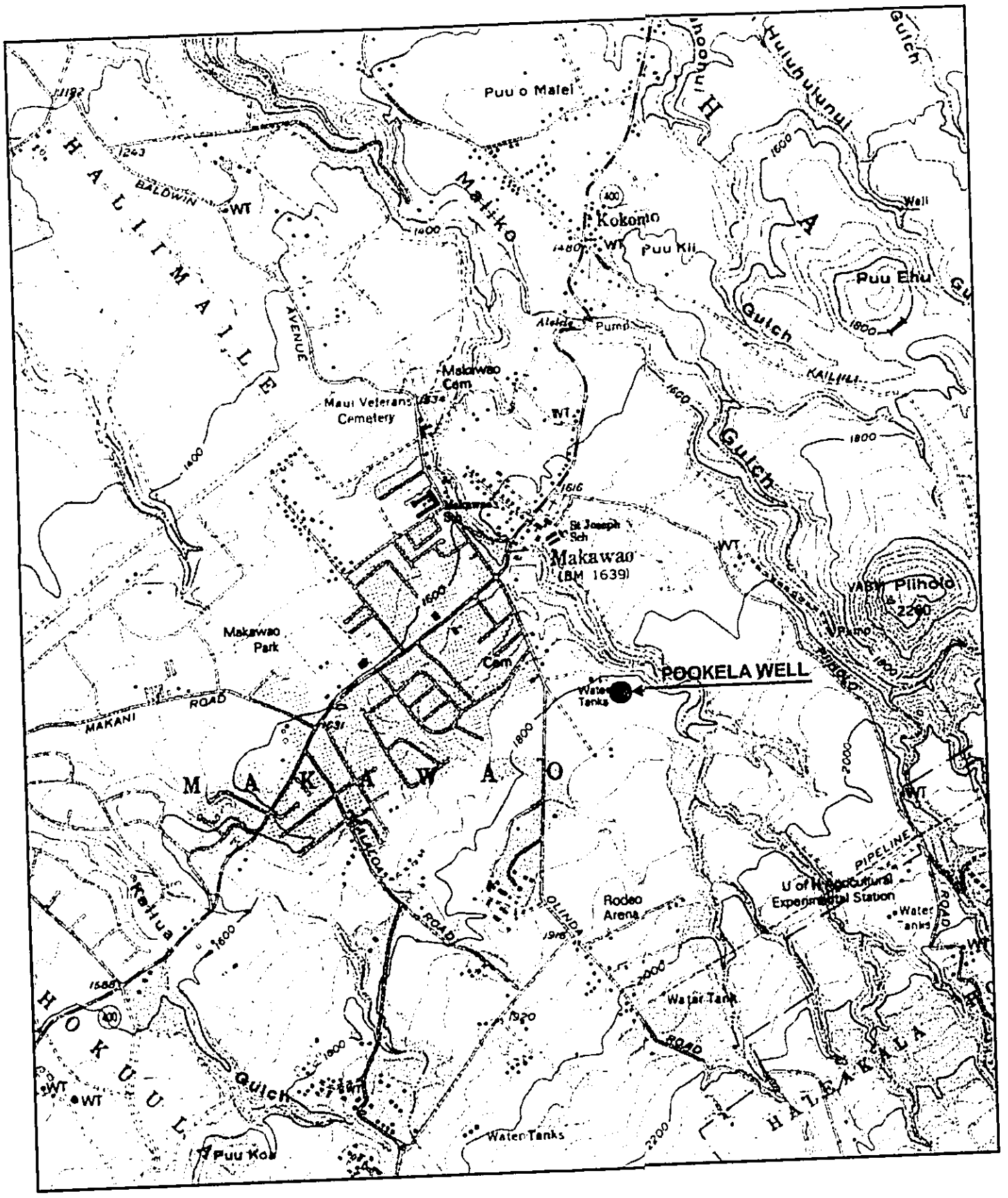
In October 2002, Maui County Administrative Rule Title 16, Chapter 106 – *Water Meter Issuance Rule for the Upcountry Water System* was enacted. The purpose of the rule is "to provide uniform handling of applications for water service from the priority list."

In order to increase source water for Upcountry Maui, the Maui County Department of Water Supply has pursued groundwater development as a reliable alternative water source. The drilling and testing of Pookela Well was completed in February 2003, and DWS desires to develop the well to serve Upcountry Maui. See **Figure 2** for the well location.



Island of Maui

FIGURE 1



Location Map

FIGURE 2

B. PROJECT LOCATION

Pookela Well is located on the existing Pookela Tank site that is owned by the County of Maui, identified as Tax Map Key (TMK) 2-4-12:28, and shown on **Figure 3.** This site is less than half a mile mauka of Makawao Town, and is surrounded by lands owned by Kaonoulu Ranch Co., Ltd.

C. EXISTING WATER SYSTEMS SERVING UPCOUNTRY MAUI

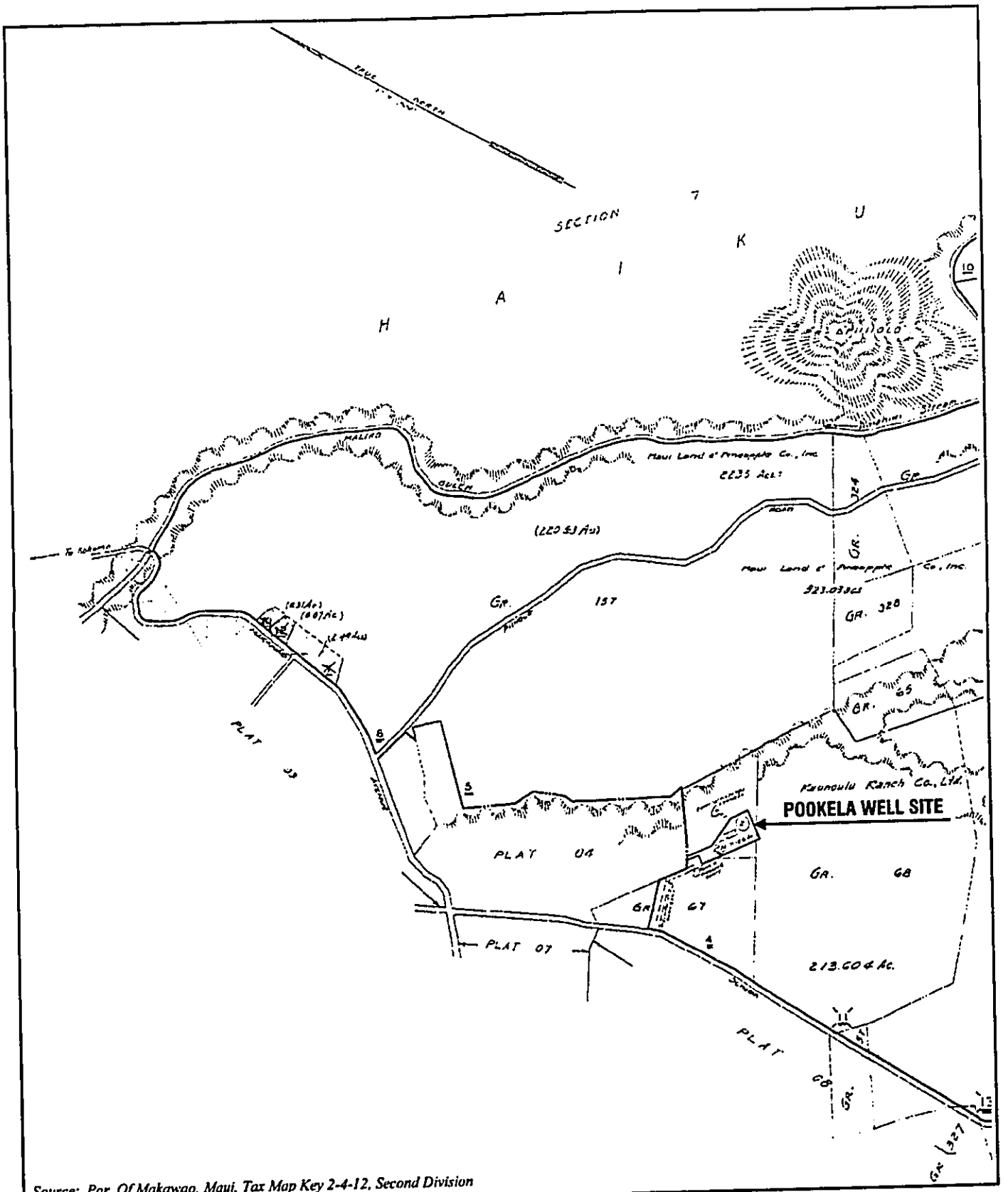
The Haiku, Makawao, and Kula Water Systems serve Upcountry Maui, and are equipped with booster pump systems to move water up from the Makawao Water System and through the Kula Water System. In 2002, surface water sources serving the area produced approximately 6 million gallons per day (mgd) of potable water, and 0.9 mgd was from groundwater sources.

The Haiku Water System is supplied primarily by groundwater from Haiku Well (0.3 mgd) and Kaupakulua Well (0.6 mgd).

The major source for the Makawao Water System is flow from Wailoa Ditch, which is treated at Kamole Weir Water Treatment Facility (WTF), located at approximately the 1000-feet contour elevation. Kamole Weir WTF is the largest surface water treatment facility on the island. The current average daily production is 2.5 mgd.

The Kula Water System is divided into the Upper Kula Water System, which is at approximately the 4000-feet contour elevation, and the Lower Kula Water System at approximately the 3000-feet contour elevation. The major water sources for the Upper Kula Water System are the Haipuena, Puohokamoa and Waikamoi Streams. Runoff from these streams are collected, transported and treated at the Olinda WTF, which currently produces about 1.3 million gallons (MG) of potable water a day. Runoff from the same streams in addition to Honomanu Stream is treated at the Piiholo WTF, and suppiies the Lower Kula Water System with about 2.2 mgd.

The water systems serving Upcountry Maui are interconnected and allow flexible operations to move water to meet the demands. In times of drought, the surface water sources for the Kula Water System are not sufficient to meet demands, and water is pumped from the Kamole WTF to supplement the system. At other times, conditions allow for water from the Piiholo WTF to serve the Makawao Water System, and also from the Kamole WTF to serve the Haiku Water System.



Source: Por. Of Makawao, Maui, Tax Map Key 2-4-12, Second Division

Portion Tax Map Key 2-4-12

D. POOKELA TANK SITE

The existing Pookela Tank site encompasses 2.186 acres and operates within the Makawao Water System. There is a 2.0 MG concrete tank, a 0.3 MG steel tank, and a booster pumping system within the fenced site. Refer to **Figure 4** for the existing site plan. The 2 MG tank has a 24-inch drain line for overflow and maintenance purposes, which goes approximately 150 feet north and discharges into a dry gulch. This gulch is a non-perennial tributary west of Maliko Gulch. The existing drain line lies within a 15 feet wide drainage easement.

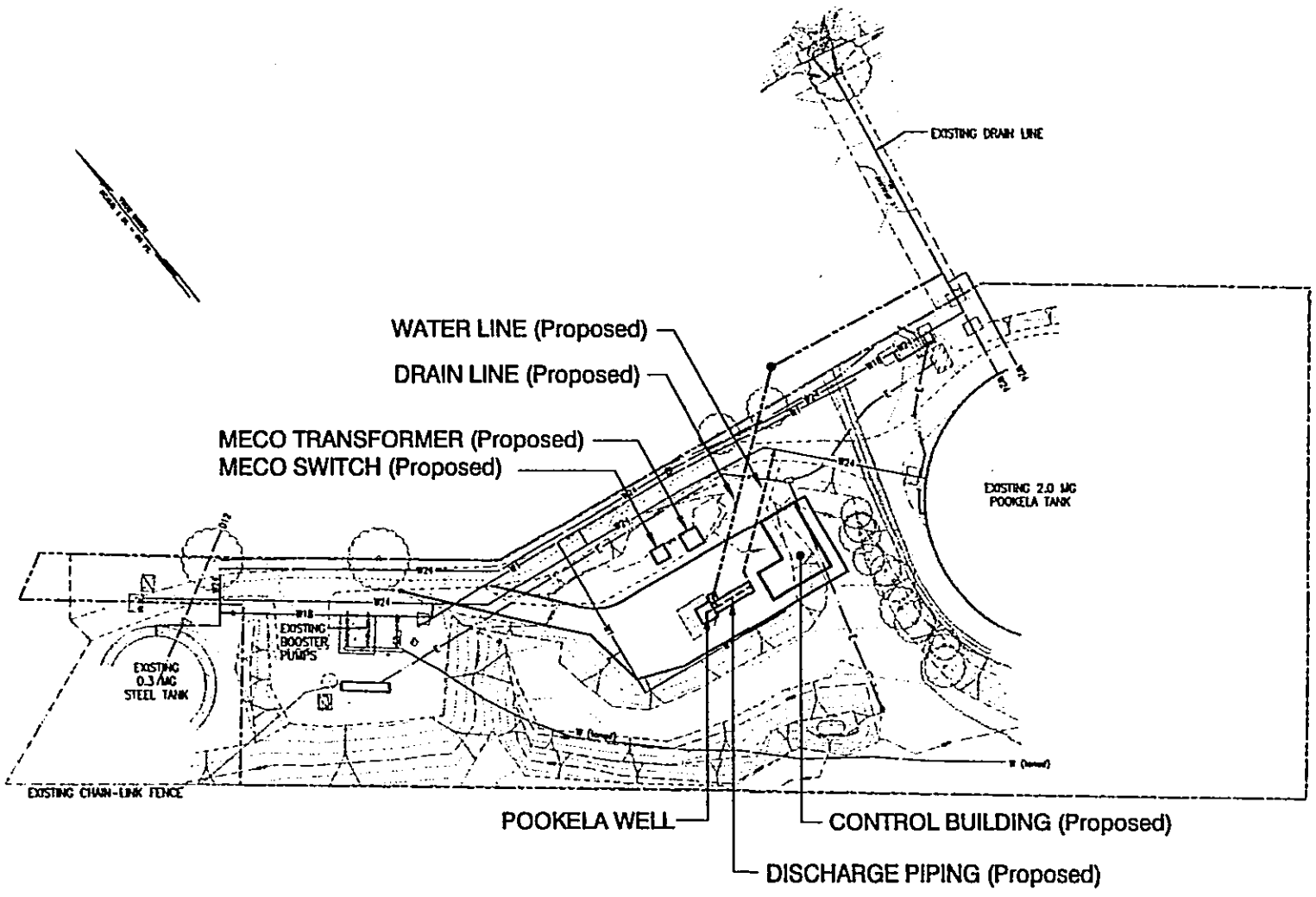
E. POOKELA WELL

Pookela Well has been designated as State Well No. 5118-02 with coordinates of latitude 20°51'07" North and longitude 156°18'30" West. The well was constructed from July 2002 and tested in December 2002. According to the *Results of Drilling and Testing* report (March 2003), "the well is capable of sustaining a pumping capacity of 1400 gpm [gallons per minute] with a drawdown of 4.0 feet." Additionally, the chloride concentration is extremely low and was measured at 5 milligrams per liter (mg/L).

F. PROPOSED PROJECT

Developing Pookela Well into a production well will involve the following major work items:

1. Installation of a submersible pump, pump rating at 1100 gpm at about 1880 feet total dynamic head
2. Pump discharge piping and appurtenances
3. Pump control building
4. Pump controls
5. Chlorination facilities
6. Radio telemetry link to the existing 2 MG Pookela Tank and Central Baseyard
7. Electrical work, including upgrading the existing service
8. Drainage improvements – connection to the existing 24-inch drain line from the 2 MG tank for discharge of air and flushing waters from the well upon pump startup
9. Asphalt concrete paving.



COUNTY OF MAUI
Pookela Well Development

Preliminary Layout

FIGURE 4

II. COMPLIANCE WITH PLANNING DOCUMENTS

A. MAUI GENERAL PLAN 2000

The Charter of the County of Maui establishes the structure and organization of the government, and defines the responsibilities of the County. The Charter requires the development of the General Plan and Community Plans.

The General Plan addresses development patterns, and problems and needs unique to the communities; explains social, economic and environmental impacts of potential developments; and sets the desired sequence, patterns and characteristics of future developments. The General Plan also identifies objectives, priorities, policies and implementing actions with respect to various development matters, including water systems.

The proposed project is consistent with the General Plan objectives for water, and specifically moves toward achieving Objective 1. "To provide an adequate supply of potable and irrigation water to meet the needs of Maui County's residents." The additional potable groundwater source located in the heart of Upcountry Maui to serve the community addresses the following specific policies:

a. *Support the improvement of water transmission systems to those areas which historically experience critical water supply problems provided the improvements are consistent with the water priorities and the County's Water Use Development Plan provisions for the applicable community plan area.*

b. *Meet or exceed Federal quality standards for the potable water supply.*

c. *Develop improved systems to provide better fire protection.*

g. *Seek new sources of water by exploration in conjunction with other government agencies.*

i. *Develop sufficient water supply during drought seasons so as to keep agricultural activities viable.*

j. *Support the planning, preservation and development of water resources and systems which service Hawaiian Home Lands.*

B. MAKAWAO-PUKALANI-KULA COMMUNITY PLAN – UPDATE

The Charter deems the Community Plan as part of the General Plan. The Makawao-Pukalani-Kula Community Plan was last updated in July 1996. This plan "provides specific recommendations to address the goals, objectives and policies contained in the

General Plan, while recognizing the values and unique attributes of Makawao-Pukalani-Kula, in order to enhance the region's overall living environment."

The Makawao-Pukalani-Kula Community Plan identifies the limited development of water resources as a primary concern. Groundwater is the most viable alternative to the depleted surface water sources.

C. MAUI COUNTY WATER USE AND DEVELOPMENT PLAN

The water restrictions in Upcountry Maui resulting from drought conditions and low water levels in ditches and reservoirs were not addressed in the assessment of the Makawao Water System in the 1990 Maui County Water Use and Development Plan (WUDP). The 1990 WUDP states, "the capacity of the Kamole Weir is more than sufficient to meet projected needs to the year 2010." The 1992 Draft WUDP does address drought conditions and "strongly recommended that groundwater sources be developed as an integral part of the future water supply system for Makawao." The 1992 WUDP was not formally adopted, but the intent to develop groundwater sources is evident.

DWS is in the process of updating the WUDP. The State Water Code, Hawaii Revised Statutes (HRS) Chapter 174C-31, Hawaii Water Plan, mandates that the WUDP, "be prepared by each separate county and adopted by ordinance, setting forth the allocation of water to land use in that county." The *Statewide Framework for Updating the Hawaii Water Plan* dated February 2000 details the required and recommended elements for the WUDP. Updating the WUDP is an involved process of coordinating and integrating all water use and development planning for the County of Maui. Objectives developed may include issues such as water supply reliability, costs and/or rates, environmental impacts, water quality, appurtenant and correlative water rights, traditional and customary gathering rights, and Department of Hawaiian Home Lands water rights. This comprehensive plan will also address integrated resource planning and implementation plans. The updated WUDP will incorporate the use of Pookela Well.

D. EAST MAUI WATER DEVELOPMENT PLAN

The East Maui Water Development Plan (EMPLAN) is a project proposed by DWS to provide for the development of an average of 10 mgd of potable water in east Maui for transmission to Central Maui. It involves drilling 10 basal water wells in the Paia and Haiku Aquifer Systems, constructing storage reservoirs and a 36-inch transmission main to Central Maui.

Pookela Well is in the Makawao Aquifer System. In addition, Pookela Well development is independent of the EMPLAN. Therefore, the proposed project has negligible impact on, nor is negligibly impacted by the EMPLAN.

III. DESCRIPTION OF THE ENVIRONMENT

A. LAND CLASSIFICATION AND ZONING

State and County laws and regulations govern Land use policies. The State Land Use Commission classifies all State lands as 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 is regulated by the Comprehensive Zoning Ordinance (CZO) for the County of Maui. County zoning designations include:

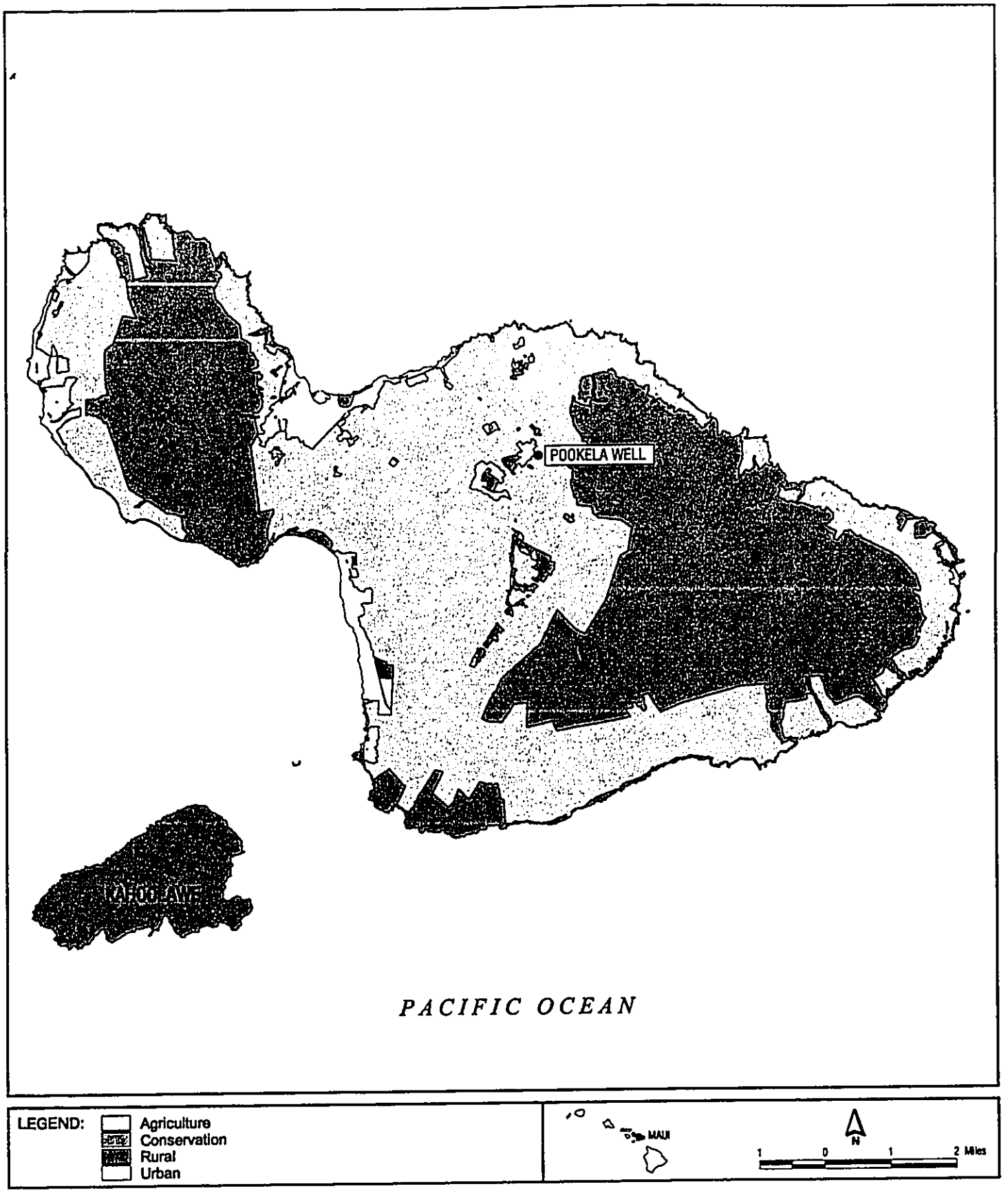
Residential districts
Multiple-family districts
Hotel districts
Business districts
Airport district
Agricultural district
Off-street parking and loading
Planned development
Civic improvement district
Park districts
Rural districts

Lands designated for Agriculture by both the State Land Use Commission, County Zoning, and the Community Plan surround the project site. See **Figure 5** for the State Land Use map. According to the Maui County Code, Title 19 Zoning, Chapter 19.30A Agricultural District, minor utility facilities is a permitted land use. Minor utility facilities are defined in Section 19.04.040 as, "transmission lines used directly in the distribution of utility services that have minor impact on adjacent land uses which include, but which are not limited to...vaults, waterwells, tanks and distribution equipment... and other similar type uses." The Makawao-Pukalani-Kula Community Plan further details land use within the community; and designates the project site as Public/Quasi Public, which includes use for public utilities. Therefore, this project is in compliance with the various Land use policies.

B. PHYSICAL FEATURES

1. Topography

The topography of the lands surrounding the project site has a general slope ranging from 7% to 10%. The existing tank site was leveled in areas to accommodate the tanks, booster pumping system, and well drilling, and has embankments sloping at 2:1 as shown on **Figure 4.**



State Land Use - Maui

FIGURE 5

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 the well site is characterized as Makawao silty clay, 3 to 7 percent slopes (MfB). The soil is strong acid to medium acid in the surface layer and slightly acid in the subsoil; provides slow runoff; and the erosion hazard is slight. See **Figure 6**.

3. Geology

The island of Maui is composed of two volcanic cones, West Maui and East Maui or the Haleakala Volcano. Pookela Well is located on the northern slopes of Haleakala.

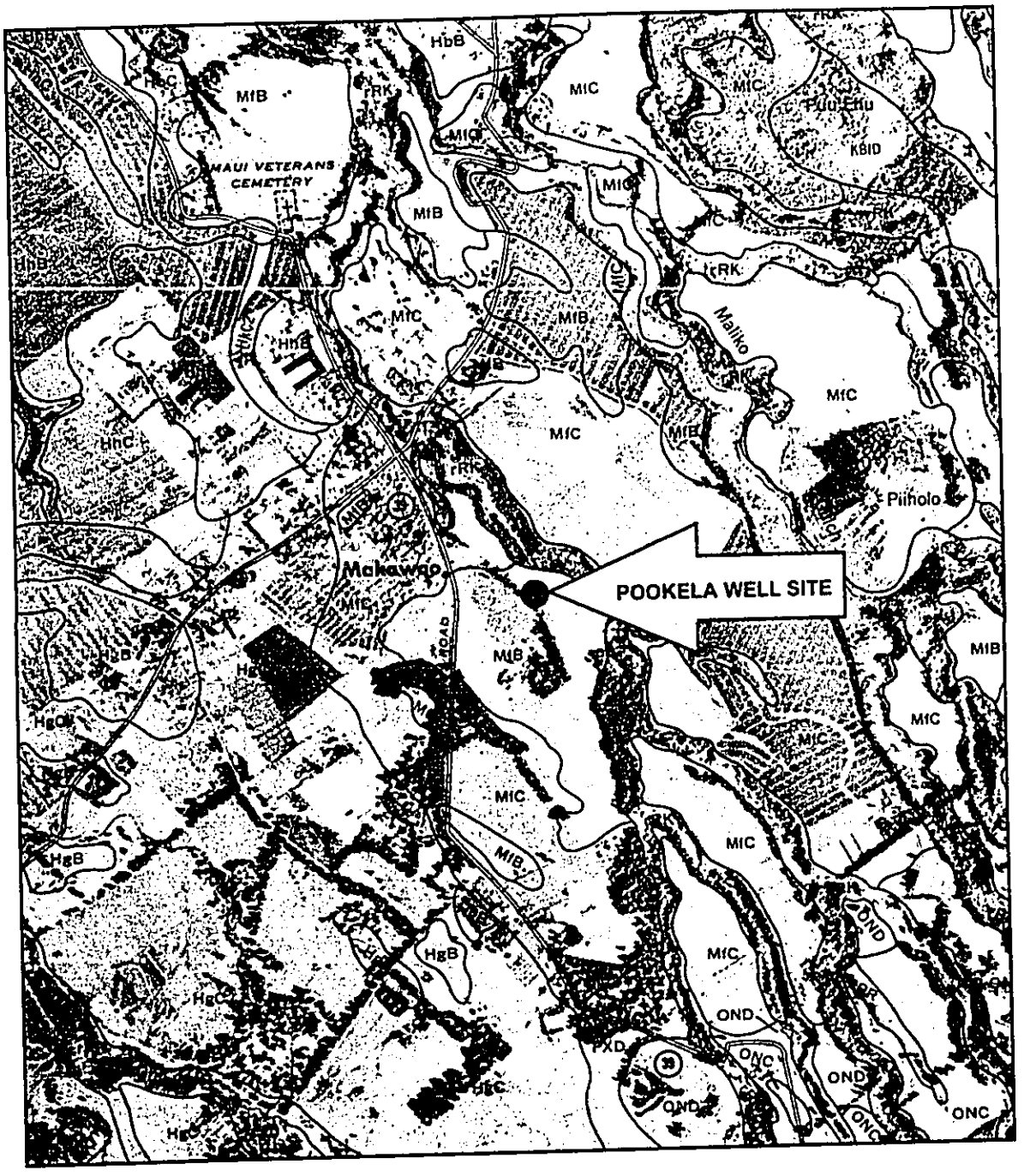
Haleakala was built over three rift zones, North, East and Southwest, as shown on **Figure 7**. Pookela well is west of the North Rift Zone.

Three major volcanic series are evident in East Maui. The initial phase was the Honomanu Volcanic Series. The Honomanu Basalt consists of thin-bedded basaltic pahoehoe and aa flows that are very permeable. Overlying the Honomanu series is the Kula Volcanic Series. The Kula Volcanics are composed primarily of thicker andesitic aa flows which contain many interstratified, thin ash-soil layers. Many large cinder cones were built during this phase resulting in numerous ash beds. The Kula series is less permeable than the Honomanu series, but does contain perched water on the interstratified soils, conglomerates and ash. A long, inactive period followed the Kula series, which allowed the erosion of deep canyons in the volcano. The third phase, the Hana Volcanic Series followed, occurring only in the east and southwest rift zones.

4. Hydrology

The State Commission on Water Resource Management (CWRM) has developed an aquifer classification system, which divides each island into Sectors and each Sector into Systems. The Aquifer Sectors "reflect broad hydrogeological similarities," and the Aquifer Systems "are more specifically defined by hydraulic continuity among aquifers in the System." See **Figure 8**.

Pookela Well is located within the Makawao Aquifer System, which has a sustainable yield of 7 mgd. The Makawao Aquifer System is in the Central Aquifer Sector, which also includes the Kahului, Paia and Kamaole Aquifer Systems, and has a total sustainable yield of 27 mgd. Based on the CWRM database, the wells within the Makawao Aquifer System are listed in the following table.

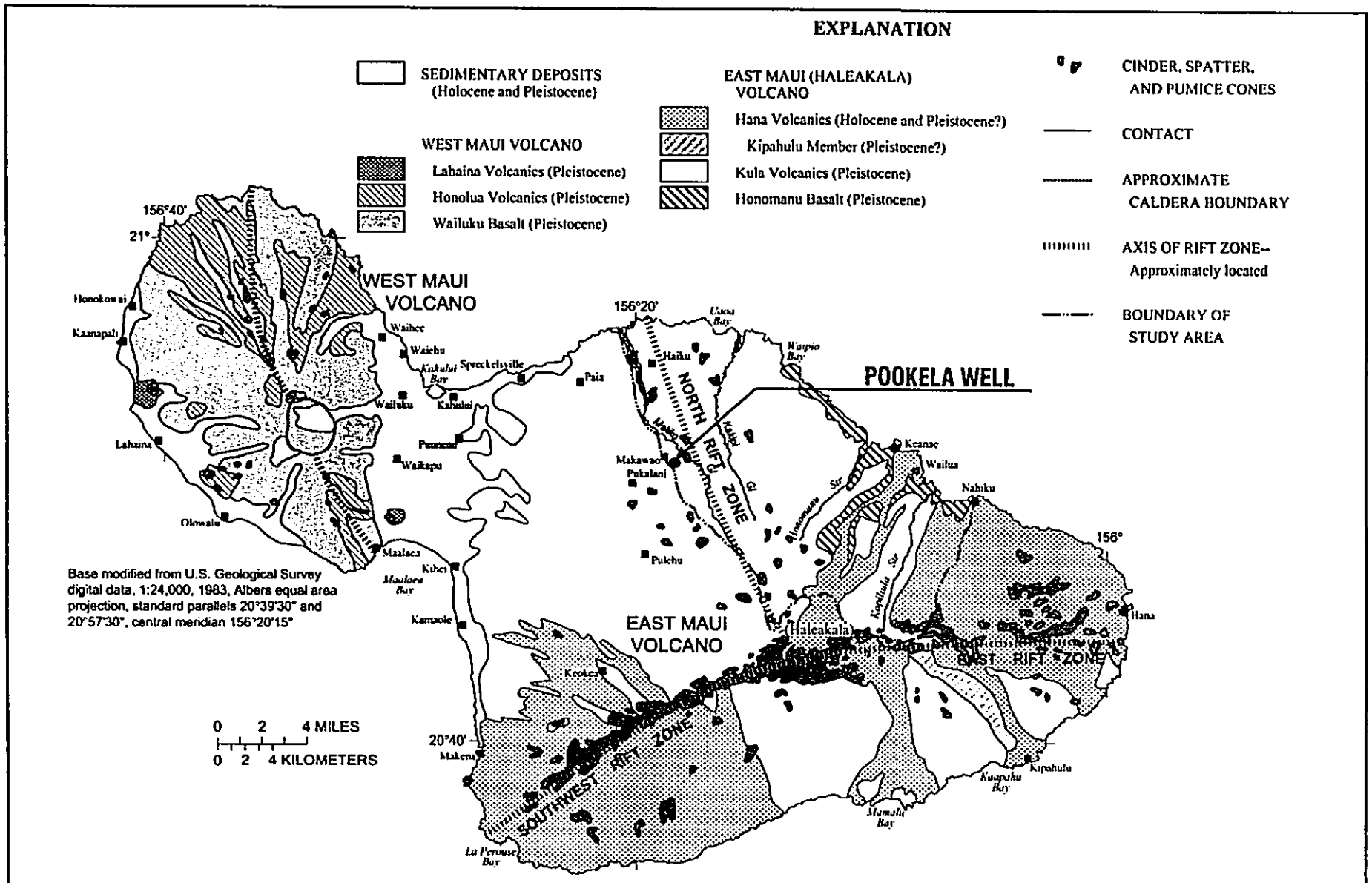


LEGEND:

HgB	Haliimaile silty clay loam, 3-7% slopes
HgC	Haliimaile silty clay loam, 7-15% slopes
HhB	Haliimaile silty clay, 3-7% slopes
HhC	Haliimaile silty clay, 7-15% slopes
HKC2	Haliimaile gravelly silty clay, 7-15% slopes, eroded
KBID	Kailua silty clay, 3-25% slopes
MfB	Makawao silty clay, 3-7% slopes
MfC	Makawao silty clay, 7-15% slopes
ONC	Olinda loam, 4-12% slopes
OND	Olinda loam, 12-20% slopes
PfC	Pauwela clay, 7-15% slopes
PXD	Pane silt loam, 7-25% slopes
rRK	Rock land
rRR	Rough broken land

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

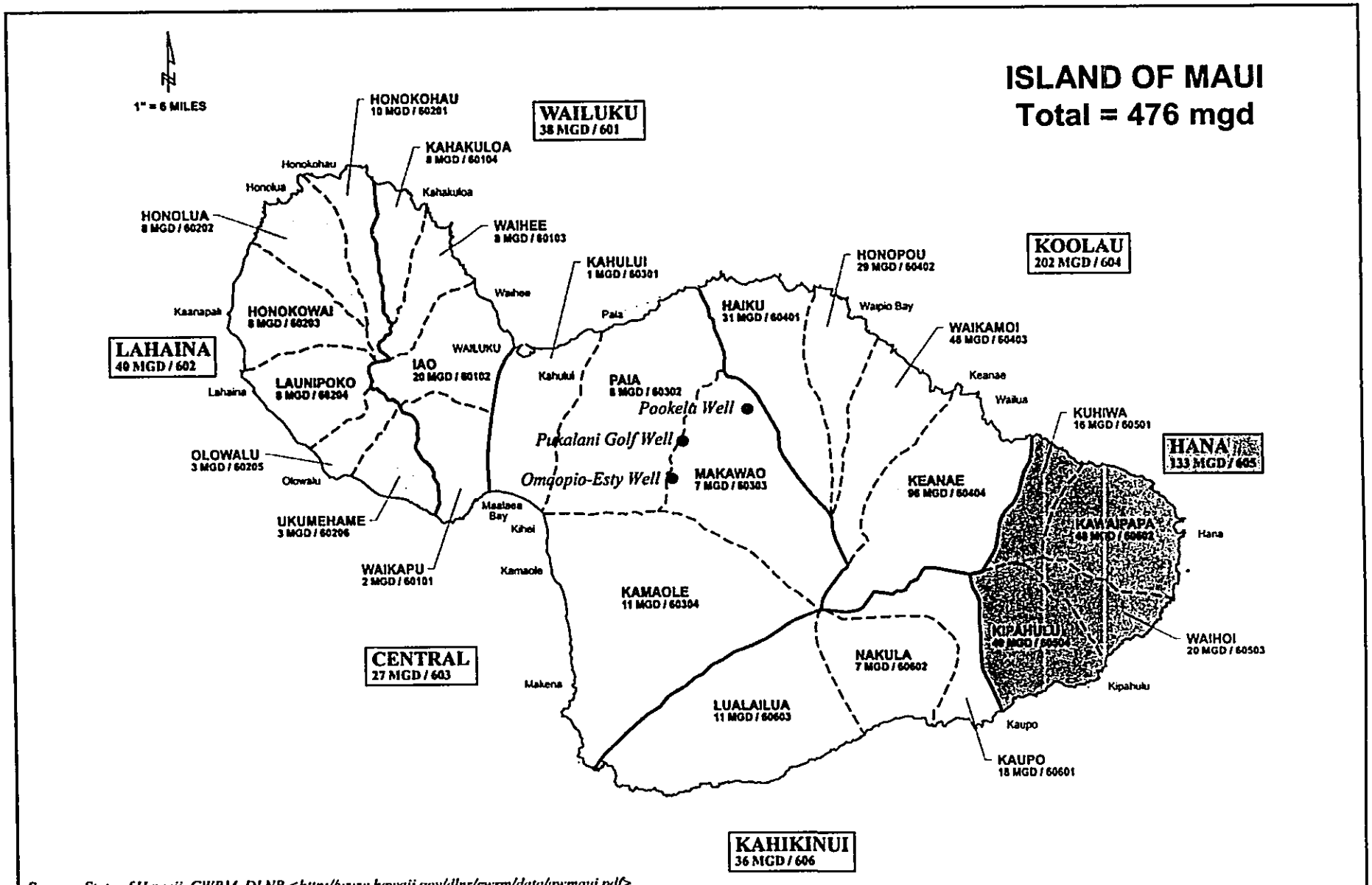
USDA/SCS Soil Map



Source: Ground-Water Occurrence and Contribution to Streamflow, Northeast Maui, Hawaii. U.S. Geological Survey, Water-Resources Investigations Report 99-4090.

Generalized Surficial Geology

FIGURE 7



Source: State of Hawaii, CWRM, DLNR <http://www.hawaii.gov/dlnr/cwrm/data/gwmaui.pdf>

Hydrologic Units – Sustainable Yield/Aquifer Code

Name	State Well No.	Use	Salinity (mg/L)	Capacity (mgd)
Omaopio-Esty	4821-01	Irrigation/Domestic	200	0.093
Pukalani Golf	5021-01	Irrigation (Brackish)	490	1.44 (actual pumpage: 800 gpm)

The U.S. Geological Survey published the Water Resources Investigations Report 99-4090, *Ground-Water Occurrence and Contribution to Streamflow, Northeast Maui, Hawaii.* This report interprets the regional hydrology of the study area, which includes the drainage basins of Maliko Gulch to the west and Makapipi Stream to the east, as shown on **Figure 9**. According to the report and as illustrated in **Figure 10**, "fresh ground water in northeast Maui occurs under two general conditions: (1) as a high-elevation saturated zone in relatively low-permeability rocks above an unsaturated zone [perched], and (2) as a freshwater-lens system underlain by denser saltwater [basal]."

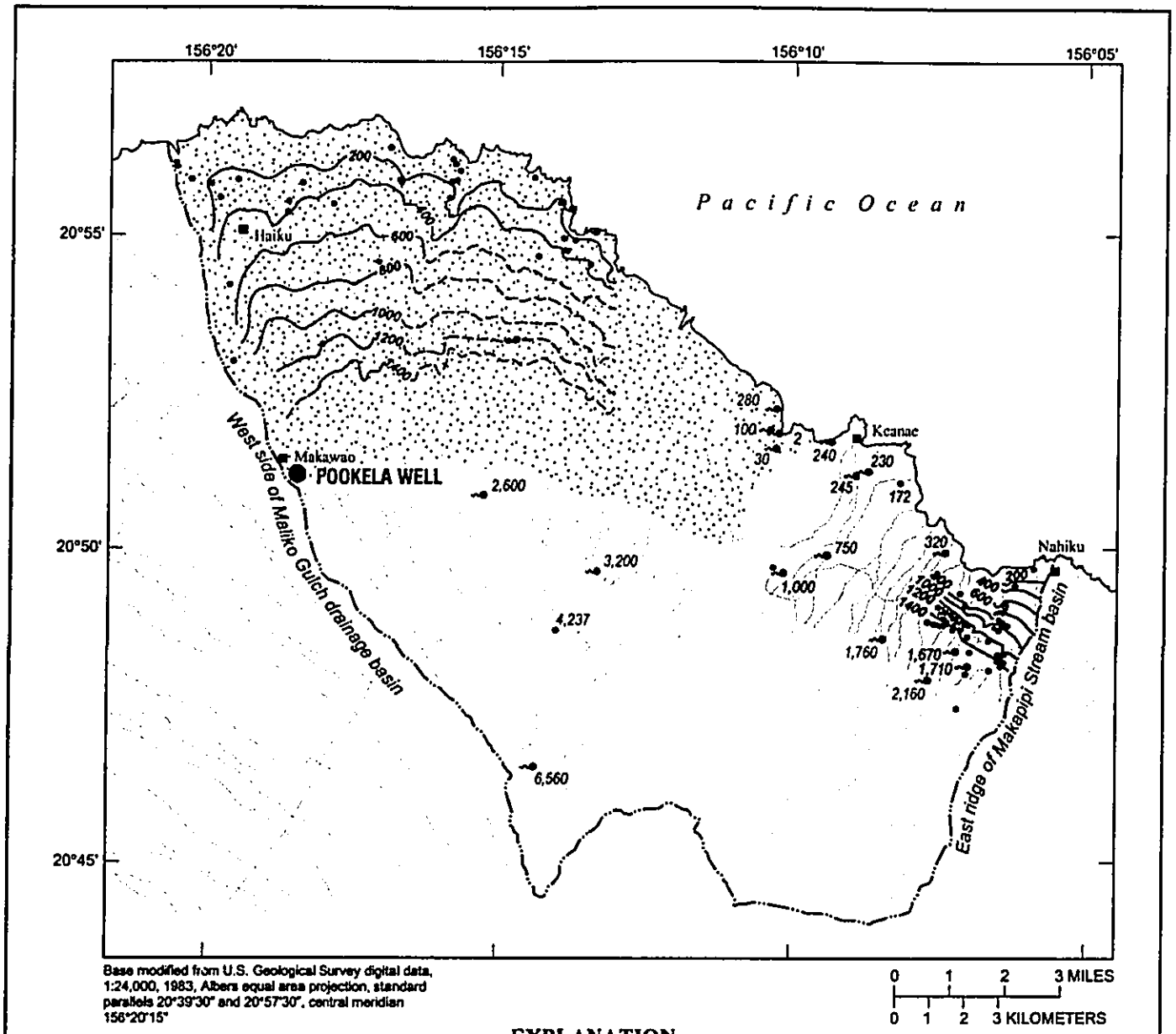
Pookela Well has a ground elevation of approximately 1810 feet mean sea level (msl) or above sea level, and a measured static water level of 11 feet msl. Therefore, Pookela Well taps the basal aquifer (indicated as the "freshwater lens" in **Figure 10**). Drilling data show no evidence of perched water.

The water table contours for the perched water body are shown on **Figure 9**. With respect to the basal water level contours, according to the USGS report, "the freshwater lens in the Haiku area forms a hydraulic gradient of about 3 ft/mi inland." Makawao is about 6 miles inland, and the calculated hydraulic gradient is 18 feet msl. However, the actual measured static water level of Pookela Well was 11 feet msl. This is consistent with reported well heads in the Paia and Haiku Aquifers, which indicate that the Paia Aquifer located west of Maliko Gulch has a lower water table gradient than the Haiku Aquifer east of Maliko Gulch. Similar to the Paia Aquifer, the Makawao Aquifer, also located west of Maliko Gulch may have a lower hydraulic gradient than the Haiku Aquifer. In addition, rainfall increases significantly going east across the northern flank of Haleakala, suggesting a corresponding increase in groundwater recharge. See **Figure 11**.

Based on the Ghyben-Herzberg ratio, which states that for every foot of fresh water above sea level, there are forty feet of fresh water below sea level; the freshwater lens at Pookela Well goes to approximately 440 feet below sea level.

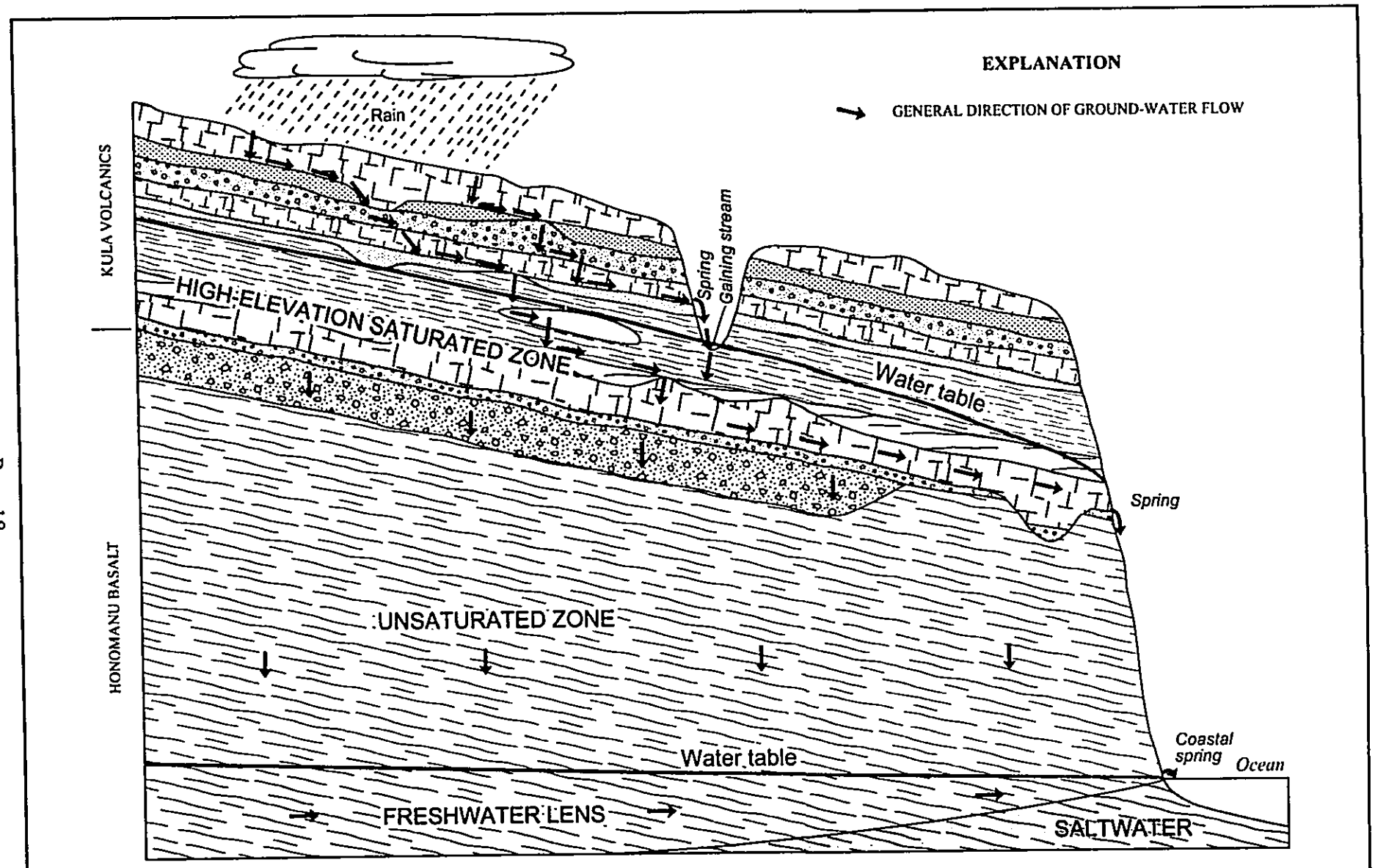
5. Wetlands

There are no wetlands within the vicinity of the well site. The wetlands are further east where the rainfall is significantly higher.



Source: Ground-Water Occurrence and Contribution to Streamflow, Northeast Maui, Hawaii U.S. Geological Survey, Water-Resources Investigations Report 99-4090

Generalized Water Table & Altitude of Selected Springs Northeast Maui



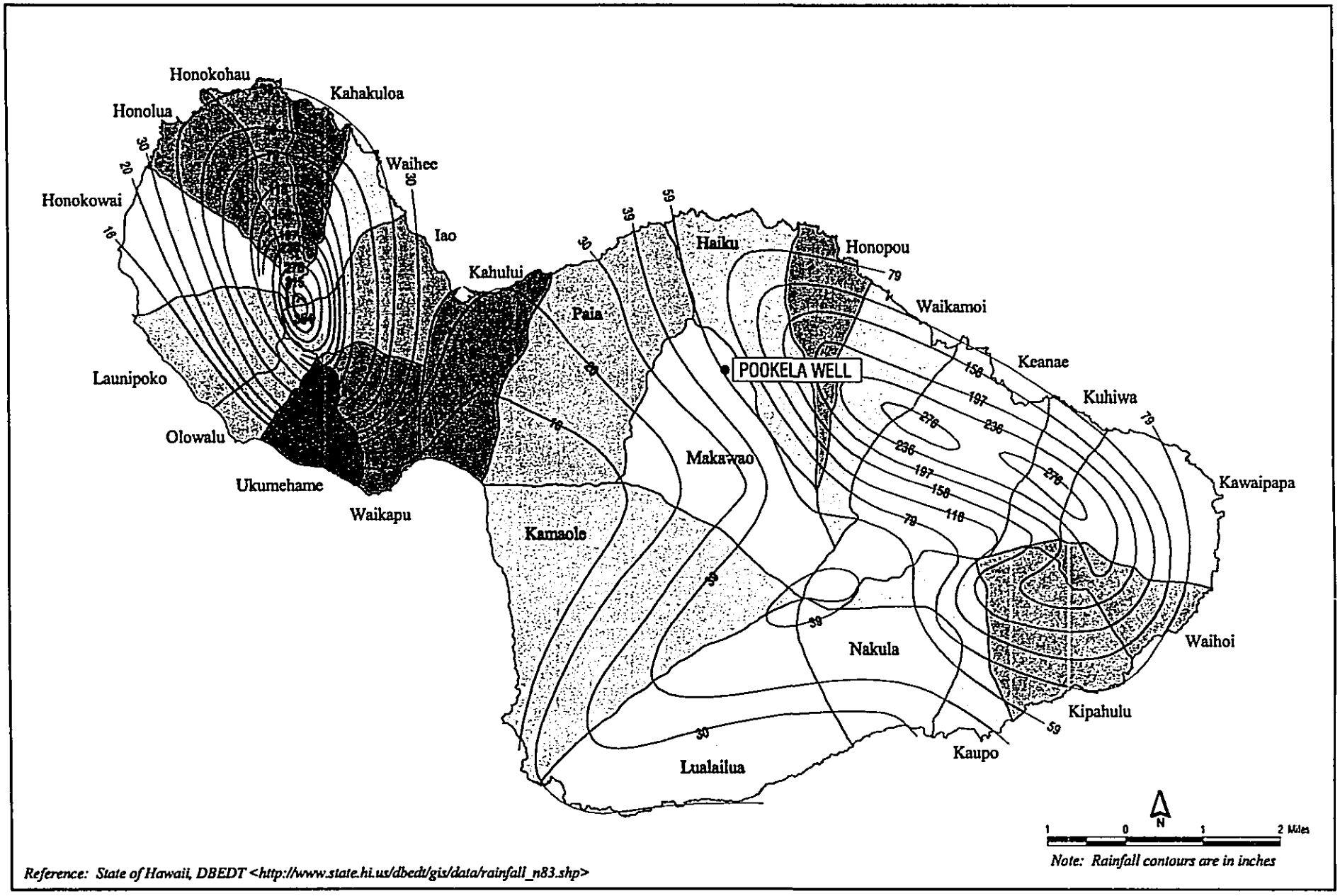
Source: Ground-Water Occurrence and Contribution to Streamflow, Northeast Maui, Hawaii. U.S. Geological Survey, Water-Resources Investigations Report 99-4090.

Variably Saturated Ground-Water System West of Keanae Valley Northeast Maui

COUNTY OF MAUI

Pookela Well Development

FIGURE 10



COUNTY OF MAUI
Pookela Well Development

Aquifer Units and Rainfall Contours - Maui

FIGURE 11

6. Climate

Annual rainfall within the majority of the Makawao Aquifer System averages 38 inches a year and ranges between 20 and 50 inches per year. See **Figure 11**. The annual rainfall within the vicinity of Pookela Well, which is on the windward edge of the Makawao aquifer, is wetter, with an average rainfall of about 75 inches per year. The temperature ranges from an average high of 78°F to an average low of 58°F. The northeasterly trade winds, which prevail throughout the year, result in winds with velocities averaging 20 miles per hour.

7. Flood and Tsunami

The Federal Emergency Management Agency Flood Insurance Rate Map (FIRM) panel 150003 0225B dated June 1, 1981, designates the well site within Zone C, areas of minimal flooding. Therefore, impact of the project on the flood zone is not expected.

Pookela Well is approximately 6 miles inland and at an elevation of 1810 feet msl; therefore, no tsunami impacts are expected.

C. WATER QUALITY

1. Pookela Well

Water quality analyses for Pookela Well were performed in accordance with the Department of Health (DOH), Hawaii Administrative Rules, Title 11, Chapter 20, Potable Water System Rules. Three separate samples were analyzed. The subconsultant laboratory, which analyzed the synthetic organic chemicals for Reports #104249 and #104250 was not certified by the DOH. However, certified laboratories performed the rest of the analyses. Refer to **Appendix A** for the water quality data. The following table summarizes contaminants which were detected in the well, and the corresponding National Primary Drinking Water Standards Maximum Contaminant Levels (MCL):

Report		**#104183**	**#104249 & #105040***	**#104250**
Sample Date		12/17/02	12/17/02	12/18/02
Contaminant	**MCL**	**Pookela Well Result**		
Arsenic (mg/L)	0.010	ND	0.0011	ND
Chromium (mg/L)	0.1	0.0039	0.0041	ND
Copper (mg/L)	1.3	0.014	0.008	0.006
Fluoride (mg/L)	4.0	0.08	0.08	0.08
Lead (mg/L)	0.015	0.054	0.0014	0.0013
Nitrate-N (mg/L)	10.0	0.49	0.50	0.51

ND: Not Detected

* Report # 105040: Resampled on 1/23/03 and analyzed for Diquat and Regulated Volatile Organic Carbons due to laboratory errors. No contaminants were detected.

With the exception of lead in Report #104183, the contaminants detected are well below the MCLs and meet the chemical safe drinking water standards. In addition, the measured chloride content was only 5 mg/L. Chapter 11-54 of the Hawaii Administrative Rules defines "brackish waters" as waters with dissolved inorganic ion concentrations (salinity) greater than 0.5 parts per thousand [500 mg/L], but less than thirty-two parts per thousand [32,000 mg/L].

There is a significant discrepancy in the lead result between Report #104183 and the other reports. Report #104250 with sample taken the following day, confirms the result in Report #104249 with a lead level of approximately 0.0013 to 0.0014 mg/L, which is well below the MCL. According to the Environmental Protection Agency, Ground Water and Drinking Water Consumer Fact Sheet on Lead, lead is rarely found in source water. Therefore, it is likely that the lead in Report #104183 resulted from a sampling or laboratory error. A sampling error could result from improper flushing of the sampling tap. The sample tap had brass components that can leach lead into the stagnant water in the tap, and if not flushed properly before sampling, could result in an inaccurate lead level for the source water. Therefore, the lead content will be confirmed and DWS will ensure that the lead levels meet the MCL before the well is placed into service.

Biological test results for Pookela Well are as follows:

Total Coliform Bacteria:	Too numerous to count
Fecal Coliform:	Negative
Heterotrophic Plate Count:	22 Colony forming units per milliliter

Coliform bacteria are naturally present in the environment. Coliforms are not a health threat in itself, but are used to indicate whether other potentially harmful bacteria may be present, such as fecal coliform. A positive Total Coliform test requires a Fecal Coliform test. The Heterotrophic Plate Count (HPC) measures bacteria that also are naturally present in the environment, and have no health effect. However, a lower HPC indicates a better-maintained water system. The Surface Water Treatment Rule requires the HPC to be less than 500 colony forming units per milliliter (CFU/mL).

The Pookela Well water sample had no fecal coliform and the HPC was only 22 CFU/mL. DWS will continue to test and monitor the water quality in accordance with DOH requirements.

2. Potential Contaminants and Treatment

According to DOH, Safe Drinking Water Branch records, there are no contaminated groundwater wells in the Makawao Aquifer System. The majority of the contaminated wells of record are located in the Paia Aquifer System, which is down

gradient of the Makawao Aquifer System. The groundwater flows from the higher elevation (Makawao Aquifer) to the lower elevation (Paia Aquifer); therefore, no impact on Pookela Well is anticipated. In addition, these wells are primarily used for irrigation.

a. Chemical

The contaminants found in the Paia Aquifer System include EDB (ethylene dibromide), DBCP (dibromochloropropane) and TCP (trichloropropane). These chemicals are related to the use of nematocides on the pineapple fields, which were prohibited in the mid-1980s. These chemicals were not detected in Pookela Well. However, in the unlikely event that they are detected in the future, the well water can be effectively treated with granular activated carbon filtration.

b. Biological

Upcountry Maui does not have a central sewer system and landowners are responsible for their individual wastewater systems (septic tank or cesspool). According to CWRM *Hawaii Well Construction & Pump Installation Standards*, the recommended minimum horizontal distance between a potable water well and a cesspool or septic tank is 1000 feet. However, the chairperson may change this on a case-by-case basis based on local geologic or hydrologic conditions. There is one septic tank approximately 850 feet away from Pookela Well, and two cesspools and one cistern which are approximately 950 feet away.

Although the 1000 feet guideline is not met, Pookela Well seems adequately protected. Pookela Well taps the basal aquifer at approximately 11 feet msl, and data show no evidence of perched water in the area. Several hundred feet of unsaturated zone (Kula lavas, which are poorly permeable) separate the perched water that may exist from the basal water. Refer to **Figure 10**. The layers are hydrologically disconnected. Additionally, the well was designed and constructed with a 500-foot deep sanitary seal through the entire formation of Kula lavas. In addition to the considerable horizontal separation, there is a significant vertical separation of 1800 feet to the water table. The fecal coliform test result was negative and nitrates, an indicator of contamination (typically indicates fertilizer, animal or human waste contamination), was extremely low at only 0.51 mg/L. The MCL for nitrate is 10 mg/L. Finally, a disinfectant residual will be maintained, and DWS and DOH will continue to monitor the water quality to ensure compliance with Federal and State drinking water standards.

3. Groundwater and Surface Water Blending

DWS relies on both groundwater and surface water sources to serve Upcountry Maui and West Maui. Surface water sources supply over 85 percent of the potable water for Upcountry Maui and over 60 percent for West Maui. The rest of the potable water is from groundwater sources. The following table lists the WTF current average daily productions and the well water quantities blended with the surface waters. Based on DWS experience with blending of Maui source waters, DWS does not anticipate any negative impacts associated with blending Pookela Well waters in the Upcountry water system.

Water Source	Average Daily Production (mgd)
UPCOUNTRY MAUI	
Kamole Weir WTF	2.5
Haiku Well	0.3
Kapakalua Well	0.6
Pookela Well	*1.6*
Piiholo WTF	2.2
Olinda WTF	1.3
WEST MAUI	
Lahaina WTF	1.2
Kahana Wells	0.4
Waipuka Wells	0.2
Mahinahina WTF	2.1
Honokahua Wells	0.3
Napili Wells	1.4

D. ARCHAEOLOGICAL, HISTORICAL AND CULTURAL CONSIDERATIONS

The project site is the existing Pookela Tank site, which is highly disturbed. The State Historic Preservation Division (SHPD) believes that there are no historic properties on the site because intensive cultivation and previous grubbing/grading has altered the land. Therefore, SHPD believes no historic properties will be affected. If construction work uncovers any archaeological remains, work will stop immediately and the State Historic Preservation Division and the Maui Island Burial Council will be contacted.

The Pookela Tank site, operated by DWS for over 20 years, is fenced to control access for security, and public health and safety. This project will not alter the use of the site, as it will continue to serve as a water service facility. The tank site encompasses 2.186 acres and was formerly ranch lands owned by Kaonoulu Ranch Co., Ltd., similar to the surrounding 213 acres currently open and used for grazing. There are no trails, streams, caves, native plants, or other cultural resources on the site, which indicate traditional

practices or customary usage. Additionally, as discussed further below in Section IV.B.2.a. Surface Water, impacts to streamflow, which might be used for cultural uses are not anticipated. In light of the above background and based on discussion with the Office of Environmental Quality Control staff, further Cultural Impact Assessment is not required for this project.

E. FLORA

The project will affect less than one-quarter of an acre of the highly disturbed tank site, which was previously used for grazing. The existing vegetation is primarily kikuya and rattail grass, and some black wattle trees. The southwest side of the tank site is bounded by a row of eucalyptus trees.

F. FAUNA

Mammals common to the island of Maui include the bat, deer, dog, feral cat, goat, mongoose, and pig. Birds which are associated with the prevalent vegetation type in the area include the cardinal, barred dove, spotted dove, mockingbird, myna, golden plover, pueo, ricebird, house sparrow, and white eye. The pueo is a native Hawaiian bird. The golden plover is an indigenous Hawaiian bird. Gray and Black Francolin and Ring-Necked Pheasant are also known to be in the area. The project area is highly disturbed, and there are no indications of endangered fauna on the site.

IV. PROBABLE IMPACTS AND MITIGATIVE MEASURES

A. SHORT TERM IMPACTS

1. Air Quality

There will be an increase in dust and vehicular exhaust emissions in the vicinity of the project area during construction. Dust control measures such as periodic sprinkling with water will be used to reduce dust when needed. Exhaust emission should not have any significant effect on the area because prevailing winds should disperse any exhaust gas concentration.

2. Erosion

Less than one-quarter of an acre will be graded to accommodate the new facilities associated with the well development. The disturbed area will either be paved or grassed. The Contractor will be required to implement erosion and sediment control measures during construction. Grading and soil disturbance will be minimized, and areas that are disturbed will be properly graded and revegetated to prevent erosion. The Contractor will be instructed to minimize the time of construction, retain ground cover until the latest practicable date to complete construction, and construct drainage control features early in the construction time

schedule. Continued maintenance will be required for ninety days from the accepted completion date of the planting period to ensure proper revegetation.

3. Excess Water Discharge

Disposal of excess water generated from hydrotesting and chlorination of the project components, and storm water runoff will be accomplished by the Contractor in compliance with all applicable National Pollutant Discharge Elimination System (NPDES) requirements. The Contractor will be required to obtain an NPDES general permit if his construction methods discharge into state waters, including the tributary of Maliko Gulch.

4. Traffic

Minimal traffic impacts are anticipated because the construction activities are off of Olinda Road, and confined to the existing Pookela Tank site.

5. Noise

There will be an increase in noise from the construction activity. All noise generated by the construction activity shall conform to the noise regulations established by the State Department of Health, and will be limited to normal working hours.

B. LONG TERM IMPACTS

Long term impacts are generally those impacts related to the operation of the proposed water development project. Any potential negative long term impacts associated with the implementation of the project will be mitigated by appropriate and low profile design, and competent, efficient, and effective operations and maintenance.

1. Land Use

Pookela Well is located on the existing Pookela Tank site. There is adequate area for the well development facilities, and the fenced site will not be expanded. Modification to the drainage easement or other land agreement with Kaonoulu Ranch Co., Ltd. is anticipated for the connection to the existing 24-inch drain line.

2. Hydrology

a. Surface Water

No impacts on or by surface waters are anticipated. The closest possible surface water source is the tributary to Maliko Gulch, which is typically dry. This gulch is approximately 150 feet north of the project site and has a bottom

elevation of approximately 1720 feet msl. As shown in **Figure 10**, based on the hydrogeology, streamflow in the area results from rainfall and discharge from springs. As stated earlier, Pookela Well taps the basal aquifer at approximately 11 feet msl, and data show no evidence of perched water in the area. Several hundred feet of unsaturated zone (Kula lavas, which are poorly permeable) separate the perched water that may exist from the basal water. The layers are hydrologically disconnected; therefore Pookela Well will not impact potential streamflow. In addition, the well was designed and constructed with a 500-foot deep sanitary seal, the bottom of which is at 1310 feet msl, 410 feet below the gulch bottom. The well is sealed through the entire formation of Kula lavas. Therefore, the hydrogeology, sanitary seal and horizontal and vertical separation from the gulch will protect the well water quality from potential flows in this gulch.

The operation of the deep well pump requires the discharge of air and flushing water before the well water can be conveyed to the tank. The flushing water would be discharged to the existing drainline from the 2 MG tank. The quality of the flushing water generally would be potable. The existing drain outlet is in an area that has large trees adjacent to it, and it is well protected by the heavy root growth from these trees. The amount of flushing water discharged at the outlet should be less than drainage flows experienced at the outlet in the past, therefore the impacts from flushing water should be negligible.

b. Ground Water and Existing Wells

The pumping capacity of Pookela Well is 1100 gpm or 1.58 mgd if run 24 hours a day. The estimated sustainable potable water yield of the Makawao Aquifer System is 7 mgd. The total potable water withdrawal from the Makawao Aquifer System with Pookela Well (Omaopio-Esty Well with a capacity of 0.093 mgd, and Pukalani Golf Well with an actual pumpage of 800 gpm or 1.15 mgd) would be 2.83 mgd or 40 percent of the sustainable yield.

c. Water Quality

Pookela Well meets the DOH chemical and biological drinking water standards. Water quality will continue to be monitored by DWS and DOH to ensure continued compliance.

3. Flora and Fauna

The project area is highly disturbed, as it was previously used for grazing. There are no indications of rare or endangered flora or fauna in the project area. The black wattle tree is considered to be invasive and is a nuisance; therefore, the black wattle trees on the site will be removed and disposed.

4. Air Quality

   No long term negative impacts on air quality resulting from the proposed project are anticipated.

5. Visual Impacts

   The visual impact of the proposed project is not expected to be significant. The control building will be the most visible facility constructed, and will be approximately 20 feet wide, 35 feet long and 10 feet tall. However it is located on the existing tank site and will be considerably smaller than the existing 2.0 MG concrete reservoir, which is over 20 feet tall. Ranch lands surround the tank site, and the closest public road (Olinda Road) is approximately 1000 feet from the site. In addition, the control building will be painted an earthtoned color to match the surrounding environment.

6. Noise

   A submersible pump and motor will be used for Pookela Well; therefore, no adverse noise impacts are anticipated.

7. Archaeological, Historical and Cultural Impacts

   No long term negative impacts on historical and archaeological sites are anticipated. The tank site is highly disturbed, and the State Historic Preservation Division believes that "no historic properties will be affected" because previous grubbing and grading and intensive cultivation has altered the land. If construction work uncovers any archaeological remains, work will stop immediately and the State Historic Preservation Division and the Maui Island Burial Council will be contacted.

   No cultural impacts resulting from this project are anticipated. There is no indication of traditional practices or customary usage on the site, which has been closed to access for over 20 years. In addition, impacts to streamflow, which might be used for cultural uses are not anticipated.

8. Public Health and Safety

   Public health and safety is of the utmost importance, and measures will be taken to ensure protection. The tank site is fenced and facilities secured. The water from the well will be disinfected by chlorination through the application of sodium hypochlorite solution or liquid bleach; and the chlorination facilities will be designed, installed, and maintained in accordance with all applicable safety codes and industry standards. State DOH regulations will be followed; therefore, no

public health or safety problems associated with the water system improvements are anticipated.

V. ALTERNATIVES TO THE PROPOSED PROJECT

A. NO ACTION ALTERNATIVE

The existing water sources serving Upcountry Maui are not sufficient to consistently meet the needs of the community. Water restrictions and drought conditions are a common occurrence; therefore, the No Action Alternative is unacceptable.

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 Maui considered alternate sites and deemed the proposed site to be the most favorable.

C. ALTERNATIVE WATER SOURCES

1. Desalination and Wastewater Reuse

Alternative water sources such as desalination and wastewater reuse were considered, but rejected. Desalination would not only require bringing the water from the shoreline, which is 6 miles away and at an 1800 feet elevation difference, but also would require extensive treatment. This alternative would be more costly than the proposed project. Wastewater reuse is not a viable option because there is no wastewater treatment plant in the vicinity.

2. Non-potable Water Supply

The use of a non-potable water supply is viable and already is in the development stages. The State Department of Agriculture, in coordination with DWS, has constructed a dedicated agricultural transmission main to serve Upper Kula. This non-potable transmission main will provide water to agricultural users from Kahakapao Reservoir. The project is not completed, and no service has been established to date. The U.S. Department of Agriculture is currently conducting studies to provide an irrigation supply line for Lower Kula as well. This alternative would help to reduce demands on the potable water supply; however, the source for this supply is from a surface water source, which is susceptible to drought conditions. Therefore, the non-potable water supply is deemed an insufficient alternative.

3. Water Conservation

The County of Maui has established a water conservation program and maintains a website, which informs consumers of how they can cooperate in conserving the precious resource. The County also provides shower heads, faucet aerators for the kitchen and bathroom, and leak detection dye tablets (to check toilets for leaks) free to the public upon receipt of the application form.

Water conservation is an environmentally beneficial practice regardless of the water supply situation. Although it is a practice that should be observed by all consumers, water conservation will not provide the quantity of water required to meet demands. Therefore, water conservation is deemed an insufficient alternative.

4. Awalau and Opana Stream Intakes

The County of Maui has rights to water from the Awalau and Opana Stream Intakes, which are located at about 2,300 feet elevation in the Makawao Forest Reserve. In the future, the Department of Water Supply may either construct a new WTF to treat water from the intakes and transmit it to the existing Maluhia Tank, or construct a new booster pump station and pump the raw water for treatment at the existing Piiholo WTF. This alternative is a surface water source requiring treatment and monitoring, and is subject to drought conditions. In light of this and the time frame required to develop this alternative, the Awalau and Opana Stream Intakes are not a viable alternative to the subject project.

VI. IRREVERSIBLE AND IRRETRIEVABLE COMMITMENTS OF RESOURCES

There are several irreversible commitments of resources including land and financial resources to construct capital improvements, and to operate and maintain the well and various controls. Land commitment for the well is minimal, and financial commitment for capital improvements and operations and maintenance are necessary.

The long-term responsibility of the Department of Water Supply to provide adequate water supplies to Upcountry Maui supports the implementation of the proposed project; therefore, the commitment of land, labor, materials, energy, equipment and financial resources that are practically irreversible and irretrievable are warranted.

VII. HAWAII DRINKING WATER STATE REVOLVING FUND PROGRAM

This project may be funded by Federal Funds through the State of Hawaii's Drinking Water State Revolving Fund (DWSRF) program, which would constitute a federal action, and will require the project to meet all Hawaii DWSRF program requirements. The loan program

requires compliance with the "Cross-Cutter" Regulations, which are the list of Federal regulations which have been determined as applying to the DWSRF loan program.

A. ARCHAEOLOGICAL AND HISTORIC PRESERVATION ACT OF 1974, Pub. L. 86-523, as amended (16 USC 461).

No long term negative impacts on historical and archaeological sites are anticipated. The tank site is highly disturbed, and the State Historic Preservation Division believes that "no historic properties will be affected" because previous grubbing and grading and intensive cultivation has altered the land. If construction work uncovers any archaeological remains, work will stop immediately and the State Historic Preservation Division and the Maui Island Burial Council will be contacted.

B. CLEAN AIR ACT, Pub. L. 84-159, as amended (42 USC 7401).

Anticipated short-term impacts are associated with construction activity. There will be an increase in dust and vehicular exhaust emissions in the vicinity of the project area during construction. Dust control measures such as periodic sprinkling with water will be used to reduce dust when needed. Exhaust emission should not have any significant effect on the area because prevailing winds should disperse any exhaust gas concentration. *No long-term impacts on air quality are anticipated.*

C. COASTAL ZONE MANAGEMENT ACT, Pub. L. 92-583, as amended (16 USC 1451).

The Hawaii Coastal Zone Management (CZM) Program mission statement is "*to balance marine and coastal resources protection and sustainable economic development, anticipating emerging issues and facilitating their resolution by coordinating among interests, developing and articulating appropriate management policies, and involving the public in resource management efforts.*"

The project site is located approximately 6.5 miles inland away from the coast at an approximate ground surface elevation of 1810 feet. No impacts on the CZM resources and areas are anticipated; therefore, the project will be consistent with the CZM program.

D. ENDANGERED SPECIES ACT, Pub. L. 93-205, as amended (16 USC 1531).

The project site is highly disturbed. The lands were used for grazing in the 1970s until it was developed for the tank site; and there are no indications of rare or endangered flora or fauna on the project site.

E. ENVIRONMENTAL JUSTICE, EXECUTIVE ORDER 12898.

This project will not have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations. Pookela Well Development will have no significant impact on the environment and will benefit the general public in the area by providing an additional safe source of drinking water.

F. FLOODPLAIN MANAGEMENT, EXECUTIVE ORDER 11988, as amended by Executive Order 12148.

The Federal Emergency Management Agency Flood Insurance Rate Map (FIRM) panel 150003 0225B dated June 1, 1981, designates the well site within Zone C, areas of minimal flooding. Therefore, impact of the project on the flood zone is not expected.

G. PROTECTION OF WETLANDS, EXECUTIVE ORDER 11990.

The project site is not in or near any wetland; therefore, there will be no affect on wetlands.

H. FARMLAND PROTECTION POLICY ACT, Pub. L. 97-98 (7 USC 4201).

This project is located on the existing 2.186 acres tank site owned and developed by the County of Maui. Although the State and County zoning is for Agriculture, use for well development is permitted by code. Therefore, this project will not affect agricultural lands.

I. FISH AND WILDLIFE COORDINATION ACT, Pub. L. 85-624, as amended (16 USC 661).

The project is located on the existing fenced 2.186 acres tank site. There are no fish or wildlife on the site, except wildlife that can access the site despite the fence, such as birds. Therefore impact on wildlife is anticipated to be minimal.

The Department of the Interior Fish and Wildlife Services was consulted, and had no comment on the project.

J. NATIONAL HISTORIC PRESERVATION ACT OF 1966, Pub. L. 89-665, as amended (16 USC 470).

No long term negative impacts on historical and archaeological sites are anticipated. The tank site is highly disturbed, and the State Historic Preservation Division believes that "no historic properties will be affected" because previous grubbing and grading and intensive cultivation has altered the land. If construction work uncovers any archaeological remains, work will stop immediately and the State Historic Preservation Division and the Maui Island Burial Council will be contacted.

K. SAFE DRINKING WATER ACT, Pub. L. 93-523, as amended (40 CFR Part 149 Subpart A).

The Department of Water Supply is committed to providing a safe water supply to the County of Maui and strives to meet all requirements of the Safe Drinking Water Act. Additionally, there are no sole source aquifers on the island of Maui; therefore, the project will not affect a sole source aquifer.

L. WILD AND SCENIC RIVERS ACT, Pub. L. 92-154, as amended (16 USC 1271).

There are no designated wild and scenic rivers in the state of Hawaii. However, there are several rivers and streams, primarily located on the east side of Haleakala, which are listed with potential classification within the wild and scenic river system or with "Outstandingly Remarkable Values". Within the vicinity of the project site there are no notable streams or rivers.

VIII. PERMITS AND APPROVALS REQUIRED

A. APPROVALS

1. State Department of Health
   Engineering report conforming to Section 11-20-29 before using well water.

2. State Office of Environmental Quality Control
   Environmental Assessment for Pookela Well Development

3. County of Maui Department of Water Supply
   Environmental Assessment for Pookela Well Development

B. REVIEWS

1. State Commission on Persons with Disabilities
   Plans and Specifications conformance with American Disabilities Act

C. PERMITS

1. Pump Installation Permit, State Commission on Water Resource Management

2. Grading, Building, and Electrical Permit, County of Maui Department of Public Works

3. National Pollutant Discharge Elimination System Permit, State of Hawaii, Department of Health

IX. AGENCIES AND ORGANIZATIONS CONSULTED

A. FEDERAL GOVERNMENT
U.S. Department of Agriculture, Natural Resources Conservation Service
U.S. Department of the Army, Army Corps of Engineers, Pacific Ocean Division
U.S. Department of the Interior, Fish and Wildlife Service

B. STATE GOVERNMENT
Department of Agriculture
Department of Land and Natural Resources
Department of Hawaiian Home Lands
Department of Health
Historic Preservation Division
Office of Environmental Quality Control
Office of Hawaiian Affairs

C. COUNTY GOVERNMENT
Department of Planning
Department of Water Supply
Department of Public Works and Environmental Management

D. COMMUNITY ASSOCIATIONS
Haiku
Kula
Makawao Main Street
Pukalani

X. 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. Involves an irrevocable commitment to loss or destruction of any natural or cultural resource;

The proposed project will not cause any loss or destruction of a natural or cultural resource. As described in this assessment, the proposed project site has been researched with no findings of significant impacts. Any discovery of archaeologically significant resources uncovered during the construction will be

handled in compliance with the requirements of the State of Hawaii, Department of Land and Natural Resources.

2. Curtail the range of beneficial uses of the environment;

   The project is enhancing the beneficial use of the environment, as it draws upon the naturally occurring groundwater supply in the area to better serve the existing drinking water demands of the community. The project site is limited to the existing Pookela Tank site. A land agreement with Kaonoulu Ranch Co., Ltd. to modify the existing drainage easement may be required.

3. Conflict with the State's long-term environmental policies or goals and guidelines as expressed in Chapter 344, Hawaii Revised Statutes, and revisions thereof and amendments thereto, court decisions or executive orders;

   The proposed project is in accordance with the guidelines set forth in the State Environmental Policy Chapter 344, Hawaii Revised Statutes.

4. Substantially affects the economic or social welfare of the community or State;

   The proposed project will serve to increase the amount of potable water available to Upcountry Maui, which historically has experienced frequent drought conditions. The project will enhance the welfare of the community by increasing the potable water source capacity to users.

5. Substantially affect public health;

   The proposed project will not affect public health in a negative way.

6. Involves a substantial secondary impact, such as population changes or effects on public facilities;

   The proposed project will connect to the existing water distribution system; therefore, public facility improvements will be limited to the site. The additional source water will help alleviate impacts of drought conditions, and will enable DWS to issue water meters to the priority list of applicants. The population in Upcountry Maui is likely to increase as a result of the additional water source; however this project is in accordance with the State, County and Community plans.

7. Involves a substantial degradation of environmental quality;

   The proposed project will not involve any substantial degradation of environmental quality. As described in this assessment, the impacts on the environment are minimal.

8. Is individually limited but cumulatively has considerable effect upon the environment or involve a commitment for larger actions;

   As described in this assessment, the proposed project does not have any significant impacts or effects upon the environment or involve any commitment for larger actions.

9. Substantially affect a rare threatened or endangered species, or its habitat;

   There are no known endangered species of flora or fauna in the project site that would be disturbed.

10. Detrimentally affect air or water quality or ambient noise levels;

    The proposed project will provide potable groundwater for human use and consumption. The project will not detrimentally affect air or water quality, or ambient noise levels.

11. Affects or is likely to suffer damage by being located in an environmentally sensitive area, such as a flood plain, tsunami zone, beach, erosion-prone area, geologically hazardous land, estuary, freshwater, or coastal waters;

    As discussed in detail in this assessment, the proposed project does not detrimentally affect any environmentally sensitive areas, nor is it likely to suffer damage.

12. Substantially affects scenic vistas and view planes identified in county or state plans or studies;

    The proposed project does not affect any scenic vistas or view planes identified in county or state plans or studies.

13. Requires substantial energy consumption.

    The proposed project will require energy to pump water from Pookela Well to the existing concrete reservoir. Operating Pookela Well is expensive because the water must be pumped vertically over 1800 feet. However, the existing surface water sources are susceptible to drought conditions and the community has suffered the effects of this. Pookela Well taps an essentially virgin source of water, and is a reliable alternative water source, which can supplement the water system to alleviate the effects of drought conditions and meet the demands of the community.

B. DETERMINATION

Based upon the above data and analyses, the proposed project is 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 Finding of No Significant Impact determination (Environmental Impact Statement document is not required) has been issued.

XI. REFERENCES

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APPENDICES

APPENDIX A
POOKELA WELL WATER QUALITY

1. Report #104183

MWH Laboratories
A Division of MWH Americas, Inc.

750 Royal Oaks Drive
Suite 100
Monrovia, California 91016-3629
Tel: 626 568 6400
Fax: 626 568 6324
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

Maui, County of, Department of Water Supply
614 Palapala Dr

Kahului , HI 96732

Attention: Cari Cerizo
Fax: (808) 270-6133

DATE OF ISSUE
JAN 3 0 2003
MWH LABORATORIES

HDS Hillary Strayer
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac 01114CA

Report#: 104183
PHASEV

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Comments,QC Report,QC Summary,Data Report,Hits Report, totaling 38 page[s].

MONTGOMERY WATSON LABORATORIES

CHAIN OF CUSTODY RECORD

104183

555 E. Walnut St., Pasadena, CA 91101
(626) 568-6400 (800) 566-5227

MWLABS USE ONLY:

LOGIN COMMENTS:

SAMPLES CHECKED/LOGGED IN BY: T.C.C.

SAMPLE TEMP, RECEIPT AT LAB 4 (Compliance: 4 +/- 2°

SAMPLES RECEIVED DAY OF COLLECTION? ☐ (check for yes)

BLUE ICE: FROZEN ✓ PARTIALLY FROZEN ___ THAWED ___

TO BE COMPLETED BY SAMPLER:

TAT requested: STD_____ 1 week _____ 3 day _____ 1 day _____

COMPLIANCE SAMPLES X
- Requires state forms X
NON-COMPLIANCE SAMPLES

REGULATION: PHASE2/5,UCMR
(SDWA, Phase V, NPDES, FDA, ...)

CLIENT or PROJECT NAME: COUNTY OF MAUI

PROJECT JOB # / P.O.#

REFER TO ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes)

SAMPLER(S): PRINTED NAME AND SIGNATURE: K Kuba

ANALYSES REQUIRED (mark an 'X' in all tests required for each sample line)

TIME	DATE	SITE NAME or LOCATION	IDENTIFIER, STATE ID #	MATRIX *	GRAB	COMP																SAMPLER COMMENTS
							1/2	525	Biokon													
0930	12/17/02		POOKELA WELL	FW	X				See attached													
			N.B. sample collected in duplicate																			

* MATRIX TYPES:

Reported by Volume:
RSW = Raw Surface Water
RGW = Raw Ground Water
FW = Other Finished Water
CFW = Chlor(am)inated Finished Water
SW = Storm Water
WW = Other Waste Water
CWW = Chlorinated Waste Water

Reported by Weight:
SO = Soil
SL = Sludge

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	K Kuba	K Kuba	DWS MAUI	12/17/02	1430
RECEIVED BY:		T.C.C. / RF	MWLL	12/18/02	11:30
RELINQUISHED BY:					
RECEIVED BY:					

C-O-C#

PAGE ___ OF ___

Bottle Order for

MWH Laboratories
555 East Walnut Street
Pasadena CA 91101 (626) 568-6400 FAX (626) 568-6324

Your MWL Project Manager

Direct Phone/Voice Mail

Client Code ML 525 RAW

Project Code

PO# / Job#

ProjectName

Group #

Date Sampled

Date Received

BO# 20949

Sampler: please return this paper with your samples

Created by EEF

Order Date 12/12/02

Date Needed by Client

Date Samples to Arrive at MWL

Ship Sample Kits to

Dear Client
please fill all of these bottles. They must be filled so that all your compliance parameters will be analyzed.

ATTN:

PHONE:

Send Report to

ATTN:

PHONE:

FAX:

Billing Address

16323

# of Samples	Tests	Qteline#	Bottles-Qty for each sample, type & preservative if any	UN DOT #	Comments
	SUB 525 @ML525 1/2 Bottom	2	1L amber glass+ 1.5 ml HCL (6N)	UN 1789	SAMPLER: PLEASE fill ALL containers provided in this page kit .
	SUB 508 505 @PESTSD	2	1L amber glass/no preservative		
	SUB 507 @NPS1	2	1L amber glass / no preservative		
	SUB 515 @NPS3	1	1L amber glass/no preservative		

Code | Status | Date Shipped | Via | Tracking # | # of Coolers | Prepared By

MONTGOMERY WATSON LABORATORIES — CHAIN OF CUSTODY RECORD

555 E. Walnut St., Pasadena, CA 91101
(626) 568-6400 (800) 566-5227

MWLABS USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED/LOGGED IN BY: TCC

SAMPLE TEMP, RECEIPT AT LAB 4 (Compliance: 4 +/- 2*C)

SAMPLES RECEIVED DAY OF COLLECTION? ☐ (check for yes)

BLUE ICE: FROZEN ___ PARTIALLY FROZEN ___ THAWED ___

TO BE COMPLETED BY SAMPLER:

TAT requested: STD_____ 1 week _____ 3 day _____ 1 day _____

COMPLIANCE SAMPLES	X	REGULATION: PHASE2/5,UCMR
- Requires state forms	X	(SDWA, Phase V, NPDES, FDA, ...)
NON-COMPLIANCE SAMPLES		

REFER TO ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes)

CLIENT or PROJECT NAME: COUNTY OF MAUI

PROJECT JOB # / P.O.#:

SAMPLER(S): PRINTED NAME AND SIGNATURE: K Kuba

ANALYSES REQUIRED (mark an 'X' in all tests required for each sample line)

TIME	DATE	SITE NAME or LOCATION	IDENTIFIER, STATE ID #	MATRIX *	GRAB	COMP	SAMPLER COMMENTS
0930	12/17/02		POOKELA WELL	FW	X		See attached
			N.B. Sample Collected in duplicate				

* MATRIX TYPES:

Reported by Volume:
RSW = Raw Surface Water
RGW = Raw Ground Water
FW = Other Finished Water
CFW = Chlor(am)inated Finished Water
SW = Storm Water
WW = Other Waste Water
CWW = Chlorinated Waste Water

Reported by Weight:
SO = Soil
SL = Sludge

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	K Kuba	K Kuba	DWS MAUI	12/17/02	1430
RECEIVED BY:		T.C.C.	MWH	12/18/02	11:50
RELINQUISHED BY:					
RECEIVED BY:					

C-O-C# _____

PAGE ____ OF ____

Bottle Order for

MWH Laboratories
555 East Walnut Street
Pasadena CA 91101 (626) 568-6400 FAX (626) 568-6324

Your MWL Project Manager

Direct Phone/Voice Mail

Client Code ML 525 RAW

Project Code

PO# / Job#

ProjectName

Group #

Date Sampled

Date Received

:O# 20949

reated by EEF

rder Date 12/12/02

ate Needed / Client

ate Samples Arrive at MWL

Sampler: please return this paper with your samples

Ship Sample Kits to

Dear Client
please fill all of these bottles. They must be filled so that all your compliance parameters will be analyzed.

ATTN:

PHONE:

Send Report to

ATTN:

PHONE:

FAX:

Billing Address

16323

UN DOT #

Comments

# of Samples	Tests	Qteline#	Bottles-Qty for each sample, type & preservative if any	UN 1789
	SUB 525 @ML525		2 1L amber glass+ 1.5 ml HCL (6N)	
	~~SUB 505 @PE513B~~		2 1L amber glass/no preservative	
	SUB 507 @NPS1		2 1L amber glass / no preservative	
	SUB 515 @NPS3		2 1L amber glass/no preservative	

SAMPLER:
PLEASE fill ALL containers provided in this page kit .

Code Status Date Shipped Via Tracking #

# of Coolers Prepared By

MONTGOMERY WATSON LABORATORIES

CHAIN OF CUSTODY RECORD

555 E. Walnut St., Pasadena, CA 91101
(626) 568-6400 (800) 566-5227

MWLABS USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED/LOGGED IN BY: T. C. C

SAMPLE TEMP, RECEIPT AT LAB 4 (Compliance: 4 +/- 2°C)

SAMPLES RECEIVED DAY OF COLLECTION? ☐ (check for yes)

BLUE ICE: FROZEN ✓ PARTIALLY FROZEN ___ THAWED ___

TO BE COMPLETED BY SAMPLER:

TAT requested: STD_____ 1 week_____ 3 day_____ 1 day_____

CLIENT or PROJECT NAME: COUNTY OF MAUI

PROJECT JOB # / P.O.#:

SAMPLER(S): PRINTED NAME AND SIGNATURE: K Kuba

COMPLIANCE SAMPLES - Requires state forms: X

NON-COMPLIANCE SAMPLES:

REGULATION: PHASE2/5,UCMR (SDWA, Phase V, NPDES, FDA, ...)

REFER TO ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes)

ANALYSES REQUIRED (mark an 'X' in all tests required for each sample line)

TIME	DATE	SITE NAME or LOCATION	IDENTIFIER, STATE ID #	MATRIX *	GRAB	COMP	SAMPLER COMMENTS
0930	12/17/02		POOKELA WELL	FW	X		See attached
			N.B. Sample collected in duplicate				

* MATRIX TYPES:

Reported by Volume:
RSW = Raw Surface Water
RGW = Raw Ground Water
FW = Other Finished Water
CFW = Chlor(am)inated Finished Water
SW = Storm Water
WW = Other Waste Water
CWW = Chlorinated Waste Water

Reported by Weight:
SO = Soil
SL = Sludge

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	K Kuba	K Kuba	DWS MAUI	12/17/02	1430
RECEIVED BY:		Fed Ex / RE	MWH	12/18/02	10:00
RELINQUISHED BY:					
RECEIVED BY:					

Laboratories
5 East Walnut Street
Pasadena CA 91101 (626) 568-6400 FAX (626) 568-6324

Bottle Order for Maui County Department of Water Supply

Group #
Date Sampled
Date Received

Hillary Strayer — Your MWL Project Manager
(626) 568-6412 — Direct Phone/Voice Mail

Client Code MAUI — HI New Source — ProjectName
Project Code PHASEV
PO# / Job# ____

BO# 20916

Sampler: please return this paper with your samples

reated by HILL

rder Date 12/06/02

ate Needed v Client 12/12/02

ate Samples Arrive at MWL 12/18/02

Ship Sample Kits to

Maui County Dept. of Water Supply
614 Palapala Dr.
Kahului, HI 96732

ATTN: Cari Cerizo
PHONE: (808) 270-7344

Send Report to

Maui County Dept. of Water Supply
614 Palapala Dr.
Kahului, HI 96732

ATTN: Cari Cerizo
PHONE: (808) 270-7344
FAX: (808) 270-6133

Billing Address

Maui County Dept. of Water Supply
PO Box 1109
Wailuku, HI 96793

16290

# of Samples	Tests	Qteline#	Bottles-Qty for each sample, type & preservative if any	UN DOT #
1	@DIQUAT (549.2)		1 1L amber poly/ no preservative	
1	@EDB-DBC (504.1)		4 40ml amber glass vials/ no preservative	UN 1789
1	@VOASDWA (524.2)		3 40ml amber glass vials+4 drops of 1:1 HCL	UN 1789
1	@ML525 (525.2)		2 1L amber glass+ 1.5 ml HCL (6N)	UN 1750
1	@ML531 (531.1)		2 40ml amber vials+1ml MCAA	
1	@ML515.3 (HERB)		2 125ml amber glass/ no preservative	
1	@PESTSDW (508), MIREX1		2 1L amber glass/no preservative	
1	ENDOTHAL (548.1)		1 250ml amber glass/no preservative	
1	GLYPHOS (547)		1 125ml amber glass/no preservative	
1	D1613EDD (1613 - DIOXIN)		2 1L amber glass / no preservative	UN 1824
1	CNDW (CYANIDE)		1 125ml poly +1 ml NaOH (25%)+3 scoops Ascorbic Acid	UN2031
1	#MET-HI, CA		1 250ml poly acid rinsed+2 ml HNO3 (18%)	
1	NO2-N, NO3, F, ALK, EC, PH		1 1-L poly/ no preservative	UN 2796
1	NO3RFA* - HOLD		1 125 ml poly+ 0.5ml H2SO4 (50%)	

Code | Status | Date Shipped | Via | Tracking # | # of Coolers | Prepared By

Comments

SHIPPING:

Label cooler:
NEW SOURCE
SHORT HT

*** LOG-IN:**

LOG IN NO3RFA ONLY IF HT FOR NO3 AND NO2-N ARE NOT MET.
CHECK WITH HDS ON WHETHER SOME TESTS ARE SUBBED (POSSIBLY 508, 525, 515...) TO FGL

MWH Laboratories
555 E. Walnut St., Pasadena, CA 91101
PHONE: 626-568-6400/FAX: 626-568-6324

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Maui, County of, Department of Water Supply
614 Palapala Dr
Kahului, HI 96732
Attn: Cari Cerizo
Phone: (808) 270-7344

Customer Code: MAUI
Group#: 104183
Project#: PHASEV
Proj Mgr: Hillary Strayer
Phone: (626) 568-6412

The following samples were received from you on 12/18/02. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample#	Sample Id	Matrix	Sample Date
	Tests Scheduled		
2212180035	POOKELA WELL	Water	17-dec-2002 09:30:0
	@DIQUAT @EDB-DBC @ML515.3 @ML531 @PESTSDW @VOASDWA		
	ALK AS-MS BA-MS BE-MS CA CD-MS		
	CNDW CR-MS CU-MS CUSTSUB D1613EDD EC		
	ENDOTHAL F GLYPHOS HG NI-MS NO2-N		
	NO3 PB-MS PH SB-MS SE-MS TL-MS		

Test Acronym Description

Test Acronym	Description
@DIQUAT	Diquat and Paraquat
@EDB-DBC	EDB and DBCP by GC-ECD
@ML515.3	Herbicides by 515.3
@ML531	Aldicarbs
@PESTSDW	SDWA Pesticides
@VOASDWA	Regulated VOCs plus Lists 1&3
ALK	Alkalinity in CaCO3 units
AS-MS	Arsenic, Total, ICAP/MS
BA-MS	Barium, Total, ICAP/MS
BE-MS	Beryllium, Total, ICAP/MS
CA	Calcium, Total, ICAP
CD-MS	Cadmium, Total, ICAP/MS
CNDW	Cyanide
CR-MS	Chromium, Total, ICAP/MS
CU-MS	Copper, Total, ICAP/MS
CUSTSUB	Subcontracted Analyses
D1613EDD	2,3,7,8-Tcdd 1613 Drinking Wtr
EC	Specific Conductance
ENDOTHAL	Endothall
F	Fluoride
GLYPHOS	Glyphosate
HG	Mercury
NI-MS	Nickel, Total, ICAP/MS

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Group#: 104183
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Proj Mgr: Hillary Strayer
Phone: (626) 568-6412

Test Acronym Description

Test Acronym	Description
NO2-N	Nitrite, Nitrogen by IC
NO3	Nitrate as Nitrogen by IC
PB-MS	Lead, Total, ICAP/MS
PH	Lab pH
SB-MS	Antimony, Total, ICAP/MS
SE-MS	Selenium, Total, ICAP/MS
TL-MS	Thallium, Total, ICAP/MS

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Report
Comments
#104183

Group Comments

Analytical results for CUSTSUB Methods 525.2 and 507 are submitted by FGL Environmental,Santa Paula,CA.
CA Nelap 01110CA.

(QC Ref#: 188970)
Test: 2,2-Dichloropropane (ML/EPA 524.2)
QC Type: MS
2,2-Dichloropropane recovered at 76% and 73% in MS/MSD, below QC limits.
QC Type: MSD
2,2-Dichloropropane recovered at 76% and 73% in MS/MSD, below QC limits.

(QC Ref#: 189058)
Test: Bentazon (ML/EPA 515.3)
QC Type: MS1
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Tot DCPA Mono&Diacid Degradate (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Dicamba (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Pentachlorophenol (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Picloram (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.

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Test: 4-Nitrophenol (qualitative) (ML/EPA 515.3)
QC Type: MS1
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.

(QC Ref#: 189130)
Test: Diquat (ML/EPA 549.2)
QC Type: LCS1
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
QC Type: LCS2
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
QC Type: MS
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
QC Type: MSD
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
Test: Paraquat (ML/EPA 549.2)
QC Type: LCS1
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.

(QC Ref#: 2212180035)
CUSTSUB FOR 525 507
Test: Subcontracted Analyses ( )
Methods 525.2 and 507
Test: 2,3,7,8-Tcdd 1613 Drinking Wtr (EPA 1613)
Results for TCDD by 1613B are submitted by Pace Analytical, MN.

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Laboratory
Hits Report
#104183

Maui, County of, Department of
Water Supply
Cari Cerizo
614 Palapala Dr
Kahului , HI 96732

Samples Received

18-dec-2002 12:34:33

Analyzed	Sample#	Sample ID	Result	UNITS	MRL
	2212180035	POOKELA WELL			
12/20/02		Alkalinity in CaCO3 units	41	mg/l	1.000
01/02/03		Calcium, Total, ICAP	6.4	mg/l	1.000
01/22/03		Chromium, Total, ICAP/MS	3.9	ug/l	1.000
01/22/03		Copper, Total, ICAP/MS	14	ug/l	2.000
12/27/02		Fluoride	0.08	mg/l	.050
12/19/02		Lab pH	8.3	Units	.001
01/22/03		Lead, Total, ICAP/MS	54	ug/l	.500
12/18/02		Nitrate as Nitrogen by IC	0.49	mg/l	.100
12/21/02		Specific Conductance	103	umho/c	4.000
01/06/02		Subcontracted Analyses	SUB FGL	None	

SUMMARY OF POSITIVE DATA ONLY.

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Laboratory
Data Report
#104183

Maui, County of, Department of
Water Supply
Cari Cerizo
614 Palapala Dr
Kahului , HI 96732

Samples Received

12/18/02

epared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
OOKELA WELL (2212180035) Sampled on 12/17/02 09:30								
	12/20/02 13:52	188260	(SM2320B/E310.1)	Alkalinity in CaCO3 units	41	mg/l	1.0	1
	01/22/03 12:23	189747	(EPA/ML 200.8)	Arsenic, Total, ICAP/MS	ND	ug/l	1.0	1
	01/22/03 12:23	189758	(EPA/ML 200.8)	Barium, Total, ICAP/MS	ND	ug/l	2.0	1
	01/22/03 12:23	189756	(EPA/ML 200.8)	Beryllium, Total, ICAP/MS	ND	ug/l	1.0	1
	01/02/03 14:37	188928	(ML/EPA 200.7)	Calcium, Total, ICAP	6.4	mg/l	1.0	1
	01/22/03 12:23	189755	(EPA/ML 200.8)	Cadmium, Total, ICAP/MS	ND	ug/l	0.50	1
	12/23/02 00:00	188343	(SM4500CN-F)	Cyanide	ND	mg/l	0.025	1
	01/22/03 12:23	189770	(EPA/ML 200.8)	Chromium, Total, ICAP/MS	3.9	ug/l	1.0	1
	01/22/03 12:23	189741	(EPA/ML 200.8)	Copper, Total, ICAP/MS	14	ug/l	2.0	1
	01/06/02 00:00		( )	Subcontracted Analyses	SUB FGL	None	0.0000	1
/23/02	12/30/02 00:00		(EPA 1613)	2,3,7,8-Tcdd 1613 Drinking Wtr	ND	pg/l	5.0	1
	12/21/02 00:00	188294	(ML/S2510B)	Specific Conductance	103	umho/cm	4.0	1
/19/02	12/27/02 00:00	188667	(ML/EPA 548.1)	Endothall	ND	ug/l	5.0	1
	12/27/02 00:00	188533	(SM4500F-C)	Fluoride	0.08	mg/l	0.050	1
	12/20/02 00:00	188332	(ML/EPA 547)	Glyphosate	ND	ug/l	6.0	1
	12/21/02 14:33	188267	(EPA/ML 245.1)	Mercury	ND	ug/l	0.20	1
	01/22/03 12:23	189739	(EPA/ML 200.8)	Nickel, Total, ICAP/MS	ND	ug/l	5.0	1
	12/18/02 19:43	188052	(ML/EPA 300.0)	Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
	12/18/02 19:43	188053	(ML/EPA 300.0)	Nitrate as Nitrogen by IC	0.49	mg/l	0.10	1
	01/22/03 12:23	189764	(EPA/ML 200.8)	Lead, Total, ICAP/MS	54	ug/l	0.50	1
	12/19/02 00:00	188127	(S4500HB/E150.1)	Lab pH	8.3	Units	0.0010	1
	01/22/03 12:23	189760	(EPA/ML 200.8)	Antimony, Total, ICAP/MS	ND	ug/l	1.0	1
	01/22/03 12:23	189749	(EPA/ML 200.8)	Selenium, Total, ICAP/MS	ND	ug/l	5.0	1
	01/22/03 12:23	189762	(EPA/ML 200.8)	Thallium, Total, ICAP/MS	ND	ug/l	1.0	1
Aldicarbs								
	12/20/02 00:00	188345	(ML/EPA 531.1)	3-Hydroxycarbofuran	ND	ug/l	2.0	1
	12/20/02 00:00	188345	(ML/EPA 531.1)	Aldicarb (Temik)	ND	ug/l	0.50	1
	12/20/02 00:00	188345	(ML/EPA 531.1)	Aldicarb sulfone	ND	ug/l	0.70	1
	12/20/02 00:00	188345	(ML/EPA 531.1)	Aldicarb sulfoxide	ND	ug/l	0.50	1
	12/20/02 00:00	188345	(ML/EPA 531.1)	Baygon	ND	ug/l	2.0	1

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Laboratory
Data Report
#104183

Maui, County of, Department of
Water Supply
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2212180035) (continued) Sampled on 12/17/02 09:30								
	12/20/02 00:00	188345	(ML/EPA 531.1)	Carbofuran (Furadan)	ND	ug/l	0.90	1
	12/20/02 00:00	188345	(ML/EPA 531.1)	Carbaryl	ND	ug/l	2.0	1
	12/20/02 00:00	188345	(ML/EPA 531.1)	Methiocarb	ND	ug/l	2.0	1
	12/20/02 00:00	188345	(ML/EPA 531.1)	Methomyl	ND	ug/l	1.0	1
	12/20/02 00:00	188345	(ML/EPA 531.1)	Oxamyl (Vydate)	ND	ug/l	2.0	1
			(Surrogate)	BDMC(70-130)	100	% Rec		
Diquat and Paraquat								
12/20/02	12/23/02 00:00	189130	(ML/EPA 549.2)	Diquat	ND	ug/l	0.40	1
12/20/02	12/23/02 00:00	189130	(ML/EPA 549.2)	Paraquat	ND	ug/l	2.0	1
EDB and DBCP by GC-ECD								
12/19/02	12/20/02 00:00	188226	(ML/EPA 504.1)	Dibromochloropropane (DBCP)	ND	ug/l	0.010	1
12/19/02	12/20/02 00:00	188226	(ML/EPA 504.1)	Ethylene Dibromide (EDB)	ND	ug/l	0.010	1
			(Surrogate)	1,2-dibromopropane(60-140)	NA	% Rec		
Herbicides by 515.3								
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4,5-T	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4,5-TP (Silvex)	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4-D	ND	ug/l	0.10	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4-DB	ND	ug/l	2.0	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dichlorprop	ND	ug/l	0.50	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Acifluorfen	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Bentazon	ND	ug/l	0.50	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dalapon	ND	ug/l	1.0	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	3,5-Dichlorobenzoic acid	ND	ug/l	0.50	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Tot DCPA Mono&Diacid Degradate	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dicamba	ND	ug/l	0.080	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dinoseb	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Pentachlorophenol	ND	ug/l	0.040	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Picloram	ND	ug/l	0.10	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	4-Nitrophenol (qualitative)	ND	ug/l	1.0	1
			(Surrogate)	24-D(70-130)	105	% Rec		

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Maui, County of, Department of
Water Supply
(continued)

KOOKELA WELL (2212180035) (continued) Sampled on 12/17/02 09:30

Regulated VOCs plus Lists 1&3

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
12/28/02	00:00	188970	(ML/EPA 524.2)	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,1,1-Trichloroethane	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,1,2-Trichloroethane	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,1-Dichloroethane	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,1-Dichloroethylene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,1-Dichloropropene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,2,3-Trichloropropane	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,2-Dichloroethane	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,2-Dichloropropane	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	1,3-Dichloropropane	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	2,2-Dichloropropane	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	2-Butanone (MEK)	ND	ug/l	5.0	1
12/28/02	00:00	188970	(ML/EPA 524.2)	o-Chlorotoluene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	p-Chlorotoluene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
12/28/02	00:00	188970	(ML/EPA 524.2)	Benzene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	Bromobenzene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	Bromoethane	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	Chlorobenzene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	Carbon Tetrachloride	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
12/28/02	00:00	188970	(ML/EPA 524.2)	Bromoform	ND	ug/l	0.50	1

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Laboratory
Data Report
#104183

Maui, County of, Department of
Water Supply
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2212180035) (continued) Sampled on 12/17/02 09:30								
	12/28/02 00:00	188970	(ML/EPA 524.2)	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Bromochloromethane	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Chloroethane	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Chloromethane(Methyl Chloride)	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Chlorodibromomethane	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Dibromomethane	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Bromodichloromethane	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Dichloromethane	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Di-isopropyl ether	ND	ug/l	3.0	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Ethyl benzene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Dichlorodifluoromethane	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Hexachlorobutadiene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Isopropylbenzene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	m,p-Xylenes	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Methyl Tert-butyl ether (MTBE)	ND	ug/l	3.0	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Naphthalene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	n-Butylbenzene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	n-Propylbenzene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	o-Xylene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	p-Isopropyltoluene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	sec-Butylbenzene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Styrene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	tert-amyl Methyl Ether	ND	ug/l	3.0	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	tert-Butyl Ethyl Ether	ND	ug/l	3.0	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	tert-Butylbenzene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Trichlorotrifluoroethane(Freon	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	trans-1,3-Dichloropropene	ND	ug/l	0.50	1

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Data Report
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Maui, County of, Department of
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(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2212180035) (continued) Sampled on 12/17/02 09:30								
	12/28/02 00:00	188970	(ML/EPA 524.2)	Toluene	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Total THM	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Total xylenes	ND	ug/l	0.50	1
	12/28/02 00:00	188970	(ML/EPA 524.2)	Vinyl chloride (VC)	ND	ug/l	0.30	1
			(Surrogate)	1,2-Dichloroethane-d4(70-130)	98	% Rec		
			(Surrogate)	4-Bromofluorobenzene(70-130)	104	% Rec		
			(Surrogate)	Toluene-d8(70-130)	100	% Rec		
SDWA Pesticides								
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	PCB 1016 Aroclor	ND	ug/l	0.070	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	PCB 1221 Aroclor	ND	ug/l	0.10	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	PCB 1232 Aroclor	ND	ug/l	0.10	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	PCB 1242 Aroclor	ND	ug/l	0.10	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	PCB 1248 Aroclor	ND	ug/l	0.10	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	PCB 1254 Aroclor	ND	ug/l	0.10	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	PCB 1260 Aroclor	ND	ug/l	0.10	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Alpha-BHC	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Alachlor (Alanex)	ND	ug/l	0.050	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Aldrin	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Beta-BHC	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Chlordane	ND	ug/l	0.10	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Chlorthalonil (Draconil,Bravo)	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Delta-BHC	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	p,p' DDD	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	p,p' DDE	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	p,p' DDT	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Dieldrin	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Endrin Aldehyde	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Endrin	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Endosulfan I (alpha)	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Endosulfan II (beta)	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Endosulfan sulfate	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508)	Heptachlor	ND	ug/l	0.010	1

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Maui, County of, Department of
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Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2212180035) (continued) Sampled on 12/17/02 09:30								
12/23/02	12/27/02 00:00	188829	(ML/EPA 508	) Heptachlor Epoxide	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508	) Lindane (gamma-BHC)	ND	ug/l	0.010	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508	) Methoxychlor	ND	ug/l	0.050	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508	) Tetrachlorometaxylene (surr)	ND	%R	0.0000	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508	) Dibutyl chlorendate (surr)	ND	%R	0.0000	1
12/23/02	12/27/02 00:00	188829	(ML/EPA 508	) Toxaphene	ND	ug/l	0.50	1
			(Surrogate	) Dibutyl Chlorendate(70-130)	100	% Rec		
			(Surrogate	) Tetrachlorometaxylene(70-130)	112	% Rec		

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QC Summary
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QC Ref #188052 - Nitrite, Nitrogen by IC — Analysis Date: 12/18/2002

2212180035 POOKELA WELL

QC Ref #188053 - Nitrate as Nitrogen by IC — Analysis Date: 12/18/2002

2212180035 POOKELA WELL

QC Ref #188127 - Lab pH — Analysis Date: 12/19/2002

2212180035 POOKELA WELL

QC Ref #188226 - EDB and DBCP by GC-ECD — Analysis Date: 12/20/2002

2212180035 POOKELA WELL

QC Ref #188260 - Alkalinity in CaCO3 units — Analysis Date: 12/20/2002

2212180035 POOKELA WELL

QC Ref #188267 - Mercury — Analysis Date: 12/21/2002

2212180035 POOKELA WELL

QC Ref #188294 - Specific Conductance — Analysis Date: 12/21/2002

2212180035 POOKELA WELL

QC Ref #188332 - Glyphosate — Analysis Date: 12/20/2002

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QC Ref #188343 - Cyanide **Analysis Date: 12/23/2002**

2212180035 POOKELA WELL

QC Ref #188345 - Aldicarbs **Analysis Date: 12/20/2002**

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QC Ref #188533 - Fluoride **Analysis Date: 12/27/2002**

2212180035 POOKELA WELL

QC Ref #188667 - Endothall **Analysis Date: 12/27/2002**

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QC Ref #188829 - SDWA Pesticides **Analysis Date: 12/27/2002**

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QC Ref #188928 - Calcium, Total, ICAP **Analysis Date: 01/02/2003**

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QC Ref #188970 - Regulated VOCs plus Lists 1&3 **Analysis Date: 12/28/2002**

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QC Ref #189058 - Herbicides by 515.3 **Analysis Date: 01/02/2003**

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QC Ref #189130 - Diquat and Paraquat Analysis Date: 12/23/2002

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QC Ref #189739 - Nickel, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #189741 - Copper, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #189747 - Arsenic, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #189749 - Selenium, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #189755 - Cadmium, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #189756 - Beryllium, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #189758 - Barium, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #189760 - Antimony, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #189762 - Thallium, Total, ICAP/MS Analysis Date: 01/22/2003

2212180035 POOKELA WELL

QC Ref #189764 - Lead, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #189770 - Chromium, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #188052 Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrite, Nitrogen by IC	1.0	1.03	MGL	103.0	(90-110)	
LCS2	Nitrite, Nitrogen by IC	1.0	1.06	MGL	106.0	(90-110)	2.9
MBLK	Nitrite, Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrite, Nitrogen by IC	1.0	0.97	MGL	97.0	(80-120)	
MSD	Nitrite, Nitrogen by IC	1.0	0.954	MGL	95.4	(80-120)	1.7

QC Ref #188053 Nitrate as Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrate as Nitrogen by IC	2.5	2.63	MGL	105.2	(90-110)	
LCS2	Nitrate as Nitrogen by IC	2.5	2.64	MGL	105.6	(90-110)	0.38
MBLK	Nitrate as Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrate as Nitrogen by IC	2.5	2.58	MGL	103.2	(80-120)	
MSD	Nitrate as Nitrogen by IC	2.5	2.54	MGL	101.6	(80-120)	1.6

QC Ref #188127 Lab pH

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
DUP	Lab pH	7.2	7.2	UNIT		(0-20)	0.0

QC Ref #188226 EDB and DBCP by GC-ECD

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12120043	NONE		(0-0)	
LCS1	Dibromochloropropane (DBCP)	0.02	0.021	UGL	105.0	(70-130)	
LCS2	Dibromochloropropane (DBCP)	0.20	0.20	UGL	100.0	(70-130)	
MBLK	Dibromochloropropane (DBCP)	ND	<0.01	UGL			
MS	Dibromochloropropane (DBCP)	0.20	0.20	UGL	100.0	(65-135)	
MSD	Dibromochloropropane (DBCP)	0.20	0.22	UGL	110.0	(65-135)	9.5

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RPD_MS	Dibromochloropropane (DBCP)	100.000	110.000	UGL	9.5	(0-20)	
LCS1	Ethylene Dibromide (EDB)	0.02	0.015	UGL	75.0	(70-130)	
LCS2	Ethylene Dibromide (EDB)	0.20	0.19	UGL	95.0	(70-130)	
MBLK	Ethylene Dibromide (EDB)	ND	<0.01	UGL			
MS	Ethylene Dibromide (EDB)	0.20	0.18	UGL	90.0	(65-135)	
MSD	Ethylene Dibromide (EDB)	0.20	0.18	UGL	90.0	(65-135)	0.00
RPD_MS	Ethylene Dibromide (EDB)	90.000	90.000	UGL	0.0	(0-20)	
LCS1	1,2-dibromopropane (surr)	100	100	%R	100.0	(60-140)	
LCS2	1,2-dibromopropane (surr)	100	94	%R	94.0	(60-140)	6.2
MBLK	1,2-dibromopropane (surr)	100	113	%R	113.0		
MS	1,2-dibromopropane (surr)	100	110	%R	110.0	(60-140)	
MSD	1,2-dibromopropane (surr)	100	111	%R	111.0	(60-140)	0.90
RPD_MS	1,2-dibromopropane (surr)	110.000	111.000	%R	0.9	(0-20)	

QC Ref #188260 Alkalinity in CaCO3 units

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12160157	MGL		(0-0)	
LCS1	Alkalinity in CaCO3 units	100	99.2	MGL	99.2	(90-110)	
LCS2	Alkalinity in CaCO3 units	100	99.4	MGL	99.4	(90-110)	0.20
MBLK	Alkalinity in CaCO3 units	ND	<1.00	MGL			
MS	Alkalinity in CaCO3 units	96.2	96.8	MGL	100.6	(80-120)	
MSD	Alkalinity in CaCO3 units	96.2	98.2	MGL	102.1	(80-120)	1.4
RPD_LCS	Alkalinity in CaCO3 units	99.200	99.400	MGL	0.2	(0-10)	
RPD_MS	Alkalinity in CaCO3 units	100.624	102.079	MGL	1.4	(0-10)	

QC Ref #188267 Mercury

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12140011	UGL		(0-0)	
LCS1	Mercury	1.50	1.46	UGL	97.3	(85-115)	
LCS2	Mercury	1.50	1.46	UGL	97.3	(85-115)	0.00
MBLK	Mercury	ND	<0.20	UGL			

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MS	Mercury	1.50	1.40	UGL	93.3	(70-130)	
MSD	Mercury	1.50	1.40	UGL	93.3	(70-130)	0.00

QC Ref #188294 Specific Conductance

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
DUP	Specific conductance	822	825	UMHO		(0-20)	0.4

QC Ref #188332 Glyphosate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12160097	UGL		(0-0)	
LCS1	Glyphosate	10	11	UGL	110.0	(70-130)	
MBLK	Glyphosate	ND	<6.00	UGL			
MS	Glyphosate	10	10	UGL	100.0	(70-130)	
MSD	Glyphosate	10	10.5	UGL	105.0	(70-130)	4.9

QC Ref #188343 Cyanide

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12180055	MGL		(0-0)	
LCS1	Cyanide	0.10	0.093	MGL	93.0	(80-120)	
MBLK	Cyanide	ND	<0.03	MGL			
MS	Cyanide	0.10	0.087	MGL	87.0	(80-120)	
MSD	Cyanide	0.10	0.090	MGL	90.0	(80-120)	3.4

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QC Ref #188345 Aldicarbs

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	3-Hydroxycarbofuran	10.0	8.66	UGL	86.6	(80-120)	
MBLK	3-Hydroxycarbofuran	ND	<2.00	UGL			
MS	3-Hydroxycarbofuran	10.0	8.93	UGL	89.3	(65-135)	
MSD	3-Hydroxycarbofuran	10.0	8.88	UGL	88.8	(65-135)	0.56
MS	Spiked sample	Lab # 22	12180202	NONE		(0-0)	
LCS1	Aldicarb (Temik)	10.0	9.87	UGL	98.7	(80-120)	
MBLK	Aldicarb (Temik)	ND	<0.50	UGL			
MS	Aldicarb (Temik)	10.0	9.48	UGL	94.8	(65-135)	
MSD	Aldicarb (Temik)	10.0	9.46	UGL	94.6	(65-135)	0.21
LCS1	Aldicarb sulfone	10.0	9.21	UGL	92.1	(80-120)	
MBLK	Aldicarb sulfone	ND	<0.70	UGL			
MS	Aldicarb sulfone	10.0	8.91	UGL	89.1	(65-135)	
MSD	Aldicarb sulfone	10.0	8.91	UGL	89.1	(65-135)	0.00
LCS1	Aldicarb sulfoxide	10.0	8.62	UGL	86.2	(80-120)	
MBLK	Aldicarb sulfoxide	ND	<0.50	UGL			
MS	Aldicarb sulfoxide	10.0	8.99	UGL	89.9	(65-135)	
MSD	Aldicarb sulfoxide	10.0	8.97	UGL	89.7	(65-135)	0.22
LCS1	Baygon	10.0	9.56	UGL	95.6	(80-120)	
MBLK	Baygon	ND	<2.00	UGL			
MS	Baygon	10.0	9.24	UGL	92.4	(65-135)	
MSD	Baygon	10.0	9.32	UGL	93.2	(65-135)	0.86
LCS1	Carbofuran (Furadan)	10.0	9.60	UGL	96.0	(80-120)	
MBLK	Carbofuran (Furadan)	ND	<0.90	UGL			
MS	Carbofuran (Furadan)	10.0	9.33	UGL	93.3	(65-135)	
MSD	Carbofuran (Furadan)	10.0	9.38	UGL	93.8	(65-135)	0.53
LCS1	Carbaryl	10.0	8.62	UGL	86.2	(80-120)	
MBLK	Carbaryl	ND	<2.00	UGL			
MS	Carbaryl	10.0	9.17	UGL	91.7	(65-135)	
MSD	Carbaryl	10.0	9.97	UGL	99.7	(65-135)	8.4
LCS1	Methiocarb	10.0	9.65	UGL	96.5	(80-120)	

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MBLK	Methiocarb	ND	<2.00	UGL			
MS	Methiocarb	10.0	9.38	UGL	93.8	(65-135)	
MSD	Methiocarb	10.0	9.56	UGL	95.6	(65-135)	1.9
LCS1	Methomyl	10.0	9.11	UGL	91.1	(80-120)	
MBLK	Methomyl	ND	<1.00	UGL			
MS	Methomyl	10.0	9.15	UGL	91.5	(65-135)	
MSD	Methomyl	10.0	9.14	UGL	91.4	(65-135)	0.11
LCS1	Oxamyl (Vydate)	10.0	9.10	UGL	91.0	(80-120)	
MBLK	Oxamyl (Vydate)	ND	<2.00	UGL			
MS	Oxamyl (Vydate)	10.0	8.99	UGL	89.9	(65-135)	
MSD	Oxamyl (Vydate)	10.0	8.96	UGL	89.6	(65-135)	0.33
LCS1	BDMC	100	103	%R	103.0	(70-130)	
MBLK	BDMC	100	99	%R	99.0		
MS	BDMC	100	98	%R	98.0	(70-130)	
MSD	BDMC	100	100	%R	100.0	(70-130)	2.0

QC Ref #188533 Fluoride

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12190061	MGL		(0-0)	
LCS1	Fluoride	1.00	0.980	MGL	98.0	(90-110)	
LCS2	Fluoride	1.00	0.990	MGL	99.0	(90-110)	1.0
MBLK	Fluoride	ND	<0.05	MGL			
MS	Fluoride	1.00	0.935	MGL	93.5	(80-120)	
MSD	Fluoride	1.00	0.964	MGL	96.4	(80-120)	3.1
MS_2ND	Fluoride	1.00	0.947	MGL	94.7	(80-120)	
RPD_LCS	Fluoride	98.000	99.000	MGL	1.0	(0-10)	
RPD_MS	Fluoride	93.500	96.400	MGL	3.1	(0-20)	

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QC Ref #188667 Endothall

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12160097	UGL		(0-0)	
LCS1	Endothall	25	25.5	UGL	102.0	(71-135)	
MBLK	Endothall	ND	<5.00	UGL			
MS	Endothall	25	26.4	UGL	105.6	(60-116)	
MSD	Endothall	25	25.6	UGL	102.4	(60-116)	3.1
RPD_MS	Endothall	105.600	102.400	UGL	3.1	(0-20)	

QC Ref #188829 SDWA Pesticides

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MBLK	PCB 1016 Aroclor	ND	<0.07	UGL			
MBLK	PCB 1221 Aroclor	ND	<0.10	UGL			
LCS1	PCB 1232 Aroclor	0.500	0.407	UGL	81.4	(70-130)	
MBLK	PCB 1232 Aroclor	ND	<0.10	UGL			
MS	PCB 1232 Aroclor	0.500	0.445	UGL	89.0	(65-135)	
MBLK	PCB 1242 Aroclor	ND	<0.10	UGL			
MBLK	PCB 1248 Aroclor	ND	<0.10	UGL			
MBLK	PCB 1254 Aroclor	ND	<0.10	UGL			
MBLK	PCB 1260 Aroclor	ND	<0.10	UGL			
LCS1	Alpha-BHC	0.050	0.050	UGL	100.0	(62-122)	
MBLK	Alpha-BHC	ND	<0.01	UGL			
MS	Alpha-BHC	0.050	0.053	UGL	106.0	(57-127)	
MS	Spiked sample	Lab # 22	12180035	NONE		(0-0)	
LCS1	Alachlor (Alanex)	0.100	0.114	UGL	114.0	(70-130)	
MBLK	Alachlor (Alanex)	ND	<0.05	UGL			
MS	Alachlor (Alanex)	0.100	0.113	UGL	113.0	(65-135)	
LCS1	Aldrin	0.050	0.042	UGL	84.0	(56-116)	
MBLK	Aldrin	ND	<0.01	UGL			
MS	Aldrin	0.050	0.046	UGL	92.0	(51-121)	

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LCS1	Beta-BHC	0.050	0.047	UGL	94.0	(65-125)
MBLK	Beta-BHC	ND	<0.01	UGL		
MS	Beta-BHC	0.050	0.042	UGL	84.0	(60-130)
MBLK	Chlordane	ND	<0.10	UGL		
LCS1	Chlorthalonil (Draconil,Bravo)	0.100	0.070	UGL	70.0	(61-121)
MBLK	Chlorthalonil (Draconil,Bravo)	ND	<0.01	UGL		
MS	Chlorthalonil (Draconil,Bravo)	0.100	0.060	UGL	60.0	(56-126)
LCS1	Delta-BHC	0.050	0.047	UGL	94.0	(72-132)
MBLK	Delta-BHC	ND	<0.01	UGL		
MS	Delta-BHC	0.050	0.047	UGL	94.0	(67-137)
LCS1	p,p' DDD	0.100	0.097	UGL	97.0	(77-137)
MBLK	p,p' DDD	ND	<0.01	UGL		
MS	p,p' DDD	0.100	0.100	UGL	100.0	(72-142)
LCS1	p,p' DDE	0.100	0.090	UGL	90.0	(69-129)
MBLK	p,p' DDE	ND	<0.01	UGL		
MS	p,p' DDE	0.100	0.091	UGL	91.0	(64-134)
LCS1	p,p' DDT	0.100	0.091	UGL	91.0	(82-142)
MBLK	p,p' DDT	ND	<0.01	UGL		
MS	p,p' DDT	0.100	0.097	UGL	97.0	(77-147)
LCS1	Dieldrin	0.100	0.094	UGL	94.0	(57-117)
MBLK	Dieldrin	ND	<0.01	UGL		
MS	Dieldrin	0.100	0.112	UGL	112.0	(52-122)
LCS1	Endrin Aldehyde	0.100	0.079	UGL	79.0	(58-118)
MBLK	Endrin Aldehyde	ND	<0.01	UGL		
MS	Endrin Aldehyde	0.100	0.086	UGL	86.0	(53-123)
LCS1	Endrin	0.100	0.079	UGL	79.0	(58-118)
MBLK	Endrin	ND	<0.01	UGL		
MS	Endrin	0.100	0.084	UGL	84.0	(53-123)
LCS1	Endosulfan I (alpha)	0.050	0.047	UGL	94.0	(57-117)
MBLK	Endosulfan I (alpha)	ND	<0.01	UGL		
MS	Endosulfan I (alpha)	0.050	0.045	UGL	90.0	(52-122)
LCS1	Endosulfan II (beta)	0.100	0.085	UGL	85.0	(62-122)
MBLK	Endosulfan II (beta)	ND	<0.01	UGL		
MS	Endosulfan II (beta)	0.100	0.087	UGL	87.0	(57-127)
LCS1	Endosulfan sulfate	0.100	0.080	UGL	80.0	(72-132)

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MBLK	Endosulfan sulfate	ND	<0.01	UGL		
MS	Endosulfan sulfate	0.100	0.080	UGL	80.0	(67-137)
LCS1	Heptachlor	0.050	0.044	UGL	88.0	(68-128)
MBLK	Heptachlor	ND	<0.01	UGL		
MS	Heptachlor	0.050	0.048	UGL	96.0	(63-133)
LCS1	Heptachlor Epoxide	0.050	0.043	UGL	86.0	(57-117)
MBLK	Heptachlor Epoxide	ND	<0.01	UGL		
MS	Heptachlor Epoxide	0.050	0.047	UGL	94.0	(52-122)
LCS1	Lindane (gamma-BHC)	0.050	0.048	UGL	96.0	(59-119)
MBLK	Lindane (gamma-BHC)	ND	<0.01	UGL		
MS	Lindane (gamma-BHC)	0.050	0.049	UGL	98.0	(54-124)
LCS1	Methoxychlor	0.500	0.383	UGL	76.6	(75-135)
MBLK	Methoxychlor	ND	<0.05	UGL		
MS	Methoxychlor	0.500	0.385	UGL	77.0	(70-140)
LCS1	Tetrachlorometaxylene (surr)	100	100	%R	100.0	(70-130)
MBLK	Tetrachlorometaxylene (surr)	100	104	%R	104.0	
MS	Tetrachlorometaxylene (surr)	100	109	%R	109.0	(70-130)
LCS1	Dibutyl chlorendate (surr)	100	100	%R	100.0	(70-130)
MBLK	Dibutyl chlorendate (surr)	100	104	%R	104.0	
MS	Dibutyl chlorendate (surr)	100	100	%R	100.0	(70-130)
MBLK	Toxaphene	ND	<0.50	UGL		

QC Ref #188928 Calcium, Total, ICAP

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Calcium, Total, ICAP	50	52.3	MGL	104.6	(85-115)	
LCS2	Calcium, Total, ICAP	50	52.7	MGL	105.4	(85-115)	0.76
MBLK	Calcium, Total, ICAP	ND	<1.00	MGL			
MS	Calcium, Total, ICAP	50	53.7	MGL	107.4	(70-130)	
MSD	Calcium, Total, ICAP	50	53.2	MGL	106.4	(70-130)	0.94

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QC Ref #188970 Regulated VOCs plus Lists 1&3

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	1,1,1,2-Tetrachloroethane	4	3.75	UGL	93.8	(70-130)	
MBLK	1,1,1,2-Tetrachloroethane	ND	<0.50	UGL			
MS	1,1,1,2-Tetrachloroethane	10	10.4	UGL	104.0	(84-131)	
MSD	1,1,1,2-Tetrachloroethane	10	9.97	UGL	99.7	(84-131)	4.2
RPD_MS	1,1,1,2-Tetrachloroethane	104.000	99.700	UGL	4.2	(0-20)	
LCS1	1,1,1-Trichloroethane	4	3.70	UGL	92.5	(70-130)	
MBLK	1,1,1-Trichloroethane	ND	<0.50	UGL			
MS	1,1,1-Trichloroethane	10	10.7	UGL	107.0	(70-130)	
MSD	1,1,1-Trichloroethane	10	10.2	UGL	102.0	(70-130)	4.8
RPD_MS	1,1,1-Trichloroethane	107.000	102.000	UGL	4.8	(0-20)	
LCS1	1,1,2,2-Tetrachloroethane	4	4.13	UGL	103.2	(70-130)	
MBLK	1,1,2,2-Tetrachloroethane	ND	<0.50	UGL			
MS	1,1,2,2-Tetrachloroethane	10	10.8	UGL	108.0	(70-130)	
MSD	1,1,2,2-Tetrachloroethane	10	10.5	UGL	105.0	(70-130)	2.8
RPD_MS	1,1,2,2-Tetrachloroethane	108.000	105.000	UGL	2.8	(0-20)	
LCS1	1,1,2-Trichloroethane	4	3.91	UGL	97.8	(70-130)	
MBLK	1,1,2-Trichloroethane	ND	<0.50	UGL			
MS	1,1,2-Trichloroethane	10	10.1	UGL	101.0	(70-130)	
MSD	1,1,2-Trichloroethane	10	9.70	UGL	97.0	(70-130)	4.0
RPD_MS	1,1,2-Trichloroethane	101.000	97.000	UGL	4.0	(0-20)	
LCS1	1,1-Dichloroethane	4	3.85	UGL	96.2	(70-130)	
MBLK	1,1-Dichloroethane	ND	<0.50	UGL			
MS	1,1-Dichloroethane	10	10.3	UGL	103.0	(70-130)	
MSD	1,1-Dichloroethane	10	10.0	UGL	100.0	(70-130)	3.0
RPD_MS	1,1-Dichloroethane	103.000	100.000	UGL	3.0	(0-20)	
LCS1	1,1-Dichloroethylene	4	3.85	UGL	96.2	(70-130)	
MBLK	1,1-Dichloroethylene	ND	<0.50	UGL			
MS	1,1-Dichloroethylene	10	10.7	UGL	107.0	(70-130)	
MSD	1,1-Dichloroethylene	10	10.2	UGL	102.0	(70-130)	4.8
RPD_MS	1,1-Dichloroethylene	107.000	102.000	UGL	4.8	(0-20)	

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LCS1	1,1-Dichloropropene	4	3.75	UGL	93.8	(70-130)	
MBLK	1,1-Dichloropropene	ND	<0.50	UGL			
MS	1,1-Dichloropropene	10	10.5	UGL	105.0	(81-127)	
MSD	1,1-Dichloropropene	10	10.3	UGL	103.0	(81-127)	1.9
RPD_MS	1,1-Dichloropropene	105.000	103.000	UGL	1.9	(0-20)	
LCS1	1,2,3-Trichlorobenzene	4	4.02	UGL	100.5	(70-130)	
MBLK	1,2,3-Trichlorobenzene	ND	<0.50	UGL			
MS	1,2,3-Trichlorobenzene	10	10.0	UGL	100.0	(70-130)	
MSD	1,2,3-Trichlorobenzene	10	10.1	UGL	101.0	(70-130)	1.00
RPD_MS	1,2,3-Trichlorobenzene	100.000	101.000	UGL	1.0	(0-20)	
LCS1	1,2,3-Trichloropropane	4	3.68	UGL	92.0	(70-130)	
MBLK	1,2,3-Trichloropropane	ND	<0.50	UGL			
MS	1,2,3-Trichloropropane	10	9.62	UGL	96.2	(70-130)	
MSD	1,2,3-Trichloropropane	10	9.40	UGL	94.0	(70-130)	2.3
RPD_MS	1,2,3-Trichloropropane	96.200	94.000	UGL	2.3	(0-20)	
LCS1	1,2,4-Trichlorobenzene	4	3.97	UGL	99.2	(70-130)	
MBLK	1,2,4-Trichlorobenzene	ND	<0.50	UGL			
MS	1,2,4-Trichlorobenzene	10	10.0	UGL	100.0	(70-130)	
MSD	1,2,4-Trichlorobenzene	10	10.4	UGL	104.0	(70-130)	3.9
RPD_MS	1,2,4-Trichlorobenzene	100.000	104.000	UGL	3.9	(0-20)	
LCS1	1,2,4-Trimethylbenzene	4	3.91	UGL	97.8	(70-130)	
MBLK	1,2,4-Trimethylbenzene	ND	<0.50	UGL			
MS	1,2,4-Trimethylbenzene	10	10.5	UGL	105.0	(70-130)	
MSD	1,2,4-Trimethylbenzene	10	10.5	UGL	105.0	(70-130)	0.00
RPD_MS	1,2,4-Trimethylbenzene	105.000	105.000	UGL	0.0	(0-20)	
LCS1	1,2-Dichloroethane	4	3.89	UGL	97.2	(70-130)	
MBLK	1,2-Dichloroethane	ND	<0.50	UGL			
MS	1,2-Dichloroethane	10	10.5	UGL	105.0	(80-140)	
MSD	1,2-Dichloroethane	10	10.1	UGL	101.0	(80-140)	3.9
RPD_MS	1,2-Dichloroethane	105.000	101.000	UGL	3.9	(0-20)	
LCS1	1,2-Dichloropropane	4	3.89	UGL	97.2	(70-130)	
MBLK	1,2-Dichloropropane	ND	<0.50	UGL			
MS	1,2-Dichloropropane	10	10.1	UGL	101.0	(70-130)	
MSD	1,2-Dichloropropane	10	9.79	UGL	97.9	(70-130)	3.1
RPD_MS	1,2-Dichloropropane	101.000	97.900	UGL	3.1	(0-20)	

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LCS1	1,3,5-Trimethylbenzene	4	3.92	UGL	98.0	(70-130)	
MBLK	1,3,5-Trimethylbenzene	ND	<0.50	UGL			
MS	1,3,5-Trimethylbenzene	10	10.7	UGL	107.0	(70-130)	
MSD	1,3,5-Trimethylbenzene	10	10.5	UGL	105.0	(70-130)	1.9
RPD_MS	1,3,5-Trimethylbenzene	107.000	105.000	UGL	1.9	(0-20)	
LCS1	1,3-Dichloropropane	4	3.88	UGL	97.0	(70-130)	
MBLK	1,3-Dichloropropane	ND	<0.50	UGL			
MS	1,3-Dichloropropane	10	10.1	UGL	101.0	(70-130)	
MSD	1,3-Dichloropropane	10	9.85	UGL	98.5	(70-130)	2.5
RPD_MS	1,3-Dichloropropane	101.000	98.500	UGL	2.5	(0-20)	
LCS1	p-Dichlorobenzene (1,4-DCB)	4	3.94	UGL	98.5	(70-130)	
MBLK	p-Dichlorobenzene (1,4-DCB)	ND	<0.50	UGL			
MS	p-Dichlorobenzene (1,4-DCB)	10	10.5	UGL	105.0	(70-130)	
MSD	p-Dichlorobenzene (1,4-DCB)	10	10.4	UGL	104.0	(70-130)	0.96
RPD_MS	p-Dichlorobenzene (1,4-DCB)	105.000	104.000	UGL	1.0	(0-20)	
LCS1	2,2-Dichloropropane	4	2.81	UGL	70.2	(70-130)	
MBLK	2,2-Dichloropropane	ND	<0.50	UGL			
MS	2,2-Dichloropropane	10	7.61	UGL	76.1	(84-131)	
MSD	2,2-Dichloropropane	10	7.33	UGL	73.3	(84-131)	3.7
RPD_MS	2,2-Dichloropropane	76.100	73.300	UGL	3.7	(0-20)	
LCS1	2-Butanone (MEK)	40	30.5	UGL	76.2	(70-130)	
MBLK	2-Butanone (MEK)	ND	<5.00	UGL			
MS	2-Butanone (MEK)	100	74.4	UGL	74.4	(56-85)	
MSD	2-Butanone (MEK)	100	71.2	UGL	71.2	(56-85)	4.4
RPD_MS	2-Butanone (MEK)	74.400	71.200	UGL	4.4	(0-20)	
LCS1	o-Chlorotoluene	4	3.87	UGL	96.8	(70-130)	
MBLK	o-Chlorotoluene	ND	<0.50	UGL			
MS	o-Chlorotoluene	10	10.3	UGL	103.0	(70-130)	
MSD	o-Chlorotoluene	10	10.4	UGL	104.0	(70-130)	0.97
RPD_MS	o-Chlorotoluene	103.000	104.000	UGL	1.0	(0-20)	
LCS1	p-Chlorotoluene	4	3.80	UGL	95.0	(70-130)	
MBLK	p-Chlorotoluene	ND	<0.50	UGL			
MS	p-Chlorotoluene	10	10.5	UGL	105.0	(70-130)	
MSD	p-Chlorotoluene	10	10.3	UGL	103.0	(70-130)	1.9
RPD_MS	p-Chlorotoluene	105.000	103.000	UGL	1.9	(0-20)	

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LCS1	4-Methyl-2-Pentanone (MIBK)	40	38.6	UGL	96.5	(70-130)	
MBLK	4-Methyl-2-Pentanone (MIBK)	ND	<5.00	UGL			
MS	4-Methyl-2-Pentanone (MIBK)	100	97.1	UGL	97.1	(70-130)	
MSD	4-Methyl-2-Pentanone (MIBK)	100	96.1	UGL	96.1	(70-130)	1.0
RPD_MS	4-Methyl-2-Pentanone (MIBK)	97.100	96.100	UGL	1.0	(0-20)	
MS	Spiked sample	Lab # 22	12170029	NONE		(0-0)	
LCS1	Benzene	4	3.80	UGL	95.0	(70-130)	
MBLK	Benzene	ND	<0.50	UGL			
MS	Benzene	10	10.4	UGL	104.0	(70-130)	
MSD	Benzene	10	10.3	UGL	103.0	(70-130)	0.97
RPD_MS	Benzene	104.000	103.000	UGL	1.0	(0-20)	
LCS1	Bromobenzene	4	3.87	UGL	96.8	(70-130)	
MBLK	Bromobenzene	ND	<0.50	UGL			
MS	Bromobenzene	10	10.6	UGL	106.0	(70-130)	
MSD	Bromobenzene	10	10.3	UGL	103.0	(70-130)	2.9
RPD_MS	Bromobenzene	106.000	103.000	UGL	2.9	(0-20)	
LCS1	Bromomethane (Methyl Bromide)	4	4.02	UGL	100.5	(70-130)	
MBLK	Bromomethane (Methyl Bromide)	ND	<0.50	UGL			
MS	Bromomethane (Methyl Bromide)	10	10.2	UGL	102.0	(74-137)	
MSD	Bromomethane (Methyl Bromide)	10	9.97	UGL	99.7	(74-137)	2.3
RPD_MS	Bromomethane (Methyl Bromide)	102.000	99.700	UGL	2.3	(0-20)	
LCS1	cis-1,2-Dichloroethylene	4	3.75	UGL	93.8	(70-130)	
MBLK	cis-1,2-Dichloroethylene	ND	<0.50	UGL			
MS	cis-1,2-Dichloroethylene	10	10.5	UGL	105.0	(86-129)	
MSD	cis-1,2-Dichloroethylene	10	10.1	UGL	101.0	(86-129)	3.9
RPD_MS	cis-1,2-Dichloroethylene	105.000	101.000	UGL	3.9	(0-20)	
LCS1	Chlorobenzene	4	3.73	UGL	93.2	(70-130)	
MBLK	Chlorobenzene	ND	<0.50	UGL			
MS	Chlorobenzene	10	10.6	UGL	106.0	(70-130)	
MSD	Chlorobenzene	10	10.2	UGL	102.0	(70-130)	3.8
RPD_MS	Chlorobenzene	106.000	102.000	UGL	3.8	(0-20)	
LCS1	Carbon Tetrachloride	4	3.38	UGL	84.5	(70-130)	
MBLK	Carbon Tetrachloride	ND	<0.50	UGL			
MS	Carbon Tetrachloride	10	10.8	UGL	108.0	(70-130)	
MSD	Carbon Tetrachloride	10	10.3	UGL	103.0	(70-130)	4.7

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RPD_MS	Carbon Tetrachloride	108.000	103.000	UGL	4.7	(0-20)	
LCS1	cis-1,3-Dichloropropene	4	3.88	UGL	97.0	(60-140)	
MBLK	cis-1,3-Dichloropropene	ND	<0.50	UGL			
MS	cis-1,3-Dichloropropene	10	9.87	UGL	98.7	(85-120)	
MSD	cis-1,3-Dichloropropene	10	9.65	UGL	96.5	(85-120)	2.3
RPD_MS	cis-1,3-Dichloropropene	98.700	96.500	UGL	2.3	(0-20)	
LCS1	Bromoform	4	3.63	UGL	90.8	(70-130)	
MBLK	Bromoform	ND	<0.50	UGL			
MS	Bromoform	10	9.88	UGL	98.8	(70-130)	
MSD	Bromoform	10	9.68	UGL	96.8	(70-130)	2.0
RPD_MS	Bromoform	98.800	96.800	UGL	2.0	(0-20)	
LCS1	Chloroform (Trichloromethane)	4	3.81	UGL	95.2	(70-130)	
MBLK	Chloroform (Trichloromethane)	ND	<0.50	UGL			
MS	Chloroform (Trichloromethane)	10	10.4	UGL	104.0	(70-130)	
MSD	Chloroform (Trichloromethane)	10	10.1	UGL	101.0	(70-130)	2.9
RPD_MS	Chloroform (Trichloromethane)	104.000	101.000	UGL	2.9	(0-20)	
LCS1	Bromochloromethane	4	3.89	UGL	97.2	(70-130)	
MBLK	Bromochloromethane	ND	<0.50	UGL			
MS	Bromochloromethane	10	10.4	UGL	104.0	(70-130)	
MSD	Bromochloromethane	10	10.1	UGL	101.0	(70-130)	2.9
RPD_MS	Bromochloromethane	104.000	101.000	UGL	2.9	(0-20)	
LCS1	Chloroethane	4	3.87	UGL	96.8	(70-130)	
MBLK	Chloroethane	ND	<0.50	UGL			
MS	Chloroethane	10	8.92	UGL	89.2	(69-151)	
MSD	Chloroethane	10	8.85	UGL	88.5	(69-151)	0.79
RPD_MS	Chloroethane	89.200	88.500	UGL	0.8	(0-20)	
LCS1	Chloromethane(Methyl Chloride)	4	4.02	UGL	100.5	(70-130)	
MBLK	Chloromethane(Methyl Chloride)	ND	<0.50	UGL			
MS	Chloromethane(Methyl Chloride)	10	9.42	UGL	94.2	(76-138)	
MSD	Chloromethane(Methyl Chloride)	10	9.33	UGL	93.3	(76-138)	0.96
RPD_MS	Chloromethane(Methyl Chloride)	94.200	93.300	UGL	1.0	(0-20)	
LCS1	Chlorodibromomethane	4	3.62	UGL	90.5	(70-130)	
MBLK	Chlorodibromomethane	ND	<0.50	UGL			
MS	Chlorodibromomethane	10	10.0	UGL	100.0	(70-130)	
MSD	Chlorodibromomethane	10	9.71	UGL	97.1	(70-130)	2.9

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RPD_MS	Chlorodibromomethane	100.000	97.100	UGL	2.9	(0-20)	
LCS1	Dibromomethane	4	3.81	UGL	95.2	(70-130)	
MBLK	Dibromomethane	ND	<0.50	UGL			
MS	Dibromomethane	10	10.3	UGL	103.0	(70-130)	
MSD	Dibromomethane	10	9.79	UGL	97.9	(70-130)	5.1
RPD_MS	Dibromomethane	103.000	97.900	UGL	5.1	(0-20)	
LCS1	Bromodichloromethane	4	3.64	UGL	91.0	(70-130)	
MBLK	Bromodichloromethane	ND	<0.50	UGL			
MS	Bromodichloromethane	10	10.3	UGL	103.0	(70-130)	
MSD	Bromodichloromethane	10	9.91	UGL	99.1	(70-130)	3.9
RPD_MS	Bromodichloromethane	103.000	99.100	UGL	3.9	(0-20)	
LCS1	Dichloromethane	4	3.80	UGL	95.0	(70-130)	
MBLK	Dichloromethane	ND	<0.50	UGL			
MS	Dichloromethane	10	9.75	UGL	97.5	(70-130)	
MSD	Dichloromethane	10	9.53	UGL	95.3	(70-130)	2.3
RPD_MS	Dichloromethane	97.500	95.300	UGL	2.3	(0-20)	
LCS1	Di-isopropyl ether	4	4.23	UGL	105.8	(70-130)	
MBLK	Di-isopropyl ether	ND	<3.00	UGL			
MS	Di-isopropyl ether	10	10.4	UGL	104.0	(70-130)	
MSD	Di-isopropyl ether	10	10.1	UGL	101.0	(70-130)	2.9
RPD_MS	Di-isopropyl ether	104.000	101.000	UGL	2.9	(0-20)	
LCS1	Ethyl benzene	4	3.65	UGL	91.2	(70-130)	
MBLK	Ethyl benzene	ND	<0.50	UGL			
MS	Ethyl benzene	10	10.4	UGL	104.0	(70-130)	
MSD	Ethyl benzene	10	10.3	UGL	103.0	(70-130)	0.97
RPD_MS	Ethyl benzene	104.000	103.000	UGL	1.0	(0-20)	
LCS1	Dichlorodifluoromethane	4	3.53	UGL	88.2	(70-130)	
MBLK	Dichlorodifluoromethane	ND	<0.50	UGL			
MS	Dichlorodifluoromethane	10	8.15	UGL	81.5	(53-168)	
MSD	Dichlorodifluoromethane	10	7.75	UGL	77.5	(53-168)	5.0
RPD_MS	Dichlorodifluoromethane	81.500	77.500	UGL	5.0	(0-20)	
LCS1	Fluorotrichloromethane-Freon11	4	4.05	UGL	101.2	(70-130)	
MBLK	Fluorotrichloromethane-Freon11	ND	<0.50	UGL			
MS	Fluorotrichloromethane-Freon11	10	10.8	UGL	108.0	(70-130)	
MSD	Fluorotrichloromethane-Freon11	10	10.6	UGL	106.0	(70-130)	1.9

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RPD_MS	Fluorotrichloromethane-Freon11	108.000	106.000	UGL	1.9	(0-20)	
LCS1	Hexachlorobutadiene	4	4.31	UGL	107.7	(70-130)	
MBLK	Hexachlorobutadiene	ND	<0.50	UGL			
MS	Hexachlorobutadiene	10	9.63	UGL	96.3	(70-130)	
MSD	Hexachlorobutadiene	10	10.2	UGL	102.0	(70-130)	5.7
RPD_MS	Hexachlorobutadiene	96.300	102.000	UGL	5.7	(0-20)	
LCS1	Isopropylbenzene	4	3.65	UGL	91.2	(70-130)	
MBLK	Isopropylbenzene	ND	<0.50	UGL			
MS	Isopropylbenzene	10	10.4	UGL	104.0	(70-130)	
MSD	Isopropylbenzene	10	10.3	UGL	103.0	(70-130)	0.97
RPD_MS	Isopropylbenzene	*104.000*	*103.000*	UGL	1.0	(0-20)	
LCS1	m-Dichlorobenzene (1,3-DCB)	4	3.90	UGL	97.5	(70-130)	
MBLK	m-Dichlorobenzene (1,3-DCB)	ND	<0.50	UGL			
MS	m-Dichlorobenzene (1,3-DCB)	10	10.5	UGL	105.0	(70-130)	
MSD	m-Dichlorobenzene (1,3-DCB)	10	10.3	UGL	103.0	(70-130)	1.9
RPD_MS	m-Dichlorobenzene (1,3-DCB)	105.000	103.000	UGL	1.9	(0-20)	
LCS1	m,p-Xylenes	8	7.46	UGL	93.2	(70-130)	
MBLK	m,p-Xylenes	ND	<0.50	UGL			
MS	m,p-Xylenes	20	21.4	UGL	107.0	(70-130)	
MSD	m,p-Xylenes	20	20.3	UGL	101.5	(70-130)	5.3
RPD_MS	m,p-Xylenes	107.000	101.500	UGL	5.3	(0-20)	
LCS1	Methyl Tert-butyl ether (MTBE)	4	3.84	UGL	96.0	(60-140)	
MBLK	Methyl Tert-butyl ether (MTBE)	ND	<3.00	UGL			
MS	Methyl Tert-butyl ether (MTBE)	10	8.87	UGL	88.7	(70-130)	
MSD	Methyl Tert-butyl ether (MTBE)	10	8.62	UGL	86.2	(70-130)	2.9
RPD_MS	Methyl Tert-butyl ether (MTBE)	88.700	86.200	UGL	2.9	(0-20)	
LCS1	Naphthalene	4	3.79	UGL	94.8	(70-130)	
MBLK	Naphthalene	ND	<0.50	UGL			
MS	Naphthalene	10	9.46	UGL	94.6	(70-130)	
MSD	Naphthalene	10	9.73	UGL	97.3	(70-130)	2.8
RPD_MS	Naphthalene	94.600	97.300	UGL	2.8	(0-20)	
LCS1	n-Butylbenzene	4	3.97	UGL	99.2	(70-130)	
MBLK	n-Butylbenzene	ND	<0.50	UGL			
MS	n-Butylbenzene	10	10.3	UGL	103.0	(70-130)	
MSD	n-Butylbenzene	10	10.7	UGL	107.0	(70-130)	3.8

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RPD_MS	n-Butylbenzene	103.000	107.000	UGL	3.8	(0-20)	
LCS1	n-Propylbenzene	4	3.70	UGL	92.5	(70-130)	
MBLK	n-Propylbenzene	ND	<0.50	UGL			
MS	n-Propylbenzene	10	10.7	UGL	107.0	(70-130)	
MSD	n-Propylbenzene	10	10.4	UGL	104.0	(70-130)	2.8
RPD_MS	n-Propylbenzene	107.000	104.000	UGL	2.8	(0-20)	
LCS1	o-Xylene	4	3.71	UGL	92.8	(70-130)	
MBLK	o-Xylene	ND	<0.50	UGL			
MS	o-Xylene	10	10.7	UGL	107.0	(70-130)	
MSD	o-Xylene	10	10.4	UGL	104.0	(70-130)	2.8
RPD_MS	o-Xylene	107.000	104.000	UGL	2.8	(0-20)	
LCS1	o-Dichlorobenzene (1,2-DCB)	4	3.76	UGL	94.0	(70-130)	
MBLK	o-Dichlorobenzene (1,2-DCB)	ND	<0.50	UGL			
MS	o-Dichlorobenzene (1,2-DCB)	10	10.2	UGL	102.0	(70-130)	
MSD	o-Dichlorobenzene (1,2-DCB)	10	10.3	UGL	103.0	(70-130)	0.98
RPD_MS	o-Dichlorobenzene (1,2-DCB)	102.000	103.000	UGL	1.0	(0-20)	
LCS1	Tetrachloroethylene (PCE)	4	3.65	UGL	91.2	(70-130)	
MBLK	Tetrachloroethylene (PCE)	ND	<0.50	UGL			
MS	Tetrachloroethylene (PCE)	10	10.9	UGL	109.0	(70-130)	
MSD	Tetrachloroethylene (PCE)	10	10.4	UGL	104.0	(70-130)	4.7
RPD_MS	Tetrachloroethylene (PCE)	109.000	104.000	UGL	4.7	(0-20)	
LCS1	p-Isopropyltoluene	4	4.04	UGL	101.0	(70-130)	
MBLK	p-Isopropyltoluene	ND	<0.50	UGL			
MS	p-Isopropyltoluene	10	10.7	UGL	107.0	(70-130)	
MSD	p-Isopropyltoluene	10	10.3	UGL	103.0	(70-130)	3.8
RPD_MS	p-Isopropyltoluene	107.000	103.000	UGL	3.8	(0-20)	
LCS1	sec-Butylbenzene	4	3.87	UGL	96.8	(70-130)	
MBLK	sec-Butylbenzene	ND	<0.50	UGL			
MS	sec-Butylbenzene	10	10.6	UGL	106.0	(70-130)	
MSD	sec-Butylbenzene	10	10.4	UGL	104.0	(70-130)	1.9
RPD_MS	sec-Butylbenzene	106.000	104.000	UGL	1.9	(0-20)	
LCS1	Styrene	4	3.83	UGL	95.8	(70-130)	
MBLK	Styrene	ND	<0.50	UGL			
MS	Styrene	10	10.6	UGL	106.0	(70-130)	
MSD	Styrene	10	10.2	UGL	102.0	(70-130)	3.8

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RPD_MS	Styrene	106.000	102.000	UGL	3.8	(0-20)	
LCS1	trans-1,2-Dichloroethylene	4	3.62	UGL	90.5	(70-130)	
MBLK	trans-1,2-Dichloroethylene	ND	<0.50	UGL			
MS	trans-1,2-Dichloroethylene	10	10.5	UGL	105.0	(85-129)	
MSD	trans-1,2-Dichloroethylene	10	10.2	UGL	102.0	(85-129)	2.9
RPD_MS	trans-1,2-Dichloroethylene	105.000	102.000	UGL	2.9	(0-20)	
LCS1	tert-amyl Methyl Ether	4	4.13	UGL	103.2	(70-130)	
MBLK	tert-amyl Methyl Ether	ND	<3.00	UGL			
MS	tert-amyl Methyl Ether	10	10.0	UGL	100.0	(70-130)	
MSD	tert-amyl Methyl Ether	10	9.74	UGL	97.4	(70-130)	2.6
RPD_MS	tert-amyl Methyl Ether	100.000	97.400	UGL	2.6	(0-20)	
LCS1	tert-Butyl Ethyl Ether	4	4.20	UGL	105.0	(70-130)	
MBLK	tert-Butyl Ethyl Ether	ND	<3.00	UGL			
MS	tert-Butyl Ethyl Ether	10	9.91	UGL	99.1	(70-130)	
MSD	tert-Butyl Ethyl Ether	10	9.68	UGL	96.8	(70-130)	2.3
RPD_MS	tert-Butyl Ethyl Ether	99.100	96.800	UGL	2.3	(0-20)	
LCS1	tert-Butylbenzene	4	3.38	UGL	84.5	(70-130)	
MBLK	tert-Butylbenzene	ND	<0.50	UGL			
MS	tert-Butylbenzene	10	10.3	UGL	103.0	(70-130)	
MSD	tert-Butylbenzene	10	10.3	UGL	103.0	(70-130)	0.00
RPD_MS	tert-Butylbenzene	103.000	103.000	UGL	0.0	(0-20)	
LCS1	Trichloroethylene (TCE)	4	3.64	UGL	91.0	(70-130)	
MBLK	Trichloroethylene (TCE)	ND	<0.50	UGL			
MS	Trichloroethylene (TCE)	10	10.1	UGL	101.0	(70-130)	
MSD	Trichloroethylene (TCE)	10	9.82	UGL	98.2	(70-130)	2.8
RPD_MS	Trichloroethylene (TCE)	101.000	98.200	UGL	2.8	(0-20)	
LCS1	Trichlorotrifluoroethane(Freon	4	4.07	UGL	101.8	(70-130)	
MBLK	Trichlorotrifluoroethane(Freon	ND	<0.50	UGL			
MS	Trichlorotrifluoroethane(Freon	10	10.7	UGL	107.0	(70-130)	
MSD	Trichlorotrifluoroethane(Freon	10	10.4	UGL	104.0	(70-130)	2.8
RPD_MS	Trichlorotrifluoroethane(Freon	107.000	104.000	UGL	2.8	(0-20)	
LCS1	trans-1,3-Dichloropropene	4	3.52	UGL	88.0	(60-140)	
MBLK	trans-1,3-Dichloropropene	ND	<0.50	UGL			
MS	trans-1,3-Dichloropropene	10	9.12	UGL	91.2	(80-131)	
MSD	trans-1,3-Dichloropropene	10	9.05	UGL	90.5	(80-131)	0.77

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RPD_MS	trans-1,3-Dichloropropene	91.200	90.500	UGL	0.8	(0-20)	
LCS1	Toluene	4	3.68	UGL	92.0	(70-130)	
MBLK	Toluene	ND	<0.50	UGL			
MS	Toluene	10	10.2	UGL	102.0	(70-130)	
MSD	Toluene	10	10.2	UGL	102.0	(70-130)	0.00
RPD_MS	Toluene	102.000	102.000	UGL	0.0	(0-20)	
LCS1	Vinyl chloride (VC)	4	4.11	UGL	102.8	(70-130)	
MBLK	Vinyl chloride (VC)	ND	<0.30	UGL			
MS	Vinyl chloride (VC)	10	10.5	UGL	105.0	(67-152)	
MSD	Vinyl chloride (VC)	10	10.2	UGL	102.0	(67-152)	2.9
RPD_MS	Vinyl chloride (VC)	105.000	102.000	UGL	2.9	(0-20)	

QC Ref #189058 Herbicides by 515.3

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	2,4,5-T	0.75	0.76	UGL	101.3	(70-130)	
LCS2	2,4,5-T	3.0	2.99	UGL	99.7	(70-130)	
MBLK	2,4,5-T	ND	<0.20	UGL			
MS1	2,4,5-T	3.00	3.35	UGL	111.7	(70-130)	
MS2	2,4,5-T	0.75	0.79	UGL	105.3	(70-130)	
LCS1	2,4,5-TP (Silvex)	0.75	0.69	UGL	92.0	(70-130)	
LCS2	2,4,5-TP (Silvex)	3.0	2.63	UGL	87.7	(70-130)	
MBLK	2,4,5-TP (Silvex)	ND	<0.20	UGL			
MS1	2,4,5-TP (Silvex)	3.00	2.80	UGL	93.3	(70-130)	
MS2	2,4,5-TP (Silvex)	0.75	0.69	UGL	92.0	(70-130)	
LCS1	2,4-D	0.375	0.42	UGL	112.0	(70-130)	
LCS2	2,4-D	1.5	1.64	UGL	109.3	(70-130)	
MBLK	2,4-D	ND	<0.10	UGL			
MS1	2,4-D	1.50	1.41	UGL	94.0	(70-130)	
MS2	2,4-D	0.375	0.34	UGL	90.7	(70-130)	
LCS1	2,4-DB	7.5	6.60	UGL	88.0	(70-130)	
LCS2	2,4-DB	30.0	26.2	UGL	87.3	(70-130)	
MBLK	2,4-DB	ND	<2.00	UGL			
MS1	2,4-DB	30.0	27.1	UGL	90.3	(70-130)	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining. Criteria for MS and DUP are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

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Maui, County of, Department of
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(continued)

MS2	2,4-DB	7.50	6.76	UGL	90.1	(70-130)
LCS1	Dichlorprop	1.875	2.07	UGL	110.4	(70-130)
LCS2	Dichlorprop	7.5	7.46	UGL	99.5	(70-130)
MBLK	Dichlorprop	ND	<0.50	UGL		
MS1	Dichlorprop	7.50	8.17	UGL	108.9	(70-130)
MS2	Dichlorprop	1.875	2.16	UGL	115.2	(70-130)
MS1	Spiked sample	Lab # 22	12180055	NONE		(0-0)
MS2	Spiked sample	Lab # 22	12190063	NONE		(0-0)
LCS1	Acifluorfen	0.75	0.77	UGL	102.7	(70-130)
LCS2	Acifluorfen	3.0	2.95	UGL	98.3	(70-130)
MBLK	Acifluorfen	ND	<0.20	UGL		
MS1	Acifluorfen	3.00	3.10	UGL	103.3	(70-130)
MS2	Acifluorfen	0.75	0.84	UGL	112.0	(70-130)
LCS1	Bentazon	1.875	1.39	UGL	74.1	(70-130)
LCS2	Bentazon	7.5	5.37	UGL	71.6	(70-130)
MBLK	Bentazon	ND	<0.50	UGL		
MS1	Bentazon	7.50	5.22	UGL	69.6	(70-130)
MS2	Bentazon	1.875	1.23	UGL	65.6	(70-130)
LCS1	Dalapon	3.75	3.13	UGL	83.5	(70-130)
LCS2	Dalapon	15.0	15.4	UGL	102.7	(70-130)
MBLK	Dalapon	ND	<1.00	UGL		
MS1	Dalapon	15.0	17.7	UGL	118.0	(70-130)
MS2	Dalapon	3.75	3.56	UGL	94.9	(70-130)
LCS1	3,5-Dichlorobenzoic acid	1.875	1.79	UGL	95.5	(70-130)
LCS2	3,5-Dichlorobenzoic acid	7.5	6.87	UGL	91.6	(70-130)
MBLK	3,5-Dichlorobenzoic acid	ND	<0.50	UGL		
MS1	3,5-Dichlorobenzoic acid	7.50	7.60	UGL	101.3	(70-130)
MS2	3,5-Dichlorobenzoic acid	1.875	1.75	UGL	93.3	(70-130)
LCS1	Tot DCPA Mono&Diacid Degradate	0.75	0.94	UGL	125.3	(70-130)
LCS2	Tot DCPA Mono&Diacid Degradate	3.0	3.57	UGL	119.0	(70-130)
MBLK	Tot DCPA Mono&Diacid Degradate	ND	<0.20	UGL		
MS1	Tot DCPA Mono&Diacid Degradate	3.00	3.68	UGL	122.7	(70-130)
MS2	Tot DCPA Mono&Diacid Degradate	0.75	1.15	UGL	153.3	(70-130)
LCS1	Dicamba	0.1875	0.22	UGL	117.3	(70-130)
LCS2	Dicamba	0.75	0.72	UGL	96.0	(70-130)

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Laboratory
QC Report
#104183

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(continued)

MBLK	Dicamba	ND	<0.08	UGL			
MS1	Dicamba	0.75	0.89	UGL	118.7	(70-130)	
MS2	Dicamba	0.1875	0.26	UGL	138.7	(70-130)	
LCS1	Dinoseb	0.75	0.72	UGL	96.0	(70-130)	
LCS2	Dinoseb	3.0	2.62	UGL	87.3	(70-130)	
MBLK	Dinoseb	ND	<0.20	UGL			
MS1	Dinoseb	3.00	2.71	UGL	90.3	(70-130)	
MS2	Dinoseb	0.75	0.72	UGL	96.0	(70-130)	
LCS1	Pentachlorophenol	0.15	0.16	UGL	106.7	(70-130)	
LCS2	Pentachlorophenol	0.60	0.60	UGL	100.0	(70-130)	
MBLK	Pentachlorophenol	ND	<0.04	UGL			
MS1	Pentachlorophenol	0.60	0.65	UGL	108.3	(70-130)	
MS2	Pentachlorophenol	0.15	0.20	UGL	133.3	(70-130)	
LCS1	Picloram	0.375	0.45	UGL	120.0	(70-130)	
LCS2	Picloram	1.5	1.59	UGL	106.0	(70-130)	
MBLK	Picloram	ND	<0.10	UGL			
MS1	Picloram	1.50	1.85	UGL	123.3	(70-130)	
MS2	Picloram	0.375	0.54	UGL	144.0	(70-130)	
LCS1	4-Nitrophenol (qualitative)	3.75	4.26	UGL	113.6	(70-130)	
LCS2	4-Nitrophenol (qualitative)	15.0	18.1	UGL	120.7	(70-130)	
MBLK	4-Nitrophenol (qualitative)	ND	<1.00	UGL			
MS1	4-Nitrophenol (qualitative)	15.0	30.1	UGL	200.7	(70-130)	
MS2	4-Nitrophenol (qualitative)	3.75	7.40	UGL	197.3	(70-130)	
LCS1	2,4-Dichlorophenylacetic acid	100	100	%R	100.0	(70-130)	
LCS2	2,4-Dichlorophenylacetic acid	100	82	%R	82.0	(70-130)	20
MBLK	2,4-Dichlorophenylacetic acid	100	101	%R	101.0		
MS1	2,4-Dichlorophenylacetic acid	100	93	%R	93.0	(70-130)	
MS2	2,4-Dichlorophenylacetic acid	100	103	%R	103.0	(70-130)	

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Water Supply
(continued)

QC Ref #189130 Diquat and Paraquat

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12180012	NONE		(0-0)	
LCS1	Diquat	10.0	5.9	UGL	59.0	(70-130)	
LCS2	Diquat	10.0	6.5	UGL	65.0	(70-130)	9.7
MBLK	Diquat	ND	<0.40	UGL			
MS	Diquat	10.0	6.4	UGL	64.0	(70-130)	
MSD	Diquat	10.0	6.9	UGL	69.0	(70-130)	7.5
RPD_LCS	Diquat	59.000	65.000	UGL	9.7	(0-20)	
RPD_MS	Diquat	64.000	69.000	UGL	7.5	(0-20)	
LCS1	Paraquat	10.0	6.8	UGL	68.0	(70-130)	
LCS2	Paraquat	10.0	7.3	UGL	73.0	(70-130)	7.1
MBLK	Paraquat	ND	<2.00	UGL			
MS	Paraquat	10.0	7.4	UGL	74.0	(70-130)	
MSD	Paraquat	10.0	8.0	UGL	80.0	(70-130)	7.8
RPD_LCS	Paraquat	68.000	73.000	UGL	7.1	(0-20)	
RPD_MS	Paraquat	74.000	80.000	UGL	7.8	(0-20)	

QC Ref #189739 Nickel, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nickel, Total, ICAP/MS	50	52.4	UGL	104.8	(85-115)	
LCS2	Nickel, Total, ICAP/MS	50	50.8	UGL	101.6	(85-115)	3.1
MBLK	Nickel, Total, ICAP/MS	ND	<5.00	UGL			
MS	Nickel, Total, ICAP/MS	50	51	UGL	102.0	(70-130)	
MSD	Nickel, Total, ICAP/MS	50	50.3	UGL	100.6	(70-130)	1.4

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(continued)

QC Ref #189741 Copper, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Copper, Total, ICAP/MS	100	106	UGL	106.0	(85-115)	
LCS2	Copper, Total, ICAP/MS	100	101	UGL	101.0	(85-115)	4.8
MBLK	Copper, Total, ICAP/MS	ND	<2.00	UGL			
MS	Copper, Total, ICAP/MS	100	103	UGL	103.0	(70-130)	
MSD	Copper, Total, ICAP/MS	100	101	UGL	101.0	(70-130)	2.0

QC Ref #189747 Arsenic, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Arsenic, Total, ICAP/MS	20	21	UGL	105.0	(85-115)	
LCS2	Arsenic, Total, ICAP/MS	20	20.9	UGL	104.5	(85-115)	0.48
MBLK	Arsenic, Total, ICAP/MS	ND	<1.00	UGL			
MS	Arsenic, Total, ICAP/MS	20	22	UGL	110.0	(70-130)	
MSD	Arsenic, Total, ICAP/MS	20	21.5	UGL	107.5	(70-130)	2.3

QC Ref #189749 Selenium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Selenium, Total, ICAP/MS	20	20.1	UGL	100.5	(85-115)	
LCS2	Selenium, Total, ICAP/MS	20	19	UGL	95.0	(85-115)	5.6
MBLK	Selenium, Total, ICAP/MS	ND	<5.00	UGL			
MS	Selenium, Total, ICAP/MS	20	21.2	UGL	106.0	(70-130)	
MSD	Selenium, Total, ICAP/MS	20	19.9	UGL	99.5	(70-130)	6.3

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(continued)

QC Ref #189755 Cadmium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Cadmium, Total, ICAP/MS	20	20.9	UGL	104.5	(85-115)	
LCS2	Cadmium, Total, ICAP/MS	20	20.2	UGL	101.0	(85-115)	3.4
MBLK	Cadmium, Total, ICAP/MS	ND	<0.50	UGL			
MS	Cadmium, Total, ICAP/MS	20	21.4	UGL	107.0	(70-130)	
MSD	Cadmium, Total, ICAP/MS	20	21.1	UGL	105.5	(70-130)	1.4

QC Ref #189756 Beryllium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Beryllium, Total, ICAP/MS	5.00	4.99	UGL	99.8	(70-130)	
LCS2	Beryllium, Total, ICAP/MS	5.00	4.89	UGL	97.8	(85-115)	2.0
MBLK	Beryllium, Total, ICAP/MS	ND	<1.00	UGL			
MS	Beryllium, Total, ICAP/MS	5.00	5.37	UGL	107.4	(70-130)	
MSD	Beryllium, Total, ICAP/MS	5.00	5.39	UGL	107.8	(70-130)	0.37

QC Ref #189758 Barium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Barium, Total, ICAP/MS	100	99.1	UGL	99.1	(85-115)	
LCS2	Barium, Total, ICAP/MS	100	96.5	UGL	96.5	(85-115)	2.7
MBLK	Barium, Total, ICAP/MS	ND	<2.00	UGL			
MS	Barium, Total, ICAP/MS	100	103	UGL	103.0	(70-130)	
MSD	Barium, Total, ICAP/MS	100	102	UGL	102.0	(70-130)	0.98

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining. Criteria for MS and DUP are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

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QC Ref #189760 Antimony, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Antimony, Total, ICAP/MS	50	52.1	UGL	104.2	(85-115)	
LCS2	Antimony, Total, ICAP/MS	50	50.7	UGL	101.4	(85-115)	2.7
MBLK	Antimony, Total, ICAP/MS	ND	<1.00	UGL			
MS	Antimony, Total, ICAP/MS	50	55.1	UGL	110.2	(70-130)	
MSD	Antimony, Total, ICAP/MS	50	54.5	UGL	109.0	(70-130)	1.1

QC Ref #189762 Thallium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Thallium, Total, ICAP/MS	20.0	20.6	UGL	103.0	(85-115)	
LCS2	Thallium, Total, ICAP/MS	20.0	20.2	UGL	101.0	(85-115)	2.0
MBLK	Thallium, Total, ICAP/MS	ND	<1.00	UGL			
MS	Thallium, Total, ICAP/MS	20.0	21.3	UGL	106.5	(70-130)	
MSD	Thallium, Total, ICAP/MS	20.0	20.7	UGL	103.5	(70-130)	2.9

QC Ref #189764 Lead, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Lead, Total, ICAP/MS	20	21	UGL	105.0	(85-115)	
LCS2	Lead, Total, ICAP/MS	20	20.3	UGL	101.5	(85-115)	3.4
MBLK	Lead, Total, ICAP/MS	ND	<0.50	UGL			
MS	Lead, Total, ICAP/MS	20	21.2	UGL	106.0	(70-130)	
MSD	Lead, Total, ICAP/MS	20	20.8	UGL	104.0	(70-130)	1.9

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining. Criteria for MS and DUP are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

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QC Ref #189770 Chromium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Chromium, Total, ICAP/MS	100	105	UGL	105.0	(85-115)	
LCS2	Chromium, Total, ICAP/MS	100	104	UGL	104.0	(85-115)	0.96
MBLK	Chromium, Total, ICAP/MS	ND	<1.00	UGL			
MS	Chromium, Total, ICAP/MS	100	104	UGL	104.0	(70-130)	
MSD	Chromium, Total, ICAP/MS	100	99.7	UGL	99.7	(70-130)	4.2

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining. Criteria for MS and DUP are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

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MAU1
104183

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
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Fax: 612.607.6444

DETERMINATION OF 2,3,7,8-TCDD

Prepared for:
MWH
Attn: Martha Frost
555 East Walnut Street
Pasadena, CA 91101

ACCREDITED IN ACCORDANCE WITH nelac

This report contains 4 pages.

The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

REPORT OF LABORATORY ANALYSIS

nelac

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December 31, 2002

Attn: Martha Frost
MWH
555 East Walnut Street
Pasadena, CA 91101

MWL Project # 104183
MWL Sub PO # 99-9486
Pace Project # 1067059
HI State Cert. #: 2155
Expiration Date: 6/30/03

Dear Ms. Frost:

Enclosed are analytical results of one water sample analyzed for 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613B by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

MWL Sample ID	Pace Sample ID	Date Collected	Date Received
2212180035	4137377	12/17/02	12/20/02

The results reported for this sample and the associated quality control samples were all within the criteria described in Method 1613B. If you have any questions or concerns regarding these results, please contact me at (612) 607-6331, by facsimile at (612) 607-6444 or by e-mail at Dan.Hoseck@pacelabs.com.

Sincerely,

Dan Hoseck, Project Manager
High Resolution Mass Spectrometry

Enclosure

REPORT OF LABORATORY ANALYSIS

[redacted]
MWH Laboratories
555 East Walnut Street
Pasadena, CA 91101
Ph (626) 568-6400 Fax (626) 568-6324

Ship To **Dan Hosek**
Pace Analytical

1700 Elm Street SE Suite 200
Minneapolis, Minnesota 55414

Bill Recipient FedEx Acct:1797-5692-7

(612) 607-6331 Fax (612) 607-6444

Date 12/19/02 **Submittal Form & Purchase Order 99-9486**

1067059

*REPORTING REQUIREMENTS: One report for this MWH Project Number: 104183
Do Not Combine Report with any other samples submitted under different MWH project numbers!
Report & Invoice must have the MWH Project Number and Sub PO#: 104183 99-9486
Report all quality control data according to Method. Include dates analyzed, date extracted (if extracted) and Method reference on the report. Email by .pdf to martha.e.frost@mwhglobal.com or Fax results to 626-568-6324
Results must have Complete data & QC with Approval Signature.
See reverse side for List of Terms and Conditions

Reports & Invoices to: Martha Frost, Sub-contracting Administrator
EMAIL TO: martha.e.frost@mwhglobal.com
MWH Laboratories 555 East Walnut Street Pasadena, CA 91101
Phone (626) 568-6437 Fax (626) 568-6324

Provide in each Report
the Specified State
Certification # & Exp DAte for
requested tests r matrix

Hawaii DW

EDT ☐ Yes

MWH Project # 104183 Report Due: 01/03/03 Sub PO# 99-9486

mx

Use MWH Lab # for ID

	Client Sample ID for reference only	Analysis Requested	Sample Date & Time	Matrix	Container
1	D1613EDD 2212180035 POOKELA WELL	2,3,7,8-Tcdd Dioxin in drinking water 1613b	12/17/02 09:30	dw	2 1L amber glass / no preservative (7day HT for NJ NY UT) 1613B.ftw

4137377

T=4°C

Relinquished by: Sample Control Date 12/19/02 Time 16:00 MUST HAVE NOTIFICAION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIUS

Received by: Date 12/20/02 Time 1200

An Acknowledgement of Receipt is requested to attn: Martha Frost

Pace AnalyticalServices, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Pace Analytical™

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B
MWH Laboratories

Sample ID.....2212180035
Project #.....104183
Sub PO #.....99-9486
Lab Sample ID.....104137377

Source ID.....POOKELA WELL
Date Collected.....12/17/2002
Date Received.....12/20/2002
Date Extracted.....12/23/2002

Spike..... 200 pg
IS Spike.....2000 pg
CS Spike..... 200 pg

	Sample 2212180035	Method Blank	Lab Spike	Lab Spike Dup
[2,3,7,8-TCDD]	**ND**	ND	--	--
RL	5 pg/L	5 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	89%	89%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			0.7%	
IS Recovery	**73%**	69%	69%	69%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**84%**	86%	79%	78%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	X21230D_1	X21226A_5	X21226A_3	X21226A_4
Analysis Date	12/30/2002	12/26/2002	12/26/2002	12/26/2002
Analysis Time	15:33	13:02	11:52	12:27
Analyst	CMP	CMP	CMP	CMP
Volume	1.021L	0.951L	0.995L	0.995L
Dilution	NA	NA	NA	NA
ICAL Date	11/14/2002	11/14/2002	11/14/2002	11/14/2002
CCAL Filename	X21230A_1	X21226A_2	X21226A_2	X21226A_2

Analyst: Chanh M Pham

! = Outside the Control Limits
ND = Not Detected
RL = Reporting Limit
Limits = Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD = Relative Percent Difference of Lab Spike Recoveries
IS = Internal Standard [2,3,7,8-TCDD-$^{13}C_{12}$]
CS = Cleanup Standard [2,3,7,8-TCDD-$^{37}Cl_4$]

Project No.....106705

ENVIRONMENTAL

1/14

MAUI 104183

ANALYTICAL CHEMISTS

January 9, 2003

Lab ID : SP 213026
Customer : 2000471

MWH Laboratories,
a Division of MWH Americas, Inc.
555 East Walnut St.
Pasadena, CA 91101

Laboratory Report

Introduction: This report package contains total of 6 pages divided into three sections:

Case Narrative (2 Pages): An overview of the work performed at FGL.
Chemical Results (1 Page): Results for each sample submitted.
Quality Control (3 Pages): Supporting Quality Control (QC) results.

This report package pertains to the following sample:

Sample Description	Date Sampled	Date Received	FGL Lab Sample ID #	Matrix
2212180035	12/17/2002	12/19/2002	SP 213026-01	DW

Sampling and Receipt Information: The sample was received, prepared and analyzed within the method specified holding times. All samples were received on ice. All samples were checked for pH if acid or base preservation required (except for VOAs). For details of sample receipt information, please see the attached Chain of Custody and Condition Upon Receipt Forms.

Quality Control: All samples were prepared and analyzed according to the following tables:

Organic QC

507	12/21/2002:A205 All preparation quality controls are within established criteria.
	01/02/2003:B - GC201 All analysis quality controls are within established criteria, except: The following note applies to Triphenylphosphate: 560 Surrogate percent recoveries not within the Acceptance Range (AR) due to suspected matrix interferences.
525.2	12/21/2002:A210 All preparation quality controls are within established criteria, except: The following note applies to bis(2-Ethylhexyl)adipate, bis(2-Ethylhexyl)phthalate: 435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
	01/06/2003:A - GM201 All analysis quality controls are within established criteria.

Case narrative continued on next page...

Corporate Offices & Laboratory
P.O. Box 272 / 853 Corporation Street
Santa Paula, CA 93061-0272
TEL: (805) 659-0910
FAX: (805) 525-4172

Office & Laboratory
2500 Stagecoach Road
Stockton, CA 95215
TEL: (209) 942-0181
FAX: (209) 942-0423

Field Office
Visalia, California
TEL: (559) 734-9473
FAX: (559) 734-8435
Mobile: (559) 737-2399

January 9, 2003

Lab ID : SP 213026
Customer : 2000471

MWH Laboratories,

Certification: I certify that this data package is in compliance with NELAC Standards, both technically and for completeness, except for any conditions listed above. Release of the data contained in this data package is authorized by the Laboratory Director or his designee, as verified by the following signature.

FGL ENVIRONMENTAL

KAD:cea

Kelly A. Dunnahoo, B.S.
Laboratory Director

ENVIRONMENTAL

ANALYTICAL CHEMISTS

January 9, 2003

MWH Laboratories,
a Division of MWH Americas, Inc.
555 East Walnut St.
Pasadena, CA 91101

Lab ID : SP 213026-01
Customer ID: 2-471

Sampled On : December 17, 2002-09:30
Sampled By :
Received On: December 19, 2002-11:00
Matrix : Drinking Water

Description : 2212180035
Project : MWH Project No. 104183 - Sub PO No. 99-9447

Sample Results - Organic

Constituents	Results	PQL	Units	MCL	Preparation Method	Preparation Date/ID	Analysis Date/ID
EPA 507 AGT:							
Triphenylphosphate-Surrogate	87.1	70-130	% Rec		507	12/21/02:A205	01/03/2003:B00
Alachlor	ND	1	ug/L		507	12/21/02:A205	01/03/2003:B00
Atrazine	ND	1	ug/L	3	507	12/21/02:A205	01/03/2003:B00
Bromacil	ND	2	ug/L		507	12/21/02:A205	01/03/2003:B00
Butachlor	ND	1	ug/L		507	12/21/02:A205	01/03/2003:B00
Diazinon	ND	2	ug/L		507	12/21/02:A205	01/03/2003:B00
Dimethoate	ND	2	ug/L		507	12/21/02:A205	01/03/2003:B00
Metolachlor	ND	1	ug/L		507	12/21/02:A205	01/03/2003:B00
Metribuzin	ND	0.5	ug/L		507	12/21/02:A205	01/03/2003:B00
Molinate	ND	2	ug/L	20	507	12/21/02:A205	01/03/2003:B00
Prometryne	ND	2	ug/L		507	12/21/02:A205	01/03/2003:B00
Propachlor	ND	1	ug/L		507	12/21/02:A205	01/03/2003:B00
Simazine	ND	1	ug/L	4	507	12/21/02:A205	01/03/2003:B00
Thiobencarb	ND	1	ug/L	70[2]	507	12/21/02:A205	01/03/2003:B00
EPA 525.2 AGT:							
Perylene-d12-Surrogate	102	70-130	% Rec		525.2	12/21/02:A210	01/06/2003:A01
Benzo(a)pyrene	ND	0.1	ug/L	0.2	525.2	12/21/02:A210	01/06/2003:A01
bis(2-Ethylhexyl)adipate	ND	1	ug/L	400	525.2	12/21/02:A210	01/06/2003:A01
bis(2-Ethylhexyl)phthalate	ND	3	ug/L	4	525.2	12/21/02:A210	01/06/2003:A01

ND=Non-Detect. PQL=Practical Quantitation Limit. ◆ PQL adjusted for dilutions, concentrations, dry weight reporting, or limited sample.
MCL = Maximium Contaminat Level. [2] - Secondary Standard.
Containers: (AGT) Amber Glass TFE-Cap Preservatives: N/A

Corporate Offices & Laboratory
P.O. Box 272 / 853 Corporation Street
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2500 Stagecoach Road
Stockton, CA 95215
TEL: (209) 942-0181
FAX: (209) 942-0423

Field Office
Visalia, California
TEL: (559) 734-9473
FAX: (559) 734-8435
Mobile: (559) 737-2399

January 09, 2003
MWH Laboratories,

Lab ID : SP 213026
Customer : 2-471

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Alachlor	507	12/21/2002:A205	Blank	ug/L		ND	<1	
			LCS	ug/L	2.500	102%	70-130	
			BS	ug/L	2.500	117%	54-150	
			BSD	ug/L	2.500	100%	54-150	
			BSRPD	ug/L		0.42	≤1.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	108%	80-120	
Atrazine	507	12/21/2002:A205	Blank	ug/L		ND	<1	
			LCS	ug/L	2.500	98.3%	70-130	
			BS	ug/L	2.500	93.3%	52-142	
			BSD	ug/L	2.500	92.1%	52-142	
			BSRPD	ug/L		0.032	≤1.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	97.7%	80-120	
Bromacil	507	12/21/2002:A205	Blank	ug/L		ND	<2	
			LCS	ug/L	2.500	101%	70-130	
			BS	ug/L	2.500	112%	44-152	
			BSD	ug/L	2.500	93.2%	44-152	
			BSRPD	ug/L		0.47	≤2.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	102%	80-120	
Butachlor	507	12/21/2002:A205	Blank	ug/L		ND	<1	
			LCS	ug/L	2.500	104%	70-130	
			BS	ug/L	2.500	108%	50-151	
			BSD	ug/L	2.500	97.8%	50-151	
			BSRPD	ug/L		0.24	≤1.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	108%	80-120	
Diazinon	507	12/21/2002:A205	Blank	ug/L		ND	<2	
			LCS	ug/L	2.500	97.4%	70-130	
			BS	ug/L	2.500	93.7%	45-149	
			BSD	ug/L	2.500	87.5%	45-149	
			BSRPD	ug/L		0.15	≤2.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	117%	80-120	
Dimethoate	507	12/21/2002:A205	Blank	ug/L		ND	<2	
			LCS	ug/L	2.500	110%	70-130	
			BS	ug/L	2.500	107%	47-168	
			BSD	ug/L	2.500	95.7%	47-168	
			BSRPD	ug/L		0.29	≤2.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	113%	80-120	
Metolachlor	507	12/21/2002:A205	Blank	ug/L		ND	<1	
			LCS	ug/L	2.500	94.6%	70-130	
			BS	ug/L	2.500	97.9%	43-154	
			BSD	ug/L	2.500	90.3%	43-154	
			BSRPD	ug/L		0.19	≤1.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	95.4%	80-120	

Report continued on next page...

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Mobile: (559) 737-2399

January 09, 2003
MWH Laboratories,

Lab ID : SP 213026
Customer : 2-471

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Metribuzin	507	12/21/2002:A205	Blank	ug/L		ND	<0.5	
			LCS	ug/L	2.500	94.8%	70-130	
			BS	ug/L	2.500	102%	47-159	
			BSD	ug/L	2.500	89.1%	47-159	
			BSRPD	ug/L		0.33	≤0.500	
	507	01/02/2003:B	00-CCV	ug/L	1000	100%	80-120	
Molinate	507	12/21/2002:A205	Blank	ug/L		ND	<2	
			LCS	ug/L	2.500	93.0%	70-130	
			BS	ug/L	2.500	100%	51-139	
			BSD	ug/L	2.500	86.4%	51-139	
			BSRPD	ug/L		0.35	≤2.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	98.2%	80-120	
Prometryne	507	12/21/2002:A205	Blank	ug/L		ND	<2	
			LCS	ug/L	2.500	95.5%	70-130	
			BS	ug/L	2.500	102%	52-147	
			BSD	ug/L	2.500	93.6%	52-147	
			BSRPD	ug/L		0.22	≤2.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	102%	80-120	
Propachlor	507	12/21/2002:A205	Blank	ug/L		ND	<1	
			LCS	ug/L	2.500	91.6%	70-130	
			BS	ug/L	2.500	95.6%	43-154	
			BSD	ug/L	2.500	89.0%	43-154	
			BSRPD	ug/L		0.16	≤1.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	92.9%	80-120	
Simazine	507	12/21/2002:A205	Blank	ug/L		ND	<1	
			LCS	ug/L	2.500	101%	70-130	
			BS	ug/L	2.500	94.9%	36-174	
			BSD	ug/L	2.500	95.9%	36-174	
			BSRPD	ug/L		0.024	≤1.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	99.7%	80-120	
Thiobencarb	507	12/21/2002:A205	Blank	ug/L		ND	<1	
			LCS	ug/L	2.500	94.3%	70-130	
			BS	ug/L	2.500	102%	45-152	
			BSD	ug/L	2.500	87.1%	45-152	
			BSRPD	ug/L		0.37	≤1.00	
	507	01/02/2003:B	00-CCV	ug/L	1000	98.1%	80-120	
Triphenylphosphate-Surrogate	507	12/21/2002:A205	Blank	ug/L	12.50	92.2%	70-130	
			LCS	ug/L	12.50	88.7%	70-130	
			BS	ug/L	12.50	95.5%	70-130	
			BSD	ug/L	12.50	85.4%	70-130	
	507	01/02/2003:B	00-CCV	ug/L	7500	143%	80-120	560
Benzo(a)pyrene	525.2	12/21/2002:A210	Blank	ug/L		ND	<0.1	

Report continued on next page...

January 09, 2003
MWH Laboratories,

Lab ID : SP 213026
Customer : 2-471

Quality Control - Organic

Constituent	Method	Date/ID	Type	Units	Conc.	QC Data	DQO	Note
Benzo(a)pyrene	525.2	12/21/2002:A210	LCS BS BSD BSRPD	ug/L ug/L ug/L ug/L	5.000 5.000 5.000	76.3% 70.7% 70.0% 1.1%	70-130 70-130 70-130 ≤30.0	
	525.2	01/06/2003:A	00-CCV	mg/L	2.000	118%	70-130	
bis(2-Ethylhexyl)adipate	525.2	12/21/2002:A210	Blank LCS BS BSD BSRPD	ug/L ug/L ug/L ug/L ug/L	5.000 5.000 5.000	ND 71.4% 66.4% 71.6% 0.26	<1 70-130 70-130 70-130 ≤1.00	435
	525.2	01/06/2003:A	00-CCV	mg/L	2.000	103%	70-130	
bis(2-Ethylhexyl)phthalate	525.2	12/21/2002:A210	Blank LCS BS BSD BSRPD	ug/L ug/L ug/L ug/L ug/L	5.000 5.000 5.000	ND 71.1% 69.1% 76.7% 0.38	<3 70-130 70-130 70-130 ≤3.00	435
	525.2	01/06/2003:A	00-CCV	mg/L	2.000	96.0%	70-130	
Perylene-d12-Surrogate	525.2	12/21/2002:A210	Blank LCS BS BSD	ug/L ug/L ug/L ug/L	5.000 5.000 5.000 5.000	120% 106% 109% 99.3%	70-130 70-130 70-130 70-130	
	525.2	01/06/2003:A	00-CCV	mg/L	5.000	113%	70-130	

Explanations

435 Sample matrix may be affecting this analyte. Data was accepted based on the LCS or CCV recovery.
560 Surrogate percent recoveries not within the Acceptance Range (AR) due to suspected matrix interferences.

Definitions

Blank : Method Blank - Prepared to verify that the preparation process is not contributing contamination to the samples.
LCS : Laboratory Control Standard/Sample - Prepared to verify that the preparation process is not affecting analyte recovery.
BS/BSD : Blank Spikes - A blank is spiked with a known amount of analyte. It is prepared to verify that the preparation process is not affecting analyte recovery.
CCV : Continuing Calibration Verification - Analyzed to verify the instrument calibration is within criteria.
ND : Non-detect - Result was below the DQO listed for the analyte.
DQO : Data Quality Objective - This is the criteria against which the quality control data is compared.

MWH Laboratories
555 East Walnut Street
Pasadena, CA 91101
Ph (626) 568-6400 Fax (626) 568-6324

213024

Ship To Kelly Dunnahoo

GL

GL
353 Corporation Street Santa Paula, CA 93060

805) 659-0910 ext 130 Fax (805) 525-4172

Date 12/18/02 **Submittal Form & Purchase Order** 99-9447

*REPORTING REQUIREMENTS: One report for this MWH Project Number: 104183
Do Not Combine Report with any other samples submitted under different MWH project numbers!
Report & Invoice must have the MWH Project Number and Sub PO#: 104183 99-9447
Report all quality control data according to Method. Include dates analyzed, date extracted (if extracted) and Method reference on the report. Email by .pdf to martha.e.frost@mwhglobal.com or Fax results to 626-568-6324
Results must have Complete data & QC with Approval Signature.
See reverse side for List of Terms and Conditions

Reports & Invoices to: Martha Frost Sub-contracting Administrator
EMAIL TO: martha.e.frost@mwhglobal.com
MWH Laboratories 555 East Walnut Street Pasadena, CA 91101
Phone (626) 568-6437 Fax (626) 568-6324

Provide in each Report the Specified State Certification # & Exp. DAte for requested tests & matrix:
CA ELAP OK EDT ☐ Yes

MWH Project #	Report Due:	Sub PO#
104183	01/02/03	99-9447

mxr	Use MWH Lab # for ID	Client Sample ID for reference only	Analysis Requested	Sample Date & Time	Matrix	Container
CUSTSUB	2212180035	POOKELA WELL	507, 525.2	12/17/02 09:30	dw	1L amber glass / no pres

6°C

Relinquished by: Sample Control Date 12/18/02 Time 1540 MUST HAVE NOTIFICAION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CEL

An Acknowledgement of Receipt is requested to attn: Martha Frost

Santa Paula - Condition Upon Receipt (Attach to COC)

Sample Receipt:

1. Number of ice chests/packages received: 1
   Note as OTC if received over the counter unpackaged.

2. Were samples received in a chilled condition? Temps: 6 / ____ / ____ / ____ / ____
   Acceptable is above freezing to 6° C. Also acceptable is received on ice (ROI) for the same day of sampling or received at room temperature (RRT) if sampled within one hour of receipt. Client contact for temperature failures must be documented below. If many packages are received at one time check for tests/H.T.'s/rushes/Bacti's to prioritize further review. Please notify Microbiology personnel immediately of bacti samples received.

3. Do the number of bottles received agree with the COC? (Yes) No N/A

4. Were samples received intact? (i.e. no broken bottles, leaks etc.) (Yes) No

5. Were sample custody seals intact? (N/A) Yes No

Sign and date the COC, obtain LIMS sample numbers, select methods/tests and print labels.

Sample Verification, Labeling and Distribution:

1. Were all requested analyses understood and acceptable? (Yes) No

2. Did bottle labels correspond with the client's ID's? (Yes) No

3. Were all bottles requiring sample preservation properly preserved? Yes No (N/A) FGL

4. Were all analyses within holding times at time of receipt? (Yes) No

5. Have rush or project due dates been checked and accepted? (N/A) Yes No

Attach labels to the containers and include a copy of the COC for lab delivery.

Sample Receipt, Login and Verification completed by (initials): _____

Discrepancy Documentation:

Any items above which are "No" or do not meet specifications (i.e. temps) must be resolved.

1. Person Contacted: _____ Phone Number: _____
   Initiated By: _____ Date: _____
   Problem:

   Resolution:

2. Person Contacted: _____ Phone Number: _____
   Initiated By: _____ Date: _____
   Problem:

   Resolution:

213026

Attach label with lab number here

APPENDIX A
POOKELA WELL WATER QUALITY
2. Report #104249 & #105040

MWH Laboratories
A Division of MWH Americas, Inc.

750 Royal Oaks Drive
Suite 100
Monrovia, California 91016-3629
Tel: 626 568 6400
Fax: 626 568 6324
1 800 566 LABS (1 800 566 5227)

Laboratory Report

for

Maui, County of, Department of Water Supply
614 Palapala Dr

Kahului , HI 96732

Attention: Cari Cerizo
Fax: (808) 270-6133

DATE OF ISSUE
JAN 3 0 2003
MWH LABORATORIES

HDS Hillary Strayer
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac 01114CA

Report#: 104249
PHASEV

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Comments,QC Report,QC Summary,Data Report,Hits Report, totaling 25 page[s].

MONTGOMERY WATSON LABORATORIES

CHAIN OF CUSTODY RECORD 164249

555 E. Walnut St., Pasadena, CA 91101
(626) 568-6400 (800) 566-5227

MWLABS USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED/LOGGED IN BY: MW

SAMPLE TEMP, RECEIPT AT LAB 4°C (Compliance: 4 +/- 2°C)

SAMPLES RECEIVED DAY OF COLLECTION? ☐ (check for yes)

BLUE ICE: FROZEN ___ PARTIALLY FROZEN ___ THAWED ___

TO BE COMPLETED BY SAMPLER:

TAT requested: STD_____ 1 week _____ 3 day _____ 1 day _____

CLIENT or PROJECT NAME: COUNTY OF MAUI

PROJECT JOB # / P.O.#:

SAMPLER(S): PRINTED NAME AND SIGNATURE: K Kuba

TIME	DATE	SITE NAME or LOCATION	IDENTIFIER, STATE ID #	MATRIX *	GRAB	COMP
0930	12/17/02		POOKELA WELL	FW	X	
			N.B. Sample collected in duplicate			

(check for yes)

COMPLIANCE SAMPLES	X	REGULATION: PHASE2/5,UCMR
- Requires state forms	X	(SDWA, Phase V, NPDES, FDA, ...)
NON-COMPLIANCE SAMPLES		

REFER TO ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes)

ANALYSES REQUIRED (mark an 'X' in all tests required for each sample line)

SAMPLER COMMENTS: See attached

* MATRIX TYPES:

Reported by Volume:
RSW = Raw Surface Water
RGW = Raw Ground Water
FW = Other Finished Water
CFW = Chlor(am)inated Finished Water
SW = Storm Water
WW = Other Waste Water
CWW = Chlorinated Waste Water

Reported by Weight:
SO = Soil
SL = Sludge

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	K Kuba	K Kuba	DWS MAUI	12/17/02	1430
RECEIVED BY:		M. DeMeza	M.W.H.	12-19-2	
RELINQUISHED BY:					
RECEIVED BY:					

MWH Laboratories
555 East Walnut Street
Pasadena CA 91101 (626) 568-6400 FAX (626) 568-6324

Bottle Order for Maui County or Department of Water Supply

Group #
Date Sampled
Date Received

Hillary Strayer ..... Your MWL Project Manager
(626) 568-6412 ..... Direct Phone/Voice Mail

Client Code MAUI ..... HI New Source
Project Code PHASEV ..... ProjectName
PO# / Job# .....

IO# 20916

Sampler: please return this paper with your samples

reated by HILL

rder Date 12/06/02

ate Needed
/ Client 12/12/02

ate Samples
) Arrive at MWL 12/18/02

Ship Sample Kits to
Maui County Dept. of Water Supply
614 Palapala Dr.
Kahului, HI 96732

ATTN: Cari Cerizo
PHONE: (808) 270-7344

Send Report to
Maui County Dept. of Water Supply
614 Palapala Dr.
Kahului, HI 96732

ATTN: Cari Cerizo
PHONE: (808) 270-7344
FAX: (808) 270-6133

Billing Address
Maui County Dept. of Water Supply
P.O Box 1109
Wailuku, HI 96793

16290

# of Samples	Tests	Qteline#	Bottles-Qty for each sample, type & preservative if any	UN DOT #
1	@DIQUAT (549.2)	1	1L amber poly/ no preservative	
1	@EDB-DBC (504.1)	4	40ml amber glass vials/ no preservative	UN 1789
1	@VOASDWA (524.2)	3	40ml amber glass vials+4 drops of 1:1 HCL	UN 1789
1	@ML525 (525.2)	2	1L amber glass+ 1.5 ml HCL (6N)	UN 1750
1	@ML531 (531.1)	2	40ml amber vials+1ml MCAA	
1	@ML515.3 (HERB)	2	125ml amber glass/ no preservative	
1	@PESTSDW (508), MIREX1	2	1L amber glass/no preservative	
1	ENDOTHAL (548.1)	1	250ml amber glass/no preservative	
1	GLYPHOS (547)	1	125ml amber glass/no preservative	
1	D1613EDD (1613 - DIOXIN)	2	1L amber glass / no preservative	
1	CNDW (CYANIDE)	1	125ml poly +1 ml NaOH (25%)+3 scoops Ascorbic Acid	UN 1824
1	#MET-HI, CA	1	250ml poly acid rinsed+2 ml HNO3 (18%)	UN2031
1	NO2-N, NO3, F, ALK, EC, PH	1	1-L poly/ no preservative	
1	NO3RFA * - HOLD	1	125 ml poly+ 0.5ml H2SO4 (50%)	UN 2796

Comments

SHIPPING:

Label cooler:
NEW SOURCE
SHORT HT

*** LOG-IN:**

LOG IN NO3RFA ONLY IF HT FOR NO3 AND NO2-N ARE NOT MET.
CHECK WITH HDS ON WHETHER SOME TESTS ARE SUBBED (POSSIBLY 508, 525, 515...) TO FGL

Code Status Date Shipped Via Tracking # # of Coolers Prepared By

SCANNED

CORRECTION

THE PRECEDING DOCUMENT(S) HAS BEEN REPHOTOGRAPHED TO ASSURE LEGIBILITY
SEE FRAME(S)
IMMEDIATELY FOLLOWING

MWH Laboratories
555 East Walnut Street
Pasadena CA 91101 (626) 568-6400 FAX (626) 568-6324

Bottle Order for Maui County or Department of Water Supply

Hillary Strayer — Your MWL Project Manager
(626) 568-6412 — Direct Phone/Voice Mail

Client Code MAUI — HI New Source — ProjectName
Project Code PHASEV
PO# / Job#

Group #
Date Sampled
Date Received

)O# 20916

Sampler: please return this paper with your samples

reated by HILL

rder Date 12/06/02

ate Needed v Client 12/12/02

ate Samples Arrive at MWL 12/18/02

Ship Sample Kits to

Maui County Dept. of Water Supply
614 Palapala Dr.
Kahului, HI 96732

ATTN: Cari Cerizo
PHONE: (808) 270-7344

Send Report to

Maui County Dept. of Water Supply
614 Palapala Dr.
Kahului, HI 96732

ATTN: Cari Cerizo
PHONE: (808) 270-7344
FAX: (808) 270-6133

Billing Address

Maui County Dept. of Water Supply
PO Box 1109
Wailuku, HI 96793

16290

# of Samples	Tests	Qteline#	Bottles-Qty for each sample, type & preservative if any	UN DOT #
1	@DIQUAT (549.2)		1 1L amber poly/ no preservative	
1	@EDB-DBC (504.1)		4 40ml amber glass vials/ no preservative	
1	@VOASDWA (524.2)		3 40ml amber glass vials+4 drops of 1:1 HCL	UN 1789
1	@ML525 (525.2)		2 1L amber glass+ 1.5 ml HCL (6N)	UN 1789
1	@ML531 (531.1)		2 40ml amber vials+1ml MCAA	UN 1750
1	@ML515.3 (HERB)		2 125ml amber glass/ no preservative	
1	@PESTSDW (508), MIREX1		2 1L amber glass/no preservative	
1	ENDOTHAL (548.1)		1 250ml amber glass/no preservative	
1	GLYPHOS (547)		1 125ml amber glass/no preservative	
1	D1613EDD (1613 - DIOXIN)		2 1L amber glass / no preservative	
1	CNDW (CYANIDE)		1 125ml poly +1 ml NaOH (25%)+3 scoops Ascorbic Acid	UN 1824
1	#MET-HI, CA		1 250ml poly acid rinsed+2 ml HNO3 (18%)	UN2031
1	NO2-N, NO3, F, ALK, EC, PH		1 1-L poly/ no preservative	
1	NO3RFA * - HOLD		1 125 ml poly+ 0.5ml H2SO4 (50%)	UN 2796

Comments

SHIPPING:

Label cooler:
NEW SOURCE
SHORT HT

*** LOG-IN:**

LOG IN NO3RFA ONLY IF HT FOR NO3 AND NO2-N ARE NOT MET.
CHECK WITH HDS ON WHETHER SOME TESTS ARE SUBBED (POSSIBLY 508, 525, 515...) TO FGL

Code | Status | Date Shipped | Via | Tracking # | # of Coolers | Prepared By

MWH Laboratories
555 E. Walnut St., Pasadena, CA 91101
PHONE: 626-568-6400/FAX: 626-568-6324

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Maui, County of, Department of Water Supply
614 Palapala Dr
Kahului, HI 96732
Attn: Cari Cerizo
Phone: (808) 270-7344

Customer Code: MAUI
Group#: 104249
Project#: PHASEV
Proj Mgr: Hillary Strayer
Phone: (626) 568-6412

The following samples were received from you on 12/19/02. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample#	Sample Id	Matrix	Sample Date
	Tests Scheduled		
2212190035	POOKELA WELL	Water	17-dec-2002 09:30:00
	@DIQUAT @EDB-DBC @ML515.3 @ML531 @VOASDWA ALK		
	AS-MS BA-MS BE-MS CA CD-MS CNDW		
	CR-MS CU-MS CUSTSUB D1613EDD EC ENDOTHAL		
	F GLYPHOS HG NI-MS NO2-N NO3		
	PB-MS PH SB-MS SE-MS TL-MS		

Test Acronym Description

Test Acronym	Description
@DIQUAT	Diquat and Paraquat
@EDB-DBC	EDB and DBCP by GC-ECD
@ML515.3	Herbicides by 515.3
@ML531	Aldicarbs
@VOASDWA	Regulated VOCs plus Lists 1&3
ALK	Alkalinity in CaCO3 units
AS-MS	Arsenic, Total, ICAP/MS
BA-MS	Barium, Total, ICAP/MS
BE-MS	Beryllium, Total, ICAP/MS
CA	Calcium, Total, ICAP
CD-MS	Cadmium, Total, ICAP/MS
CNDW	Cyanide
CR-MS	Chromium, Total, ICAP/MS
CU-MS	Copper, Total, ICAP/MS
CUSTSUB	Subcontracted Analyses
D1613EDD	2,3,7,8-Tcdd 1613 Drinking Wtr
EC	Specific Conductance
ENDOTHAL	Endothall
F	Fluoride
GLYPHOS	Glyphosate
HG	Mercury
NI-MS	Nickel, Total, ICAP/MS
NO2-N	Nitrite, Nitrogen by IC

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Proj Mgr: Hillary Strayer
Phone: (626) 568-6412

Test Acronym Description

Test Acronym	Description
NO3	Nitrate as Nitrogen by IC
PB-MS	Lead, Total, ICAP/MS
PH	Lab pH
SB-MS	Antimony, Total, ICAP/MS
SE-MS	Selenium, Total, ICAP/MS
TL-MS	Thallium, Total, ICAP/MS

MWH Laboratories
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Report
Comments
#104249

Group Comments

Analytical results for CUSTSUB Methods 525.2, 508+PCBs, and 507 are submitted by Weck Laboratories,Industry,CA. CA ELAP 1132

(QC Ref#: 188665)
Test: Endothall (ML/EPA 548.1)
QC Type: MSD
M2- Low MSD recovery but acceptable LFB.

(QC Ref#: 189058)
Test: Bentazon (ML/EPA 515.3)
QC Type: MS1
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Tot DCPA Mono&Diacid Degradate (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Dicamba (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Pentachlorophenol (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Picloram (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: 4-Nitrophenol (qualitative) (ML/EPA 515.3)
QC Type: MS1
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.

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Report
Comments
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QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.

(QC Ref#: 189130)
Test: Diquat (ML/EPA 549.2)
QC Type: LCS1
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
QC Type: LCS2
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
QC Type: MS
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
QC Type: MSD
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
Test: Paraquat (ML/EPA 549.2)
QC Type: LCS1
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.

(QC Ref#: 2212190035)
QC Type: Y
CUSTSUB FOR 525 508 507
Test: Regulated VOCs plus Lists 1&3 (EPA 524.2)
This sample was not analyzed. The analyst was not aware tha t this was a duplicate sample and thought it was a log-in er ror. By the time this was discovered, the holding time had expired. Notified project manager.
Test: Subcontracted Analyses ( )
Method 525.2, 508, 507
Test: Nitrite, Nitrogen by IC (ML/EPA 300.0)
Sample recieved at hold time but analyzed 6hrs past hold time.
Test: Nitrate as Nitrogen by IC (ML/EPA 300.0)
Sample recieved at hold time,analyzed 6hrs past hold time.

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Laboratory
Hits Report
#104249

Maui, County of, Department of
Water Supply
Cari Cerizo
614 Palapala Dr
Kahului , HI 96732

Samples Received

19-dec-2002 13:37:41

Analyzed	Sample#	Sample ID	Result	UNITS	MRL
	2212190035	POOKELA WELL			
12/20/02		Alkalinity in CaCO3 units	41	mg/l	1.000
01/22/03		Arsenic, Total, ICAP/MS	1.1	ug/l	1.000
01/02/03		Calcium, Total, ICAP	6.4	mg/l	1.000
01/22/03		Chromium, Total, ICAP/MS	4.1	ug/l	1.000
01/22/03		Copper, Total, ICAP/MS	8	ug/l	2.000
12/27/02		Fluoride	0.08	mg/l	.050
12/20/02		Lab pH	8.3	Units	.001
01/22/03		Lead, Total, ICAP/MS	1.4	ug/l	.500
12/19/02		Nitrate as Nitrogen by IC	0.50	mg/l	.100
12/27/02		Specific Conductance	101	umho/c	4.000
12/26/02		Subcontracted Analyses	SUB WECK	None	

SUMMARY OF POSITIVE DATA ONLY.

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Laboratory
Data Report
#104249

Maui, County of, Department of
Water Supply
Cari Cerizo
614 Palapala Dr
Kahului , HI 96732

Samples Received

12/19/02

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
OOKELA WELL (2212190035)			Sampled on 12/17/02 09:30					
	12/20/02 17:51	188264	(SM2320B/E310.1)	Alkalinity in CaCO3 units	41	mg/l	1.0	1
	01/22/03 12:27	189747	(EPA/ML 200.8)	Arsenic, Total, ICAP/MS	1.1	ug/l	1.0	1
	01/22/03 12:27	189758	(EPA/ML 200.8)	Barium, Total, ICAP/MS	ND	ug/l	2.0	1
	01/22/03 12:27	189756	(EPA/ML 200.8)	Beryllium, Total, ICAP/MS	ND	ug/l	1.0	1
	01/02/03 14:17	188928	(ML/EPA 200.7)	Calcium, Total, ICAP	6.4	mg/l	1.0	1
	01/22/03 12:27	189755	(EPA/ML 200.8)	Cadmium, Total, ICAP/MS	ND	ug/l	0.50	1
	12/30/02 00:00	188661	(SM4500CN-F)	Cyanide	ND	mg/l	0.025	1
	01/22/03 12:27	189770	(EPA/ML 200.8)	Chromium, Total, ICAP/MS	4.1	ug/l	1.0	1
	01/22/03 12:27	189741	(EPA/ML 200.8)	Copper, Total, ICAP/MS	8	ug/l	2.0	1
	12/26/02 00:00		( )	Subcontracted Analyses	SUB NECK	None	0.0000	1
12/31/02	12/31/02 00:00		(EPA 1613)	2,3,7,8-Tcdd 1613 Drinking Wtr	ND	pg/l	5.0	1
	12/27/02 10:45	188553	(ML/S2510B)	Specific Conductance	101	umho/cm	4.0	1
2/20/02	12/26/02 00:00	188665	(ML/EPA 548.1)	Endothall	ND	ug/l	5.0	1
	12/27/02 00:00	188533	(SM4500F-C)	Fluoride	0.08	mg/l	0.050	1
	12/20/02 00:00	188332	(ML/EPA 547)	Glyphosate	ND	ug/l	6.0	1
	12/21/02 14:35	188270	(EPA/ML 245.1)	Mercury	ND	ug/l	0.20	1
	01/22/03 12:27	189739	(EPA/ML 200.8)	Nickel, Total, ICAP/MS	ND	ug/l	5.0	1
	12/19/02 15:37	188154	(ML/EPA 300.0)	Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
	12/19/02 15:37	188156	(ML/EPA 300.0)	Nitrate as Nitrogen by IC	0.50	mg/l	0.10	1
	01/22/03 12:27	189764	(EPA/ML 200.8)	Lead, Total, ICAP/MS	1.4	ug/l	0.50	1
	12/20/02 00:00	188166	(S4500HB/E150.1)	Lab pH	8.3	Units	0.0010	1
	01/22/03 12:27	189760	(EPA/ML 200.8)	Antimony, Total, ICAP/MS	ND	ug/l	1.0	1
	01/22/03 12:27	189749	(EPA/ML 200.8)	Selenium, Total, ICAP/MS	ND	ug/l	5.0	1
	01/22/03 12:27	189762	(EPA/ML 200.8)	Thallium, Total, ICAP/MS	ND	ug/l	1.0	1
				Aldicarbs				
	12/27/02 00:00	188728	(ML/EPA 531.1)	3-Hydroxycarbofuran	ND	ug/l	2.0	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Aldicarb (Temik)	ND	ug/l	0.50	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Aldicarb sulfone	ND	ug/l	0.70	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Aldicarb sulfoxide	ND	ug/l	0.50	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Baygon	ND	ug/l	2.0	1

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Laboratory
Data Report
#104249

Maui, County of, Department of
Water Supply
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2212190035) (continued)					Sampled on 12/17/02 09:30			
	12/27/02 00:00	188728	(ML/EPA 531.1)	Carbofuran (Furadan)	ND	ug/l	0.90	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Carbaryl	ND	ug/l	2.0	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Methiocarb	ND	ug/l	2.0	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Methomyl	ND	ug/l	1.0	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Oxamyl (Vydate)	ND	ug/l	2.0	1
			(Surrogate)	EDMC(70-130)	97	% Rec		
Diquat and Paraquat								
12/20/02	12/23/02 00:00	189130	(ML/EPA 549.2)	Diquat	ND	ug/l	0.40	1
12/20/02	12/23/02 00:00	189130	(ML/EPA 549.2)	Paraquat	ND	ug/l	2.0	1
EDB and DBCP by GC-ECD								
12/22/02	12/23/02 00:00	188381	(ML/EPA 504.1)	Dibromochloropropane (DBCP)	ND	ug/l	0.010	1
12/22/02	12/23/02 00:00	188381	(ML/EPA 504.1)	Ethylene Dibromide (EDB)	ND	ug/l	0.010	1
			(Surrogate)	1,2-dibromopropane(60-140)	NA	% Rec		
Herbicides by 515.3								
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4,5-T	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4,5-TP (Silvex)	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4-D	ND	ug/l	0.10	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4-DB	ND	ug/l	2.0	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dichlorprop	ND	ug/l	0.50	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Acifluorfen	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Bentazon	ND	ug/l	0.50	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dalapon	ND	ug/l	1.0	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	3,5-Dichlorobenzoic acid	ND	ug/l	0.50	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Tot DCPA Mono&Diacid Degradate	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dicamba	ND	ug/l	0.080	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dinoseb	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Pentachlorophenol	ND	ug/l	0.040	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Picloram	ND	ug/l	0.10	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	4-Nitrophenol (qualitative)	ND	ug/l	1.0	1
			(Surrogate)	24-D(70-130)	105	% Rec		

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Laboratory
Data Report
#104249

Maui, County of, Department of
Water Supply
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2212190035) (continued) Sampled on 12/17/02 09:30								
				Regulated VOCs plus Lists 1&3				
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,1,1,2-Tetrachloroethane	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,1,1-Trichloroethane	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,1,2,2-Tetrachloroethane	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,1,2-Trichloroethane	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,1-Dichloroethane	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,1-Dichloroethylene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,1-Dichloropropene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,2,3-Trichlorobenzene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,2,3-Trichloropropane	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,2,4-Trichlorobenzene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,2,4-Trimethylbenzene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,2-Dichloroethane	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,2-Dichloropropane	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,3,5-Trimethylbenzene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	1,3-Dichloropropane	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	p-Dichlorobenzene (1,4-DCB)	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	2,2-Dichloropropane	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	2-Butanone (MEK)	NA	ug/l	5.0	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	o-Chlorotoluene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	p-Chlorotoluene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	4-Methyl-2-Pentanone (MIBK)	NA	ug/l	5.0	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	Benzene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	Bromobenzene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	Bromomethane (Methyl Bromide)	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	Bromoethane	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	cis-1,2-Dichloroethylene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	Chlorobenzene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	Carbon Tetrachloride	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	cis-1,3-Dichloropropene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	Bromoform	NA	ug/l	0.50	1

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Laboratory
Data Report
#104249

Maui, County of, Department of
Water Supply
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2212190035) (continued) Sampled on 12/17/02 09:30								
12/19/02 00:00	189454		(ML/EPA 524.2)	Chloroform (Trichloromethane)	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Bromochloromethane	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Chloroethane	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Chloromethane(Methyl Chloride)	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Chlorodibromomethane	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Dibromomethane	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Bromodichloromethane	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Dichloromethane	NA	ug/l	3.0	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Di-isopropyl ether	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Ethyl benzene	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Dichlorodifluoromethane	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Fluorotrichloromethane-Freon11	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Hexachlorobutadiene	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Isopropylbenzene	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	m-Dichlorobenzene (1,3-DCB)	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	m,p-Xylenes	NA	ug/l	3.0	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Methyl Tert-butyl ether (MTBE)	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Naphthalene	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	n-Butylbenzene	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	n-Propylbenzene	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	o-Xylene	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	o-Dichlorobenzene (1,2-DCB)	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Tetrachloroethylene (PCE)	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	p-Isopropyltoluene	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	sec-Butylbenzene	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Styrene	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	trans-1,2-Dichloroethylene	NA	ug/l	3.0	1
12/19/02 00:00	189454		(ML/EPA 524.2)	tert-amyl Methyl Ether	NA	ug/l	3.0	1
12/19/02 00:00	189454		(ML/EPA 524.2)	tert-Butyl Ethyl Ether	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	tert-Butylbenzene	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Trichloroethylene (TCE)	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	Trichlorotrifluoroethane(Freon	NA	ug/l	0.50	1
12/19/02 00:00	189454		(ML/EPA 524.2)	trans-1,3-Dichloropropene	NA	ug/l	0.50	1

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Laboratory
Data Report
#104249

Maui, County of, Department of
Water Supply
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2212190035) (continued) Sampled on 12/17/02 09:30								
	12/19/02 00:00	189454	(ML/EPA 524.2)	Toluene	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	Total THM	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	Total xylenes	NA	ug/l	0.50	1
	12/19/02 00:00	189454	(ML/EPA 524.2)	Vinyl chloride (VC)	NA	ug/l	0.30	1
			(Surrogate)	1,2-Dichloroethane-d4(70-130)	NA	% Rec		
			(Surrogate)	4-Bromofluorobenzene(70-130)	NA	% Rec		
			(Surrogate)	Toluene-d8(70-130)	NA	% Rec		

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QC Summary
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Maui, County of, Department of
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QC Ref #188154 - Nitrite, Nitrogen by IC Analysis Date: 12/19/2002

2212190035 POOKELA WELL

QC Ref #188156 - Nitrate as Nitrogen by IC Analysis Date: 12/19/2002

2212190035 POOKELA WELL

QC Ref #188166 - Lab pH Analysis Date: 12/20/2002

2212190035 POOKELA WELL

QC Ref #188264 - Alkalinity in CaCO3 units Analysis Date: 12/20/2002

2212190035 POOKELA WELL

QC Ref #188270 - Mercury Analysis Date: 12/21/2002

2212190035 POOKELA WELL

QC Ref #188332 - Glyphosate Analysis Date: 12/20/2002

2212190035 POOKELA WELL

QC Ref #188381 - EDB and DBCP by GC-ECD Analysis Date: 12/23/2002

2212190035 POOKELA WELL

QC Ref #188533 - Fluoride Analysis Date: 12/27/2002

2212190035 POOKELA WELL

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QC Summary
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Maui, County of, Department of
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(continued)

QC Ref #188553 - Specific Conductance Analysis Date: 12/27/2002

2212190035 POOKELA WELL

QC Ref #188661 - Cyanide Analysis Date: 12/30/2002

2212190035 POOKELA WELL

QC Ref #188665 - Endothall Analysis Date: 12/26/2002

2212190035 POOKELA WELL

QC Ref #188728 - Aldicarbs Analysis Date: 12/27/2002

2212190035 POOKELA WELL

QC Ref #188928 - Calcium, Total, ICAP Analysis Date: 01/02/2003

2212190035 POOKELA WELL

QC Ref #189058 - Herbicides by 515.3 Analysis Date: 01/02/2003

2212190035 POOKELA WELL

QC Ref #189130 - Diquat and Paraquat Analysis Date: 12/23/2002

2212190035 POOKELA WELL

QC Ref #189454 - Regulated VOCs plus Lists 1&3 Analysis Date: 12/19/2002

2212190035 POOKELA WELL

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QC Ref #189739 - Nickel, Total, ICAP/MS Analysis Date: 01/22/2003

2212190035 POOKELA WELL

QC Ref #189741 - Copper, Total, ICAP/MS Analysis Date: 01/22/2003

2212190035 POOKELA WELL

QC Ref #189747 - Arsenic, Total, ICAP/MS Analysis Date: 01/22/2003

2212190035 POOKELA WELL

QC Ref #189749 - Selenium, Total, ICAP/MS Analysis Date: 01/22/2003

2212190035 POOKELA WELL

QC Ref #189755 - Cadmium, Total, ICAP/MS Analysis Date: 01/22/2003

2212190035 POOKELA WELL

QC Ref #189756 - Beryllium, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #189758 - Barium, Total, ICAP/MS Analysis Date: 01/22/2003

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QC Ref #189760 - Antimony, Total, ICAP/MS Analysis Date: 01/22/2003

2212190035 POOKELA WELL

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QC Ref #189762 - Thallium, Total, ICAP/MS Analysis Date: 01/22/2003

2212190035 POOKELA WELL

QC Ref #189764 - Lead, Total, ICAP/MS Analysis Date: 01/22/2003

2212190035 POOKELA WELL

QC Ref #189770 - Chromium, Total, ICAP/MS Analysis Date: 01/22/2003

2212190035 POOKELA WELL

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Maui, County of, Department of
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QC Ref #188154 Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrite, Nitrogen by IC	1.0	0.991	MGL	99.1	(90-110)	
LCS2	Nitrite, Nitrogen by IC	1.0	1.03	MGL	103.0	(90-110)	3.9
MBLK	Nitrite, Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrite, Nitrogen by IC	1.0	1.02	MGL	102.0	(80-120)	
MSD	Nitrite, Nitrogen by IC	1.0	1.02	MGL	102.0	(80-120)	0.00

QC Ref #188156 Nitrate as Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrate as Nitrogen by IC	2.5	2.6	MGL	104.0	(90-110)	
LCS2	Nitrate as Nitrogen by IC	2.5	2.58	MGL	103.2	(90-110)	0.77
MBLK	Nitrate as Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrate as Nitrogen by IC	2.5	2.5	MGL	100.0	(80-120)	
MSD	Nitrate as Nitrogen by IC	2.5	2.5	MGL	100.0	(80-120)	0.00

QC Ref #188166 Lab pH

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
DUP	Lab pH	8.1	8.1	UNIT		(0-20)	0.0

QC Ref #188264 Alkalinity in CaCO3 units

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12190035	MGL		(0-0)	
LCS1	Alkalinity in CaCO3 units	100	99.1	MGL	99.1	(90-110)	
LCS2	Alkalinity in CaCO3 units	100	98.9	MGL	98.9	(90-110)	0.20
MBLK	Alkalinity in CaCO3 units	ND	<1.00	MGL			
MS	Alkalinity in CaCO3 units	96.2	98.5	MGL	102.4	(80-120)	
MSD	Alkalinity in CaCO3 units	96.2	98.2	MGL	102.1	(80-120)	0.31

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining. Criteria for MS and DUP are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

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RPD_LCS	Alkalinity in CaCO3 units	99.100	98.900	MGL	0.2	(0-10)
RPD_MS	Alkalinity in CaCO3 units	102.391	102.079	MGL	0.3	(0-10)

QC Ref #188270 Mercury

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12190303	UGL		(0-0)	
LCS1	Mercury	1.50	1.43	UGL	95.3	(85-115)	
LCS2	Mercury	1.50	1.45	UGL	96.7	(85-115)	1.4
MBLK	Mercury	ND	<0.20	UGL			
MS	Mercury	1.50	1.45	UGL	96.7	(70-130)	
MSD	Mercury	1.50	1.44	UGL	96.0	(70-130)	0.69

QC Ref #188332 Glyphosate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12160097	UGL		(0-0)	
LCS1	Glyphosate	10	11	UGL	110.0	(70-130)	
MBLK	Glyphosate	ND	<6.00	UGL			
MS	Glyphosate	10	10	UGL	100.0	(70-130)	
MSD	Glyphosate	10	10.5	UGL	105.0	(70-130)	4.9

QC Ref #188381 EDB and DBCP by GC-ECD

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12130157	NONE		(0-0)	
LCS1	Dibromochloropropane (DBCP)	0.02	0.015	UGL	75.0	(70-130)	
LCS2	Dibromochloropropane (DBCP)	0.20	0.19	UGL	95.0	(70-130)	
MBLK	Dibromochloropropane (DBCP)	ND	<0.01	UGL			
MS	Dibromochloropropane (DBCP)	0.20	0.20	UGL	100.0	(65-135)	
MSD	Dibromochloropropane (DBCP)	0.20	0.21	UGL	105.0	(65-135)	4.9
RPD_MS	Dibromochloropropane (DBCP)	100.000	105.000	UGL	4.9	(0-20)	

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LCS1	Ethylene Dibromide (EDB)	0.02	0.015	UGL	75.0	(70-130)	
LCS2	Ethylene Dibromide (EDB)	0.20	0.19	UGL	95.0	(70-130)	
MBLK	Ethylene Dibromide (EDB)	ND	<0.01	UGL			
MS	Ethylene Dibromide (EDB)	0.20	0.20	UGL	100.0	(65-135)	
MSD	Ethylene Dibromide (EDB)	0.20	0.20	UGL	100.0	(65-135)	0.00
RPD_MS	Ethylene Dibromide (EDB)	100.000	100.000	UGL	0.0	(0-20)	
LCS1	1,2-dibromopropane (surr)	100	99	%R	99.0	(60-140)	
LCS2	1,2-dibromopropane (surr)	100	100	%R	100.0	(60-140)	1.0
MBLK	1,2-dibromopropane (surr)	100	105	%R	105.0		
MS	1,2-dibromopropane (surr)	100	107	%R	107.0	(60-140)	
MSD	1,2-dibromopropane (surr)	100	113	%R	113.0	(60-140)	5.5
RPD_MS	1,2-dibromopropane (surr)	107.000	113.000	%R	5.5	(0-20)	

QC Ref #188533 Fluoride

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12190061	MGL		(0-0)	
LCS1	Fluoride	1.00	0.980	MGL	98.0	(90-110)	
LCS2	Fluoride	1.00	0.990	MGL	99.0	(90-110)	1.0
MBLK	Fluoride	ND	<0.05	MGL			
MS	Fluoride	1.00	0.935	MGL	93.5	(80-120)	
MSD	Fluoride	1.00	0.964	MGL	96.4	(80-120)	3.1
MS_2ND	Fluoride	1.00	0.947	MGL	94.7	(80-120)	
RPD_LCS	Fluoride	98.000	99.000	MGL	1.0	(0-10)	
RPD_MS	Fluoride	93.500	96.400	MGL	3.1	(0-20)	

QC Ref #188553 Specific Conductance

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
DUP	Specific Conductance	3650	3650	UMHO		(0-20)	0.0

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QC Ref #188661 Cyanide

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12190035	MGL		(0-0)	
LCS1	Cyanide	0.10	0.094	MGL	94.0	(80-120)	
MBLK	Cyanide	ND	<0.03	MGL			
MS	Cyanide	0.10	0.087	MGL	87.0	(80-120)	
MSD	Cyanide	0.10	0.090	MGL	90.0	(80-120)	3.4

QC Ref #188665 Endothall

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12190038	UGL		(0-0)	
LCS1	Endothall	25	23.8	UGL	95.2	(71-135)	
MBLK	Endothall	ND	<5.00	UGL			
MS	Endothall	25	16.2	UGL	64.8	(60-116)	
MSD	Endothall	25	15.0	UGL	60.0	(60-116)	7.7
MS_2ND	Endothall	25	ND	UGL		(60-116)	
RPD_MS	Endothall	64.800	60.000	UGL	7.7	(0-20)	

QC Ref #188728 Aldicarbs

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	3-Hydroxycarbofuran	10.0	8.69	UGL	86.9	(80-120)	
MBLK	3-Hydroxycarbofuran	ND	<2.00	UGL			
MS	3-Hydroxycarbofuran	10.0	9.94	UGL	99.4	(65-135)	
MSD	3-Hydroxycarbofuran	10.0	9.55	UGL	95.5	(65-135)	4.0
MS	Spiked sample	Lab # 22	12190035	NONE		(0-0)	
LCS1	Aldicarb (Temik)	10.0	9.65	UGL	96.5	(80-120)	
MBLK	Aldicarb (Temik)	ND	<0.50	UGL			
MS	Aldicarb (Temik)	10.0	10.2	UGL	102.0	(65-135)	

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MSD	Aldicarb (Temik)	10.0	9.65	UGL	96.5	(65-135)	5.5
LCS1	Aldicarb sulfone	10.0	9.16	UGL	91.6	(80-120)	
MBLK	Aldicarb sulfone	ND	<0.70	UGL			
MS	Aldicarb sulfone	10.0	9.84	UGL	98.4	(65-135)	
MSD	Aldicarb sulfone	10.0	9.99	UGL	99.9	(65-135)	1.5
LCS1	Aldicarb sulfoxide	10.0	8.52	UGL	85.2	(80-120)	
MBLK	Aldicarb sulfoxide	ND	<0.50	UGL			
MS	Aldicarb sulfoxide	10.0	9.95	UGL	99.5	(65-135)	
MSD	Aldicarb sulfoxide	10.0	10.0	UGL	100.0	(65-135)	0.50
LCS1	Baygon	10.0	9.22	UGL	92.2	(80-120)	
MBLK	Baygon	ND	<2.00	UGL			
MS	Baygon	10.0	10.3	UGL	103.0	(65-135)	
MSD	Baygon	10.0	9.81	UGL	98.1	(65-135)	4.9
LCS1	Carbofuran (Furadan)	10.0	9.25	UGL	92.5	(80-120)	
MBLK	Carbofuran (Furadan)	ND	<0.90	UGL			
MS	Carbofuran (Furadan)	10.0	10.3	UGL	103.0	(65-135)	
MSD	Carbofuran (Furadan)	10.0	9.85	UGL	98.5	(65-135)	4.5
LCS1	Carbaryl	10.0	8.55	UGL	85.5	(80-120)	
MBLK	Carbaryl	ND	<2.00	UGL			
MS	Carbaryl	10.0	10.8	UGL	108.0	(65-135)	
MSD	Carbaryl	10.0	10.4	UGL	104.0	(65-135)	3.8
LCS1	Methiocarb	10.0	9.66	UGL	96.6	(80-120)	
MBLK	Methiocarb	ND	<2.00	UGL			
MS	Methiocarb	10.0	9.95	UGL	99.5	(65-135)	
MSD	Methiocarb	10.0	10.2	UGL	102.0	(65-135)	2.5
LCS1	Methomyl	10.0	8.98	UGL	89.8	(80-120)	
MBLK	Methomyl	ND	<1.00	UGL			
MS	Methomyl	10.0	9.89	UGL	98.9	(65-135)	
MSD	Methomyl	10.0	10.0	UGL	100.0	(65-135)	1.1
LCS1	Oxamyl (Vydate)	10.0	9.01	UGL	90.1	(80-120)	
MBLK	Oxamyl (Vydate)	ND	<2.00	UGL			
MS	Oxamyl (Vydate)	10.0	9.89	UGL	98.9	(65-135)	
MSD	Oxamyl (Vydate)	10.0	10.1	UGL	101.0	(65-135)	2.1
LCS1	BDMC	100	99	%R	99.0	(70-130)	
MBLK	BDMC	100	98	%R	98.0		

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MS	BDMC	100	104	%R	104.0	(70-130)	
MSD	BDMC	100	102	%R	102.0	(70-130)	1.9

QC Ref #188928 Calcium, Total, ICAP

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Calcium, Total, ICAP	50	52.3	MGL	104.6	(85-115)	
LCS2	Calcium, Total, ICAP	50	52.7	MGL	105.4	(85-115)	0.76
MBLK	Calcium, Total, ICAP	ND	<1.00	MGL			
MS	Calcium, Total, ICAP	50	53.7	MGL	107.4	(70-130)	
MSD	Calcium, Total, ICAP	50	53.2	MGL	106.4	(70-130)	0.94

QC Ref #189058 Herbicides by 515.3

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	2,4,5-T	0.75	0.76	UGL	101.3	(70-130)	
LCS2	2,4,5-T	3.0	2.99	UGL	99.7	(70-130)	
MBLK	2,4,5-T	ND	<0.20	UGL			
MS1	2,4,5-T	3.00	3.35	UGL	111.7	(70-130)	
MS2	2,4,5-T	0.75	0.79	UGL	105.3	(70-130)	
LCS1	2,4,5-TP (Silvex)	0.75	0.69	UGL	92.0	(70-130)	
LCS2	2,4,5-TP (Silvex)	3.0	2.63	UGL	87.7	(70-130)	
MBLK	2,4,5-TP (Silvex)	ND	<0.20	UGL			
MS1	2,4,5-TP (Silvex)	3.00	2.80	UGL	93.3	(70-130)	
MS2	2,4,5-TP (Silvex)	0.75	0.69	UGL	92.0	(70-130)	
LCS1	2,4-D	0.375	0.42	UGL	112.0	(70-130)	
LCS2	2,4-D	1.5	1.64	UGL	109.3	(70-130)	
MBLK	2,4-D	ND	<0.10	UGL			
MS1	2,4-D	1.50	1.41	UGL	94.0	(70-130)	
MS2	2,4-D	0.375	0.34	UGL	90.7	(70-130)	
LCS1	2,4-DB	7.5	6.60	UGL	88.0	(70-130)	
LCS2	2,4-DB	30.0	26.2	UGL	87.3	(70-130)	
MBLK	2,4-DB	ND	<2.00	UGL			

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Maui, County of, Department of
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MS1	2,4-DB	30.0	27.1	UGL	90.3	(70-130)
MS2	2,4-DB	7.50	6.76	UGL	90.1	(70-130)
LCS1	Dichlorprop	1.875	2.07	UGL	110.4	(70-130)
LCS2	Dichlorprop	7.5	7.46	UGL	99.5	(70-130)
MBLK	Dichlorprop	ND	<0.50	UGL		
MS1	Dichlorprop	7.50	8.17	UGL	108.9	(70-130)
MS2	Dichlorprop	1.875	2.16	UGL	115.2	(70-130)
MS1	Spiked sample	Lab # 22	12180055	NONE		(0-0)
MS2	Spiked sample	Lab # 22	12190063	NONE		(0-0)
LCS1	Acifluorfen	0.75	0.77	UGL	102.7	(70-130)
LCS2	Acifluorfen	3.0	2.95	UGL	98.3	(70-130)
MBLK	Acifluorfen	ND	<0.20	UGL		
MS1	Acifluorfen	3.00	3.10	UGL	103.3	(70-130)
MS2	Acifluorfen	0.75	0.84	UGL	112.0	(70-130)
LCS1	Bentazon	1.875	1.39	UGL	74.1	(70-130)
LCS2	Bentazon	7.5	5.37	UGL	71.6	(70-130)
MBLK	Bentazon	ND	<0.50	UGL		
MS1	Bentazon	7.50	5.22	UGL	<u>69.6</u>	(70-130)
MS2	Bentazon	1.875	1.23	UGL	<u>65.6</u>	(70-130)
LCS1	Dalapon	3.75	3.13	UGL	83.5	(70-130)
LCS2	Dalapon	15.0	15.4	UGL	102.7	(70-130)
MBLK	Dalapon	ND	<1.00	UGL		
MS1	Dalapon	15.0	17.7	UGL	118.0	(70-130)
MS2	Dalapon	3.75	3.56	UGL	94.9	(70-130)
LCS1	3,5-Dichlorobenzoic acid	1.875	1.79	UGL	95.5	(70-130)
LCS2	3,5-Dichlorobenzoic acid	7.5	6.87	UGL	91.6	(70-130)
MBLK	3,5-Dichlorobenzoic acid	ND	<0.50	UGL		
MS1	3,5-Dichlorobenzoic acid	7.50	7.60	UGL	101.3	(70-130)
MS2	3,5-Dichlorobenzoic acid	1.875	1.75	UGL	93.3	(70-130)
LCS1	Tot DCPA Mono&Diacid Degradate	0.75	0.94	UGL	125.3	(70-130)
LCS2	Tot DCPA Mono&Diacid Degradate	3.0	3.57	UGL	119.0	(70-130)
MBLK	Tot DCPA Mono&Diacid Degradate	ND	<0.20	UGL		
MS1	Tot DCPA Mono&Diacid Degradate	3.00	3.68	UGL	122.7	(70-130)
MS2	Tot DCPA Mono&Diacid Degradate	0.75	1.15	UGL	<u>153.3</u>	(70-130)
LCS1	Dicamba	0.1875	0.22	UGL	117.3	(70-130)

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Maui, County of, Department of
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(continued)

LCS2	Dicamba	0.75	0.72	UGL	96.0	(70-130)	
MBLK	Dicamba	ND	<0.08	UGL			
MS1	Dicamba	0.75	0.89	UGL	118.7	(70-130)	
MS2	Dicamba	0.1875	0.26	UGL	138.7	(70-130)	
LCS1	Dinoseb	0.75	0.72	UGL	96.0	(70-130)	
LCS2	Dinoseb	3.0	2.62	UGL	87.3	(70-130)	
MBLK	Dinoseb	ND	<0.20	UGL			
MS1	Dinoseb	3.00	2.71	UGL	90.3	(70-130)	
MS2	Dinoseb	0.75	0.72	UGL	96.0	(70-130)	
LCS1	Pentachlorophenol	0.15	0.16	UGL	106.7	(70-130)	
LCS2	Pentachlorophenol	0.60	0.60	UGL	100.0	(70-130)	
MBLK	Pentachlorophenol	ND	<0.04	UGL			
MS1	Pentachlorophenol	0.60	0.65	UGL	108.3	(70-130)	
MS2	Pentachlorophenol	0.15	0.20	UGL	133.3	(70-130)	
LCS1	Picloram	0.375	0.45	UGL	120.0	(70-130)	
LCS2	Picloram	1.5	1.59	UGL	106.0	(70-130)	
MBLK	Picloram	ND	<0.10	UGL			
MS1	Picloram	1.50	1.85	UGL	123.3	(70-130)	
MS2	Picloram	0.375	0.54	UGL	144.0	(70-130)	
LCS1	4-Nitrophenol (qualitative)	3.75	4.26	UGL	113.6	(70-130)	
LCS2	4-Nitrophenol (qualitative)	15.0	18.1	UGL	120.7	(70-130)	
MBLK	4-Nitrophenol (qualitative)	ND	<1.00	UGL			
MS1	4-Nitrophenol (qualitative)	15.0	30.1	UGL	200.7	(70-130)	
MS2	4-Nitrophenol (qualitative)	3.75	7.40	UGL	197.3	(70-130)	
LCS1	2,4-Dichlorophenylacetic acid	100	100	%R	100.0	(70-130)	
LCS2	2,4-Dichlorophenylacetic acid	100	82	%R	82.0	(70-130)	20
MBLK	2,4-Dichlorophenylacetic acid	100	101	%R	101.0		
MS1	2,4-Dichlorophenylacetic acid	100	93	%R	93.0	(70-130)	
MS2	2,4-Dichlorophenylacetic acid	100	103	%R	103.0	(70-130)	

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Maui, County of, Department of
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(continued)

QC Ref #189130 Diquat and Paraquat

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12180012	NONE		(0-0)	
LCS1	Diquat	10.0	5.9	UGL	59.0	(70-130)	
LCS2	Diquat	10.0	6.5	UGL	65.0	(70-130)	9.7
MBLK	Diquat	ND	<0.40	UGL			
MS	Diquat	10.0	6.4	UGL	64.0	(70-130)	
MSD	Diquat	10.0	6.9	UGL	69.0	(70-130)	7.5
RPD_LCS	Diquat	59.000	65.000	UGL	9.7	(0-20)	
RPD_MS	Diquat	64.000	69.000	UGL	7.5	(0-20)	
LCS1	Paraquat	10.0	6.8	UGL	68.0	(70-130)	
LCS2	Paraquat	10.0	7.3	UGL	73.0	(70-130)	7.1
MBLK	Paraquat	ND	<2.00	UGL			
MS	Paraquat	10.0	7.4	UGL	74.0	(70-130)	
MSD	Paraquat	10.0	8.0	UGL	80.0	(70-130)	7.8
RPD_LCS	Paraquat	68.000	73.000	UGL	7.1	(0-20)	
RPD_MS	Paraquat	74.000	80.000	UGL	7.8	(0-20)	

QC Ref #189739 Nickel, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nickel, Total, ICAP/MS	50	52.4	UGL	104.8	(85-115)	
LCS2	Nickel, Total, ICAP/MS	50	50.8	UGL	101.6	(85-115)	3.1
MBLK	Nickel, Total, ICAP/MS	ND	<5.00	UGL			
MS	Nickel, Total, ICAP/MS	50	51	UGL	102.0	(70-130)	
MSD	Nickel, Total, ICAP/MS	50	50.3	UGL	100.6	(70-130)	1.4

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Maui, County of, Department of
Water Supply
(continued)

QC Ref #189741 Copper, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Copper, Total, ICAP/MS	100	106	UGL	106.0	(85-115)	
LCS2	Copper, Total, ICAP/MS	100	101	UGL	101.0	(85-115)	4.8
MBLK	Copper, Total, ICAP/MS	ND	<2.00	UGL			
MS	Copper, Total, ICAP/MS	100	103	UGL	103.0	(70-130)	
MSD	Copper, Total, ICAP/MS	100	101	UGL	101.0	(70-130)	2.0

QC Ref #189747 Arsenic, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Arsenic, Total, ICAP/MS	20	21	UGL	105.0	(85-115)	
LCS2	Arsenic, Total, ICAP/MS	20	20.9	UGL	104.5	(85-115)	0.48
MBLK	Arsenic, Total, ICAP/MS	ND	<1.00	UGL			
MS	Arsenic, Total, ICAP/MS	20	22	UGL	110.0	(70-130)	
MSD	Arsenic, Total, ICAP/MS	20	21.5	UGL	107.5	(70-130)	2.3

QC Ref #189749 Selenium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Selenium, Total, ICAP/MS	20	20.1	UGL	100.5	(85-115)	
LCS2	Selenium, Total, ICAP/MS	20	19	UGL	95.0	(85-115)	5.6
MBLK	Selenium, Total, ICAP/MS	ND	<5.00	UGL			
MS	Selenium, Total, ICAP/MS	20	21.2	UGL	106.0	(70-130)	
MSD	Selenium, Total, ICAP/MS	20	19.9	UGL	99.5	(70-130)	6.3

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(continued)

QC Ref #189755 Cadmium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Cadmium, Total, ICAP/MS	20	20.9	UGL	104.5	(85-115)	
LCS2	Cadmium, Total, ICAP/MS	20	20.2	UGL	101.0	(85-115)	3.4
MBLK	Cadmium, Total, ICAP/MS	ND	<0.50	UGL			
MS	Cadmium, Total, ICAP/MS	20	21.4	UGL	107.0	(70-130)	
MSD	Cadmium, Total, ICAP/MS	20	21.1	UGL	105.5	(70-130)	1.4

QC Ref #189756 Beryllium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Beryllium, Total, ICAP/MS	5.00	4.99	UGL	99.8	(70-130)	
LCS2	Beryllium, Total, ICAP/MS	5.00	4.89	UGL	97.8	(85-115)	2.0
MBLK	Beryllium, Total, ICAP/MS	ND	<1.00	UGL			
MS	Beryllium, Total, ICAP/MS	5.00	5.37	UGL	107.4	(70-130)	
MSD	Beryllium, Total, ICAP/MS	5.00	5.39	UGL	107.8	(70-130)	0.37

QC Ref #189758 Barium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Barium, Total, ICAP/MS	100	99.1	UGL	99.1	(85-115)	
LCS2	Barium, Total, ICAP/MS	100	96.5	UGL	96.5	(85-115)	2.7
MBLK	Barium, Total, ICAP/MS	ND	<2.00	UGL			
MS	Barium, Total, ICAP/MS	100	103	UGL	103.0	(70-130)	
MSD	Barium, Total, ICAP/MS	100	102	UGL	102.0	(70-130)	0.98

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QC Ref #189760 Antimony, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Antimony, Total, ICAP/MS	50	52.1	UGL	104.2	(85-115)	
LCS2	Antimony, Total, ICAP/MS	50	50.7	UGL	101.4	(85-115)	2.7
MBLK	Antimony, Total, ICAP/MS	ND	<1.00	UGL			
MS	Antimony, Total, ICAP/MS	50	55.1	UGL	110.2	(70-130)	
MSD	Antimony, Total, ICAP/MS	50	54.5	UGL	109.0	(70-130)	1.1

QC Ref #189762 Thallium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Thallium, Total, ICAP/MS	20.0	20.6	UGL	103.0	(85-115)	
LCS2	Thallium, Total, ICAP/MS	20.0	20.2	UGL	101.0	(85-115)	2.0
MBLK	Thallium, Total, ICAP/MS	ND	<1.00	UGL			
MS	Thallium, Total, ICAP/MS	20.0	21.3	UGL	106.5	(70-130)	
MSD	Thallium, Total, ICAP/MS	20.0	20.7	UGL	103.5	(70-130)	2.9

QC Ref #189764 Lead, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Lead, Total, ICAP/MS	20	21	UGL	105.0	(85-115)	
LCS2	Lead, Total, ICAP/MS	20	20.3	UGL	101.5	(85-115)	3.4
MBLK	Lead, Total, ICAP/MS	ND	<0.50	UGL			
MS	Lead, Total, ICAP/MS	20	21.2	UGL	106.0	(70-130)	
MSD	Lead, Total, ICAP/MS	20	20.8	UGL	104.0	(70-130)	1.9

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QC Ref #189770 Chromium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Chromium, Total, ICAP/MS	100	105	UGL	105.0	(85-115)	
LCS2	Chromium, Total, ICAP/MS	100	104	UGL	104.0	(85-115)	0.96
MBLK	Chromium, Total, ICAP/MS	ND	<1.00	UGL			
MS	Chromium, Total, ICAP/MS	100	104	UGL	104.0	(70-130)	
MSD	Chromium, Total, ICAP/MS	100	99.7	UGL	99.7	(70-130)	4.2

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining. Criteria for MS and DUP are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

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www.pacelabs.com

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MAUI
104249

DETERMINATION OF 2,3,7,8-TCDD

Prepared for:
MWH
Attn: Martha Frost
555 East Walnut Street
Pasadena, CA 91101

ACCREDITED IN ACCORDANCE WITH nelac

This report contains 4 pages.

The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

REPORT OF LABORATORY ANALYSIS

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January 3, 2003

Attn: Martha Frost
MWH
555 East Walnut Street
Pasadena, CA 91101

MWL Project # 104249
MWL Sub PO # 99-9490
Pace Project # 1067134
HI State Cert. #: 2155
Expiration Date: 6/30/03

Dear Ms. Frost:

Enclosed are analytical results of one water sample analyzed for 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613B by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

MWL Sample ID	Pace Sample ID	Date Collected	Date Received
2212190035	4141239	12/17/02	12/21/02

The results reported for this sample and the associated quality control samples were all within the criteria described in Method 1613B. If you have any questions or concerns regarding these results, please contact me at (612) 607-6331, by facsimile at (612) 607-6444 or by e-mail at Dan.Hoseck@pacelabs.com.

Sincerely,

Dan Hoseck, Project Manager
High Resolution Mass Spectrometry

Enclosure

REPORT OF LABORATORY ANALYSIS

[redacted]
MWH Laboratories
555 East Walnut Street
Pasadena, CA 91101
Ph (626) 568-6400 Fax (626) 568-6324

Ship To Dan Hosek
Pace Analytical

1700 Elm Street SE Suite 200
Minneapolis, Minnesota 55414

Bill Recipient FedEx Acct:1797-5692-7

(612) 607-6331 Fax (612) 607-6444

Date 12/20/02 **Submittal Form & Purchase Order 99-9490**

*REPORTING REQUIREMENTS: One report for this MWH Project Number: 104249
Do Not Combine Report with any other samples submitted under different MWH project numbers!
Report & Invoice must have the MWH Project Number and Sub PO#: 104249 99-9490
Report all quality control data according to Method. Include dates analyzed, date extracted (if extracted) and Method reference on the report. Email by .pdf to martha.e.frost@mwhglobal.com or Fax results to 626-568-6324
Results must have Complete data & QC with Approval Signature.
See reverse side for List of Terms and Conditions

Reports & Invoices to: Martha Frost, Sub-contracting Administrator
EMAIL TO: martha.e.frost@mwhglobal.com
MWH Laboratories 555 East Walnut Street Pasadena, CA 91101
Phone (626) 568-6437 Fax (626) 568-6324

Provide in each Report the Specified State Certification # & Exp Date for requested tests + matrix
Hawaii DW

EDT ☐ Yes

1067134

MWH Project #	Report Due:	Sub PO#
104249	01/04/03	99-9490

mxr

Use MWH Lab # for ID

	Client Sample ID for reference only	Analysis Requested	Sample Date & Time	Matrix	Container
D1613EDD	2212190035 POOKELA WELL	2,3,7,8-Tedd Dioxin in drinking water 1613b	12/17/02 09:30	dw	1L amber glass / no preservative [7day HT for NJ NY UT] 1613B-DW

4141239

Relinquished by: Sample Control Date 12/20/02 Time 4:15

MUST HAVE NOTIFICAION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIUS

Received by: 5.4°C Date 12/24/02 Time 10:00

An Acknowledgement of Receipt is requested to attn: Martha Frost

Pace AnalyticalServices, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Pace Analytical™

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B
MWH Laboratories

Sample ID.....2212190035
Project #.....104249
Sub PO #.....99-9490
Lab Sample ID.....104141239

Source ID.....POOKELA WELL
Date Collected.....12/17/2002
Date Received.....12/21/2002
Date Extracted.....12/30/2002

Spike..... 200 pg
IS Spike.....2000 pg
CS Spike..... 200 pg

	Sample 2212190035	Method Blank	Lab Spike	Lab Spike Dup
[2,3,7,8-TCDD]	**ND**	ND	--	--
RL	5 pg/L	5 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	82%	88%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD			7.1%	
IS Recovery	85%	86%	92%	78%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	94%	94%	95%	95%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	X21231C_6	X21231C_4	X21231C_2	X21231C_3
Analysis Date	12/31/2002	12/31/2002	12/31/2002	12/31/2002
Analysis Time	18:07	16:57	15:46	16:22
Analyst	CMP	CMP	CMP	CMP
Volume	1.020L	0.976L	1.010L	0.985L
Dilution	NA	NA	NA	NA
ICAL Date	11/14/2002	11/14/2002	11/14/2002	11/14/2002
CCAL Filename	X21231C_1	X21231C_1	X21231C_1	X21231C_1

!	= Outside the Control Limits
ND	= Not Detected
RL	= Reporting Limit
Limits	= Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD	= Relative Percent Difference of Lab Spike Recoveries
IS	= Internal Standard [2,3,7,8-TCDD-$^{13}C_{12}$]
CS	= Cleanup Standard [2,3,7,8-TCDD-$^{37}Cl_4$]

Analyst: Christine Pham

Project No.....1067134

MWH 104249

Weck Laboratories, Inc.
Environmental and Analytical Services - Since 1964

1/13 pur

Report Date: Monday, January 6, 2003
Received Date: Thursday, December 19, 2002
Received Time: 5:03 pm

Turnaround Time: Normal

Client: MWH Laboratories
555 East Walnut Street
Pasadena, CA 91101

Phone: (626) 568-6437
FAX: (626) 568-6324

Attn: Martha Frost

Project: 104249

P.O.#: 99-9480

Certificate of Analysis

Work Order No: 2121994-01 **Sample ID: 2212190035** **Matrix: Water**
Sampled by: Client **Sampled: 17-Dec-02 09:30** **Sample Note:**

Analyte	Result	Qualifier	Units	Reporting Limit	Dilution	Method	Prepared	Analyzed	Batch
Alachlor	ND		ug/l	1.0	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Atrazine	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Bromacil	ND		ug/l	10	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Butachlor	ND		ug/l	0.38	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Diazinon	ND		ug/l	0.25	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Dimethoate	ND		ug/l	1.0	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Metolachlor	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Metribuzin	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Molinate	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Prometon	ND		ug/l	1.0	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Prometryn	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Simazine	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Thiobencarb	ND		ug/l	1.0	1	507 L-L	23-Dec-02	01-Jan-03	fv W212657
Surrogate: 1,3-Dimethyl-2-nitrobenzene			*80.0 %*	*70-130*			*23-Dec-02*	01-Jan-03	fv *W212657*
Aldrin	ND		ug/l	0.075	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
alpha-BHC	ND		ug/l	0.050	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
beta-BHC	ND		ug/l	0.050	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
delta-BHC	ND		ug/l	0.50	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
gamma-BHC (Lindane)	ND		ug/l	0.20	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
4,4'-DDD	ND		ug/l	0.020	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
4,4'-DDE	ND		ug/l	0.010	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
4,4'-DDT	ND		ug/l	0.020	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Dieldrin	ND		ug/l	0.020	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Endosulfan I	ND		ug/l	0.020	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Endosulfan II	ND		ug/l	0.010	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Endosulfan sulfate	ND		ug/l	0.050	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Endrin	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Endrin aldehyde	ND		ug/l	0.050	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Heptachlor	ND		ug/l	0.010	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Heptachlor epoxide	ND		ug/l	0.010	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Methoxychlor	ND		ug/l	10	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660

Lab#: 2121994

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Certificate of Analysis

Work Order No: 2121994-01 **Sample ID:** 2212190035 **Matrix:** Water
Sampled by: Client **Sampled:** 17-Dec-02 09:30 **Sample Note:**

Analyte	Result	Qualifier	Units	Reporting Limit	Dilution	Method	Prepared	Analyzed	Batch
Chlorothalonil	ND		ug/l	5.0	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
Hexachlorobenzene	ND		ug/l	0.50	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Hexachlorocyclopentadiene	ND		ug/l	1.0	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
Propachlor	ND		ug/l	0.50	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
Trifluralin	ND		ug/l	0.010	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Chlordane (tech)	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
Toxaphene	ND		ug/l	1.0	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
PCB-1016	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
PCB-1221	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
PCB-1232	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
PCB-1242	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
PCB-1248	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
PCB-1254	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
PCB-1260	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
Surrogate: Decachlorobiphenyl			*74.2 %*	*70-130*			*23-Dec-02*	26-Dec-02	fv *W212660*
Surrogate: Tetrachloro-meta-xylene			*70.4 %*	*70-130*			*23-Dec-02*	26-Dec-02	fv *W21266*
Dimethyl phthalate	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Acenaphthylene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W212700
Diethyl phthalate	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Fluorene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Bis(2-ethylhexyl)adipate	ND		ug/l	5.0	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W212700
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Benzo (a) anthracene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Chrysene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W212700
Benzo (b) fluoranthene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Benzo (k) fluoranthene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Benzo (a) pyrene	ND		ug/l	0.10	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W212700
Indeno (1,2,3-cd) pyrene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Dibenz (a,h) anthracene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Benzo (g,h,i) perylene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W212700
Phenanthrene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W212700
Anthracene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Di-n-butyl phthalate	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Fluoranthene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W212700
Pyrene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Butyl benzyl phthalate	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W21270
Surrogate: 1,3-Dimethyl-2-nitrobenzene			*106 %*	*34-146*			*26-Dec-02*	02-Jan-03	BN *W212700*
Surrogate: Perylene-d12			*86.6 %*	*40-120*			*26-Dec-02*	02-Jan-03	BN *W21270*
Surrogate: Triphenyl phosphate			*107 %*	*39-134*			*26-Dec-02*	02-Jan-03	BN *W21270*

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Quality Control Report

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N & P Pesticides by EPA 507 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212657 - EPA 3510C									
Blank (W212657-BLK1)					Prepared: 23-Dec-02 Analyzed: 02-Jan-03				
Alachlor		ND		ug/l					
Atrazine		ND		ug/l					
Bromacil		ND		ug/l					
Butachlor		ND		ug/l					
Diazinon		ND		ug/l					
Dimethoate		ND		ug/l					
Metolachlor		ND		ug/l					
Metribuzin		ND		ug/l					
Molinate		ND		ug/l					
Prometon		ND		ug/l					
Prometryn		ND		ug/l					
Simazine		ND		ug/l					
Thiobencarb		ND		ug/l					
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*2.35*		ug/l	*2.50*	*94.0*	*70-130*		
LCS (W212657-BS1)					Prepared: 23-Dec-02 Analyzed: 01-Jan-03				
Alachlor		4.15		ug/l	4.00	104	25-160		
Atrazine		0.755		ug/l	1.00	75.5	22-156		
Bromacil		22.1		ug/l	20.0	110	28-168		
Butachlor		2.09		ug/l	2.00	104	23-160		
Diazinon		0.788		ug/l	1.00	78.8	14-157		
Metolachlor		1.98		ug/l	2.00	99.0	34-138		
Metribuzin		2.05		ug/l	2.00	102	44-132		
Molinate		0.812		ug/l	1.00	81.2	24-163		
Prometryn		1.01		ug/l	1.00	101	21-160		
Simazine		0.811		ug/l	1.00	81.1	29-162		
Thiobencarb		4.16		ug/l	4.00	104	33-154		
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*2.03*		ug/l	*2.50*	*81.2*	*70-130*		
Matrix Spike (W212657-MS1)	**Source: 2121922-01**				Prepared: 23-Dec-02 Analyzed: 01-Jan-03				
Alachlor	ND	2.89		ug/l	4.00	72.2	60-130		
Atrazine	ND	0.908		ug/l	1.00	90.8	57-127		
Bromacil	ND	14.3		ug/l	20.0	71.5	56-126		
Butachlor	ND	1.49		ug/l	2.00	74.5	58-128		
Diazinon	ND	0.786		ug/l	1.00	78.6	58-128		
Metolachlor	ND	1.21		ug/l	2.00	60.5	23-149		
Metribuzin	ND	1.49		ug/l	2.00	74.5	66-136		
Molinate	ND	0.990		ug/l	1.00	99.0	63-133		
Prometryn	ND	0.726		ug/l	1.00	72.6	58-128		
Simazine	ND	1.15		ug/l	1.00	115	65-135		
Thiobencarb	ND	2.87		ug/l	4.00	71.8	26-167		
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*1.80*		ug/l	*2.50*	*72.0*	*70-130*		

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Quality Control Report

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N & P Pesticides by EPA 507 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212657 - EPA 3510C									
Matrix Spike Dup (W212657-MSD1)		Source: 2121922-01			Prepared: 23-Dec-02 Analyzed: 01-Jan-03				
Alachlor	ND	2.84		ug/l	4.00	71.0	60-130	1.75	30
Atrazine	ND	0.676		ug/l	1.00	67.6	57-127	29.3	30
Bromacil	ND	19.3		ug/l	20.0	96.5	56-126	29.8	30
Butachlor	ND	1.88		ug/l	2.00	94.0	58-128	23.1	30
Diazinon	ND	0.764		ug/l	1.00	76.4	58-128	2.84	30
Metolachlor	ND	1.57		ug/l	2.00	78.5	23-149	25.9	30
Metribuzin	ND	1.52		ug/l	2.00	76.0	66-136	1.99	30
Molinate	ND	0.798		ug/l	1.00	79.8	63-133	21.5	30
Prometryn	ND	0.700		ug/l	1.00	70.0	58-128	3.65	30
Simazine	ND	0.948		ug/l	1.00	94.8	65-135	19.3	30
Thiobencarb	ND	3.71		ug/l	4.00	92.8	26-167	25.5	30
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*2.55*		ug/l	*2.50*	*102*	*70-130*		

Weck Laboratories, Inc

Chlorinated Pesticides and PCBs by EPA Method 508 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212660 - EPA 508									
Blank (W212660-BLK1)					Prepared: 23-Dec-02 Analyzed: 26-Dec-02				
Aldrin		ND		ug/l					
alpha-BHC		ND		ug/l					
beta-BHC		ND		ug/l					
delta-BHC		ND		ug/l					
gamma-BHC (Lindane)		ND		ug/l					
4,4'-DDD		ND		ug/l					
4,4'-DDE		ND		ug/l					
4,4'-DDT		ND		ug/l					
Dieldrin		ND		ug/l					
Endosulfan I		ND		ug/l					
Endosulfan II		ND		ug/l					
Endosulfan sulfate		ND		ug/l					
Endrin		ND		ug/l					
Endrin aldehyde		ND		ug/l					
Heptachlor		ND		ug/l					
Heptachlor epoxide		ND		ug/l					
Methoxychlor		ND		ug/l					
Chlorothalonil		ND		ug/l					
Hexachlorobenzene		ND		ug/l					
Hexachlorocyclopentadiene		ND		ug/l					
Propachlor		ND		ug/l					

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Quality Control Report

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Chlorinated Pesticides and PCBs by EPA Method 508 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212660 - EPA 508									
Blank (W212660-BLK1)					Prepared: 23-Dec-02 Analyzed: 26-Dec-02				
Trifluralin		ND		ug/l					
Chlordane (tech)		ND		ug/l					
Toxaphene		ND		ug/l					
PCB-1016		ND		ug/l					
PCB-1221		ND		ug/l					
PCB-1232		ND		ug/l					
PCB-1242		ND		ug/l					
PCB-1248		ND		ug/l					
PCB-1254		ND		ug/l					
PCB-1260		ND		ug/l					
Surrogate: Decachlorobiphenyl			*0.110*	ug/l	*0.100*	*110*	*70-130*		
Surrogate: Tetrachloro-meta-xylene			*0.0924*	ug/l	*0.100*	*92.4*	*70-130*		
LCS (W212660-BS1)					Prepared: 23-Dec-02 Analyzed: 26-Dec-02				
Aldrin		0.0860		ug/l	0.100	86.0	40-129		
alpha-BHC		0.0879		ug/l	0.100	87.9	34-127		
beta-BHC		0.0930		ug/l	0.100	93.0	41-141		
delta-BHC		0.0919		ug/l	0.100	91.9	34-139		
gamma-BHC (Lindane)		0.0862		ug/l	0.100	86.2	42-134		
4,4'-DDD		0.102		ug/l	0.100	102	45-130		
4,4'-DDE		0.0917		ug/l	0.100	91.7	48-126		
4,4'-DDT		0.0991		ug/l	0.100	99.1	33-146		
Dieldrin		0.0778		ug/l	0.100	77.8	47-128		
Endosulfan I		0.0864		ug/l	0.100	86.4	49-123		
Endosulfan II		0.0877		ug/l	0.100	87.7	50-117		
Endosulfan sulfate		0.0916		ug/l	0.100	91.6	31-211		
Endrin		0.0936		ug/l	0.100	93.6	32-163		
Endrin aldehyde		0.123		ug/l	0.100	123	40-139		
Heptachlor		0.0906		ug/l	0.100	90.6	35-151		
Heptachlor epoxide		0.0907		ug/l	0.100	90.7	53-128		
Methoxychlor		0.109		ug/l	0.100	109	64-146		
Surrogate: Decachlorobiphenyl			*0.112*	ug/l	*0.100*	*112*	*70-130*		
Surrogate: Tetrachloro-meta-xylene			*0.0921*	ug/l	*0.100*	*92.1*	*70-130*		
Matrix Spike (W212660-MS1)		Source: 2121995-01			Prepared: 23-Dec-02 Analyzed: 26-Dec-02				
Aldrin	ND	0.0981		ug/l	0.100	98.1	51-121		
alpha-BHC	ND	0.0999		ug/l	0.100	99.9	57-127		
beta-BHC	ND	0.107		ug/l	0.100	107	60-130		
delta-BHC	ND	0.109		ug/l	0.100	109	67-137		
gamma-BHC (Lindane)	ND	0.0999		ug/l	0.100	99.9	54-124		
4,4'-DDD	ND	0.116		ug/l	0.100	116	72-142		
4,4'-DDE	ND	0.105		ug/l	0.100	105	64-134		

Lab#: 2121994
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Quality Control Report

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Chlorinated Pesticides and PCBs by EPA Method 508 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212660 - EPA 508									
Matrix Spike (W212660-MS1)		Source: 2121995-01			Prepared: 23-Dec-02 Analyzed: 26-Dec-02				
4,4'-DDT	ND	0.111		ug/l	0.100	111	77-147		
Dieldrin	ND	0.0913		ug/l	0.100	91.3	52-122		
Endosulfan I	ND	0.100		ug/l	0.100	100	52-122		
Endosulfan II	ND	0.101		ug/l	0.100	101	57-127		
Endosulfan sulfate	ND	0.118		ug/l	0.100	118	67-137		
Endrin	ND	0.106		ug/l	0.100	106	53-123		
Endrin aldehyde	ND	0.143	Q-08	ug/l	0.100	143	53-123		
Heptachlor	ND	0.104		ug/l	0.100	104	63-133		
Heptachlor epoxide	ND	0.104		ug/l	0.100	104	52-122		
Methoxychlor	ND	0.127		ug/l	0.100	127	70-140		
Surrogate: Decachlorobiphenyl		*0.0954*		ug/l	*0.100*	*95.4*	*70-130*		
Surrogate: Tetrachloro-meta-xylene		*0.0902*		ug/l	*0.100*	*90.2*	*70-130*		
Matrix Spike Dup (W212660-MSD1)		Source: 2121995-01			Prepared: 23-Dec-02 Analyzed: 26-Dec-02				
Aldrin	ND	0.0860		ug/l	0.100	86.0	51-121	13.1	30
alpha-BHC	ND	0.0878		ug/l	0.100	87.8	57-127	12.9	30
beta-BHC	ND	0.0917		ug/l	0.100	91.7	60-130	15.4	30
delta-BHC	ND	0.0929		ug/l	0.100	92.9	67-137	15.9	30
gamma-BHC (Lindane)	ND	0.0865		ug/l	0.100	86.5	54-124	14.4	30
4,4'-DDD	ND	0.100		ug/l	0.100	100	72-142	14.8	30
4,4'-DDE	ND	0.0921		ug/l	0.100	92.1	64-134	13.1	30
4,4'-DDT	ND	0.0989		ug/l	0.100	98.9	77-147	11.5	30
Dieldrin	ND	0.0789		ug/l	0.100	78.9	52-122	14.6	30
Endosulfan I	ND	0.0856		ug/l	0.100	85.6	52-122	15.5	30
Endosulfan II	ND	0.0877		ug/l	0.100	87.7	57-127	14.1	30
Endosulfan sulfate	ND	0.0983		ug/l	0.100	98.3	67-137	18.2	30
Endrin	ND	0.0930		ug/l	0.100	93.0	53-123	13.1	30
Endrin aldehyde	ND	0.133	Q-08	ug/l	0.100	133	53-123	7.25	30
Heptachlor	ND	0.0909		ug/l	0.100	90.9	63-133	13.4	30
Heptachlor epoxide	ND	0.0902		ug/l	0.100	90.2	52-122	14.2	30
Methoxychlor	ND	0.111		ug/l	0.100	111	70-140	13.4	30
Surrogate: Decachlorobiphenyl		*0.0930*		ug/l	*0.100*	*93.0*	*70-130*		
Surrogate: Tetrachloro-meta-xylene		*0.0912*		ug/l	*0.100*	*91.2*	*70-130*		

Weck Laboratories, Inc

Semivolatile Organic Compounds by EPA Method 525.2 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212700 - EPA 525.2									
Blank (W212700-BLK1)					Prepared: 26-Dec-02 Analyzed: 01-Jan-03				

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Quality Control Report

Weck Laboratories, Inc

Semivolatile Organic Compounds by EPA Method 525.2 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212700 - EPA 525.2									
Blank (W212700-BLK1)						Prepared: 26-Dec-02 Analyzed: 01-Jan-03			
Dimethyl phthalate		ND		ug/l					
Acenaphthylene		ND		ug/l					
Diethyl phthalate		ND		ug/l					
Fluorene		ND		ug/l					
Bis(2-ethylhexyl)adipate		ND		ug/l					
Bis(2-ethylhexyl)phthalate		ND		ug/l					
Benzo (a) anthracene		ND		ug/l					
Chrysene		ND		ug/l					
Benzo (b) fluoranthene		ND		ug/l					
Benzo (k) fluoranthene		ND		ug/l					
Benzo (a) pyrene		ND		ug/l					
Indeno (1,2,3-cd) pyrene		ND		ug/l					
Dibenz (a,h) anthracene		ND		ug/l					
Benzo (g,h,i) perylene		ND		ug/l					
Phenanthrene		ND		ug/l					
Anthracene		ND		ug/l					
Di-n-butyl phthalate		ND		ug/l					
Fluoranthene		ND		ug/l					
Pyrene		ND		ug/l					
Butyl benzyl phthalate		ND		ug/l					
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*3.38*		ug/l	*5.00*	*67.6*	*34-146*		
Surrogate: Perylene-d12		*4.44*		ug/l	*5.00*	*88.8*	*40-120*		
Surrogate: Triphenyl phosphate		*4.58*		ug/l	*5.00*	*91.6*	*39-134*		
LCS (W212700-BS1)						Prepared: 26-Dec-02 Analyzed: 01-Jan-03			
Dimethyl phthalate		4.98		ug/l	5.00	99.6	70-130		
Acenaphthylene		5.43		ug/l	5.00	109	70-130		
Diethyl phthalate		5.16		ug/l	5.00	103	70-130		
Fluorene		5.24		ug/l	5.00	105	70-130		
Bis(2-ethylhexyl)adipate		4.95		ug/l	5.00	99.0	70-130		
Bis(2-ethylhexyl)phthalate		4.91		ug/l	5.00	98.2	70-130		
Benzo (a) anthracene		4.62		ug/l	5.00	92.4	70-130		
Chrysene		4.59		ug/l	5.00	91.8	70-130		
Benzo (b) fluoranthene		4.68		ug/l	5.00	93.6	70-130		
Benzo (k) fluoranthene		4.46		ug/l	5.00	89.2	70-130		
Benzo (a) pyrene		4.06		ug/l	5.00	81.2	70-130		
Indeno (1,2,3-cd) pyrene		4.15		ug/l	5.00	83.0	70-130		
Dibenz (a,h) anthracene		4.12		ug/l	5.00	82.4	70-130		
Benzo (g,h,i) perylene		4.34		ug/l	5.00	86.8	70-130		
Phenanthrene		5.51		ug/l	5.00	110	70-130		
Anthracene		5.22		ug/l	5.00	104	70-130		
Di-n-butyl phthalate		6.32		ug/l	5.00	126	70-130		

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Quality Control Report

Weck Laboratories, Inc

Semivolatile Organic Compounds by EPA Method 525.2 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212700 - EPA 525.2									
LCS (W212700-BS1)					Prepared: 26-Dec-02 Analyzed: 01-Jan-03				
Fluoranthene		5.51		ug/l	5.00	110	70-130		
Pyrene		5.32		ug/l	5.00	106	70-130		
Butyl benzyl phthalate		5.78		ug/l	5.00	116	70-130		
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*4.70*		ug/l	*5.00*	*94.0*	*34-146*		
Surrogate: Perylene-d12		*4.37*		ug/l	*5.00*	*87.4*	*40-120*		
Surrogate: Triphenyl phosphate		*4.71*		ug/l	*5.00*	*94.2*	*39-134*		
Matrix Spike (W212700-MS1)		Source: 2121942-04			Prepared: 26-Dec-02 Analyzed: 02-Jan-03				
Dimethyl phthalate	ND	4.78		ug/l	5.00	95.6	70-130		
Acenaphthylene	ND	4.89		ug/l	5.00	97.8	70-130		
Diethyl phthalate	0.32	5.24		ug/l	5.00	98.4	70-130		
Fluorene	ND	4.77		ug/l	5.00	95.4	70-130		
Bis(2-ethylhexyl)adipate	ND	5.49		ug/l	5.00	110	70-130		
Bis(2-ethylhexyl)phthalate	27	33.8	QM-02	ug/l	5.00	136	70-130		
Benzo (a) anthracene	ND	4.92		ug/l	5.00	98.4	70-130		
Chrysene	ND	4.83		ug/l	5.00	96.6	70-130		
Benzo (b) fluoranthene	ND	5.15		ug/l	5.00	103	70-130		
Benzo (k) fluoranthene	ND	5.00		ug/l	5.00	100	70-130		
Benzo (a) pyrene	ND	4.98		ug/l	5.00	99.6	70-130		
Indeno (1,2,3-cd) pyrene	ND	5.15		ug/l	5.00	103	70-130		
Dibenz (a,h) anthracene	ND	5.19		ug/l	5.00	104	70-130		
Benzo (g,h,i) perylene	ND	5.30		ug/l	5.00	106	70-130		
Phenanthrene	ND	4.78		ug/l	5.00	95.6	70-130		
Anthracene	ND	4.61		ug/l	5.00	92.2	70-130		
Di-n-butyl phthalate	0.48	6.00		ug/l	5.00	110	70-130		
Fluoranthene	0.0	5.00		ug/l	5.00	100	70-130		
Pyrene	ND	4.84		ug/l	5.00	96.8	70-130		
Butyl benzyl phthalate	ND	5.43		ug/l	5.00	109	70-130		
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*5.11*		ug/l	*5.00*	*102*	*34-146*		
Surrogate: Perylene-d12		*5.07*		ug/l	*5.00*	*101*	*40-120*		
Surrogate: Triphenyl phosphate		*5.33*		ug/l	*5.00*	*107*	*39-134*		
Matrix Spike Dup (W212700-MSD1)		Source: 2121942-04			Prepared: 26-Dec-02 Analyzed: 02-Jan-03				
Dimethyl phthalate	ND	4.72		ug/l	5.00	94.4	70-130	1.26	30
Acenaphthylene	ND	4.91		ug/l	5.00	98.2	70-130	0.408	30
Diethyl phthalate	0.32	5.18		ug/l	5.00	97.2	70-130	1.15	30
Fluorene	ND	4.85		ug/l	5.00	97.0	70-130	1.66	30
Bis(2-ethylhexyl)adipate	ND	5.24		ug/l	5.00	105	70-130	4.66	30
Bis(2-ethylhexyl)phthalate	27	32.8		ug/l	5.00	116	70-130	3.00	30
Benzo (a) anthracene	ND	4.81		ug/l	5.00	96.2	70-130	2.26	30
Chrysene	ND	4.69		ug/l	5.00	93.8	70-130	2.94	30
Benzo (b) fluoranthene	ND	5.11		ug/l	5.00	102	70-130	0.780	30

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Quality Control Report

Weck Laboratories, Inc

Semivolatile Organic Compounds by EPA Method 525.2 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212700 - EPA 525.2									
Matrix Spike Dup (W212700-MSD1)		Source: 2121942-04			Prepared: 26-Dec-02 Analyzed: 02-Jan-03				
Benzo (k) fluoranthene	ND	4.83		ug/l	5.00	96.6	70-130	3.46	30
Benzo (a) pyrene	ND	4.85		ug/l	5.00	97.0	70-130	2.64	30
Indeno (1,2,3-cd) pyrene	ND	5.02		ug/l	5.00	100	70-130	2.56	30
Dibenz (a,h) anthracene	ND	4.99		ug/l	5.00	99.8	70-130	3.93	30
Benzo (g,h,i) perylene	ND	5.15		ug/l	5.00	103	70-130	2.87	30
Phenanthrene	ND	4.77		ug/l	5.00	95.4	70-130	0.209	30
Anthracene	ND	4.73		ug/l	5.00	94.6	70-130	2.57	30
Di-n-butyl phthalate	0.48	6.07		ug/l	5.00	112	70-130	1.16	30
Fluoranthene	0.0	5.04		ug/l	5.00	101	70-130	0.797	30
Pyrene	ND	4.88		ug/l	5.00	97.6	70-130	0.823	30
Butyl benzyl phthalate	ND	5.50		ug/l	5.00	110	70-130	1.28	30
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*5.01*		ug/l	*5.00*	*100*	*34-146*		
Surrogate: Perylene-d12		*5.09*		ug/l	*5.00*	*102*	*40-120*		
Surrogate: Triphenyl phosphate		*5.14*		ug/l	*5.00*	*103*	*39-134*		

Authorized Signature

ELAP # 1132
LACSD # 10143

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.
ND=Not detected, below the reporting limit.
Sub=Subcontracted analysis, original report enclosed.

Flags for Data Qualifiers:

Q-08 = This analyte bias high in QC sample, but not found in samples.
QM-02 = The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

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PHONE: 626-386-1100/FAX: 626-386-1101

ACKNOWLEDGMENT OF SAMPLES RECEIVED

Maui, County of, Department of Water Supply
614 Palapala Dr
Kahului, HI 96732
Attn: Cari Cerizo
Phone: (808) 270-7344

Customer Code: MAUI
Group#: 105040
Project#: PHASEV
Proj Mgr: Hillary Strayer
Phone: (626) 386-1112

The following samples were received from you on 01/24/03. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample#	Sample Id	Matrix	Sample Date
	Tests Scheduled		
2301240273	POOKELA WELL	Water	23-jan-2003 09:00:00
	@DIQUAT @VOASDWA		
2301240275	POOKELA WELL	Water	23-jan-2003 09:00:00
	@DIQUAT		

Test Acronym Description

Test Acronym	Description
@DIQUAT	Diquat and Paraquat
@VOASDWA	Regulated VOCs plus Lists 1&3

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1 800 566 LABS (1 800 566 5227)

Report
Comments
#105040

Group Comments

(524) QIR 02101355: MS/MSD/LFBD/closing ccv were analyzed past tune. No method requirement for MS/MSD/LFB dup and closing ccv. ALl other QC was acceptable.

(QC Ref#: 190140)
Test: Diquat (ML/EPA 549.2)
QC Type: LCS1
LCS2 the confirmation is reported.
QC Type: MS
Result for the spiked sample might be low bias. LCS2 is within acceptance limit.
QC Type: MS_2ND
Result for the spiked sample might be low bias. LCS2 is within acceptance limit.

(QC Ref#: 2301240273)
Test: Diquat (ML/EPA 549.2)
M2- Matrix spike recovery was low, the method control sample recovery was acceptable.

(QC Ref#: 2301240275)
Test: Diquat (ML/EPA 549.2)
M2- Matrix spike recovery was low, the method control sample recovery was acceptable.

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Laboratory
Hits Report
#105040

Maui, County of, Department of
Water Supply
Cari Sumabat
614 Palapala Dr
Kahului , HI 96732

Samples Received

24-jan-2003 18:04:54

Analyzed	Sample#	Sample ID	Result	UNITS	MRL
	2301240273	POOKELA WELL			
	2301240275	POOKELA WELL			

SUMMARY OF POSITIVE DATA ONLY.

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Laboratory
Data Report
#105040

Maui, County of, Department of
Water Supply
Cari Sumabat
614 Palapala Dr
Kahului , HI 96732

Samples Received

01/24/03

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2301240273)			**Sampled on 01/23/03 09:00**					
				Diquat and Paraquat				
01/28/03	01/29/03 00:00	190140	(ML/EPA 549.2)	Diquat	ND(M2)	ug/l	0.40	1
01/28/03	01/29/03 00:00	190140	(ML/EPA 549.2)	Paraquat	ND	ug/l	2.0	1
				Regulated VOCs plus Lists 1&3				
01/25/03	00:00	190027	(ML/EPA 524.2)	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,1,1-Trichloroethane	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,1,2-Trichloroethane	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,1-Dichloroethane	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,1-Dichloroethylene	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,1-Dichloropropene	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,2,3-Trichloropropane	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,2-Dichloroethane	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,2-Dichloropropane	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	1,3-Dichloropropane	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	2,2-Dichloropropane	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	2-Butanone (MEK)	ND	ug/l	5.0	1
01/25/03	00:00	190027	(ML/EPA 524.2)	o-Chlorotoluene	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	p-Chlorotoluene	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
01/25/03	00:00	190027	(ML/EPA 524.2)	Benzene	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	Bromobenzene	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
01/25/03	00:00	190027	(ML/EPA 524.2)	Bromoethane	ND	ug/l	0.50	1

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Maui, County of, Department of
Water Supply
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2301240273) (continued) Sampled on 01/23/03 09:00								
	01/25/03 00:00	190027	(ML/EPA 524.2)	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Chlorobenzene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Carbon Tetrachloride	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Bromoform	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Bromochloromethane	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Chloroethane	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Chloromethane(Methyl Chloride)	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Chlorodibromomethane	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Dibromomethane	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Bromodichloromethane	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Dichloromethane	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Di-isopropyl ether	ND	ug/l	3.0	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Ethyl benzene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Dichlorodifluoromethane	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Hexachlorobutadiene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Isopropylbenzene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	m,p-Xylenes	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Methyl Tert-butyl ether (MTBE)	ND	ug/l	3.0	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Naphthalene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	n-Butylbenzene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	n-Propylbenzene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	o-Xylene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	p-Isopropyltoluene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	sec-Butylbenzene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Styrene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	tert-amyl Methyl Ether	ND	ug/l	3.0	1

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Laboratory
Data Report
#105040

Maui, County of, Department of
Water Supply
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2301240273) (continued) Sampled on 01/23/03 09:00								
	01/25/03 00:00	190027	(ML/EPA 524.2)	tert-Butyl Ethyl Ether	ND	ug/l	3.0	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	tert-Butylbenzene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Trichlorotrifluoroethane(Freon	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Toluene	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Total THM	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Total xylenes	ND	ug/l	0.50	1
	01/25/03 00:00	190027	(ML/EPA 524.2)	Vinyl chloride (VC)	ND	ug/l	0.30	1
			(Surrogate)	1.2-Dichloroethane-d4(70-130)	97	% Rec		
			(Surrogate)	4-Bromofluorobenzene(70-130)	99	% Rec		
			(Surrogate)	Toluene-d8(70-130)	100	% Rec		

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Laboratory
Data Report
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Maui, County of, Department of
Water Supply
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL (2301240275) Sampled on 01/23/03 09:00								
				Diquat and Paraquat				
01/28/03	01/29/03 00:00	190140	(ML/EPA 549.2)	Diquat	ND(M2)	ug/l	0.40	1
/28/03	01/29/03 00:00	190140	(ML/EPA 549.2)	Paraquat	ND	ug/l	2.0	1

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Laboratory
QC Summary
#105040

Maui, County of, Department of
Water Supply

QC Ref #190027 - Regulated VOCs plus Lists 1&3 Analysis Date: 01/25/2003

2301240273 POOKELA WELL

QC Ref #190140 - Diquat and Paraquat Analysis Date: 01/29/2003

2301240273 POOKELA WELL
2301240275 POOKELA WELL

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Laboratory
QC Report
#105040

Maui, County of, Department of
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QC Ref #190027 Regulated VOCs plus Lists 1&3

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	1,1,1,2-Tetrachloroethane	4	3.92	UGL	98.0	(70-130)	
MBLK	1,1,1,2-Tetrachloroethane	ND	<0.50	UGL			
MS	1,1,1,2-Tetrachloroethane	10	10.9	UGL	109.0	(84-131)	
MSD	1,1,1,2-Tetrachloroethane	10	10.9	UGL	109.0	(84-131)	0.00
RPD_MS	1,1,1,2-Tetrachloroethane	109.000	109.000	UGL	0.0	(0-20)	
LCS1	1,1,1-Trichloroethane	4	3.91	UGL	97.8	(70-130)	
MBLK	1,1,1-Trichloroethane	ND	<0.50	UGL			
MS	1,1,1-Trichloroethane	10	11.0	UGL	110.0	(70-130)	
MSD	1,1,1-Trichloroethane	10	10.8	UGL	108.0	(70-130)	1.8
RPD_MS	1,1,1-Trichloroethane	110.000	108.000	UGL	1.8	(0-20)	
LCS1	1,1,2,2-Tetrachloroethane	4	3.84	UGL	96.0	(70-130)	
MBLK	1,1,2,2-Tetrachloroethane	ND	<0.50	UGL			
MS	1,1,2,2-Tetrachloroethane	10	10.2	UGL	102.0	(70-130)	
MSD	1,1,2,2-Tetrachloroethane	10	10.6	UGL	106.0	(70-130)	3.8
RPD_MS	1,1,2,2-Tetrachloroethane	102.000	106.000	UGL	3.8	(0-20)	
LCS1	1,1,2-Trichloroethane	4	3.70	UGL	92.5	(70-130)	
MBLK	1,1,2-Trichloroethane	ND	<0.50	UGL			
MS	1,1,2-Trichloroethane	10	10.4	UGL	104.0	(70-130)	
MSD	1,1,2-Trichloroethane	10	10.3	UGL	103.0	(70-130)	0.97
RPD_MS	1,1,2-Trichloroethane	104.000	103.000	UGL	1.0	(0-20)	
LCS1	1,1-Dichloroethane	4	3.94	UGL	98.5	(70-130)	
MBLK	1,1-Dichloroethane	ND	<0.50	UGL			
MS	1,1-Dichloroethane	10	11.0	UGL	110.0	(70-130)	
MSD	1,1-Dichloroethane	10	10.8	UGL	108.0	(70-130)	1.8
RPD_MS	1,1-Dichloroethane	110.000	108.000	UGL	1.8	(0-20)	
LCS1	1,1-Dichloroethylene	4	3.98	UGL	99.5	(70-130)	
MBLK	1,1-Dichloroethylene	ND	<0.50	UGL			
MS	1,1-Dichloroethylene	10	11.0	UGL	110.0	(70-130)	
MSD	1,1-Dichloroethylene	10	11.3	UGL	113.0	(70-130)	2.7
RPD_MS	1,1-Dichloroethylene	110.000	113.000	UGL	2.7	(0-20)	
LCS1	1,1-Dichloropropene	4	3.66	UGL	91.5	(70-130)	
MBLK	1,1-Dichloropropene	ND	<0.50	UGL			

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Maui, County of, Department of
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(continued)

MS	1,1-Dichloropropene	10	11.3	UGL	113.0	(81-127)	
MSD	1,1-Dichloropropene	10	11.5	UGL	115.0	(81-127)	1.8
RPD_MS	1,1-Dichloropropene	113.000	115.000	UGL	1.8	(0-20)	
LCS1	1,2,3-Trichlorobenzene	4	3.78	UGL	94.5	(70-130)	
MBLK	1,2,3-Trichlorobenzene	ND	<0.50	UGL			
MS	1,2,3-Trichlorobenzene	10	9.82	UGL	98.2	(70-130)	
MSD	1,2,3-Trichlorobenzene	10	10.4	UGL	104.0	(70-130)	5.7
RPD_MS	1,2,3-Trichlorobenzene	98.200	104.000	UGL	5.7	(0-20)	
LCS1	1,2,3-Trichloropropane	4	3.73	UGL	93.2	(70-130)	
MBLK	1,2,3-Trichloropropane	ND	<0.50	UGL			
MS	1,2,3-Trichloropropane	10	9.19	UGL	91.9	(70-130)	
MSD	1,2,3-Trichloropropane	10	9.58	UGL	95.8	(70-130)	4.2
RPD_MS	1,2,3-Trichloropropane	91.900	95.800	UGL	4.2	(0-20)	
LCS1	1,2,4-Trichlorobenzene	4	3.78	UGL	94.5	(70-130)	
MBLK	1,2,4-Trichlorobenzene	ND	<0.50	UGL			
MS	1,2,4-Trichlorobenzene	10	9.92	UGL	99.2	(70-130)	
MSD	1,2,4-Trichlorobenzene	10	10.5	UGL	105.0	(70-130)	5.7
RPD_MS	1,2,4-Trichlorobenzene	99.200	105.000	UGL	5.7	(0-20)	
LCS1	1,2,4-Trimethylbenzene	4	3.92	UGL	98.0	(70-130)	
MBLK	1,2,4-Trimethylbenzene	ND	<0.50	UGL			
MS	1,2,4-Trimethylbenzene	10	11.4	UGL	114.0	(70-130)	
MSD	1,2,4-Trimethylbenzene	10	11.8	UGL	118.0	(70-130)	3.4
RPD_MS	1,2,4-Trimethylbenzene	114.000	118.000	UGL	3.4	(0-20)	
LCS1	1,2-Dichloroethane	4	3.91	UGL	97.8	(70-130)	
MBLK	1,2-Dichloroethane	ND	<0.50	UGL			
MS	1,2-Dichloroethane	10	10.6	UGL	106.0	(80-140)	
MSD	1,2-Dichloroethane	10	10.5	UGL	105.0	(80-140)	0.95
RPD_MS	1,2-Dichloroethane	106.000	105.000	UGL	0.9	(0-20)	
LCS1	1,2-Dichloropropane	4	3.75	UGL	93.8	(70-130)	
MBLK	1,2-Dichloropropane	ND	<0.50	UGL			
MS	1,2-Dichloropropane	10	10.7	UGL	107.0	(70-130)	
MSD	1,2-Dichloropropane	10	10.5	UGL	105.0	(70-130)	1.9
RPD_MS	1,2-Dichloropropane	107.000	105.000	UGL	1.9	(0-20)	
LCS1	1,3,5-Trimethylbenzene	4	3.91	UGL	97.8	(70-130)	
MBLK	1,3,5-Trimethylbenzene	ND	<0.50	UGL			

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Maui, County of, Department of
Water Supply
(continued)

MS	1,3,5-Trimethylbenzene	10	11.2	UGL	112.0	(70-130)	
MSD	1,3,5-Trimethylbenzene	10	11.4	UGL	114.0	(70-130)	1.8
RPD_MS	1,3,5-Trimethylbenzene	112.000	114.000	UGL	1.8	(0-20)	
LCS1	1,3-Dichloropropane	4	3.91	UGL	97.8	(70-130)	
MBLK	1,3-Dichloropropane	ND	<0.50	UGL			
MS	1,3-Dichloropropane	10	10.6	UGL	106.0	(70-130)	
MSD	1,3-Dichloropropane	10	10.7	UGL	107.0	(70-130)	0.94
RPD_MS	1,3-Dichloropropane	106.000	107.000	UGL	0.9	(0-20)	
LCS1	p-Dichlorobenzene (1,4-DCB)	4	3.96	UGL	99.0	(70-130)	
MBLK	p-Dichlorobenzene (1,4-DCB)	ND	<0.50	UGL			
MS	p-Dichlorobenzene (1,4-DCB)	10	10.2	UGL	102.0	(70-130)	
MSD	p-Dichlorobenzene (1,4-DCB)	10	10.9	UGL	109.0	(70-130)	6.6
RPD_MS	p-Dichlorobenzene (1,4-DCB)	102.000	109.000	UGL	6.6	(0-20)	
LCS1	2,2-Dichloropropane	4	3.99	UGL	99.8	(70-130)	
MBLK	2,2-Dichloropropane	ND	<0.50	UGL			
MS	2,2-Dichloropropane	10	9.02	UGL	90.2	(84-131)	
MSD	2,2-Dichloropropane	10	8.76	UGL	87.6	(84-131)	2.9
RPD_MS	2,2-Dichloropropane	90.200	87.600	UGL	2.9	(0-20)	
LCS1	2-Butanone (MEK)	40	29.2	UGL	73.0	(70-130)	
MBLK	2-Butanone (MEK)	ND	<5.00	UGL			
MS	2-Butanone (MEK)	100	68.2	UGL	68.2	(56-85)	
MSD	2-Butanone (MEK)	100	70.5	UGL	70.5	(56-85)	3.3
RPD_MS	2-Butanone (MEK)	68.200	70.500	UGL	3.3	(0-20)	
LCS1	o-Chlorotoluene	4	4.14	UGL	103.5	(70-130)	
MBLK	o-Chlorotoluene	ND	<0.50	UGL			
MS	o-Chlorotoluene	10	10.9	UGL	109.0	(70-130)	
MSD	o-Chlorotoluene	10	11.2	UGL	112.0	(70-130)	2.7
RPD_MS	o-Chlorotoluene	109.000	112.000	UGL	2.7	(0-20)	
LCS1	p-Chlorotoluene	4	3.98	UGL	99.5	(70-130)	
MBLK	p-Chlorotoluene	ND	<0.50	UGL			
MS	p-Chlorotoluene	10	11.0	UGL	110.0	(70-130)	
MSD	p-Chlorotoluene	10	11.6	UGL	116.0	(70-130)	5.3
RPD_MS	p-Chlorotoluene	110.000	116.000	UGL	5.3	(0-20)	
LCS1	4-Methyl-2-Pentanone (MIBK)	40	40.1	UGL	100.2	(70-130)	
MBLK	4-Methyl-2-Pentanone (MIBK)	ND	<5.00	UGL			

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Maui, County of, Department of
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(continued)

MS	4-Methyl-2-Pentanone (MIBK)	100	103	UGL	103.0	(70-130)	
MSD	4-Methyl-2-Pentanone (MIBK)	100	104	UGL	104.0	(70-130)	0.97
RPD_MS	4-Methyl-2-Pentanone (MIBK)	103.000	104.000	UGL	1.0	(0-20)	
MS	Spiked sample	Lab # 22	01220096	NONE		(0-0)	
LCS1	Benzene	4	4.03	UGL	100.8	(70-130)	
MBLK	Benzene	ND	<0.50	UGL			
MS	Benzene	10	11.1	UGL	111.0	(70-130)	
MSD	Benzene	10	10.9	UGL	109.0	(70-130)	1.8
RPD_MS	Benzene	111.000	109.000	UGL	1.8	(0-20)	
LCS1	Bromobenzene	4	3.93	UGL	98.2	(70-130)	
MBLK	Bromobenzene	ND	<0.50	UGL			
MS	Bromobenzene	10	10.4	UGL	104.0	(70-130)	
MSD	Bromobenzene	10	10.7	UGL	107.0	(70-130)	2.8
RPD_MS	Bromobenzene	104.000	107.000	UGL	2.8	(0-20)	
LCS1	Bromomethane (Methyl Bromide)	4	3.73	UGL	93.2	(70-130)	
MBLK	Bromomethane (Methyl Bromide)	ND	<0.50	UGL			
MS	Bromomethane (Methyl Bromide)	10	10.5	UGL	105.0	(74-137)	
MSD	Bromomethane (Methyl Bromide)	10	11.0	UGL	110.0	(74-137)	4.7
RPD_MS	Bromomethane (Methyl Bromide)	105.000	110.000	UGL	4.7	(0-20)	
LCS1	cis-1,2-Dichloroethylene	4	3.90	UGL	97.5	(70-130)	
MBLK	cis-1,2-Dichloroethylene	ND	<0.50	UGL			
MS	cis-1,2-Dichloroethylene	10	10.8	UGL	108.0	(86-129)	
MSD	cis-1,2-Dichloroethylene	10	10.8	UGL	108.0	(86-129)	0.00
RPD_MS	cis-1,2-Dichloroethylene	108.000	108.000	UGL	0.0	(0-20)	
LCS1	Chlorobenzene	4	3.95	UGL	98.8	(70-130)	
MBLK	Chlorobenzene	ND	<0.50	UGL			
MS	Chlorobenzene	10	10.9	UGL	109.0	(70-130)	
MSD	Chlorobenzene	10	10.9	UGL	109.0	(70-130)	0.00
RPD_MS	Chlorobenzene	109.000	109.000	UGL	0.0	(0-20)	
LCS1	Carbon Tetrachloride	4	3.91	UGL	97.8	(70-130)	
MBLK	Carbon Tetrachloride	ND	<0.50	UGL			
MS	Carbon Tetrachloride	10	12.0	UGL	120.0	(70-130)	
MSD	Carbon Tetrachloride	10	11.8	UGL	118.0	(70-130)	1.7
RPD_MS	Carbon Tetrachloride	120.000	118.000	UGL	1.7	(0-20)	
LCS1	cis-1,3-Dichloropropene	4	3.56	UGL	89.0	(60-140)	

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Maui, County of, Department of
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MBLK	cis-1,3-Dichloropropene	ND	<0.50	UGL			
MS	cis-1,3-Dichloropropene	10	10.5	UGL	105.0	(85-120)	
MSD	cis-1,3-Dichloropropene	10	10.5	UGL	105.0	(85-120)	0.00
RPD_MS	cis-1,3-Dichloropropene	105.000	105.000	UGL	0.0	(0-20)	
LCS1	Bromoform	4	3.82	UGL	95.5	(70-130)	
MBLK	Bromoform	ND	<0.50	UGL			
MS	Bromoform	10	9.62	UGL	96.2	(70-130)	
MSD	Bromoform	10	10.2	UGL	102.0	(70-130)	5.9
RPD_MS	Bromoform	96.200	102.000	UGL	5.9	(0-20)	
LCS1	Chloroform (Trichloromethane)	4	3.97	UGL	99.2	(70-130)	
MBLK	Chloroform (Trichloromethane)	ND	<0.50	UGL			
MS	Chloroform (Trichloromethane)	10	10.8	UGL	108.0	(70-130)	
MSD	Chloroform (Trichloromethane)	10	10.5	UGL	105.0	(70-130)	2.8
RPD_MS	Chloroform (Trichloromethane)	108.000	105.000	UGL	2.8	(0-20)	
LCS1	Bromochloromethane	4	4.06	UGL	101.5	(70-130)	
MBLK	Bromochloromethane	ND	<0.50	UGL			
MS	Bromochloromethane	10	10.9	UGL	109.0	(70-130)	
MSD	Bromochloromethane	10	10.9	UGL	109.0	(70-130)	0.00
RPD_MS	Bromochloromethane	109.000	109.000	UGL	0.0	(0-20)	
LCS1	Chloroethane	4	3.86	UGL	96.5	(70-130)	
MBLK	Chloroethane	ND	<0.50	UGL			
MS	Chloroethane	10	10.6	UGL	106.0	(69-151)	
MSD	Chloroethane	10	11.0	UGL	110.0	(69-151)	3.7
RPD_MS	Chloroethane	106.000	110.000	UGL	3.7	(0-20)	
LCS1	Chloromethane (Methyl Chloride)	4	3.56	UGL	89.0	(70-130)	
MBLK	Chloromethane (Methyl Chloride)	ND	<0.50	UGL			
MS	Chloromethane (Methyl Chloride)	10	10.1	UGL	101.0	(76-138)	
MSD	Chloromethane (Methyl Chloride)	10	10.1	UGL	101.0	(76-138)	0.00
RPD_MS	Chloromethane (Methyl Chloride)	101.000	101.000	UGL	0.0	(0-20)	
LCS1	Chlorodibromomethane	4	3.94	UGL	98.5	(70-130)	
MBLK	Chlorodibromomethane	ND	<0.50	UGL			
MS	Chlorodibromomethane	10	10.6	UGL	106.0	(70-130)	
MSD	Chlorodibromomethane	10	10.6	UGL	106.0	(70-130)	0.00
RPD_MS	Chlorodibromomethane	106.000	106.000	UGL	0.0	(0-20)	
LCS1	Dibromomethane	4	3.89	UGL	97.2	(70-130)	

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Maui, County of, Department of
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MBLK	Dibromomethane	ND	<0.50	UGL			
MS	Dibromomethane	10	10.3	UGL	103.0	(70-130)	
MSD	Dibromomethane	10	10.2	UGL	102.0	(70-130)	0.98
RPD_MS	Dibromomethane	103.000	102.000	UGL	1.0	(0-20)	
LCS1	Bromodichloromethane	4	3.96	UGL	99.0	(70-130)	
MBLK	Bromodichloromethane	ND	<0.50	UGL			
MS	Bromodichloromethane	10	10.5	UGL	105.0	(70-130)	
MSD	Bromodichloromethane	10	10.4	UGL	104.0	(70-130)	0.96
RPD_MS	Bromodichloromethane	105.000	104.000	UGL	1.0	(0-20)	
LCS1	Dichloromethane	4	4.04	UGL	101.0	(70-130)	
MBLK	Dichloromethane	ND	<0.50	UGL			
MS	Dichloromethane	10	10.6	UGL	106.0	(70-130)	
MSD	Dichloromethane	10	10.5	UGL	105.0	(70-130)	0.95
RPD_MS	Dichloromethane	106.000	105.000	UGL	0.9	(0-20)	
LCS1	Di-isopropyl ether	4	4.18	UGL	104.5	(70-130)	
MBLK	Di-isopropyl ether	ND	<3.00	UGL			
MS	Di-isopropyl ether	10	10.9	UGL	109.0	(70-130)	
MSD	Di-isopropyl ether	10	10.8	UGL	108.0	(70-130)	0.92
RPD_MS	Di-isopropyl ether	109.000	108.000	UGL	0.9	(0-20)	
LCS1	Ethyl benzene	4	3.78	UGL	94.5	(70-130)	
MBLK	Ethyl benzene	ND	<0.50	UGL			
MS	Ethyl benzene	10	11.6	UGL	116.0	(70-130)	
MSD	Ethyl benzene	10	11.6	UGL	116.0	(70-130)	0.00
RPD_MS	Ethyl benzene	116.000	116.000	UGL	0.0	(0-20)	
LCS1	Dichlorodifluoromethane	4	3.65	UGL	91.2	(70-130)	
MBLK	Dichlorodifluoromethane	ND	<0.50	UGL			
MS	Dichlorodifluoromethane	10	11.3	UGL	113.0	(53-168)	
MSD	Dichlorodifluoromethane	10	11.2	UGL	112.0	(53-168)	0.89
RPD_MS	Dichlorodifluoromethane	113.000	112.000	UGL	0.9	(0-20)	
LCS1	Fluorotrichloromethane-Freon11	4	4.31	UGL	107.7	(70-130)	
MBLK	Fluorotrichloromethane-Freon11	ND	<0.50	UGL			
MS	Fluorotrichloromethane-Freon11	10	12.0	UGL	120.0	(70-130)	
MSD	Fluorotrichloromethane-Freon11	10	12.4	UGL	124.0	(70-130)	3.3
RPD_MS	Fluorotrichloromethane-Freon11	120.000	124.000	UGL	3.3	(0-20)	
LCS1	Hexachlorobutadiene	4	3.60	UGL	90.0	(70-130)	

Spikes which exceed Limits and Method Blanks with positive results are highlighted by Underlining. Criteria for MS and DUP are advisory only, batch control is based on LCS. Criteria for duplicates are advisory only, unless otherwise specified in the method.

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(continued)

MBLK	Hexachlorobutadiene	ND	<0.50	UGL			
MS	Hexachlorobutadiene	10	9.90	UGL	99.0	(70-130)	
MSD	Hexachlorobutadiene	10	10.3	UGL	103.0	(70-130)	4.0
RPD_MS	Hexachlorobutadiene	99.000	103.000	UGL	4.0	(0-20)	
LCS1	Isopropylbenzene	4	3.85	UGL	96.2	(70-130)	
MBLK	Isopropylbenzene	ND	<0.50	UGL			
MS	Isopropylbenzene	10	11.0	UGL	110.0	(70-130)	
MSD	Isopropylbenzene	10	11.8	UGL	118.0	(70-130)	7.0
RPD_MS	Isopropylbenzene	110.000	118.000	UGL	7.0	(0-20)	
LCS1	m-Dichlorobenzene (1,3-DCB)	4	4.03	UGL	100.8	(70-130)	
MBLK	m-Dichlorobenzene (1,3-DCB)	ND	<0.50	UGL			
MS	m-Dichlorobenzene (1,3-DCB)	10	10.2	UGL	102.0	(70-130)	
MSD	m-Dichlorobenzene (1,3-DCB)	10	10.8	UGL	108.0	(70-130)	5.7
RPD_MS	m-Dichlorobenzene (1,3-DCB)	102.000	108.000	UGL	5.7	(0-20)	
LCS1	m,p-Xylenes	8	8.24	UGL	103.0	(70-130)	
MBLK	m,p-Xylenes	ND	<0.50	UGL			
MS	m,p-Xylenes	20	24.6	UGL	123.0	(70-130)	
MSD	m,p-Xylenes	20	24.5	UGL	122.5	(70-130)	0.41
RPD_MS	m,p-Xylenes	123.000	122.500	UGL	0.4	(0-20)	
LCS1	Methyl Tert-butyl ether (MTBE)	4	4.21	UGL	105.2	(60-140)	
MBLK	Methyl Tert-butyl ether (MTBE)	ND	<3.00	UGL			
MS	Methyl Tert-butyl ether (MTBE)	10	10.5	UGL	105.0	(70-130)	
MSD	Methyl Tert-butyl ether (MTBE)	10	10.8	UGL	108.0	(70-130)	2.8
RPD_MS	Methyl Tert-butyl ether (MTBE)	105.000	108.000	UGL	2.8	(0-20)	
LCS1	Naphthalene	4	3.63	UGL	90.8	(70-130)	
MBLK	Naphthalene	ND	<0.50	UGL			
MS	Naphthalene	10	8.90	UGL	89.0	(70-130)	
MSD	Naphthalene	10	9.85	UGL	98.5	(70-130)	10
RPD_MS	Naphthalene	89.000	98.500	UGL	10.1	(0-20)	
LCS1	n-Butylbenzene	4	3.62	UGL	90.5	(70-130)	
MBLK	n-Butylbenzene	ND	<0.50	UGL			
MS	n-Butylbenzene	10	11.2	UGL	112.0	(70-130)	
MSD	n-Butylbenzene	10	11.5	UGL	115.0	(70-130)	2.6
RPD_MS	n-Butylbenzene	112.000	115.000	UGL	2.6	(0-20)	
LCS1	n-Propylbenzene	4	3.98	UGL	99.5	(70-130)	

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Maui, County of, Department of
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(continued)

MBLK	n-Propylbenzene	ND	<0.50	UGL			
MS	n-Propylbenzene	10	11.1	UGL	111.0	(70-130)	
MSD	n-Propylbenzene	10	11.5	UGL	115.0	(70-130)	3.5
RPD_MS	n-Propylbenzene	111.000	115.000	UGL	3.5	(0-20)	
LCS1	o-Xylene	4	3.91	UGL	97.8	(70-130)	
MBLK	o-Xylene	ND	<0.50	UGL			
MS	o-Xylene	10	11.7	UGL	117.0	(70-130)	
MSD	o-Xylene	10	11.7	UGL	117.0	(70-130)	0.00
RPD_MS	o-Xylene	117.000	117.000	UGL	0.0	(0-20)	
LCS1	o-Dichlorobenzene (1,2-DCB)	4	3.85	UGL	96.2	(70-130)	
MBLK	o-Dichlorobenzene (1,2-DCB)	ND	<0.50	UGL			
MS	o-Dichlorobenzene (1,2-DCB)	10	10.2	UGL	102.0	(70-130)	
MSD	o-Dichlorobenzene (1,2-DCB)	10	10.4	UGL	104.0	(70-130)	1.9
RPD_MS	o-Dichlorobenzene (1,2-DCB)	102.000	104.000	UGL	1.9	(0-20)	
LCS1	Tetrachloroethylene (PCE)	4	3.86	UGL	96.5	(70-130)	
MBLK	Tetrachloroethylene (PCE)	ND	<0.50	UGL			
MS	Tetrachloroethylene (PCE)	10	11.1	UGL	111.0	(70-130)	
MSD	Tetrachloroethylene (PCE)	10	10.9	UGL	109.0	(70-130)	1.8
RPD_MS	Tetrachloroethylene (PCE)	111.000	109.000	UGL	1.8	(0-20)	
LCS1	p-Isopropyltoluene	4	3.48	UGL	87.0	(70-130)	
MBLK	p-Isopropyltoluene	ND	<0.50	UGL			
MS	p-Isopropyltoluene	10	10.1	UGL	101.0	(70-130)	
MSD	p-Isopropyltoluene	10	10.8	UGL	108.0	(70-130)	6.7
RPD_MS	p-Isopropyltoluene	101.000	108.000	UGL	6.7	(0-20)	
LCS1	sec-Butylbenzene	4	3.85	UGL	96.2	(70-130)	
MBLK	sec-Butylbenzene	ND	<0.50	UGL			
MS	sec-Butylbenzene	10	11.3	UGL	113.0	(70-130)	
MSD	sec-Butylbenzene	10	12.0	UGL	120.0	(70-130)	6.0
RPD_MS	sec-Butylbenzene	113.000	120.000	UGL	6.0	(0-20)	
LCS1	Styrene	4	3.57	UGL	89.2	(70-130)	
MBLK	Styrene	ND	<0.50	UGL			
MS	Styrene	10	10.2	UGL	102.0	(70-130)	
MSD	Styrene	10	10.2	UGL	102.0	(70-130)	0.00
RPD_MS	Styrene	102.000	102.000	UGL	0.0	(0-20)	
LCS1	trans-1,2-Dichloroethylene	4	4.04	UGL	101.0	(70-130)	

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Laboratory
QC Report
#105040

Maui, County of, Department of
Water Supply
(continued)

MBLK	trans-1,2-Dichloroethylene	ND	<0.50	UGL			
MS	trans-1,2-Dichloroethylene	10	11.1	UGL	111.0	(85-129)	
MSD	trans-1,2-Dichloroethylene	10	11.2	UGL	112.0	(85-129)	0.90
RPD_MS	trans-1,2-Dichloroethylene	111.000	112.000	UGL	0.9	(0-20)	
LCS1	tert-amyl Methyl Ether	4	4.03	UGL	100.8	(70-130)	
MBLK	tert-amyl Methyl Ether	ND	<3.00	UGL			
MS	tert-amyl Methyl Ether	10	10.7	UGL	107.0	(70-130)	
MSD	tert-amyl Methyl Ether	10	10.9	UGL	109.0	(70-130)	1.9
RPD_MS	tert-amyl Methyl Ether	107.000	109.000	UGL	1.9	(0-20)	
LCS1	tert-Butyl Ethyl Ether	4	4.18	UGL	104.5	(70-130)	
MBLK	tert-Butyl Ethyl Ether	ND	<3.00	UGL			
MS	tert-Butyl Ethyl Ether	10	10.7	UGL	107.0	(70-130)	
MSD	tert-Butyl Ethyl Ether	10	11.1	UGL	111.0	(70-130)	3.7
RPD_MS	tert-Butyl Ethyl Ether	107.000	111.000	UGL	3.7	(0-20)	
LCS1	tert-Butylbenzene	4	3.49	UGL	87.2	(70-130)	
MBLK	tert-Butylbenzene	ND	<0.50	UGL			
MS	tert-Butylbenzene	10	10.4	UGL	104.0	(70-130)	
MSD	tert-Butylbenzene	10	12.7	UGL	127.0	(70-130)	20
RPD_MS	tert-Butylbenzene	104.000	127.000	UGL	19.9	(0-20)	
LCS1	Trichloroethylene (TCE)	4	3.75	UGL	93.8	(70-130)	
MBLK	Trichloroethylene (TCE)	ND	<0.50	UGL			
MS	Trichloroethylene (TCE)	10	10.6	UGL	106.0	(70-130)	
MSD	Trichloroethylene (TCE)	10	10.6	UGL	106.0	(70-130)	0.00
RPD_MS	Trichloroethylene (TCE)	106.000	106.000	UGL	0.0	(0-20)	
LCS1	Trichlorotrifluoroethane(Freon	4	4.06	UGL	101.5	(70-130)	
MBLK	Trichlorotrifluoroethane(Freon	ND	<0.50	UGL			
MS	Trichlorotrifluoroethane(Freon	10	10.5	UGL	105.0	(70-130)	
MSD	Trichlorotrifluoroethane(Freon	10	10.9	UGL	109.0	(70-130)	3.7
RPD_MS	Trichlorotrifluoroethane(Freon	105.000	109.000	UGL	3.7	(0-20)	
LCS1	trans-1,3-Dichloropropene	4	3.61	UGL	90.2	(60-140)	
MBLK	trans-1,3-Dichloropropene	ND	<0.50	UGL			
MS	trans-1,3-Dichloropropene	10	10.1	UGL	101.0	(80-131)	
MSD	trans-1,3-Dichloropropene	10	10.1	UGL	101.0	(80-131)	0.00
RPD_MS	trans-1,3-Dichloropropene	101.000	101.000	UGL	0.0	(0-20)	
LCS1	Toluene	4	3.87	UGL	96.8	(70-130)	

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Maui, County of, Department of
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MBLK	Toluene	ND	<0.50	UGL			
MS	Toluene	10	11.3	UGL	113.0	(70-130)	
MSD	Toluene	10	11.1	UGL	111.0	(70-130)	1.8
RPD_MS	Toluene	113.000	111.000	UGL	1.8	(0-20)	
LCS1	Vinyl chloride (VC)	4	3.94	UGL	98.5	(70-130)	
MBLK	Vinyl chloride (VC)	ND	<0.30	UGL			
MS	Vinyl chloride (VC)	10	11.5	UGL	115.0	(67-152)	
MSD	Vinyl chloride (VC)	10	11.7	UGL	117.0	(67-152)	1.7
RPD_MS	Vinyl chloride (VC)	115.000	117.000	UGL	1.7	(0-20)	

QC Ref #190140 Diquat and Paraquat

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS_2ND	Spiked sample	Lab # 23	1230028	NONE		(0-0)	
MS	Spiked sample	Lab # 23	1220192	NONE		(0-0)	
LCS2	Diquat	10.0	7.0	UGL	70.0	(70-130)	
MBLK	Diquat	ND	<0.40	UGL			
MS	Diquat	10.0	6.5	UGL	65.0	(70-130)	
MSD	Diquat	10.0	7.2	UGL	72.0	(70-130)	10
MS_2ND	Diquat	10.0	6.8	UGL	68.0	(70-130)	
RPD_LCS	Diquat	66.000	70.000	UGL	5.9	(0-20)	
RPD_MS	Diquat	65.000	72.000	UGL	10.2	(0-20)	
LCS1	Paraquat	10.0	7.1	UGL	71.0	(70-130)	
LCS2	Paraquat	10.0	7.7	UGL	77.0	(70-130)	8.1
MBLK	Paraquat	ND	<2.00	UGL			
MS	Paraquat	10.0	7.0	UGL	70.0	(70-130)	
MSD	Paraquat	10.0	7.7	UGL	77.0	(70-130)	9.5
MS_2ND	Paraquat	10.0	7.5	UGL	75.0	(70-130)	
RPD_LCS	Paraquat	71.000	77.000	UGL	8.1	(0-20)	
RPD_MS	Paraquat	70.000	77.000	UGL	9.5	(0-20)	

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MONTGOMERY WATSON LABORATORIES — CHAIN OF CUSTODY RECORD

105040

555 E. Walnut St., Pasadena, CA 91101
(626) 568-6400 (800) 566-5227

MWLABS USE ONLY:

LOGIN COMMENTS: _____

SAMPLES CHECKED/LOGGED IN BY: MW

SAMPLE TEMP, RECEIPT AT LAB 4 (Compliance: 4 +/- 2*C)

SAMPLES RECEIVED DAY OF COLLECTION? ☐ (check for yes)

BLUE ICE: FROZEN / PARTIALLY FROZEN ___ THAWED ___

TO BE COMPLETED BY SAMPLER:

TAT requested: STD_____ 1 week_____ 3 day_____ 1 day_____

	(check for yes)	
COMPLIANCE SAMPLES	X	REGULATION: PHASE2/5,UCMR
- Requires state forms	X	(SDWA, Phase V, NPDES, FDA, ...)
NON-COMPLIANCE SAMPLES		

CLIENT or PROJECT NAME: COUNTY OF MAUI

PROJECT JOB # / P.O.#:

REFER TO ATTACHED BOTTLE ORDER FOR ANALYSES ☐ (check for yes)

SAMPLER(S): PRINTED NAME AND SIGNATURE: K Kuba

ANALYSES REQUIRED (mark an 'X' in all tests required for each sample line)

TIME	DATE	SITE NAME or LOCATION	IDENTIFIER, STATE ID #	MATRIX *	GRAB	COMP	SAMPLER COMMENTS
							Resample
0900	1/23/03		Pookela Well	FW	X		Diquat/VOASDWA
0900	1/23/03		Pookela Well	FW	X		Diquat
							IN
							LOG SAMPLE TWICE
							Consult w/ Hilary Strayer First!!!

* MATRIX TYPES:

Reported by Volume:
RSW = Raw Surface Water
RGW = Raw Ground Water
FW = Other Finished Water
CFW = Chlor(am)inated Finished Water
SW = Storm Water
WW = Other Waste Water
CWW = Chlorinated Waste Water

Reported by Weight:
SO = Soil
SL = Sludge

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	K Kuba	K Kuba	DWS MAUI	1/23/03	1400
RECEIVED BY:	MAW	MAW	MWAL	1/24/03	10:00
RELINQUISHED BY:					
RECEIVED BY:					

C-O-C# _____

PAGE ____ OF ____

SCANNED

APPENDIX A
POOKELA WELL WATER QUALITY

3. Report #104250

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Laboratory Report

for

Water Resource Associates
1188 Bishop Street Suite 1708

Honolulu , HI 96813-3307

Attention: Dan Lum
Fax: (808) 528-0808

DATE OF ISSUE
JAN 17 2003
MWH LABORATORIES

HDS Hillary Strayer
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac 01114CA

Report#: 104250
DRINKING

Laboratory certifies that the test results meet all **NELAC** requirements unless noted in the Comments section or the Case Narrative. Following the cover page are Comments,QC Report,QC Summary,Data Report,Hits Report, totaling 33 page[s].

MWH Laboratories
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ACKNOWLEDGMENT OF SAMPLES RECEIVED

Water Resource Associates
1188 Bishop Street Suite 1708
Honolulu, HI 96813-3307
Attn: Dan Lum
Phone: (808) 528-0074

Customer Code: WRA
Group#: 104250
Project#: DRINKING
Proj Mgr: Hillary Strayer
Phone: (626)568-6412

The following samples were received from you on **12/19/02**. They have been scheduled for the tests listed beside each sample. If this information is incorrect, please contact your service representative. Thank you for using MWH Laboratories.

Sample#	Sample Id	Matrix	Sample Date
	Tests Scheduled		
2212190036	POOKELA WELL 5118-01	Water	18-dec-2002
	@DIQUAT @EDB-DBC @ML515.3 @ML531 @VOASDWA ALK		
	AS-MS BA-MS BE-MS CA CD-MS CNDW		
	CR-MS CU-MS CUSTSUB D1613EDD EC ENDOTHAL		
	F GLYPHOS HG NI-MS NO2-N NO3		
	PB-MS PH SB-MS SE-MS TL-MS		

Test Acronym Description

Test Acronym	Description
@DIQUAT	Diquat and Paraquat
@EDB-DBC	EDB and DBCP by GC-ECD
@ML515.3	Herbicides by 515.3
@ML531	Aldicarbs
@VOASDWA	Regulated VOCs plus Lists 1&3
ALK	Alkalinity in CaCO3 units
AS-MS	Arsenic, Total, ICAP/MS
BA-MS	Barium, Total, ICAP/MS
BE-MS	Beryllium, Total, ICAP/MS
CA	Calcium, Total, ICAP
CD-MS	Cadmium, Total, ICAP/MS
CNDW	Cyanide
CR-MS	Chromium, Total, ICAP/MS
CU-MS	Copper, Total, ICAP/MS
CUSTSUB	Subcontracted Analyses
D1613EDD	2,3,7,8-Tcdd 1613 Drinking Wtr
EC	Specific Conductance
ENDOTHAL	Endothall
F	Fluoride
GLYPHOS	Glyphosate
HG	Mercury
NI-MS	Nickel, Total, ICAP/MS
NO2-N	Nitrite, Nitrogen by IC

Water Resource Associates
1188 Bishop Street Suite 1708
Honolulu, HI 96813-3307
Attn: Dan Lum
Phone: (808) 528-0074

Customer Code: WRA
Group#: 104250
Project#: DRINKING
Proj Mgr: Hillary Strayer
Phone: (626)568-6412

Test Acronym Description

Test Acronym	Description
NO3	Nitrate as Nitrogen by IC
PB-MS	Lead, Total, ICAP/MS
PH	Lab pH
SB-MS	Antimony, Total, ICAP/MS
SE-MS	Selenium, Total, ICAP/MS
TL-MS	Thallium, Total, ICAP/MS

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Report
Comments
#104250

Group Comments

Analytical results for CUSTSUB Methods 525.2, 508+PCBs and 507 are submitted by Weck Laboratories,Industry,CA.
CA ELAP 1132

(QC Ref#: 188665)
Test: Endothall (ML/EPA 548.1)
QC Type: MSD
M2- Low MSD recovery but acceptable LFB.

(QC Ref#: 189058)
Test: Bentazon (ML/EPA 515.3)
QC Type: MS1
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Tot DCPA Mono&Diacid Degradate (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Dicamba (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Pentachlorophenol (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: Picloram (ML/EPA 515.3)
QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.
Test: 4-Nitrophenol (qualitative) (ML/EPA 515.3)
QC Type: MS1
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.

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QC Type: MS2
Recovery out of limits, CCV and LCS recoveries were within QC acceptance limits. QIR#GCVO01041625.

(QC Ref#: 189130)
Test: Diquat (ML/EPA 549.2)
QC Type: LCS1
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
QC Type: LCS2
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
QC Type: MS
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
QC Type: MSD
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.
Test: Paraquat (ML/EPA 549.2)
QC Type: LCS1
(549) QIR 12301701: Diquat recovered below QC limit in LFB, LFBD, MS, MSD. Paraquat below QC limit in LFB.

(QC Ref#: 2212190036)
CUSTSUB FOR 525 508 507
Test: Subcontracted Analyses ( )
Method 525.2, 508, 507

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Laboratory
Hits Report
#104250

Water Resource Associates
Dan Lum
1188 Bishop Street Suite 1708
Honolulu , HI 96813-3307

Samples Received
19-dec-2002 13:39:39

Analyzed	Sample#	Sample ID	Result	UNITS	MRL
	2212190036	POOKELA WELL 5118-01			
12/20/02		Alkalinity in CaCO3 units	41	mg/l	1.0 C
01/02/03		Calcium, Total, ICAP	7.6	mg/l	1.00C
12/31/02		Copper, Total, ICAP/MS	6	ug/l	2.0 C
12/27/02		Fluoride	0.08	mg/l	.0 C
12/20/02		Lab pH	8.1	Units	.001
12/31/02		Lead, Total, ICAP/MS	1.3	ug/l	.500
12/19/02		Nitrate as Nitrogen by IC	0.51	mg/l	.1 0
12/27/02		Specific Conductance	100	umho/c	4.000
12/26/02		Subcontracted Analyses	SUB WECK	None	

SUMMARY OF POSITIVE DATA ONLY.

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Laboratory
Data Report
#104250

Water Resource Associates
Dan Lum
1188 Bishop Street Suite 1708
Honolulu , HI 96813-3307

Samples Received
12/19/02

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
POOKELA WELL 5118-01 (2212190036) Sampled on 12/18/02 00:00								
	12/20/02 17:51	188264	(SM2320B/E310.1)	Alkalinity in CaCO3 units	41	mg/l	1.0	1
	12/31/02 12:33	188852	(EPA/ML 200.8)	Arsenic, Total, ICAP/MS	ND	ug/l	1.0	1
	12/31/02 12:33	188858	(EPA/ML 200.8)	Barium, Total, ICAP/MS	ND	ug/l	2.0	1
	12/31/02 12:33	188862	(EPA/ML 200.8)	Beryllium, Total, ICAP/MS	ND	ug/l	1.0	1
	01/02/03 09:32	188926	(ML/EPA 200.7)	Calcium, Total, ICAP	7.6	mg/l	1.0	1
	12/31/02 12:33	188856	(EPA/ML 200.8)	Cadmium, Total, ICAP/MS	ND	ug/l	0.50	1
	12/30/02 00:00	188661	(SM4500CN-F)	Cyanide	ND	mg/l	0.025	1
	12/31/02 12:33	188865	(EPA/ML 200.8)	Chromium, Total, ICAP/MS	ND	ug/l	1.0	1
	12/31/02 12:33	188870	(EPA/ML 200.8)	Copper, Total, ICAP/MS	6	ug/l	2.0	1
	12/26/02 00:00		( )	Subcontracted Analyses	SUB WECK	None	0.0000	1
2/31/02	12/31/02 00:00		(EPA 1613)	2,3,7,8-Tcdd 1613 Drinking Wtr	ND	pg/l	5.0	1
	12/27/02 10:45	188553	(ML/S2510B)	Specific Conductance	100	umho/cm	4.0	1
12/20/02	12/26/02 00:00	188665	(ML/EPA 548.1)	Endothall	ND	ug/l	5.0	1
	12/27/02 00:00	188533	(SM4500F-C)	Fluoride	0.08	mg/l	0.050	1
	12/20/02 00:00	188332	(ML/EPA 547)	Glyphosate	ND	ug/l	6.0	1
	12/21/02 14:35	188270	(EPA/ML 245.1)	Mercury	ND	ug/l	0.20	1
	12/31/02 12:33	188869	(EPA/ML 200.8)	Nickel, Total, ICAP/MS	ND	ug/l	5.0	1
	12/19/02 15:47	188154	(ML/EPA 300.0)	Nitrite, Nitrogen by IC	ND	mg/l	0.10	1
	12/19/02 15:47	188156	(ML/EPA 300.0)	Nitrate as Nitrogen by IC	0.51	mg/l	0.10	1
	12/31/02 12:33	188861	(EPA/ML 200.8)	Lead, Total, ICAP/MS	1.3	ug/l	0.50	1
	12/20/02 00:00	188166	(S4500HB/E150.1)	Lab pH	8.1	Units	0.0010	1
	12/31/02 12:33	188859	(EPA/ML 200.8)	Antimony, Total, ICAP/MS	ND	ug/l	1.0	1
	12/31/02 12:33	188853	(EPA/ML 200.8)	Selenium, Total, ICAP/MS	ND	ug/l	5.0	1
	12/31/02 12:33	188860	(EPA/ML 200.8)	Thallium, Total, ICAP/MS	ND	ug/l	1.0	1
Aldicarbs								
	12/27/02 00:00	188728	(ML/EPA 531.1)	3-Hydroxycarbofuran	ND	ug/l	2.0	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Aldicarb (Temik)	ND	ug/l	0.50	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Aldicarb sulfone	ND	ug/l	0.70	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Aldicarb sulfoxide	ND	ug/l	0.50	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Baygon	ND	ug/l	2.0	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Carbofuran (Furadan)	ND	ug/l	0.90	1

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Water Resource Associates
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilu
	12/27/02 00:00	188728	(ML/EPA 531.1)	Carbaryl	ND	ug/l	2.0	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Methiocarb	ND	ug/l	2.0	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Methomyl	ND	ug/l	1.0	1
	12/27/02 00:00	188728	(ML/EPA 531.1)	Oxamyl (Vydate)	ND	ug/l	2.0	1
			(Surrogate)	BDMC(70-130)	101	% Rec		
			Diquat and Paraquat					
12/20/02	12/23/02 00:00	189130	(ML/EPA 549.2)	Diquat	NA	ug/l	0.40	1
12/20/02	12/23/02 00:00	189130	(ML/EPA [illegible].2)	Paraquat	NA	ug/l	2.0	1
			EDB and DBCP by GC-ECD					
12/22/02	12/23/02 00:00	188381	(ML/EPA 504.1)	Dibromochloropropane (DBCP)	ND	ug/l	0.010	1
12/22/02	12/23/02 00:00	188381	(ML/EPA 504.1)	Ethylene Dibromide (EDB)	ND	ug/l	0.010	1
			(Surrogate)	1,2-dibromopropane(60-140)	NA	% Rec		
			Herbicides by 515.3					
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4,5-T	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4,5-TP (Silvex)	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4-D	ND	ug/l	0.10	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	2,4-DB	ND	ug/l	2.0	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dichlorprop	ND	ug/l	0.50	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Acifluorfen	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Bentazon	ND	ug/l	0.50	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dalapon	ND	ug/l	1.0	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	3,5-Dichlorobenzoic acid	ND	ug/l	0.50	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Tot DCPA Mono&Diacid Degradate	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dicamba	ND	ug/l	0.080	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Dinoseb	ND	ug/l	0.20	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Pentachlorophenol	ND	ug/l	0.040	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	Picloram	ND	ug/l	0.10	1
12/30/02	01/02/03 00:00	189058	(ML/EPA 515.3)	4-Nitrophenol (qualitative)	ND	ug/l	1.0	1
			(Surrogate)	24-D(70-130)	104	% Rec		
			Regulated VOCs plus Lists 1&3					
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,1,1,2-Tetrachloroethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,1,1-Trichloroethane	ND	ug/l	0.50	1

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Water Resource Associates
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilution
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,1,2,2-Tetrachloroethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,1,2-Trichloroethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,1-Dichloroethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,1-Dichloroethylene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,1-Dichloropropene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,2,3-Trichlorobenzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,2,3-Trichloropropane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,2,4-Trichlorobenzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,2,4-Trimethylbenzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,2-Dichloroethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,2-Dichloropropane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,3,5-Trimethylbenzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	1,3-Dichloropropane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	p-Dichlorobenzene (1,4-DCB)	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	2,2-Dichloropropane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	2-Butanone (MEK)	ND	ug/l	5.0	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	o-Chlorotoluene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	p-Chlorotoluene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	4-Methyl-2-Pentanone (MIBK)	ND	ug/l	5.0	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Benzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Bromobenzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Bromomethane (Methyl Bromide)	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Bromoethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	cis-1,2-Dichloroethylene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Chlorobenzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Carbon Tetrachloride	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	cis-1,3-Dichloropropene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Bromoform	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Chloroform (Trichloromethane)	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Bromochloromethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Chloroethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Chloromethane(Methyl Chloride)	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Chlorodibromomethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Dibromomethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Bromodichloromethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Dichloromethane	ND	ug/l	0.50	1

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Water Resource Associates
(continued)

Prepared	Analyzed	QC Ref#	Method	Analyte	Result	Units	MRL	Dilu
	12/29/02 00:00	189003	(ML/EPA 524.2)	Di-isopropyl ether	ND	ug/l	3.0	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Ethyl benzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Dichlorodifluoromethane	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Fluorotrichloromethane-Freon11	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Hexachlorobutadiene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Isopropylbenzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	m-Dichlorobenzene (1,3-DCB)	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	m,p-Xylenes	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Methyl Tert-butyl ether (MTBE)	ND	ug/l	3.0	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Naphthalene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	n-Butylbenzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	n-Propylbenzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	o-Xylene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	o-Dichlorobenzene (1,2-DCB)	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Tetrachloroethylene (PCE)	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	p-Isopropyltoluene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	sec-Butylbenzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Styrene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	trans-1,2-Dichloroethylene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	tert-amyl Methyl Ether	ND	ug/l	3.0	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	tert-Butyl Ethyl Ether	ND	ug/l	3.0	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	tert-Butylbenzene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Trichloroethylene (TCE)	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Trichlorotrifluoroethane(Freon	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	trans-1,3-Dichloropropene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Toluene	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Total THM	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Total xylenes	ND	ug/l	0.50	1
	12/29/02 00:00	189003	(ML/EPA 524.2)	Vinyl chloride (VC)	ND	ug/l	0.30	1
			(Surrogate)	1.2-Dichloroethane-d4(70-130)	101	% Rec		
			(Surrogate)	4-Bromofluorobenzene(70-130)	100	% Rec		
			(Surrogate)	Toluene-d8(70-130)	101	% Rec		

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QC Summary
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QC Ref #188154 - Nitrite, Nitrogen by IC **Analysis Date: 12/19/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188156 - Nitrate as Nitrogen by IC **Analysis Date: 12/19/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188166 - Lab pH **Analysis Date: 12/20/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188264 - Alkalinity in CaCO3 units **Analysis Date: 12/20/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188270 - Mercury **Analysis Date: 12/21/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188332 - Glyphosate **Analysis Date: 12/20/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188381 - EDB and DBCP by GC-ECD **Analysis Date: 12/23/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188533 - Fluoride **Analysis Date: 12/27/2002**

2212190036 POOKELA WELL 5118-01

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QC Summary
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(continued)

QC Ref #188553 - Specific Conductance **Analysis Date: 12/27/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188661 - Cyanide **Analysis Date: 12/30/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188665 - Endothall **Analysis Date: 12/26/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188728 - Aldicarbs **Analysis Date: 12/27/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188852 - Arsenic, Total, ICAP/MS **Analysis Date: 12/31/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188853 - Selenium, Total, ICAP/MS **Analysis Date: 12/31/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188856 - Cadmium, Total, ICAP/MS **Analysis Date: 12/31/2002**

2212190036 POOKELA WELL 5118-01

QC Ref #188858 - Barium, Total, ICAP/MS **Analysis Date: 12/31/2002**

2212190036 POOKELA WELL 5118-01

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(continued)

QC Ref #188859 - Antimony, Total, ICAP/MS Analysis Date: 12/31/2002

2212190036 POOKELA WELL 5118-01

QC Ref #188860 - Thallium, Total, ICAP/MS Analysis Date: 12/31/2002

2212190036 POOKELA WELL 5118-01

QC Ref #188861 - Lead, Total, ICAP/MS Analysis Date: 12/31/2002

2212190036 POOKELA WELL 5118-01

QC Ref #188862 - Beryllium, Total, ICAP/MS Analysis Date: 12/31/2002

2212190036 POOKELA WELL 5118-01

QC Ref #188865 - Chromium, Total, ICAP/MS Analysis Date: 12/31/2002

2212190036 POOKELA WELL 5118-01

QC Ref #188869 - Nickel, Total, ICAP/MS Analysis Date: 12/31/2002

2212190036 POOKELA WELL 5118-01

QC Ref #188870 - Copper, Total, ICAP/MS Analysis Date: 12/31/2002

2212190036 POOKELA WELL 5118-01

QC Ref #188926 - Calcium, Total, ICAP Analysis Date: 01/02/2003

2212190036 POOKELA WELL 5118-01

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QC Ref #189003 - Regulated VOCs plus Lists 1&3 Analysis Date: 12/29/2002

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QC Ref #189058 - Herbicides by 515.3 Analysis Date: 01/02/2003

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QC Ref #189130 - Diquat and Paraquat Analysis Date: 12/23/2002

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QC Ref #188154 Nitrite, Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrite, Nitrogen by IC	1.0	0.991	MGL	99.1	(90-110)	
LCS2	Nitrite, Nitrogen by IC	1.0	1.03	MGL	103.0	(90-110)	3.9
MBLK	Nitrite, Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrite, Nitrogen by IC	1.0	1.02	MGL	102.0	(80-120)	
MSD	Nitrite, Nitrogen by IC	1.0	1.02	MGL	102.0	(80-120)	0.00

QC Ref #188156 Nitrate as Nitrogen by IC

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nitrate as Nitrogen by IC	2.5	2.6	MGL	104.0	(90-110)	
LCS2	Nitrate as Nitrogen by IC	2.5	2.58	MGL	103.2	(90-110)	0.77
MBLK	Nitrate as Nitrogen by IC	ND	<0.10	MGL			
MS	Nitrate as Nitrogen by IC	2.5	2.5	MGL	100.0	(80-120)	
MSD	Nitrate as Nitrogen by IC	2.5	2.5	MGL	100.0	(80-120)	0.00

QC Ref #188166 Lab pH

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
DUP	Lab pH	8.1	8.1	UNIT		(0-20)	0.0

QC Ref #188264 Alkalinity in CaCO3 units

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12190035	MGL		(0-0)	
LCS1	Alkalinity in CaCO3 units	100	99.1	MGL	99.1	(90-110)	
LCS2	Alkalinity in CaCO3 units	100	98.9	MGL	98.9	(90-110)	0.20
MBLK	Alkalinity in CaCO3 units	ND	<1.00	MGL			
MS	Alkalinity in CaCO3 units	96.2	98.5	MGL	102.4	(80-120)	
MSD	Alkalinity in CaCO3 units	96.2	98.2	MGL	102.1	(80-120)	0.31
RPD_LCS	Alkalinity in CaCO3 units	99.100	98.900	MGL	0.2	(0-10)	

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RPD_MS	Alkalinity in CaCO3 units	102.391	102.079	MGL	0.3	(0-10)	

QC Ref #188270 Mercury

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12190303	UGL		(0-0)	
LCS1	Mercury	1.50	1.43	UGL	95.3	(85-115)	
LCS2	Mercury	1.50	1.45	UGL	96.7	(85-115)	1.4
MBLK	Mercury	ND	<0.20	UGL			
MS	Mercury	1.50	1.45	UGL	96.7	(70-130)	
MSD	Mercury	1.50	1.44	UGL	96.0	(70-130)	0.69

QC Ref #188332 Glyphosate

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12160097	UGL		(0-0)	
LCS1	Glyphosate	10	11	UGL	110.0	(70-130)	
MBLK	Glyphosate	ND	<6.00	UGL			
MS	Glyphosate	10	10	UGL	100.0	(70-130)	
MSD	Glyphosate	10	10.5	UGL	105.0	(70-130)	4.9

QC Ref #188381 EDB and DBCP by GC-ECD

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12130157	NONE		(0-0)	
LCS1	Dibromochloropropane (DBCP)	0.02	0.015	UGL	75.0	(70-130)	
LCS2	Dibromochloropropane (DBCP)	0.20	0.19	UGL	95.0	(70-130)	
MBLK	Dibromochloropropane (DBCP)	ND	<0.01	UGL			
MS	Dibromochloropropane (DBCP)	0.20	0.20	UGL	100.0	(65-135)	
MSD	Dibromochloropropane (DBCP)	0.20	0.21	UGL	105.0	(65-135)	4.9
RPD_MS	Dibromochloropropane (DBCP)	100.000	105.000	UGL	4.9	(0-20)	
LCS1	Ethylene Dibromide (EDB)	0.02	0.015	UGL	75.0	(70-130)	
LCS2	Ethylene Dibromide (EDB)	0.20	0.19	UGL	95.0	(70-130)	

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MBLK	Ethylene Dibromide (EDB)	ND	<0.01	UGL			
MS	Ethylene Dibromide (EDB)	0.20	0.20	UGL	100.0	(65-135)	
MSD	Ethylene Dibromide (EDB)	0.20	0.20	UGL	100.0	(65-135)	0.00
RPD_MS	Ethylene Dibromide (EDB)	100.000	100.000	UGL	0.0	(0-20)	
LCS1	1,2-dibromopropane (surr)	100	99	%R	99.0	(60-140)	
LCS2	1,2-dibromopropane (surr)	100	100	%R	100.0	(60-140)	1.0
MBLK	1,2-dibromopropane (surr)	100	105	%R	105.0		
MS	1,2-dibromopropane (surr)	100	107	%R	107.0	(60-140)	
MSD	1,2-dibromopropane (surr)	100	113	%R	113.0	(60-140)	5.5
RPD_MS	1,2-dibromopropane (surr)	107.000	113.000	%R	5.5	(0-20)	

QC Ref #188533 Fluoride

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12190061	MGL		(0-0)	
LCS1	Fluoride	1.00	0.980	MGL	98.0	(90-110)	
LCS2	Fluoride	1.00	0.990	MGL	99.0	(90-110)	1.0
MBLK	Fluoride	ND	<0.05	MGL		, ,	
MS	Fluoride	1.00	0.935	MGL	93.5	(80-120)	
MSD	Fluoride	1.00	0.964	MGL	96.4	(80-120)	3.1
MS_2ND	Fluoride	1.00	0.947	MGL	94.7	(80-120)	
RPD_LCS	Fluoride	98.000	99.000	MGL	1.0	(0-10)	
RPD_MS	Fluoride	93.500	96.400	MGL	3.1	(0-20)	

QC Ref #188553 Specific Conductance

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
DUP	Specific Conductance	3650	3650	UMHO		(0-20)	0.0

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QC Ref #188661 Cyanide

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12190035	MGL		(0-0)	
LCS1	Cyanide	0.10	0.094	MGL	94.0	(80-120)	
MBLK	Cyanide	ND	<0.03	MGL			
MS	Cyanide	0.10	0.087	MGL	87.0	(80-120)	
MSD	Cyanide	0.10	0.090	MGL	90.0	(80-120)	3.4

QC Ref #188665 Endothall

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12190038	UGL		(0-0)	
LCS1	Endothall	25	23.8	UGL	95.2	(71-135)	
MBLK	Endothall	ND	<5.00	UGL			
MS	Endothall	25	16.2	UGL	64.8	(60-116)	
MSD	Endothall	25	15.0	UGL	60.0	(60-116)	7.7
MS_2ND	Endothall	25	ND	UGL		(60-116)	
RPD_MS	Endothall	64.800	60.000	UGL	7.7	(0-20)	

QC Ref #188728 Aldicarbs

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	3-Hydroxycarbofuran	10.0	8.69	UGL	86.9	(80-120)	
MBLK	3-Hydroxycarbofuran	ND	<2.00	UGL			
MS	3-Hydroxycarbofuran	10.0	9.94	UGL	99.4	(65-135)	
MSD	3-Hydroxycarbofuran	10.0	9.55	UGL	95.5	(65-135)	4.0
MS	Spiked sample	Lab # 22	12190035	NONE		(0-0)	
LCS1	Aldicarb (Temik)	10.0	9.65	UGL	96.5	(80-120)	
MBLK	Aldicarb (Temik)	ND	<0.50	UGL			
MS	Aldicarb (Temik)	10.0	10.2	UGL	102.0	(65-135)	
MSD	Aldicarb (Temik)	10.0	9.65	UGL	96.5	(65-135)	5.5

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LCS1	Aldicarb sulfone	10.0	9.16	UGL	91.6	(80-120)	
MBLK	Aldicarb sulfone	ND	<0.70	UGL			
MS	Aldicarb sulfone	10.0	9.84	UGL	98.4	(65-135)	
MSD	Aldicarb sulfone	10.0	9.99	UGL	99.9	(65-135)	1.5
LCS1	Aldicarb sulfoxide	10.0	8.52	UGL	85.2	(80-120)	
MBLK	Aldicarb sulfoxide	ND	<0.50	UGL			
MS	Aldicarb sulfoxide	10.0	9.95	UGL	99.5	(65-135)	
MSD	Aldicarb sulfoxide	10.0	10.0	UGL	100.0	(65-135)	0.50
LCS1	Baygon	10.0	9.22	UGL	92.2	(80-120)	
MBLK	Baygon	ND	<2.00	UGL			
MS	Baygon	10.0	10.3	UGL	103.0	(65-135)	
MSD	Baygon	10.0	9.81	UGL	98.1	(65-135)	4.9
LCS1	Carbofuran (Furadan)	10.0	9.25	UGL	92.5	(80-120)	
MBLK	Carbofuran (Furadan)	ND	<0.90	UGL			
MS	Carbofuran (Furadan)	10.0	10.3	UGL	103.0	(65-135)	
MSD	Carbofuran (Furadan)	10.0	9.85	UGL	98.5	(65-135)	4.5
LCS1	Carbaryl	10.0	8.55	UGL	85.5	(80-120)	
MBLK	Carbaryl	ND	<2.00	UGL			
MS	Carbaryl	10.0	10.8	UGL	108.0	(65-135)	
MSD	Carbaryl	10.0	10.4	UGL	104.0	(65-135)	3.8
LCS1	Methiocarb	10.0	9.66	UGL	96.6	(80-120)	
MBLK	Methiocarb	ND	<2.00	UGL			
MS	Methiocarb	10.0	9.95	UGL	99.5	(65-135)	
MSD	Methiocarb	10.0	10.2	UGL	102.0	(65-135)	2.5
LCS1	Methomyl	10.0	8.98	UGL	89.8	(80-120)	
MBLK	Methomyl	ND	<1.00	UGL			
MS	Methomyl	10.0	9.89	UGL	98.9	(65-135)	
MSD	Methomyl	10.0	10.0	UGL	100.0	(65-135)	1.1
LCS1	Oxamyl (Vydate)	10.0	9.01	UGL	90.1	(80-120)	
MBLK	Oxamyl (Vydate)	ND	<2.00	UGL			
MS	Oxamyl (Vydate)	10.0	9.89	UGL	98.9	(65-135)	
MSD	Oxamyl (Vydate)	10.0	10.1	UGL	101.0	(65-135)	2.1
LCS1	BDMC	100	99	%R	99.0	(70-130)	
MBLK	BDMC	100	98	%R	98.0		
MS	BDMC	100	104	%R	104.0	(70-130)	
MSD	BDMC	100	102	%R	102.0	(70-130)	1.9

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QC Ref #188852 Arsenic, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Arsenic, Total, ICAP/MS	20	20.5	UGL	102.5	(85-115)	
LCS2	Arsenic, Total, ICAP/MS	20	20.9	UGL	104.5	(85-115)	1.9
MBLK	Arsenic, Total, ICAP/MS	ND	<1.00	UGL			
MS	Arsenic, Total, ICAP/MS	20	23.7	UGL	118.5	(70-130)	
MSD	Arsenic, Total, ICAP/MS	20	23.5	UGL	117.5	(70-130)	0.85

QC Ref #188853 Selenium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Selenium, Total, ICAP/MS	20	20.7	UGL	103.5	(85-115)	
LCS2	Selenium, Total, ICAP/MS	20	21.3	UGL	106.5	(85-115)	2.9
MBLK	Selenium, Total, ICAP/MS	ND	<5.00	UGL			
MS	Selenium, Total, ICAP/MS	20	23.4	UGL	117.0	(70-130)	
MSD	Selenium, Total, ICAP/MS	20	24.1	UGL	120.5	(70-130)	2.9

QC Ref #188856 Cadmium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Cadmium, Total, ICAP/MS	20	20.8	UGL	104.0	(85-115)	
LCS2	Cadmium, Total, ICAP/MS	20	20.8	UGL	104.0	(85-115)	0.00
MBLK	Cadmium, Total, ICAP/MS	ND	<0.50	UGL			
MS	Cadmium, Total, ICAP/MS	20	21.3	UGL	106.5	(70-130)	
MSD	Cadmium, Total, ICAP/MS	20	20.9	UGL	104.5	(70-130)	1.9

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QC Ref #188858 Barium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Barium, Total, ICAP/MS	100	98.7	UGL	98.7	(85-115)	
LCS2	Barium, Total, ICAP/MS	100	96.8	UGL	96.8	(85-115)	1.9
MBLK	Barium, Total, ICAP/MS	ND	<2.00	UGL			
MS	Barium, Total, ICAP/MS	100	101	UGL	101.0	(70-130)	
MSD	Barium, Total, ICAP/MS	100	92.3	UGL	92.3	(70-130)	9.0

QC Ref #188859 Antimony, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Antimony, Total, ICAP/MS	50	49	UGL	98.0	(85-115)	
LCS2	Antimony, Total, ICAP/MS	50	50.1	UGL	100.2	(85-115)	2.2
MBLK	Antimony, Total, ICAP/MS	ND	<1.00	UGL			
MS	Antimony, Total, ICAP/MS	50	51.8	UGL	103.6	(70-130)	
MSD	Antimony, Total, ICAP/MS	50	51.4	UGL	102.8	(70-130)	0.78

QC Ref #188860 Thallium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Thallium, Total, ICAP/MS	20.0	20.6	UGL	103.0	(85-115)	
LCS2	Thallium, Total, ICAP/MS	20.0	20.8	UGL	104.0	(85-115)	0.97
MBLK	Thallium, Total, ICAP/MS	ND	<1.00	UGL			
MS	Thallium, Total, ICAP/MS	20.0	21.1	UGL	105.5	(70-130)	
MSD	Thallium, Total, ICAP/MS	20.0	21.1	UGL	105.5	(70-130)	0.00

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QC Ref #188861 Lead, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Lead, Total, ICAP/MS	20	21.1	UGL	105.5	(85-115)	
LCS2	Lead, Total, ICAP/MS	20	21.1	UGL	105.5	(85-115)	0.00
MBLK	Lead, Total, ICAP/MS	ND	<0.50	UGL			
MS	Lead, Total, ICAP/MS	20	21.6	UGL	108.0	(70-130)	
MSD	Lead, Total, ICAP/MS	20	21.4	UGL	107.0	(70-130)	0.93

QC Ref #188862 Beryllium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Beryllium, Total, ICAP/MS	5.00	5.04	UGL	100.8	(70-130)	
LCS2	Beryllium, Total, ICAP/MS	5.00	5.09	UGL	101.8	(85-115)	0.99
MBLK	Beryllium, Total, ICAP/MS	ND	<1.00	UGL			
MS	Beryllium, Total, ICAP/MS	5.00	5.48	UGL	109.6	(70-130)	
MSD	Beryllium, Total, ICAP/MS	5.00	5.55	UGL	111.0	(70-130)	1.3

QC Ref #188865 Chromium, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Chromium, Total, ICAP/MS	100	102	UGL	102.0	(85-115)	
LCS2	Chromium, Total, ICAP/MS	100	105	UGL	105.0	(85-115)	2.9
MBLK	Chromium, Total, ICAP/MS	ND	<1.00	UGL			
MS	Chromium, Total, ICAP/MS	100	106	UGL	106.0	(70-130)	
MSD	Chromium, Total, ICAP/MS	100	108	UGL	108.0	(70-130)	1.9

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QC Ref #188869 Nickel, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Nickel, Total, ICAP/MS	50	51.3	UGL	102.6	(85-115)	
LCS2	Nickel, Total, ICAP/MS	50	52.4	UGL	104.8	(85-115)	2.1
MBLK	Nickel, Total, ICAP/MS	ND	<5.00	UGL			
MS	Nickel, Total, ICAP/MS	50	50.3	UGL	100.6	(70-130)	
MSD	Nickel, Total, ICAP/MS	50	50.4	UGL	100.8	(70-130)	0.20

QC Ref #188870 Copper, Total, ICAP/MS

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Copper, Total, ICAP/MS	100	104	UGL	104.0	(85-115)	
LCS2	Copper, Total, ICAP/MS	100	105	UGL	105.0	(85-115)	0.96
MBLK	Copper, Total, ICAP/MS	ND	<2.00	UGL			
MS	Copper, Total, ICAP/MS	100	101	UGL	101.0	(70-130)	
MSD	Copper, Total, ICAP/MS	100	99.1	UGL	99.1	(70-130)	1.9

QC Ref #188926 Calcium, Total, ICAP

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	Calcium, Total, ICAP	50	55	MGL	110.0	(85-115)	
LCS2	Calcium, Total, ICAP	50	55.2	MGL	110.4	(85-115)	0.36
MBLK	Calcium, Total, ICAP	ND	<1.00	MGL			
MS	Calcium, Total, ICAP	50	54.4	MGL	108.8	(70-130)	
MSD	Calcium, Total, ICAP	50	55.4	MGL	110.8	(70-130)	1.8

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Water Resource Associates
(continued)

QC Ref #189003 Regulated VOCs plus Lists 1&3

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	1,1,1,2-Tetrachloroethane	4	3.82	UGL	95.5	(70-130)	
MBLK	1,1,1,2-Tetrachloroethane	ND	<0.50	UGL			
MS	1,1,1,2-Tetrachloroethane	10	10.6	UGL	106.0	(84-131)	
MSD	1,1,1,2-Tetrachloroethane	10	10.2	UGL	102.0	(84-131)	3.8
RPD_MS	1,1,1,2-Tetrachloroethane	106.000	102.000	UGL	3.8	(0-20)	
LCS1	1,1,1-Trichloroethane	4	3.48	UGL	87.0	(70-130)	
MBLK	1,1,1-Trichloroethane	ND	<0.50	UGL			
MS	1,1,1-Trichloroethane	10	10.8	UGL	108.0	(70-130)	
MSD	1,1,1-Trichloroethane	10	10.4	UGL	104.0	(70-130)	3.8
RPD_MS	1,1,1-Trichloroethane	108.000	104.000	UGL	3.8	(0-20)	
LCS1	1,1,2,2-Tetrachloroethane	4	4.13	UGL	103.2	(70-130)	
MBLK	1,1,2,2-Tetrachloroethane	ND	<0.50	UGL			
MS	1,1,2,2-Tetrachloroethane	10	10.9	UGL	109.0	(70-130)	
MSD	1,1,2,2-Tetrachloroethane	10	10.8	UGL	108.0	(70-130)	0.92
RPD_MS	1,1,2,2-Tetrachloroethane	109.000	108.000	UGL	0.9	(0-20)	
LCS1	1,1,2-Trichloroethane	4	3.83	UGL	95.8	(70-130)	
MBLK	1,1,2-Trichloroethane	ND	<0.50	UGL			
MS	1,1,2-Trichloroethane	10	10.2	UGL	102.0	(70-130)	
MSD	1,1,2-Trichloroethane	10	9.78	UGL	97.8	(70-130)	4.2
RPD_MS	1,1,2-Trichloroethane	102.000	97.800	UGL	4.2	(0-20)	
LCS1	1,1-Dichloroethane	4	3.82	UGL	95.5	(70-130)	
MBLK	1,1-Dichloroethane	ND	<0.50	UGL			
MS	1,1-Dichloroethane	10	10.7	UGL	107.0	(70-130)	
MSD	1,1-Dichloroethane	10	10.4	UGL	104.0	(70-130)	2.8
RPD_MS	1,1-Dichloroethane	107.000	104.000	UGL	2.8	(0-20)	
LCS1	1,1-Dichloroethylene	4	3.70	UGL	92.5	(70-130)	
MBLK	1,1-Dichloroethylene	ND	<0.50	UGL			
MS	1,1-Dichloroethylene	10	11.1	UGL	111.0	(70-130)	
MSD	1,1-Dichloroethylene	10	10.6	UGL	106.0	(70-130)	4.6
RPD_MS	1,1-Dichloroethylene	111.000	106.000	UGL	4.6	(0-20)	
LCS1	1,1-Dichloropropene	4	3.51	UGL	87.8	(70-130)	

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MBLK	1,1-Dichloropropene	ND	<0.50	UGL			
MS	1,1-Dichloropropene	10	10.8	UGL	108.0	(81-127)	
MSD	1,1-Dichloropropene	10	10.4	UGL	104.0	(81-127)	3.8
RPD_MS	1,1-Dichloropropene	108.000	104.000	UGL	3.8	(0-20)	
LCS1	1,2,3-Trichlorobenzene	4	3.98	UGL	99.5	(70-130)	
MBLK	1,2,3-Trichlorobenzene	ND	<0.50	UGL			
MS	1,2,3-Trichlorobenzene	10	9.91	UGL	99.1	(70-130)	
MSD	1,2,3-Trichlorobenzene	10	10.3	UGL	103.0	(70-130)	3.9
RPD_MS	1,2,3-Trichlorobenzene	99.100	103.000	UGL	3.9	(0-20)	
LCS1	1,2,3-Trichloropropane	4	3.90	UGL	97.5	(70-130)	
MBLK	1,2,3-Trichloropropane	ND	<0.50	UGL			
MS	1,2,3-Trichloropropane	10	9.73	UGL	97.3	(70-130)	
MSD	1,2,3-Trichloropropane	10	9.56	UGL	95.6	(70-130)	1.8
RPD_MS	1,2,3-Trichloropropane	97.300	95.600	UGL	1.8	(0-20)	
LCS1	1,2,4-Trichlorobenzene	4	4.01	UGL	100.2	(70-130)	
MBLK	1,2,4-Trichlorobenzene	ND	<0.50	UGL			
MS	1,2,4-Trichlorobenzene	10	10.1	UGL	101.0	(70-130)	
MSD	1,2,4-Trichlorobenzene	10	10.5	UGL	105.0	(70-130)	3.9
RPD_MS	1,2,4-Trichlorobenzene	101.000	105.000	UGL	3.9	('0-20)	
LCS1	1,2,4-Trimethylbenzene	4	3.80	UGL	95.0	(70-130)	
MBLK	1,2,4-Trimethylbenzene	ND	<0.50	UGL			
MS	1,2,4-Trimethylbenzene	10	10.8	UGL	108.0	(70-130)	
MSD	1,2,4-Trimethylbenzene	10	10.8	UGL	108.0	(70-130)	0.00
RPD_MS	1,2,4-Trimethylbenzene	108.000	108.000	UGL	0.0	(0-20)	
LCS1	1,2-Dichloroethane	4	3.91	UGL	97.8	(70-130)	
MBLK	1,2-Dichloroethane	ND	<0.50	UGL			
MS	1,2-Dichloroethane	10	10.6	UGL	106.0	(80-140)	
MSD	1,2-Dichloroethane	10	10.3	UGL	103.0	(80-140)	2.9
RPD_MS	1,2-Dichloroethane	106.000	103.000	UGL	2.9	(0-20)	
LCS1	1,2-Dichloropropane	4	3.89	UGL	97.2	(70-130)	
MBLK	1,2-Dichloropropane	ND	<0.50	UGL			
MS	1,2-Dichloropropane	10	10.6	UGL	106.0	(70-130)	
MSD	1,2-Dichloropropane	10	9.92	UGL	99.2	(70-130)	6.6
RPD_MS	1,2-Dichloropropane	106.000	99.200	UGL	6.6	(0-20)	
LCS1	1,3,5-Trimethylbenzene	4	3.75	UGL	93.8	(70-130)	
MBLK	1,3,5-Trimethylbenzene	ND	<0.50	UGL			

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MS	1,3,5-Trimethylbenzene	10	10.7	UGL	107.0	(70-130)	
MSD	1,3,5-Trimethylbenzene	10	10.8	UGL	108.0	(70-130)	0.93
RPD_MS	1,3,5-Trimethylbenzene	107.000	108.000	UGL	0.9	(0-20)	
LCS1	1,3-Dichloropropane	4	3.75	UGL	93.8	(70-130)	
MBLK	1,3-Dichloropropane	ND	<0.50	UGL			
MS	1,3-Dichloropropane	10	10.5	UGL	105.0	(70-130)	
MSD	1,3-Dichloropropane	10	9.89	UGL	98.9	(70-130)	6.0
RPD_MS	1,3-Dichloropropane	105.000	98.900	UGL	6.0	(0-20)	
LCS1	p-Dichlorobenzene (1,4-DCB)	4	3.90	UGL	97.5	(70-130)	
MBLK	p-Dichlorobenzene (1,4-DCB)	ND	<0.50	UGL			
MS	p-Dichlorobenzene (1,4-DCB)	10	10.9	UGL	109.0	(70-130)	
MSD	p-Dichlorobenzene (1,4-DCB)	10	10.8	UGL	108.0	(70-130)	0.92
RPD_MS	p-Dichlorobenzene (1,4-DCB)	109.000	108.000	UGL	0.9	(0-20)	
LCS1	2,2-Dichloropropane	4	4.10	UGL	102.5	(70-130)	
MBLK	2,2-Dichloropropane	ND	<0.50	UGL			
MS	2,2-Dichloropropane	10	9.84	UGL	98.4	(84-131)	
MSD	2,2-Dichloropropane	10	9.66	UGL	96.6	(84-131)	1.8
RPD_MS	2,2-Dichloropropane	98.400	96.600	UGL	1.8	(0-20)	
LCS1	2-Butanone (MEK)	40	29.4	UGL	73.5	(70-130)	
MBLK	2-Butanone (MEK)	ND	<5.00	UGL			
MS	2-Butanone (MEK)	100	76.0	UGL	76.0	(56-85)	
MSD	2-Butanone (MEK)	100	71.6	UGL	71.6	(56-85)	6.0
RPD_MS	2-Butanone (MEK)	76.000	71.600	UGL	6.0	(0-20)	
LCS1	o-Chlorotoluene	4	3.82	UGL	95.5	(70-130)	
MBLK	o-Chlorotoluene	ND	<0.50	UGL			
MS	o-Chlorotoluene	10	10.8	UGL	108.0	(70-130)	
MSD	o-Chlorotoluene	10	10.6	UGL	106.0	(70-130)	1.9
RPD_MS	o-Chlorotoluene	108.000	106.000	UGL	1.9	(0-20)	
LCS1	p-Chlorotoluene	4	3.81	UGL	95.2	(70-130)	
MBLK	p-Chlorotoluene	ND	<0.50	UGL			
MS	p-Chlorotoluene	10	10.7	UGL	107.0	(70-130)	
MSD	p-Chlorotoluene	10	10.7	UGL	107.0	(70-130)	0.00
RPD_MS	p-Chlorotoluene	107.000	107.000	UGL	0.0	(0-20)	
LCS1	4-Methyl-2-Pentanone (MIBK)	40	37.4	UGL	93.5	(70-130)	
MBLK	4-Methyl-2-Pentanone (MIBK)	ND	<5.00	UGL			
MS	4-Methyl-2-Pentanone (MIBK)	100	100	UGL	100.0	(70-130)	

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Water Resource Associates (continued)

MSD	4-Methyl-2-Pentanone (MIBK)	100	97.2	UGL	97.2	(70-130)	2.8
RPD_MS	4-Methyl-2-Pentanone (MIBK)	100.000	97.200	UGL	2.8	(0-20)	
MS	Spiked sample	Lab # 22	12190036	NONE		(0-0)	
LCS1	Benzene	4	3.65	UGL	91.2	(70-130)	
MBLK	Benzene	ND	<0.50	UGL			
MS	Benzene	10	10.7	UGL	107.0	(70-130)	
MSD	Benzene	10	10.4	UGL	104.0	(70-130)	2.8
RPD_MS	Benzene	107.000	104.000	UGL	2.8	(0-20)	
LCS1	Bromobenzene	4	3.87	UGL	96.8	(70-130)	
MBLK	Bromobenzene	ND	<0.50	UGL			
MS	Bromobenzene	10	10.8	UGL	108.0	(70-130)	
MSD	Bromobenzene	10	10.8	UGL	108.0	(70-130)	0.00
RPD_MS	Bromobenzene	108.000	108.000	UGL	0.0	(0-20)	
LCS1	Bromomethane (Methyl Bromide)	4	4.24	UGL	106.0	(70-130)	
MBLK	Bromomethane (Methyl Bromide)	ND	<0.50	UGL			
MS	Bromomethane (Methyl Bromide)	10	10.5	UGL	105.0	(74-137)	
MSD	Bromomethane (Methyl Bromide)	10	10.0	UGL	100.0	(74-137)	4.9
RPD_MS	Bromomethane (Methyl Bromide)	105.000	100.000	UGL	4.9	(0-20)	
LCS1	cis-1,2-Dichloroethylene	4	3.68	UGL	92.0	(70-130)	
MBLK	cis-1,2-Dichloroethylene	ND	<0.50	UGL			
MS	cis-1,2-Dichloroethylene	10	10.6	UGL	106.0	(86-129)	
MSD	cis-1,2-Dichloroethylene	10	10.4	UGL	104.0	(86-129)	1.9
RPD_MS	cis-1,2-Dichloroethylene	106.000	104.000	UGL	1.9	(0-20)	
LCS1	Chlorobenzene	4	3.61	UGL	90.2	(70-130)	
MBLK	Chlorobenzene	ND	<0.50	UGL			
MS	Chlorobenzene	10	10.7	UGL	107.0	(70-130)	
MSD	Chlorobenzene	10	10.4	UGL	104.0	(70-130)	2.8
RPD_MS	Chlorobenzene	107.000	104.000	UGL	2.8	(0-20)	
LCS1	Carbon Tetrachloride	4	3.51	UGL	87.8	(70-130)	
MBLK	Carbon Tetrachloride	ND	<0.50	UGL			
MS	Carbon Tetrachloride	10	11.3	UGL	113.0	(70-130)	
MSD	Carbon Tetrachloride	10	10.9	UGL	109.0	(70-130)	3.6
RPD_MS	Carbon Tetrachloride	113.000	109.000	UGL	3.6	(0-20)	
LCS1	cis-1,3-Dichloropropene	4	3.85	UGL	96.2	(60-140)	
MBLK	cis-1,3-Dichloropropene	ND	<0.50	UGL			
MS	cis-1,3-Dichloropropene	10	10.0	UGL	100.0	(85-120)	

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MSD	cis-1,3-Dichloropropene	10	9.95	UGL	99.5	(85-120)	0.50
RPD_MS	cis-1,3-Dichloropropene	100.000	99.500	UGL	0.5	(0-20)	
LCS1	Bromoform	4	3.69	UGL	92.2	(70-130)	
MBLK	Bromoform	ND	<0.50	UGL			
MS	Bromoform	10	10.2	UGL	102.0	(70-130)	
MSD	Bromoform	10	10.0	UGL	100.0	(70-130)	2.0
RPD_MS	Bromoform	102.000	100.000	UGL	2.0	(0-20)	
LCS1	Chloroform (Trichloromethane)	4	3.78	UGL	94.5	(70-130)	
MBLK	Chloroform (Trichloromethane)	ND	<0.50	UGL			
MS	Chloroform (Trichloromethane)	10	10.6	UGL	106.0	(70-130)	
MSD	Chloroform (Trichloromethane)	10	10.2	UGL	102.0	(70-130)	3.8
RPD_MS	Chloroform (Trichloromethane)	106.000	102.000	UGL	3.8	(0-20)	
LCS1	Bromochloromethane	4	3.88	UGL	97.0	(70-130)	
MBLK	Bromochloromethane	ND	<0.50	UGL			
MS	Bromochloromethane	10	10.9	UGL	109.0	(70-130)	
MSD	Bromochloromethane	10	10.4	UGL	104.0	(70-130)	4.7
RPD_MS	Bromochloromethane	109.000	104.000	UGL	4.7	(0-20)	
LCS1	Chloroethane	4	4.09	UGL	102.2	(70-130)	
MBLK	Chloroethane	ND	<0.50	UGL			
MS	Chloroethane	10	9.09	UGL	90.9	(69-151)	
MSD	Chloroethane	10	8.90	UGL	89.0	(69-151)	2.1
RPD_MS	Chloroethane	90.900	89.000	UGL	2.1	(0-20)	
LCS1	Chloromethane (Methyl Chloride)	4	4.07	UGL	101.8	(70-130)	
MBLK	Chloromethane (Methyl Chloride)	ND	<0.50	UGL			
MS	Chloromethane (Methyl Chloride)	10	9.87	UGL	98.7	(76-138)	
MSD	Chloromethane (Methyl Chloride)	10	9.48	UGL	94.8	(76-138)	4.0
RPD_MS	Chloromethane (Methyl Chloride)	98.700	94.800	UGL	4.0	(0-20)	
LCS1	Chlorodibromomethane	4	3.68	UGL	92.0	(70-130)	
MBLK	Chlorodibromomethane	ND	<0.50	UGL			
MS	Chlorodibromomethane	10	10.2	UGL	102.0	(70-130)	
MSD	Chlorodibromomethane	10	10.0	UGL	100.0	(70-130)	2.0
RPD_MS	Chlorodibromomethane	102.000	100.000	UGL	2.0	(0-20)	
LCS1	Dibromomethane	4	3.63	UGL	90.8	(70-130)	
MBLK	Dibromomethane	ND	<0.50	UGL			
MS	Dibromomethane	10	10.3	UGL	103.0	(70-130)	
MSD	Dibromomethane	10	9.97	UGL	99.7	(70-130)	3.3

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Laboratory
QC Report
#104250

Water Resource Associates
(continued)

RPD_MS	Dibromomethane	103.000	99.700	UGL	3.3	(0-20)	
LCS1	Bromodichloromethane	4	3.67	UGL	91.8	(70-130)	
MBLK	Bromodichloromethane	ND	<0.50	UGL			
MS	Bromodichloromethane	10	10.5	UGL	105.0	(70-130)	
MSD	Bromodichloromethane	10	10.1	UGL	101.0	(70-130)	3.9
RPD_MS	Bromodichloromethane	105.000	101.000	UGL	3.9	(0-20)	
LCS1	Dichloromethane	4	3.60	UGL	90.0	(70-130)	
MBLK	Dichloromethane	ND	<0.50	UGL			
MS	Dichloromethane	10	9.90	UGL	99.0	(70-130)	
MSD	Dichloromethane	10	9.71	UGL	97.1	(70-130)	1.9
RPD_MS	Dichloromethane	99.000	97.100	UGL	1.9	(0-20)	
LCS1	Di-isopropyl ether	4	4.08	UGL	102.0	(70-130)	
MBLK	Di-isopropyl ether	ND	<3.00	UGL			
MS	Di-isopropyl ether	10	10.7	UGL	107.0	(70-130)	
MSD	Di-isopropyl ether	10	10.4	UGL	104.0	(70-130)	2.8
RPD_MS	Di-isopropyl ether	107.000	104.000	UGL	2.8	(0-20)	
LCS1	Ethyl benzene	4	3.56	UGL	89.0	(70-130)	
MBLK	Ethyl benzene	ND	<0.50	UGL			
MS	Ethyl benzene	10	10.7	UGL	107.0	(70-130)	
MSD	Ethyl benzene	10	10.3	UGL	103.0	(70-130)	3.8
RPD_MS	Ethyl benzene	107.000	103.000	UGL	3.8	(0-20)	
LCS1	Dichlorodifluoromethane	4	3.50	UGL	87.5	(70-130)	
MBLK	Dichlorodifluoromethane	ND	<0.50	UGL			
MS	Dichlorodifluoromethane	10	7.75	UGL	77.5	(53-168)	
MSD	Dichlorodifluoromethane	10	8.21	UGL	82.1	(53-168)	5.8
RPD_MS	Dichlorodifluoromethane	77.500	82.100	UGL	5.8	(0-20)	
LCS1	Fluorotrichloromethane-Freon11	4	4.45	UGL	111.2	(70-130)	
MBLK	Fluorotrichloromethane-Freon11	ND	<0.50	UGL			
MS	Fluorotrichloromethane-Freon11	10	12.2	UGL	122.0	(70-130)	
MSD	Fluorotrichloromethane-Freon11	10	11.7	UGL	117.0	(70-130)	4.2
RPD_MS	Fluorotrichloromethane-Freon11	122.000	117.000	UGL	4.2	(0-20)	
LCS1	Hexachlorobutadiene	4	4.44	UGL	111.0	(70-130)	
MBLK	Hexachlorobutadiene	ND	<0.50	UGL			
MS	Hexachlorobutadiene	10	9.65	UGL	96.5	(70-130)	
MSD	Hexachlorobutadiene	10	10.2	UGL	102.0	(70-130)	5.5
RPD_MS	Hexachlorobutadiene	96.500	102.000	UGL	5.5	(0-20)	

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Laboratory
QC Report
#104250

Water Resource Associates
(continued)

LCS1	Isopropylbenzene	4	3.47	UGL	86.8	(70-130)	
MBLK	Isopropylbenzene	ND	<0.50	UGL			
MS	Isopropylbenzene	10	10.7	UGL	107.0	(70-130)	
MSD	Isopropylbenzene	10	10.5	UGL	105.0	(70-130)	1.9
RPD_MS	Isopropylbenzene	107.000	105.000	UGL	1.9	(0-20)	
LCS1	m-Dichlorobenzene (1,3-DCB)	4	3.96	UGL	99.0	(70-130)	
MBLK	m-Dichlorobenzene (1,3-DCB)	ND	<0.50	UGL			
MS	m-Dichlorobenzene (1,3-DCB)	10	10.9	UGL	109.0	(70-130)	
MSD	m-Dichlorobenzene (1,3-DCB)	10	10.6	UGL	106.0	(70-130)	2.8
RPD_MS	m-Dichlorobenzene (1,3-DCB)	109.000	106.000	UGL	2.8	(0-20)	
LCS1	m,p-Xylenes	8	7.19	UGL	89.9	(70-130)	
MBLK	m,p-Xylenes	ND	<0.50	UGL			
MS	m,p-Xylenes	20	22.0	UGL	110.0	(70-130)	
MSD	m,p-Xylenes	20	21.1	UGL	105.5	(70-130)	4.2
RPD_MS	m,p-Xylenes	110.000	105.500	UGL	4.2	(0-20)	
LCS1	Methyl Tert-butyl ether (MTBE)	4	3.78	UGL	94.5	(60-140)	
MBLK	Methyl Tert-butyl ether (MTBE)	ND	<3.00	UGL			
MS	Methyl Tert-butyl ether (MTBE)	10	8.95	UGL	89.5	(70-130)	
MSD	Methyl Tert-butyl ether (MTBE)	10	8.77	UGL	87.7	(70-130)	2.0
RPD_MS	Methyl Tert-butyl ether (MTBE)	89.500	87.700	UGL	2.0	(0-20)	
LCS1	Naphthalene	4	3.77	UGL	94.2	(70-130)	
MBLK	Naphthalene	ND	<0.50	UGL			
MS	Naphthalene	10	9.34	UGL	93.4	(70-130)	
MSD	Naphthalene	10	9.73	UGL	97.3	(70-130)	4.1
RPD_MS	Naphthalene	93.400	97.300	UGL	4.1	(0-20)	
LCS1	n-Butylbenzene	4	3.94	UGL	98.5	(70-130)	
MBLK	n-Butylbenzene	ND	<0.50	UGL			
MS	n-Butylbenzene	10	10.2	UGL	102.0	(70-130)	
MSD	n-Butylbenzene	10	10.7	UGL	107.0	(70-130)	4.8
RPD_MS	n-Butylbenzene	102.000	107.000	UGL	4.8	(0-20)	
LCS1	n-Propylbenzene	4	3.62	UGL	90.5	(70-130)	
MBLK	n-Propylbenzene	ND	<0.50	UGL			
MS	n-Propylbenzene	10	10.7	UGL	107.0	(70-130)	
MSD	n-Propylbenzene	10	10.8	UGL	108.0	(70-130)	0.93
RPD_MS	n-Propylbenzene	107.000	108.000	UGL	0.9	(0-20)	
LCS1	o-Xylene	4	3.71	UGL	92.8	(70-130)	

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MBLK	o-Xylene	ND	<0.50	UGL			
MS	o-Xylene	10	11.0	UGL	110.0	(70-130)	
MSD	o-Xylene	10	10.6	UGL	106.0	(70-130)	3.7
RPD_MS	o-Xylene	110.000	106.000	UGL	3.7	(0-20)	
LCS1	o-Dichlorobenzene (1,2-DCB)	4	3.83	UGL	95.8	(70-130)	
MBLK	o-Dichlorobenzene (1,2-DCB)	ND	<0.50	UGL			
MS	o-Dichlorobenzene (1,2-DCB)	10	10.3	UGL	103.0	(70-130)	
MSD	o-Dichlorobenzene (1,2-DCB)	10	10.4	UGL	104.0	(70-130)	0.97
RPD_MS	o-Dichlorobenzene (1,2-DCB)	103.000	104.000	UGL	1.0	(0-20)	
LCS1	Tetrachloroethylene (PCE)	4	3.53	UGL	88.2	(70-130)	
MBLK	Tetrachloroethylene (PCE)	ND	<0.50	UGL			
MS	Tetrachloroethylene (PCE)	10	11.2	UGL	112.0	(70-130)	
MSD	Tetrachloroethylene (PCE)	10	10.7	UGL	107.0	(70-130)	4.6
RPD_MS	Tetrachloroethylene (PCE)	112.000	107.000	UGL	4.6	(0-20)	
LCS1	p-Isopropyltoluene	4	3.92	UGL	98.0	(70-130)	
MBLK	p-Isopropyltoluene	ND	<0.50	UGL			
MS	p-Isopropyltoluene	10	10.6	UGL	106.0	(70-130)	
MSD	p-Isopropyltoluene	10	10.6	UGL	106.0	(70-130)	0.00
RPD_MS	p-Isopropyltoluene	106.000	106.000	UGL	0.0	('0-20')	
LCS1	sec-Butylbenzene	4	3.72	UGL	93.0	(70-130)	
MBLK	sec-Butylbenzene	ND	<0.50	UGL			
MS	sec-Butylbenzene	10	10.8	UGL	108.0	(70-130)	
MSD	sec-Butylbenzene	10	10.8	UGL	108.0	(70-130)	0.00
RPD_MS	sec-Butylbenzene	108.000	108.000	UGL	0.0	(0-20)	
LCS1	Styrene	4	3.71	UGL	92.8	(70-130)	
MBLK	Styrene	ND	<0.50	UGL			
MS	Styrene	10	10.7	UGL	107.0	(70-130)	
MSD	Styrene	10	10.3	UGL	103.0	(70-130)	3.8
RPD_MS	Styrene	107.000	103.000	UGL	3.8	(0-20)	
LCS1	trans-1,2-Dichloroethylene	4	3.44	UGL	86.0	(70-130)	
MBLK	trans-1,2-Dichloroethylene	ND	<0.50	UGL			
MS	trans-1,2-Dichloroethylene	10	10.9	UGL	109.0	(85-129)	
MSD	trans-1,2-Dichloroethylene	10	10.4	UGL	104.0	(85-129)	4.7
RPD_MS	trans-1,2-Dichloroethylene	109.000	104.000	UGL	4.7	(0-20)	
LCS1	tert-amyl Methyl Ether	4	3.95	UGL	98.8	(70-130)	
MBLK	tert-amyl Methyl Ether	ND	<3.00	UGL			

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MS	tert-amyl Methyl Ether	10	10.1	UGL	101.0	(70-130)	
MSD	tert-amyl Methyl Ether	10	9.96	UGL	99.6	(70-130)	1.4
RPD_MS	tert-amyl Methyl Ether	101.000	99.600	UGL	1.4	(0-20)	
LCS1	tert-Butyl Ethyl Ether	4	4.05	UGL	101.2	(70-130)	
MBLK	tert-Butyl Ethyl Ether	ND	<3.00	UGL			
MS	tert-Butyl Ethyl Ether	10	10.1	UGL	101.0	(70-130)	
MSD	tert-Butyl Ethyl Ether	10	9.84	UGL	98.4	(70-130)	2.6
RPD_MS	tert-Butyl Ethyl Ether	101.000	98.400	UGL	2.6	(0-20)	
LCS1	tert-Butylbenzene	4	3.32	UGL	83.0	(70-130)	
MBLK	tert-Butylbenzene	ND	<0.50	UGL			
MS	tert-Butylbenzene	10	10.7	UGL	107.0	(70-130)	
MSD	tert-Butylbenzene	10	10.7	UGL	107.0	(70-130)	0.00
RPD_MS	tert-Butylbenzene	107.000	107.000	UGL	0.0	(0-20)	
LCS1	Trichloroethylene (TCE)	4	3.53	UGL	88.2	(70-130)	
MBLK	Trichloroethylene (TCE)	ND	<0.50	UGL			
MS	Trichloroethylene (TCE)	10	10.3	UGL	103.0	(70-130)	
MSD	Trichloroethylene (TCE)	10	10.1	UGL	101.0	(70-130)	2.0
RPD_MS	Trichloroethylene (TCE)	103.000	101.000	UGL	2.0	(0-20)	
LCS1	Trichlorotrifluoroethane(Freon	4	4.15	UGL	103.8	(70-130)	
MBLK	Trichlorotrifluoroethane(Freon	ND	<0.50	UGL			
MS	Trichlorotrifluoroethane(Freon	10	10.7	UGL	107.0	(70-130)	
MSD	Trichlorotrifluoroethane(Freon	10	10.3	UGL	103.0	(70-130)	3.8
RPD_MS	Trichlorotrifluoroethane(Freon	107.000	103.000	UGL	3.8	(0-20)	
LCS1	trans-1,3-Dichloropropene	4	3.82	UGL	95.5	(60-140)	
MBLK	trans-1,3-Dichloropropene	ND	<0.50	UGL			
MS	trans-1,3-Dichloropropene	10	9.85	UGL	98.5	(80-131)	
MSD	trans-1,3-Dichloropropene	10	9.63	UGL	96.3	(80-131)	2.3
RPD_MS	trans-1,3-Dichloropropene	98.500	96.300	UGL	2.3	(0-20)	
LCS1	Toluene	4	3.52	UGL	88.0	(70-130)	
MBLK	Toluene	ND	<0.50	UGL			
MS	Toluene	10	10.7	UGL	107.0	(70-130)	
MSD	Toluene	10	10.3	UGL	103.0	(70-130)	3.8
RPD_MS	Toluene	107.000	103.000	UGL	3.8	(0-20)	
LCS1	Vinyl chloride (VC)	4	4.30	UGL	107.5	(70-130)	
MBLK	Vinyl chloride (VC)	ND	<0.30	UGL			
MS	Vinyl chloride (VC)	10	10.9	UGL	109.0	(67-152)	

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MSD	Vinyl chloride (VC)	10	10.5	UGL	105.0	(67-152)	3.7
RPD_MS	Vinyl chloride (VC)	109.000	105.000	UGL	3.7	(0-20)	

QC Ref #189058 Herbicides by 515.3

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
LCS1	2,4,5-T	0.75	0.76	UGL	101.3	(70-130)	
LCS2	2,4,5-T	3.0	2.99	UGL	99.7	(70-130)	
MBLK	2,4,5-T	ND	<0.20	UGL			
MS1	2,4,5-T	3.00	3.35	UGL	111.7	(70-130)	
MS2	2,4,5-T	0.75	0.79	UGL	105.3	(70-130)	
LCS1	2,4,5-TP (Silvex)	0.75	0.69	UGL	92.0	(70-130)	
LCS2	2,4,5-TP (Silvex)	3.0	2.63	UGL	87.7	(70-130)	
MBLK	2,4,5-TP (Silvex)	ND	<0.20	UGL			
MS1	2,4,5-TP (Silvex)	3.00	2.80	UGL	93.3	(70-130)	
MS2	2,4,5-TP (Silvex)	0.75	0.69	UGL	92.0	(70-130)	
LCS1	2,4-D	0.375	0.42	UGL	112.0	(70-130)	
LCS2	2,4-D	1.5	1.64	UGL	109.3	(70-130)	
MBLK	2,4-D	ND	<0.10	UGL			
MS1	2,4-D	1.50	1.41	UGL	94.0	(70-130)	
MS2	2,4-D	0.375	0.34	UGL	90.7	(70-130)	
LCS1	2,4-DB	7.5	6.60	UGL	88.0	(70-130)	
LCS2	2,4-DB	30.0	26.2	UGL	87.3	(70-130)	
MBLK	2,4-DB	ND	<2.00	UGL			
MS1	2,4-DB	30.0	27.1	UGL	90.3	(70-130)	
MS2	2,4-DB	7.50	6.76	UGL	90.1	(70-130)	
LCS1	Dichlorprop	1.875	2.07	UGL	110.4	(70-130)	
LCS2	Dichlorprop	7.5	7.46	UGL	99.5	(70-130)	
MBLK	Dichlorprop	ND	<0.50	UGL			
MS1	Dichlorprop	7.50	8.17	UGL	108.9	(70-130)	
MS2	Dichlorprop	1.875	2.16	UGL	115.2	(70-130)	
MS1	Spiked sample	Lab # 22	12180055	NONE		(0-0)	
MS2	Spiked sample	Lab # 22	12190063	NONE		(0-0)	
LCS1	Acifluorfen	0.75	0.77	UGL	102.7	(70-130)	
LCS2	Acifluorfen	3.0	2.95	UGL	98.3	(70-130)	

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MBLK	Acifluorfen	ND	<0.20	UGL		
MS1	Acifluorfen	3.00	3.10	UGL	103.3	(70-130)
MS2	Acifluorfen	0.75	0.84	UGL	112.0	(70-130)
LCS1	Bentazon	1.875	1.39	UGL	74.1	(70-130)
LCS2	Bentazon	7.5	5.37	UGL	71.6	(70-130)
MBLK	Bentazon	ND	<0.50	UGL		
MS1	Bentazon	7.50	5.22	UGL	69.6	(70-130)
MS2	Bentazon	1.875	1.23	UGL	65.6	(70-130)
LCS1	Dalapon	3.75	3.13	UGL	83.5	(70-130)
LCS2	Dalapon	15.0	15.4	UGL	102.7	(70-130)
MBLK	Dalapon	*ND*	*<1.00*	UGL		
MS1	Dalapon	15.0	17.7	UGL	118.0	(70-130)
MS2	Dalapon	3.75	3.56	UGL	94.9	(70-130)
LCS1	3,5-Dichlorobenzoic acid	1.875	1.79	UGL	95.5	(70-130)
LCS2	3,5-Dichlorobenzoic acid	7.5	6.87	UGL	91.6	(70-130)
MBLK	3,5-Dichlorobenzoic acid	ND	<0.50	UGL		
MS1	3,5-Dichlorobenzoic acid	7.50	7.60	UGL	101.3	(70-130)
MS2	3,5-Dichlorobenzoic acid	1.875	1.75	UGL	93.3	(70-130)
LCS1	Tot DCPA Mono&Diacid Degradate	0.75	0.94	UGL	125.3	(70-130)
LCS2	Tot DCPA Mono&Diacid Degradate	3.0	3.57	UGL	119.0	(70-130)
MBLK	Tot DCPA Mono&Diacid Degradate	ND	<0.20	UGL		
MS1	Tot DCPA Mono&Diacid Degradate	3.00	3.68	UGL	122.7	(70-130)
MS2	Tot DCPA Mono&Diacid Degradate	0.75	1.15	UGL	153.3	(70-130)
LCS1	Dicamba	0.1875	0.22	UGL	117.3	(70-130)
LCS2	Dicamba	0.75	0.72	UGL	96.0	(70-130)
MBLK	Dicamba	ND	<0.08	UGL		
MS1	Dicamba	0.75	0.89	UGL	118.7	(70-130)
MS2	Dicamba	0.1875	0.26	UGL	138.7	(70-130)
LCS1	Dinoseb	0.75	0.72	UGL	96.0	(70-130)
LCS2	Dinoseb	3.0	2.62	UGL	87.3	(70-130)
MBLK	Dinoseb	ND	<0.20	UGL		
MS1	Dinoseb	3.00	2.71	UGL	90.3	(70-130)
MS2	Dinoseb	0.75	0.72	UGL	96.0	(70-130)
LCS1	Pentachlorophenol	0.15	0.16	UGL	106.7	(70-130)
LCS2	Pentachlorophenol	0.60	0.60	UGL	100.0	(70-130)
MBLK	Pentachlorophenol	ND	<0.04	UGL		

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MS1	Pentachlorophenol	0.60	0.65	UGL	108.3	(70-130)	
MS2	Pentachlorophenol	0.15	0.20	UGL	133.3	(70-130)	
LCS1	Picloram	0.375	0.45	UGL	120.0	(70-130)	
LCS2	Picloram	1.5	1.59	UGL	106.0	(70-130)	
MBLK	Picloram	ND	<0.10	UGL			
MS1	Picloram	1.50	1.85	UGL	123.3	(70-130)	
MS2	Picloram	0.375	0.54	UGL	144.0	(70-130)	
LCS1	4-Nitrophenol (qualitative)	3.75	4.26	UGL	113.6	(70-130)	
LCS2	4-Nitrophenol (qualitative)	15.0	18.1	UGL	120.7	(70-130)	
MBLK	4-Nitrophenol (qualitative)	ND	<1.00	UGL			
MS1	4-Nitrophenol (qualitative)	15.0	30.1	UGL	200.7	(70-130)	
MS2	4-Nitrophenol (qualitative)	3.75	7.40	UGL	197.3	(70-130)	
LCS1	2,4-Dichlorophenylacetic acid	100	100	%R	100.0	(70-130)	
LCS2	2,4-Dichlorophenylacetic acid	100	82	%R	82.0	(70-130)	20
MBLK	2,4-Dichlorophenylacetic acid	100	101	%R	101.0		
MS1	2,4-Dichlorophenylacetic acid	100	93	%R	93.0	(70-130)	
MS2	2,4-Dichlorophenylacetic acid	100	103	%R	103.0	(70-130)	

QC Ref #189130 Diquat and Paraquat

QC	Analyte	Spiked	Recovered	Units	Yield (%)	Limits (%)	RPD (%)
MS	Spiked sample	Lab # 22	12180012	NONE		(0-0)	
LCS1	Diquat	10.0	5.9	UGL	59.0	(70-130)	
LCS2	Diquat	10.0	6.5	UGL	65.0	(70-130)	9.7
MBLK	Diquat	ND	<0.40	UGL			
MS	Diquat	10.0	6.4	UGL	64.0	(70-130)	
MSD	Diquat	10.0	6.9	UGL	69.0	(70-130)	7.5
RPD_LCS	Diquat	59.000	65.000	UGL	9.7	(0-20)	
RPD_MS	Diquat	64.000	69.000	UGL	7.5	(0-20)	
LCS1	Paraquat	10.0	6.8	UGL	68.0	(70-130)	
LCS2	Paraquat	10.0	7.3	UGL	73.0	(70-130)	7.1
MBLK	Paraquat	ND	<2.00	UGL			
MS	Paraquat	10.0	7.4	UGL	74.0	(70-130)	
MSD	Paraquat	10.0	8.0	UGL	80.0	(70-130)	7.8
RPD_LCS	Paraquat	68.000	73.000	UGL	7.1	(0-20)	

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RPD_MS	Paraquat	74.000	80.000	UGL	7.8	(0-20)	

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WRA 104250

1/13 MC

Weck Laboratories, Inc.
Environmental and Analytical Services - Since 1964

Report Date: Monday, January 6, 2003
Received Date: Thursday, December 19, 2002
Received Time: 5:07 pm

Turnaround Time: Normal

Client: MWH Laboratories
555 East Walnut Street
Pasadena, CA 91101

Phone: (626) 568-6437
FAX: (626) 568-6324

Attn: Martha Frost

Project: 104250

P.O.#: 99-9479

Certificate of Analysis

Work Order No: 2121995-01 **Sample ID:** 2212190036 **Matrix:** Water
Sampled by: Client **Sampled:** 18-Dec-02 00:00 **Sample Note:**

Analyte	Result	Qualifier	Units	Reporting Limit	Dilution	Method	Prepared	Analyzed	Batch
Alachlor	ND		ug/l	1.0	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Atrazine	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Bromacil	ND		ug/l	10	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Butachlor	ND		ug/l	0.38	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Diazinon	ND		ug/l	0.25	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Dimethoate	ND		ug/l	1.0	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Metolachlor	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Metribuzin	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Molinate	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Prometon	ND		ug/l	1.0	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Prometryn	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Simazine	ND		ug/l	0.50	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Thiobencarb	ND		ug/l	1.0	1	507 L-L	23-Dec-02	01-Jan-03	fv W21265
Surrogate: 1,3-Dimethyl-2-nitrobenzene			*112 %*	*70-130*			*23-Dec-02*	01-Jan-03	fv *W21265*
Aldrin	ND		ug/l	0.075	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
alpha-BHC	ND		ug/l	0.050	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
beta-BHC	ND		ug/l	0.050	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
delta-BHC	ND		ug/l	0.50	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
gamma-BHC (Lindane)	ND		ug/l	0.20	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
4,4'-DDD	ND		ug/l	0.020	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
4,4'-DDE	ND		ug/l	0.010	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
4,4'-DDT	ND		ug/l	0.020	1	EPA 508	23-Dec-02	26-Dec-02	fv W21266
Dieldrin	ND		ug/l	0.020	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Endosulfan I	ND		ug/l	0.020	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Endosulfan II	ND		ug/l	0.010	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Endosulfan sulfate	ND		ug/l	0.050	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Endrin	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Endrin aldehyde	ND		ug/l	0.050	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Heptachlor	ND		ug/l	0.010	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Heptachlor epoxide	ND		ug/l	0.010	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660
Methoxychlor	ND		ug/l	10	1	EPA 508	23-Dec-02	26-Dec-02	fv W212660

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Certificate of Analysis

Work Order No: 2121995-01 **Sample ID:** 2212190036 **Matrix:** Water
Sampled by: Client **Sampled:** 18-Dec-02 00:00 **Sample Note:**

Analyte	Result	Qualifier	Units	Reporting Limit	Dilution	Method	Prepared	Analyzed	Batc.
Chlorothalonil	ND		ug/l	5.0	1	EPA 508	23-Dec-02	26-Dec-02	fv W2 26
Hexachlorobenzene	ND		ug/l	0.50	1	EPA 508	23-Dec-02	26-Dec-02	fv W2.26
Hexachlorocyclopentadiene	ND		ug/l	1.0	1	EPA 508	23-Dec-02	26-Dec-02	fv W2126
Propachlor	ND		ug/l	0.50	1	EPA 508	23-Dec-02	26-Dec-02	fv W2 26
Trifluralin	ND		ug/l	0.010	1	EPA 508	23-Dec-02	26-Dec-02	fv W2.26
Chlordane (tech)	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W2126
Toxaphene	ND		ug/l	1.0	1	EPA 508	23-Dec-02	26-Dec-02	fv W2 26
PCB-1016	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W2 26
PCB-1221	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W2126
PCB-1232	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W2 26
PCB-1242	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W2 26
PCB-1248	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W2126
PCB-1254	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W2 26
PCB-1260	ND		ug/l	0.10	1	EPA 508	23-Dec-02	26-Dec-02	fv W2 26
Surrogate: Decachlorobiphenyl	*91.3 %*			*70-130*			*23-Dec-02*	26-Dec-02	fv *W2126*
Surrogate: Tetrachloro-meta-xylene	*88.1 %*			*70-130*			*23-Dec-02*	26-Dec-02	fv *W2 26*
Dimethyl phthalate	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2 7
Acenaphthylene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2127
Diethyl phthalate	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2127
Fluorene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2 7
Bis(2-ethylhexyl)adipate	ND		ug/l	5.0	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2127
Bis(2-ethylhexyl)phthalate	ND		ug/l	3.0	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2127
Benzo (a) anthracene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2 7
Chrysene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2127
Benzo (b) fluoranthene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2127
Benzo (k) fluoranthene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2 7
Benzo (a) pyrene	ND		ug/l	0.10	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2127
Indeno (1,2,3-cd) pyrene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2127
Dibenz (a,h) anthracene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2 7
Benzo (g,h,i) perylene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2 7
Phenanthrene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2127
Anthracene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2 7
Di-n-butyl phthalate	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2 7
Fluoranthene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2127
Pyrene	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2 7
Butyl benzyl phthalate	ND		ug/l	0.50	1	EPA 525.2	26-Dec-02	02-Jan-03	BN W2 7
Surrogate: 1,3-Dimethyl-2-nitrobenzene	*100 %*			*34-146*			*26-Dec-02*	02-Jan-03	BN *W2127*
Surrogate: Perylene-d12	*81.0 %*			*40-120*			*26-Dec-02*	02-Jan-03	BN *W2 7*
Surrogate: Triphenyl phosphate	*102 %*			*39-134*			*26-Dec-02*	02-Jan-03	BN *W2 7*

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Quality Control Report

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N & P Pesticides by EPA 507 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212657 - EPA 3510C									
Blank (W212657-BLK1)						Prepared: 23-Dec-02 Analyzed: 02-Jan-03			
Alachlor		ND		ug/l					
Atrazine		ND		ug/l					
Bromacil		ND		ug/l					
Butachlor		ND		ug/l					
Diazinon		ND		ug/l					
Dimethoate		ND		ug/l					
Metolachlor		ND		ug/l					
Metribuzin		ND		ug/l					
Molinate		ND		ug/l					
Prometon		ND		ug/l					
Prometryn		ND		ug/l					
Simazine		ND		ug/l					
Thiobencarb		ND		ug/l					
Surrogate: 1,3-Dimethyl-2-nitrobenzene			*2.35*	ug/l	*2.50*	*94.0*	*70-130*		
LCS (W212657-BS1)						Prepared: 23-Dec-02 Analyzed: 01-Jan-03			
Alachlor		4.15		ug/l	4.00	104	25-160		
Atrazine		0.755		ug/l	1.00	75.5	22-156		
Bromacil		22.1		ug/l	20.0	110	28-168		
Butachlor		2.09		ug/l	2.00	104	23-160		
Diazinon		0.788		ug/l	1.00	78.8	14-157		
Metolachlor		1.98		ug/l	2.00	99.0	34-138		
Metribuzin		2.05		ug/l	2.00	102	44-132		
Molinate		0.812		ug/l	1.00	81.2	24-163		
Prometryn		1.01		ug/l	1.00	101	21-160		
Simazine		0.811		ug/l	1.00	81.1	29-162		
Thiobencarb		4.16		ug/l	4.00	104	33-154		
Surrogate: 1,3-Dimethyl-2-nitrobenzene			*2.03*	ug/l	*2.50*	*81.2*	*70-130*		
Matrix Spike (W212657-MS1)	**Source: 2121922-01**					Prepared: 23-Dec-02 Analyzed: 01-Jan-03			
Alachlor	ND	2.89		ug/l	4.00	72.2	60-130		
Atrazine	ND	0.908		ug/l	1.00	90.8	57-127		
Bromacil	ND	14.3		ug/l	20.0	71.5	56-126		
Butachlor	ND	1.49		ug/l	2.00	74.5	58-128		
Diazinon	ND	0.786		ug/l	1.00	78.6	58-128		
Metolachlor	ND	1.21		ug/l	2.00	60.5	23-149		
Metribuzin	ND	1.49		ug/l	2.00	74.5	66-136		
Molinate	ND	0.990		ug/l	1.00	99.0	63-133		
Prometryn	ND	0.726		ug/l	1.00	72.6	58-128		
Simazine	ND	1.15		ug/l	1.00	115	65-135		
Thiobencarb	ND	2.87		ug/l	4.00	71.8	26-167		
Surrogate: 1,3-Dimethyl-2-nitrobenzene			*1.80*	ug/l	*2.50*	*72.0*	*70-130*		

Lab#: 2121995

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N & P Pesticides by EPA 507 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212657 - EPA 3510C									
Matrix Spike Dup (W212657-MSD1)		**Source: 2121922-01**			Prepared: 23-Dec-02 Analyzed: 01-Jan-03				
Alachlor	ND	2.84		ug/l	4.00	71.0	60-130	1.75	30
Atrazine	ND	0.676		ug/l	1.00	67.6	57-127	29.3	30
Bromacil	ND	19.3		ug/l	20.0	96.5	56-126	29.8	30
Butachlor	ND	1.88		ug/l	2.00	94.0	58-128	23.1	30
Diazinon	ND	0.764		ug/l	1.00	76.4	58-128	2.84	30
Metolachlor	ND	1.57		ug/l	2.00	78.5	23-149	25.9	30
Metribuzin	ND	1.52		ug/l	2.00	76.0	66-136	1.99	30
Molinate	ND	0.798		ug/l	1.00	79.8	63-133	21.5	30
Prometryn	ND	0.700		ug/l	1.00	70.0	58-128	3.65	30
Simazine	ND	0.948		ug/l	1.00	94.8	65-135	19.3	30
Thiobencarb	ND	3.71		ug/l	4.00	92.8	26-167	25.5	30
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*2.55*		ug/l	*2.50*	*102*	*70-130*		

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Chlorinated Pesticides and PCBs by EPA Method 508 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212660 - EPA 508									
Blank (W212660-BLK1)					Prepared: 23-Dec-02 Analyzed: 26-Dec-02				
Aldrin		ND		ug/l					
alpha-BHC		ND		ug/l					
beta-BHC		ND		ug/l					
delta-BHC		ND		ug/l					
gamma-BHC (Lindane)		ND		ug/l					
4,4'-DDD		ND		ug/l					
4,4'-DDE		ND		ug/l					
4,4'-DDT		ND		ug/l					
Dieldrin		ND		ug/l					
Endosulfan I		ND		ug/l					
Endosulfan II		ND		ug/l					
Endosulfan sulfate		ND		ug/l					
Endrin		ND		ug/l					
Endrin aldehyde		ND		ug/l					
Heptachlor		ND		ug/l					
Heptachlor epoxide		ND		ug/l					
Methoxychlor		ND		ug/l					
Chlorothalonil		ND		ug/l					
Hexachlorobenzene		ND		ug/l					
Hexachlorocyclopentadiene		ND		ug/l					
Propachlor		ND		ug/l					

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Quality Control Report

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Chlorinated Pesticides and PCBs by EPA Method 508 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212660 - EPA 508									
Blank (W212660-BLK1)						Prepared: 23-Dec-02 Analyzed: 26-Dec-02			
Trifluralin		ND		ug/l					
Chlordane (tech)		ND		ug/l					
Toxaphene		ND		ug/l					
PCB-1016		ND		ug/l					
PCB-1221		ND		ug/l					
PCB-1232		ND		ug/l					
PCB-1242		ND		ug/l					
PCB-1248		ND		ug/l					
PCB-1254		ND		ug/l					
PCB-1260		ND		ug/l					
Surrogate: Decachlorobiphenyl			*0.110*	ug/l	*0.100*	*110*	*70-130*		
Surrogate: Tetrachloro-meta-xylene			*0.0924*	ug/l	*0.100*	*92.4*	*70-130*		
LCS (W212660-BS1)						Prepared: 23-Dec-02 Analyzed: 26-Dec-02			
Aldrin		0.0860		ug/l	0.100	86.0	40-129		
alpha-BHC		0.0879		ug/l	0.100	87.9	34-127		
beta-BHC		0.0930		ug/l	0.100	93.0	41-141		
delta-BHC		0.0919		ug/l	0.100	91.9	34-139		
gamma-BHC (Lindane)		0.0862		ug/l	0.100	86.2	42-134		
4,4'-DDD		0.102		ug/l	0.100	102	45-130		
4,4'-DDE		0.0917		ug/l	0.100	91.7	48-126		
4,4'-DDT		0.0991		ug/l	0.100	99.1	33-146		
Dieldrin		0.0778		ug/l	0.100	77.8	47-128		
Endosulfan I		0.0864		ug/l	0.100	86.4	49-123		
Endosulfan II		0.0877		ug/l	0.100	87.7	50-117		
Endosulfan sulfate		0.0916		ug/l	0.100	91.6	31-211		
Endrin		0.0936		ug/l	0.100	93.6	32-163		
Endrin aldehyde		0.123		ug/l	0.100	123	40-139		
Heptachlor		0.0906		ug/l	0.100	90.6	35-151		
Heptachlor epoxide		0.0907		ug/l	0.100	90.7	53-128		
Methoxychlor		0.109		ug/l	0.100	109	64-146		
Surrogate: Decachlorobiphenyl			*0.112*	ug/l	*0.100*	*112*	*70-130*		
Surrogate: Tetrachloro-meta-xylene			*0.0921*	ug/l	*0.100*	*92.1*	*70-130*		
Matrix Spike (W212660-MS1)	**Source: 2121995-01**					Prepared: 23-Dec-02 Analyzed: 26-Dec-02			
Aldrin	ND	0.0981		ug/l	0.100	98.1	51-121		
alpha-BHC	ND	0.0999		ug/l	0.100	99.9	57-127		
beta-BHC	ND	0.107		ug/l	0.100	107	60-130		
delta-BHC	ND	0.109		ug/l	0.100	109	67-137		
gamma-BHC (Lindane)	ND	0.0999		ug/l	0.100	99.9	54-124		
4,4'-DDD	ND	0.116		ug/l	0.100	116	72-142		
4,4'-DDE	ND	0.105		ug/l	0.100	105	64-134		

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Chlorinated Pesticides and PCBs by EPA Method 508 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212660 - EPA 508									
Matrix Spike (W212660-MS1)		Source: 2121995-01			Prepared: 23-Dec-02 Analyzed: 26-Dec-02				
4,4'-DDT	ND	0.111		ug/l	0.100	111	77-147		
Dieldrin	ND	0.0913		ug/l	0.100	91.3	52-122		
Endosulfan I	ND	0.100		ug/l	0.100	100	52-122		
Endosulfan II	ND	0.101		ug/l	0.100	101	57-127		
Endosulfan sulfate	ND	0.118		ug/l	0.100	118	67-137		
Endrin	ND	0.106		ug/l	0.100	106	53-123		
Endrin aldehyde	ND	0.143	Q-08	ug/l	0.100	143	53-123		
Heptachlor	ND	0.104		ug/l	0.100	104	63-133		
Heptachlor epoxide	ND	0.104		ug/l	0.100	104	52-122		
Methoxychlor	ND	0.127		ug/l	0.100	127	70-140		
Surrogate: Decachlorobiphenyl		*0.0954*		ug/l	*0.100*	*95.4*	*70-130*		
Surrogate: Tetrachloro-meta-xylene		*0.0902*		ug/l	*0.100*	*90.2*	*70-130*		
Matrix Spike Dup (W212660-MSD1)		Source: 2121995-01			Prepared: 23-Dec-02 Analyzed: 26-Dec-02				
Aldrin	ND	0.0860		ug/l	0.100	86.0	51-121	13.1	30
alpha-BHC	ND	0.0878		ug/l	0.100	87.8	57-127	12.9	30
beta-BHC	ND	0.0917		ug/l	0.100	91.7	60-130	15.4	30
delta-BHC	ND	0.0929		ug/l	0.100	92.9	67-137	15.9	30
gamma-BHC (Lindane)	ND	0.0865		ug/l	0.100	86.5	54-124	14.4	30
4,4'-DDD	ND	0.100		ug/l	0.100	100	72-142	14.8	30
4,4'-DDE	ND	0.0921		ug/l	0.100	92.1	64-134	13.1	30
4,4'-DDT	ND	0.0989		ug/l	0.100	98.9	77-147	11.5	30
Dieldrin	ND	0.0789		ug/l	0.100	78.9	52-122	14.6	30
Endosulfan I	ND	0.0856		ug/l	0.100	85.6	52-122	15.5	30
Endosulfan II	ND	0.0877		ug/l	0.100	87.7	57-127	14.1	30
Endosulfan sulfate	ND	0.0983		ug/l	0.100	98.3	67-137	18.2	30
Endrin	ND	0.0930		ug/l	0.100	93.0	53-123	13.1	30
Endrin aldehyde	ND	0.133	Q-08	ug/l	0.100	133	53-123	7.25	30
Heptachlor	ND	0.0909		ug/l	0.100	90.9	63-133	13.4	30
Heptachlor epoxide	ND	0.0902		ug/l	0.100	90.2	52-122	14.2	30
Methoxychlor	ND	0.111		ug/l	0.100	111	70-140	13.4	30
Surrogate: Decachlorobiphenyl		*0.0930*		ug/l	*0.100*	*93.0*	*70-130*		
Surrogate: Tetrachloro-meta-xylene		*0.0912*		ug/l	*0.100*	*91.2*	*70-130*		

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Semivolatile Organic Compounds by EPA Method 525.2 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212700 - EPA 525.2									
Blank (W212700-BLK1)					Prepared: 26-Dec-02 Analyzed: 01-Jan-03				

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Quality Control Report

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Semivolatile Organic Compounds by EPA Method 525.2 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212700 - EPA 525.2									
Blank (W212700-BLK1)					Prepared: 26-Dec-02 Analyzed: 01-Jan-03				
Dimethyl phthalate		ND		ug/l					
Acenaphthylene		ND		ug/l					
Diethyl phthalate		ND		ug/l					
Fluorene		ND		ug/l					
Bis(2-ethylhexyl)adipate		ND		ug/l					
Bis(2-ethylhexyl)phthalate		ND		ug/l					
Benzo (a) anthracene		ND		ug/l					
Chrysene		ND		ug/l					
Benzo (b) fluoranthene		ND		ug/l					
Benzo (k) fluoranthene		ND		ug/l					
Benzo (a) pyrene		ND		ug/l					
Indeno (1,2,3-cd) pyrene		ND		ug/l					
Dibenz (a,h) anthracene		ND		ug/l					
Benzo (g,h,i) perylene		ND		ug/l					
Phenanthrene		ND		ug/l					
Anthracene		ND		ug/l					
Di-n-butyl phthalate		ND		ug/l					
Fluoranthene		ND		ug/l					
Pyrene		ND		ug/l					
Butyl benzyl phthalate		ND		ug/l					
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*3.38*		ug/l	*5.00*	*67.6*	*34-146*		
Surrogate: Perylene-d12		*4.44*		ug/l	*5.00*	*88.8*	*40-120*		
Surrogate: Triphenyl phosphate		*4.58*		ug/l	*5.00*	*91.6*	*39-134*		
LCS (W212700-BS1)					Prepared: 26-Dec-02 Analyzed: 01-Jan-03				
Dimethyl phthalate		4.98		ug/l	5.00	99.6	70-130		
Acenaphthylene		5.43		ug/l	5.00	109	70-130		
Diethyl phthalate		5.16		ug/l	5.00	103	70-130		
Fluorene		5.24		ug/l	5.00	105	70-130		
Bis(2-ethylhexyl)adipate		4.95		ug/l	5.00	99.0	70-130		
Bis(2-ethylhexyl)phthalate		4.91		ug/l	5.00	98.2	70-130		
Benzo (a) anthracene		4.62		ug/l	5.00	92.4	70-130		
Chrysene		4.59		ug/l	5.00	91.8	70-130		
Benzo (b) fluoranthene		4.68		ug/l	5.00	93.6	70-130		
Benzo (k) fluoranthene		4.46		ug/l	5.00	89.2	70-130		
Benzo (a) pyrene		4.06		ug/l	5.00	81.2	70-130		
Indeno (1,2,3-cd) pyrene		4.15		ug/l	5.00	83.0	70-130		
Dibenz (a,h) anthracene		4.12		ug/l	5.00	82.4	70-130		
Benzo (g,h,i) perylene		4.34		ug/l	5.00	86.8	70-130		
Phenanthrene		5.51		ug/l	5.00	110	70-130		
Anthracene		5.22		ug/l	5.00	104	70-130		
Di-n-butyl phthalate		6.32		ug/l	5.00	126	70-130		

14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634
www.wecklabs.com

Quality Control Report

Weck Laboratories, Inc

Semivolatile Organic Compounds by EPA Method 525.2 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Lim
Batch W212700 - EPA 525.2									
LCS (W212700-BS1)				Prepared: 26-Dec-02 Analyzed: 01-Jan-03					
Fluoranthene		5.51		ug/l	5.00	110	70-130		
Pyrene		5.32		ug/l	5.00	106	70-130		
Butyl benzyl phthalate		5.78		ug/l	5.00	116	70-130		
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*4.70*		ug/l	*5.00*	*94.0*	*34-146*		
Surrogate: Perylene-d12		*4.37*		ug/l	*5.00*	*87.4*	*40-120*		
Surrogate: Triphenyl phosphate		*4.71*		ug/l	*5.00*	*94.2*	*39-134*		
Matrix Spike (W212700-MS1)		Source: 2121942-04		Prepared: 26-Dec-02 Analyzed: 02-Jan-03					
Dimethyl phthalate	ND	4.78		ug/l	5.00	95.6	70-130		
Acenaphthylene	ND	4.89		ug/l	5.00	97.8	70-130		
Diethyl phthalate	0.32	5.24		ug/l	5.00	98.4	70-130		
Fluorene	ND	4.77		ug/l	5.00	95.4	70-130		
Bis(2-ethylhexyl)adipate	ND	5.49		ug/l	5.00	110	70-130		
Bis(2-ethylhexyl)phthalate	27	33.8	QM-02	ug/l	5.00	136	70-130		
Benzo (a) anthracene	ND	4.92		ug/l	5.00	98.4	70-130		
Chrysene	ND	4.83		ug/l	5.00	96.6	70-130		
Benzo (b) fluoranthene	ND	5.15		ug/l	5.00	103	70-130		
Benzo (k) fluoranthene	ND	5.00		ug/l	5.00	100	70-130		
Benzo (a) pyrene	ND	4.98		ug/l	5.00	99.6	70-130		
Indeno (1,2,3-cd) pyrene	ND	5.15		ug/l	5.00	103	70-130		
Dibenz (a,h) anthracene	ND	5.19		ug/l	5.00	104	70-130		
Benzo (g,h,i) perylene	ND	5.30		ug/l	5.00	106	70-130		
Phenanthrene	ND	4.78		ug/l	5.00	95.6	70-130		
Anthracene	ND	4.61		ug/l	5.00	92.2	70-130		
Di-n-butyl phthalate	0.48	6.00		ug/l	5.00	110	70-130		
Fluoranthene	0.0	5.00		ug/l	5.00	100	70-130		
Pyrene	ND	4.84		ug/l	5.00	96.8	70-130		
Butyl benzyl phthalate	ND	5.43		ug/l	5.00	109	70-130		
Surrogate: 1,3-Dimethyl-2-nitrobenzene		*5.11*		ug/l	*5.00*	*102*	*34-146*		
Surrogate: Perylene-d12		*5.07*		ug/l	*5.00*	*101*	*40-120*		
Surrogate: Triphenyl phosphate		*5.33*		ug/l	*5.00*	*107*	*39-134*		
Matrix Spike Dup (W212700-MSD1)		Source: 2121942-04		Prepared: 26-Dec-02 Analyzed: 02-Jan-03					
Dimethyl phthalate	ND	4.72		ug/l	5.00	94.4	70-130	1.26	30
Acenaphthylene	ND	4.91		ug/l	5.00	98.2	70-130	0.408	30
Diethyl phthalate	0.32	5.18		ug/l	5.00	97.2	70-130	1.15	30
Fluorene	ND	4.85		ug/l	5.00	97.0	70-130	1.66	30
Bis(2-ethylhexyl)adipate	ND	5.24		ug/l	5.00	105	70-130	4.66	30
Bis(2-ethylhexyl)phthalate	27	32.8		ug/l	5.00	116	70-130	3.00	30
Benzo (a) anthracene	ND	4.81		ug/l	5.00	96.2	70-130	2.26	30
Chrysene	ND	4.69		ug/l	5.00	93.8	70-130	2.94	30
Benzo (b) fluoranthene	ND	5.11		ug/l	5.00	102	70-130	0.780	30

Lab#: 2121995
14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634
www.wecklabs.com

Quality Control Report

Weck Laboratories, Inc

Semivolatile Organic Compounds by EPA Method 525.2 - Quality Control

Analyte	Sample Result	QC Result	Qualifier	Units	Spike Level	%REC	%REC Limits	RPD	RPD Limit
Batch W212700 - EPA 525.2									
Matrix Spike Dup (W212700-MSD1)		Source: 2121942-04			Prepared: 26-Dec-02 Analyzed: 02-Jan-03				
Benzo (k) fluoranthene	ND	4.83		ug/l	5.00	96.6	70-130	3.46	30
Benzo (a) pyrene	ND	4.85		ug/l	5.00	97.0	70-130	2.64	30
Indeno (1,2,3-cd) pyrene	ND	5.02		ug/l	5.00	100	70-130	2.56	30
Dibenz (a,h) anthracene	ND	4.99		ug/l	5.00	99.8	70-130	3.93	30
Benzo (g,h,i) perylene	ND	5.15		ug/l	5.00	103	70-130	2.87	30
Phenanthrene	ND	4.77		ug/l	5.00	95.4	70-130	0.209	30
Anthracene	ND	4.73		ug/l	5.00	94.6	70-130	2.57	30
Di-n-butyl phthalate	0.48	6.07		ug/l	5.00	112	70-130	1.16	30
Fluoranthene	0.0	5.04		ug/l	5.00	101	70-130	0.797	30
Pyrene	ND	4.88		ug/l	5.00	97.6	70-130	0.823	30
Butyl benzyl phthalate	ND	5.50		ug/l	5.00	110	70-130	1.28	30
Surrogate: 1,3-Dimethyl-2-nitrobenzene			*5.01*	ug/l	*5.00*	*100*	*34-146*		
Surrogate: Perylene-d12			*5.09*	ug/l	*5.00*	*102*	*40-120*		
Surrogate: Triphenyl phosphate			*5.14*	ug/l	*5.00*	*103*	*39-134*		

Authorized Signature

ELAP # 1132
LACSD # 10143

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes:
The Chain of Custody document is part of the analytical report.
Any remaining sample(s) for testing will be disposed of one month from the final report date unless other arrangements are made in advance.
All results are expressed on wet weight basis unless otherwise specified.
ND=Not detected, below the reporting limit.
Sub=Subcontracted analysis, original report enclosed.

Flags for Data Qualifiers:

Q-08 = This analyte bias high in QC sample, but not found in samples.
QM-02 = The RPD and/or percent recovery for this QC spike sample cannot be accurately calculated due to the high concentration of analyte inherent in the sample.

Lab#: 2121995
14859 East Clark Avenue, City of Industry, California 91745-1396 (626) 336-2139 FAX (626) 336-2634
www.wecklabs.com

MWH Laboratories
555 East Walnut Street
Pasadena, CA 91101
Ph (626) 568-6400 Fax (626) 568-6324

Ship To **Jayna Kostura**
Weck Laboratories

14859 East Clark Avenue
Industry, CA 91745-1396

626) 336-2139 ext 102 Fax (626) 336-2634

Date 12/19/02 **Submittal Form & Purchase Order 999479**

2121995(01)

*REPORTING REQUIREMENTS: One report for this MWH Project Number: 104250
Do Not Combine Report with any other samples submitted under different MWH project numbers!
Report & Invoice must have the MWH Project Number and Sub PO#: 104250 999479
Report all quality control data according to Method. Include dates analyzed, date extracted (if extracted) and Method reference on the report. Email by .pdf to martha.e.frost@mwhglobal.com or Fax results to 626-568-6324
Results must have Complete data & QC with Approval Signature.
See reverse side for List of Terms and Conditions

Reports & Invoices to: Martha Frost, Sub-contracting Administrator
EMAIL TO: martha.e.frost@mwhglobal.com
MWH Laboratories 555 East Walnut Street Pasadena, CA 91101
Phone (626) 568-6437 Fax (626) 568-6324

Provide in each Report the Specified State Certification # & Exp DAte for requested tests + matrix

CA ELAP OK EDT ☐ Yes

USE SAMPLE DATE ON THE COC, NOT FROM BOTTLES, DATE ALREADY ADJUSTED FOR INTERNATIONAL DATE LINE.

MWH Project #	Report Due:	Sub PO#
104250	01/03/03	999479

mxr

Use MWH Lab # for ID	Client Sample ID for reference only	Analysis Requested	Sample Date & Time	Matrix	Container
CUSTSUB 2212190036	POOKELA WELL 5118-01	525 WECK FULL LIST	12/18/02 ---	dw	2 1L amber(hcl for 525)
		507	12/18/02 ---	dw	21L amber (NO PRESERVE)
		508	12/18/02 ---	dw	21L amber (NO PRESERVE)

Rec. at 1°C

Relinquished by: T.C.C./MAW Sample Control Date 12/19/02 Time 15:00 MUST HAVE NOTIFICAION IF TEMP IS GREATER THAN 6 OR LESS THAN 2 CELSIU

An Acknowledgement of Receipt is requested to attn: Martha Frost

Weck Laboratories, Inc.

Sample Receiving Check List

Date received: 12/19/02 Time: 4:50PM

Lab Batch ID # : 2121988 thru 2121997 Client: MWH

	Answer	Status Yes	No	N/A	Comments
chain of Custody Present		X			
Number of Ice chests/packages	8				
Samples received on ice			X		
Type of Ice (Blue/Wet)	—				
Temperature (4 +/- 2 Deg. C)	1°C-3°C				
Mode of measurement (IR, Temp. blank, Other)	IR				
Samples intact?		X			
Leaking bottles?			X		
Custody seals intact?				X	
COC *properly completed*?			X		MWH No. 104251 has two sampling dates.
Verification of bottle labels to match COC		X			
Preservation verification (pH paper, etc.)			X		
Preserved at the lab?			X		Chilled @ lab
Sample Volume sufficient?		X			
Enough holding time for all tests?			X		
Notify analysts of short holding time/rush		X			
Subontract analysis?			X		

Discrepancies and Notifications

Description of problem: 507 and 508 expired for MWH Project No. 104255, 104254 and 104253. MWH project No. 104251 has two sampling dates.

Person Notified: Manny Phone #: (626) 568-6433 Date/time: 12/20/02 @ 10:25

Instructions from client/resolution: Cancel 507 and 508 analysis on expired samples. MWH Project No. 104251 correct sampling date 12/15/02

Description of problem:

Person Notified: Phone #: Date/time:

Instructions from client/resolution: As per Manny will send courier to pick MWH Project No. 104253, 104254 and 104255

Sample receipt verification completed by (initials): _____

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

1/3 Mail

WRA
104250

DETERMINATION OF 2,3,7,8-TCDD

Prepared for:
MWH
Attn: Martha Frost
555 East Walnut Street
Pasadena, CA 91101

This report contains 4 pages.

The results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

REPORT OF LABORATORY ANALYSIS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
1700 Elm Street, Suite 200
Minneapolis, MN 55414
Phone: 612.607.1700
Fax: 612.607.6444

January 3, 2003

Attn: Martha Frost
MWH
555 East Walnut Street
Pasadena, CA 91101

MWL Project # 104250
MWL Sub PO # 99-9491
Pace Project # 1067133
HI State Cert. #: 2155
Expiration Date: 6/30/03

Dear Ms. Frost:

Enclosed are analytical results of one water sample analyzed for 2,3,7,8-TCDD content. This sample was analyzed according to Method 1613B by High Resolution Gas Chromatography/High Resolution Mass Spectrometry.

MWL Sample ID	Pace Sample ID	Date Collected	Date Received
2212190036	4141221	12/18/02	12/21/02

The results reported for this sample and the associated quality control samples were all within the criteria described in Method 1613B. If you have any questions or concerns regarding these results, please contact me at (612) 607-6331, by facsimile at (612) 607-6444 or by e-mail at Dan.Hoseck@pacelabs.com.

Sincerely,

Dan Hoseck, Project Manager
High Resolution Mass Spectrometry

Enclosure

REPORT OF LABORATORY ANALYSIS

Pace AnalyticalServices, Inc.
1700 Elm Street - Suite 200
Minneapolis, MN 55414

Tel: 612-607-1700
Fax: 612-607-6444

Drinking Water Analysis Results
2,3,7,8-TCDD -- USEPA Method 1613B
MWH Laboratories

Sample ID.....2212190036
Project #.....104250
Sub PO #.....99-9491
Lab Sample ID.....104141221

Source ID.....POOKELA WELL 5118-01
Date Collected.....12/18/2002
Date Received.....12/21/2002
Date Extracted.....12/30/2002

Spike..... 200 pg
IS Spike.....2000 pg
CS Spike..... 200 pg

	Sample 2212190036	**Method** Blank	**Lab** Spike	**Lab** Spike Dup
[2,3,7,8-TCDD]	**ND**	ND	--	--
RL	5 pg/L	5 pg/L	--	--
2,3,7,8-TCDD Recovery	--	--	82%	88%
Spike Recovery Limit	--	--	73-146%	73-146%
RPD				7.1%
IS Recovery	**82%**	86%	92%	78%
IS Recovery Limits	31-137%	31-137%	25-141%	25-141%
CS Recovery	**90%**	94%	95%	95%
CS Recovery Limits	42-164%	42-164%	37-158%	37-158%
Filename	X21231C_5	X21231C_4	X21231C_2	X21231C_3
Analysis Date	12/31/2002	12/31/2002	12/31/2002	12/31/2002
Analysis Time	17:32	16:57	15:46	16:22
Analyst	CMP	CMP	CMP	CMP
Volume	1.012L	0.976L	1.010L	0.985L
Dilution	NA	NA	NA	NA
ICAL Date	11/14/2002	11/14/2002	11/14/2002	11/14/2002
CCAL Filename	X21231C_1	X21231C_1	X21231C_1	X21231C_1

! = Outside the Control Limits
ND = Not Detected
RL = Reporting Limit
Limits = Control Limits from Method 1613 (10/94 Revision), Tables 6A and 7A
RPD = Relative Percent Difference of Lab Spike Recoveries
IS = Internal Standard [2,3,7,8-TCDD-$^{13}C_{12}$]
CS = Cleanup Standard [2,3,7,8-TCDD-$^{37}Cl_4$]

Analyst: Christopher Pham

Project No.....1067133

MWH Laboratories
MONTGOMERY WATSON HARZA

555 East Walnut Street
Pasadena, California 91101
Phone: (626) 568-6400
(800) 566-5227
Fax: (626) 568-6324

CHAIN OF COUSTODY RECORD

104250

MWH LABS USE ONLY:

LOGIN COMMENTS: ____

SAMPLE TEMP WHEN REC'D AT LAB: ____ (Compliance: 4 +/- 2°C)

CONDITION OF BLUE ICE: FROZEN ✓ PARTIALLY FROZEN ____ THAWED ____

SAMPLES CHECKED AGAINST COC BY: ____

SAMPLES LOGGED IN BY: ____

SAMPLES REC'D DAY OF COLLECTION? ☐ (check for yes)

TO BE COMPLETED BY SAMPLER:

COMPANY, UTILITY or PROJECT: ~~WRA~~ WATER RESOURCE ASSOC.

SYSTEM #:

MWH LABS CLIENT CODE: WRA

P.O.# / PROJECT JOB #:

SAMPLER PRINTED NAME AND SIGNATURE: DAN LUM [signature]

TAT requested: rush by adv notice only STD ✓ 1 week ___ 3 day ___ 2 day ___ 1 day ___

COMPLIANCE SAMPLES ☐ (check for yes) - Requires state forms ☐

NON-COMPLIANCE SAMPLES ☑ (check for yes)

REGULATION INVOLVED: SDWA (eg. SDWA, Phase V, NPDES, FDA,...)

Type of samples (circle one): ROUTINE SPECIAL CONFIRMATION

SEE ATTACHED BOTTLE ORDER FOR ANALYSES ☑ (check for yes), OR list ANALYSES REQUIRED (enter number of bottles sent for each test for each sample)

SAMPLE DATE	SAMPLE TIME	STATION # or LOCATION	SITE NAME OR SAMPLE I.D.	MATRIX *	GRAB	COMP	SAMPLER COMMENTS
12/18/02		MAUI	POOKELA WELL 5118-01	RGW			
			5153 ... [illegible]				

*** MATRIX TYPES:** RSW = Raw Surface Water; RGW = Raw Ground Water; CFW = Chlor(am)inated Finished Water; FW = Other Finished Water; CWW = Chlorinated Waste Water; WW = Other Waste Water; BW = Bottled Water; SW = Storm Water; SO = Soil; SL = Sludge

	SIGNATURE	PRINT NAME	COMPANY/TITLE	DATE	TIME
RELINQUISHED BY:	[signature]	DAN LUM	WATER RESOURCE ASSOCIATES	12-18-02	11:17a
RECEIVED BY:	[signature]	Shannon Akins	FEDEX	12/18/02	11/20
RELINQUISHED BY:					
RECEIVED BY:	[signature]	[illegible]	[illegible]	12/19/02	9:30

C-O-C1

MWH Laboratories
555 East Walnut Street
Pasadena CA 91101 (626) 568-6400 FAX (626) 568-6324

Bottle Order for Water Resource Associates

Group #	
Date Sampled	
Date Received	

Hillary Strayer Your MWL Project Manager
(626) 568-6449 Direct Phone/Voice Mail

Client Code WRA HI New Source ProjectName
Project Code DRINKING
PO# / Job#

BO# 20788

Sampler: please return this paper with your samples

Created by HILL

Order Date 11/25/02
Date Needed by Client 12/02/02
Date Samples to Arrive at MWL 12/17/02

Ship Sample Kits to	Send Report to	Billing Address
Water Resource Associates	1188 Bishop Street Suite 1708	Water Resource Associates
1188 Bishop Street, Suite 1708	Honolulu, HI 96813-3307	1188 Bishop Street, Suite 1708
Honolulu, HI 96813-3307		Honolulu, HI 96813-3307
ATTN: Dan Lum	ATTN: Dan Lum	16162
PHONE: (808) 528-0074	PHONE: (808) 528-0074	
	FAX: (808) 528-0808	

# of Samples	Tests	Qteline#	Bottles-Qty for each sample, type & preservative if any	UN DOT #
1	@DIQUAT	328-03	1 1L amber poly/ no preservative	
1	@EDB-DBC	328-04	4 40ml amber glass vials/ no preservative	
1	@VOASDWA	328-07	4 40ml amber glass vials+4 drops of 1:1 HCL	UN 1789
1	CUSTSUB (525.2 SUB TO FGL)	328-08	2 1L amber glass+ 1.5 ml HCL (6N)	UN 1789
1	@ML531	328-09	2 40ml amber vials+1ml MCAA	UN 1750
1	@ML515.3	328-12	2 125ml amber glass/ no preservative	
1	@PESTSDW	328-13	2 1L amber glass/no preservative	
1	ENDOTHAL	328-24	1 250ml amber glass/no preservative	
1	GLYPHOS	328-26	1 125ml amber glass/no preservative	
1	D1316EDD	328-30	2 1L amber glass / no preservative	
1	CNDW	328-20	1 125ml poly +1 ml NaOH (25%)+3 scoops Ascorbic Acid	UN 1824
1	#MET-HI, CA	328-06, 16	1 500ml poly acid rinsed+2 ml HNO3 (18%)	UN2031
1	NO2-N, NO3, F, ALK, EC, PH		1 500ml poly/ no preservative	
1	NO3RFA * - HOLD		1 125 ml poly+ 0.5ml H2SO4 (50%)	UN 2796
1	CUSTSUB (507 SUB TO FGL)		2 1L amber glass/no preservative	

Comments

SHIPPING:

Label cooler:
NEW SOURCE
SHORT HT

* LOG IN NO3RFA ONLY IF HT FOR NO3 AND NO2-N ARE NOT MET.

LOG-IN:
525 AND 507 TO BE SUBBED TO FGL.

Co... St... ...ippe... a ...ackir... # of ...hrs ...repa...

APPENDIX B
PRE-ASSESSMENT CONSULTATION

1388 KAPIOLANI BLVD. / 2ND FLOOR / HONOLULU, HI 96814 / PH: (808) 944-1821 / FAX (808) 946-9339 / fainc@aloha.com / www.fainc.org

May 28, 2003

Maui Department of Planning
200 South High Street
Wailuku, HI 96793

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Attachment

FUKUNAGA&ASSOCIATES, INC.

ALAN M. ARAKAWA
Mayor

MICHAEL W. FOLEY
Director

WAYNE A. BOTEILHO
Deputy Director

COUNTY OF MAUI
DEPARTMENT OF PLANNING

June 19, 2003

Ms. Lynn Malinger
Fukunaga & Associates, Inc.
1388 Kapiolani Blvd, 2nd Floor
Honolulu, Hawaii 96814

Dear Ms. Malinger:

RE: Pre-Assessment Consultation for the Draft Environmental Assessment - Pookela Well Development located at TMK: 2-4-012: 028, Makawao, Maui, Hawaii (LTR 2003/2156)

The Maui County Planning Department (Department) is in receipt of your letter dated May 28, 2003, requesting pre-consultation comments for the Draft Environmental Assessment (DEA) for the Pookela Well Development project. The Department has the following comments:

1. The land use designations for the property are as follows: (1) State Agricultural, (2) Makawao-Pukalani-Kula Community Plan - Public/Quasi Public, and (3) County Zoned Agricultural. Describe the relationship of the proposed project to land use plans, policies, and controls.

2. A site plan should be included citing the location of all existing and proposed structures and access roads.

3. Describe the aquifer characteristics. Discuss the projected demand or yield on the aquifer. Can the aquifer sustain the yield?

4. Discuss the impacts to surrounding wells within the Zone of Influence. Identify any surrounding wells, location, ownership, and type of use.

5. Provide a summary and analysis of the water quality test results for the well.

250 SOUTH HIGH STREET, WAILUKU, MAUI, HAWAII 96793
PLANNING DIVISION (808) 270-7735; ZONING DIVISION (808) 270-7253; FACSIMILE (808) 270-7634

6. What type of Best Management Practices (BMPs) and Spill Pollution Prevention Plans will be implemented during development and construction?

7. What type of disinfection method will be used? What is the estimated quantity of disinfectant to be stored at the site? What types of BMPs will be implemented to prevent a spill? Discuss the impacts of potential releases of disinfected (i.e. chlorinated) water into the environment resulting from waterline breaks near potentially sensitive areas (i.e. streams, aquaculture, etc.).

8. Was an Environmental Assessment completed for the drilling activities? Provide a summary of the conclusions and findings.

9. What means were used to verify that no rare, endangered, or threatened plants and wildlife are located within the project site? Provide a summary of conclusions or findings.

Thank you for the opportunity to comment. If additional clarification is required, please contact Ms. Kivette A. Caigoy, Staff Planner, of this office at 270-7735.

Sincerely,

MICHAEL W. FOLEY
Planning Director

MWF:KAC:lar
c: Kivette A. Caigoy, Staff Planner
Project File
General File
(K:\WP_DOCS\PLANNING\LETTERS\tr2003\20032156PookelaWellDvpmt\preconsEA.wpd)

1388 KAPIOLANI BLVD. / 2no FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

October 6, 2003

Mr. Michael W. Foley, Planning Director
Maui Department of Planning
200 South High Street
Wailuku, HI 96793

Attention: Ms. Kivette A. Caigoy

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Dear Mr. Foley,

Thank you for your comment letter dated June 19, 2003. We are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003. Your comments generally are addressed/incorporated in the Draft EA. We offer the following additional specific responses:

Item 7: 12.5% bulk sodium hypochlorite (NaOCl) will be used for disinfection. Preliminarily, there will be 2 – 200 gallon storage tanks, storing 400 gallons NaOCl on-site in the chlorination room of the control building. This room will have a suppressed floor to provide secondary containment for one tank, in accordance with the Uniform Fire Code. This will allow for the operators to neutralize the solution in the event of a spill before disposing of the liquid. The product water will have a very low concentration of chlorine, 1 ppm maximum; therefore, environmental impacts resulting from a waterline break are not anticipated to be significant. In addition there are no potentially sensitive areas in the vicinity of the project area.

Item 8: Based on discussion with OEQC staff, the drilling portion of Pookela Well was determined to be exempt from the need for an Environmental Assessment because the well was drilled on an existing tank site. The primary concern would be assessing the impacts of construction activities on undeveloped land; however because the site was previously developed, the environmental impacts of the original site development, i.e. on the undeveloped land, were previously assessed.

Item 9: The project area that will be affected is less than one-quarter of an acre. The area is highly disturbed, as the tank site was previously used for grazing. The existing vegetation is primarily kikuya and rattail grass, and some black wattle trees. No wildlife was seen on the site although transient wildlife may enter/exit over/under the existing fence. No rare or endangered species of plant or animal life will be affected.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

FUKUNAGA & ASSOCIATES, INC.

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May 28, 2003

Maui Department of Public Works
200 South High Street
Wailuku, HI 96793

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Attachment

FUKUNAGA&ASSOCIATES, INC.

ALAN M. ARAKAWA
Mayor

GILBERT S. COLOMA-AGARAN
Director

MILTON M. ARAKAWA, A.I.C.P.
Deputy Director

Telephone: (808) 270-7845
Fax: (808) 270-7955

COUNTY OF MAUI
DEPARTMENT OF PUBLIC WORKS
AND ENVIRONMENTAL MANAGEMENT
200 SOUTH HIGH STREET
WAILUKU, MAUI, HAWAII 96793

RALPH NAGAMINE, L.S., P.E.
Development Services Administration

TRACY TAKAMINE, P.E.
Wastewater Reclamation Division

LLOYD P.C.W. LEE, P.E.
Engineering Division

BRIAN HASHIRO, P.E.
Highways Division

JOHN D. HARDER
Solid Waste Division

July 14, 2003

Ms. Lynn Malinger
FUKUNAGA & ASSOCIATES
1338 Kapiolani Boulevard, 2nd Floor
Honolulu, Hawaii 96814

Dear Ms. Malinger:

SUBJECT: EARLY CONSULTATION FOR DRAFT ENVIRONMENTAL ASSESSMENT
COUNTY OF MAUI DEPARTMENT OF WATER SUPPLY
POOKELA WELL DEVELOPMENT
TMK: (2) 2-4-012:028

We reviewed the subject consultation and have the following comment:

1. Submit a solid waste management plan for the recycling and disposal of any solid waste generated by development activities.

If you have any questions regarding this letter, please call Milton Arakawa at (808) 270-7845.

Very truly yours,

for GILBERT S. COLOMA-AGARAN
Director

GSCA:RMN:msc
S:\LUCA\CZM\pookelawell_ec_24012025_msc.03.wpd

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October 6, 2003

Mr. Gilbert S. Coloma-Agaran, Director
Maui Department of Public Works
200 South High Street
Wailuku, HI 96793

Attention: Mr. Milton Arakawa

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Gentlemen:

Thank you for your comment letter dated July 14, 2003. We are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

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May 28, 2003

Administrator
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 1250
Honolulu, HI 96813

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment –
Pookela Well Development

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Attachment

PHONE (808) 594-1888 FAX (808) 594-1865

STATE OF HAWAI'I
OFFICE OF HAWAIIAN AFFAIRS
711 KAPI'OLANI BOULEVARD, SUITE 500
HONOLULU, HAWAI'I 96813

June 3, 2003

Ms. Lynn Malinger
Fukunaga & Associates
1388 Kapiolani Boulevard – 2nd Floor
Honolulu, HI 96814

SUBJECT: PRE ASSESSMENT CONSULTATION – POOKELA WELL DEVELOPMENT – DEA

Dear Ms. Malinger:

Thank you for the opportunity to review and comment on the above referenced project to develop the Pookela Well on property owned by the Maui County Department of Water Supply.

The Office of Hawaiian Affairs (OHA) has no comment at this point it time. We do look forward to receiving a copy of the Draft Environmental Assessment when it is completed.

If you have any questions, please contact Jerry B. Norris at 594-1847 or email him at jerryn@oha.org.

Sincerely,

Peter L. Yee
Director
Nationhood and Native Rights Division

1388 KAPIOLANI BLVD. / 2ND FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 945-9339 / office@fainc.org / www.fainc.org

October 6, 2003

Mr. Peter L. Yee, Director
Nationhood and Native Rights Division
Office of Hawaiian Affairs
711 Kapiolani Boulevard, Suite 500
Honolulu, HI 96813

Attention: Mr. Jerry B. Norris

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Gentlemen:

As requested in your response letter dated June 3, 2003, we are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

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May 28, 2003

Ms. Sandra Lee Kunimoto, Chairperson, Board of Agriculture
State Department of Agriculture
1428 South King Street
Honolulu, HI 96814-2512

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

Dear Ms. Kunimoto,

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Attachment

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

October 6, 2003

Ms. Sandra Lee Kunimoto, Chairperson, Board of Agriculture
State Department of Agriculture
1428 South King Street
Honolulu, HI 96814-2512

SUBJECT: Draft Environmental Assessment – Pookela Well Development

Dear Ms. Kunimoto,

As a follow-up to our pre-assessment consultation letter of May 28, 2003, we are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / falnc@aloha.com / www.falnc.org

May 28, 2003

Mr. Micah Kane, Chairman
Hawaiian Homes Commission
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, HI 96805

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

Dear Mr. Kane,

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Attachment

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October 6, 2003

Mr. Micah Kane, Chairman
Hawaiian Homes Commission
Department of Hawaiian Home Lands
P.O. Box 1879
Honolulu, HI 96805

SUBJECT: Draft Environmental Assessment – Pookela Well Development

Dear Mr. Kane,

As a follow-up to our pre-assessment consultation letter of May 28, 2003, we are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

1388 KAPIOLANI BLVD. / 2ND FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 948-9339 / fainc@aloha.com / www.fainc.org

May 28, 2003

Ms. June F. Harrigan-Lum, Manager
Department of Health
Environmental Planning Office
P.O. Box 3378
Honolulu, Hawaii 96801-3378

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

Dear Ms. Harrigan-Lum,

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Lynn Malinger

Attachment

FUKUNAGA&ASSOCIATES, INC.

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF HEALTH
P.O. BOX 3378
HONOLULU, HAWAII 96801-3378

CHIYOME L. FUKINO, M.D.
DIRECTOR OF HEALTH

In reply, please refer to:
EMD / CWB

06039CEC.03

June 12, 2003

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

Subject: Pre-Assessment Consultation for the Draft Environmental Assessment (DEA) Pookela Well Development by the Maui County Department of Water Supply (MDWS)
Island of Maui, State of Hawaii

This is responding to your letter of May 8, 2003 to Ms. June F. Harrigan-Lum of the Environmental Planning Office (EPO) regarding the DEA preparation for the subject project. The Department of Health (Department), Clean Water Branch (CWB), appreciates the opportunity to provide comments on the proposed DEA for the subject project.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1,400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million concrete reservoir on-site, a control building, and upgrading the electrical service to the site. There is insufficient information submitted for the CWB to provide detailed comments. The following are general comments from the CWB:

1. The Army Corps of Engineers (COE) should be contacted at (808) 438-9258 to identify whether a Federal license or permit (including a Department of Army permit) is required for this project. Pursuant to Section 401(a)(i) of the Federal Water Pollution Act (commonly known as the "Clean Water Act"), a Section 401 Water Quality Certification is required for "[a]ny applicant for Federal license or permit to conduct any activity including, but not limited to, the construction or operation of facilities, which may result in any discharge into the navigable waters...."

2. A National Pollutant Discharge Elimination System (NPDES) general permit coverage is required for the following activities:

   a. Storm water associated with industrial activities, as defined in Title 40, Code of Federal Regulations, Sections 122.26(b)(14)(i) through 122.26(b)(14)(ix) and 122.26(b)(14)(xi);

b. Construction activities, including clearing, grading, and excavation, that result in the disturbance of equal to or greater than one (1) acre of total land area. The total land area includes a contiguous area where multiple separate and distinct construction activities may be taking place at different times on different schedules under a larger common plan of development or sale. **An NPDES permit is required before the commencement of the construction activities.**

c. Discharge of treated hydrotesting effluent;

d. Discharge of construction dewatering effluent.

The CWB requires that a Notice of Intent (NOI) to be covered by a NPDES general permit for any of the above activities be submitted at least 30 days before the commencement of the respective activities. The NOI forms may be picked up at our office or downloaded from our website at http://www.state.hi.us/doh/eh/cwb/forms/genl-index.html.

3. The MDPW may be required to apply for an individual NPDES permit if there is any type of activity in which wastewater is discharged from the project into State waters and/or coverage of the discharge(s) under the NPDES general permit(s) is not permissible. An application for the NPDES permit is to be submitted at least 180 days before the commencement of the respective activities. The NPDES application forms may also be picked up at our office or downloaded from our website at http://www.state.hi.us/doh/eh/cwb/forms/indiv-index.html.

4. Hawaii Administrative Rules, Section 11-55-38, also requires the owner to either submit a copy of the new NOI or NPDES permit application to the State Department of Land and Natural Resources, State Historic Preservation Division (SHPD) or demonstrate to the satisfaction of the DOH that the project, activity, or site covered by the NOI or application has been or is being reviewed by SHPD. Please submit a copy of the request for review by SHPD or SHPD's determination letter for the project.

Should you have any questions, please contact Mr. Edward Chen of the Engineering Section, CWB, at 586-4309.

Sincerely,

DENIS R. LAU, P.E., CHIEF
Clean Water Branch

EC:rk

c: Regulatory Branch, HED/COE
CZM Program, Office of Planning/DEBDT
MDPW
SHPD/DLNR
Chief, DEHP/Maui

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October 6, 2003

Mr. Denis R. Lau, Chief
Department of Health
Clean Water Branch
P.O. Box 3378
Honolulu, Hawaii 96801-3378

Attention: Mr. Edward Chen

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Gentlemen:

Thank you for your comment letter dated June 12, 2003. We offer the following responses to your comments:

1. The COE was consulted, and it was determined that a DA is not required for this project.
2. Less than one acre of land will be disturbed. The Contractor will be required to obtain the applicable NPDES permits for construction activities.
3. Based on discussion with Alec Wong, this project will not require an individual NPDES permit.
4. SHPD was consulted and has determined that "no historic properties will be affected." SHPD's determination letter is attached.

We are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

FUKUNAGA & ASSOCIATES, INC.

1388 KAPIOLANI BLVD. / 2no FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@falnc.org / www.falnc.org

October 6, 2003

Ms. June F. Harrigan-Lum, Manager
Department of Health
Environmental Planning Office
P.O. Box 3378
Honolulu, Hawaii 96801-3378

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Dear Ms. Harrigan-Lum,

As a follow-up to our pre-assessment consultation letter of May 28, 2003, we are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003.

We received specific comments from the Clean Water Branch, and will send them a copy directly. A copy also will be sent to Denise Dang of the Safe Drinking Water Branch because the Maui Department of Water Supply may pursue SRF funding.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

FUKUNAGA & ASSOCIATES, INC.

1388 KAPIOLANI BLVD. / 2ND FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

October 6, 2003

Ms. Denise Dang
State Department of Health
Safe Drinking Water Branch
P.O. Box 3378
Honolulu, Hawaii 96801-3378

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Dear Denise,

We are transmitting the Draft Environmental Assessment for the subject project for your review and comment. Maui County Department of Water Supply may pursue DWSRF funding for this project. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

1388 KAPIOLANI BLVD. / 2ND FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / fainc@aloha.com / www.fainc.org

May 28, 2003

Ms. Dierdre Mamiya, Administrator
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawaii 96809

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment –
Pookela Well Development

Dear Ms. Mamiya,

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Attachment

LINDA LINGLE
GOVERNOR OF HAWAII

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES
LAND DIVISION

POST OFFICE BOX 621
HONOLULU, HAWAII 96809

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

June 6, 2003

LD-NAV
L-2618
POOKELAWELL.RCH

Fukunaga and Associates, Inc.
Lynn Malinger
1388 Kapiolani Blvd. 2nd Floor
Honolulu, Hawaii 96814

Dear Ms. Malinger:

SUBJECT: Early Consultation for Preparation of a Draft Environmental Assessment - Pookela Well Development

Thank you for your letter dated May 28, 2003, requesting for department comment on the subject matter.

Please submit four (4) copies of the Draft Environmental Assessment to our office when they become available for review.

If you have any questions, please feel free to contact Nicholas A. Vaccaro of the Land Division Support Services Branch at (808) 587-0384.

Very truly yours,

Charlene E. Unoki
for DIERDRE S. MAMIYA
Administrator

C: MDLO

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

October 6, 2003

Ms. Dierdre Mamiya, Administrator
Department of Land and Natural Resources
Land Division
P.O. Box 621
Honolulu, Hawaii 96809

Attention: Mr. Nicholas A. Vaccaro

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Dear Ms. Mamiya,

As requested in your response letter dated June 6, 2003, we are transmitting four (4) copies of the Draft Environmental Assessment for the subject project for your review and comment. We understand that you will obtain comments from the various divisions of DLNR as applicable. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger
Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

1388 KAPIOLANI BLVD. / 2ND FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-8339 / fainc@aloha.com / www.fainc.org

May 28, 2003

Ms. P. Holly McEldowney, Acting Administrator
DLNR, Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, HI 96707

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

Dear Ms. McEldowney,

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

The drilling and testing of Pookela Well was completed in February 2003, and MDWS desires to develop the well to serve Upcountry Maui. Development of the well will involve installing a pump (roughly 1400 gallons per minute and 800 horsepower), discharge piping and valving, controls, piping to the existing 2.0 million gallon concrete reservoir on-site, a control building, and upgrading the electrical service to the site.

Please provide us with any comments you may have regarding this project. Your early response would be greatly appreciated.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

Attachment

FUKUNAGA&ASSOCIATES,INC.

LINDA LINGLE
GOVERNOR OF HAWAII

PETER T. YOUNG
CHAIRPERSON
BOARD OF LAND AND NATURAL RESOURCES
COMMISSION ON WATER RESOURCE MANAGEMENT

DAN DAVIDSON
DEPUTY DIRECTOR - LAND

ERNEST Y.W. LAU
DEPUTY DIRECTOR - WATER

AQUATIC RESOURCES
BOATING AND OCEAN RECREATION
BUREAU OF CONVEYANCES
COMMISSION ON WATER RESOURCE MANAGEMENT
CONSERVATION AND COASTAL LANDS
CONSERVATION AND RESOURCES ENFORCEMENT
ENGINEERING
FORESTRY AND WILDLIFE
HISTORIC PRESERVATION
KAHOOLAWE ISLAND RESERVE COMMISSION
LAND
STATE PARKS

STATE OF HAWAII
DEPARTMENT OF LAND AND NATURAL RESOURCES

HISTORIC PRESERVATION DIVISION
KAKUHIHEWA BUILDING, ROOM 555
601 KAMOKILA BOULEVARD
KAPOLEI, HAWAII 96707

HAWAI'I HISTORIC PRESERVATION
DIVISION REVIEW

Log #2003.0943:
Doc #: 0306CD47

Applicant/Agency: Lynn Malinger
Address: Fukunaga & Associates
1388 Kapi'olani Blvd, 2nd Floor
Honolulu, Hawaii 96814

SUBJECT: Chapter 6E-8 Historic Preservation Review – Information Request Addressing Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development
Ahupua'a: Makawao
District, Island: Makawao, Maui
TMK: (2) 2-4-012:028

1. We believe there are no historic properties present, because:

✓ a) intensive cultivation has altered the land
___ b) residential development/urbanization has altered the land
✓ c) previous grubbing/grading has altered the land
___ d) an acceptable archaeological assessment or inventory survey found no historic properties
___ e) other:

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

✓ Thus, we believe that "no historic properties will be affected" by this undertaking

Staff: Cathleen A. Dagher Date: May 30, 2003
Cathleen A. Dagher
Assistant Maui/Lana'i Island Archaeologist
(808) 692-8023

1388 KAPIOLANI BLVD. / 2nd FLOOR / HONOLULU, HI 96814 / PH. (808) 944-1821 / FAX (808) 946-9339 / office@fainc.org / www.fainc.org

October 6, 2003

Ms. Cathleen A. Dagher, Assistant Maui/Lana`i Island Archeologist
DLNR, Historic Preservation Division
Kakuhihewa Building, Room 555
601 Kamokila Boulevard
Kapolei, HI 96707

SUBJECT: Draft Environmental Assessment –
Pookela Well Development

Dear Ms. Dagher,

Thank you for your Division Review dated June 20, 2003 (Log #2003.0943, Doc #: 0306CD47). As a follow-up, we are transmitting the Draft Environmental Assessment for the subject project for your review and comment. The 30-day comment deadline is November 7, 2003.

Please call us at (808) 944-1821 if you have any questions.

Sincerely,
FUKUNAGA & ASSOCIATES, INC.

Lynn Malinger

encl.
cc: Larry Winter, MDWS w/o enclosure

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May 28, 2003

UHM Environmental Center
2550 Campus Road, Crawford 317
Honolulu, HI 96822

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

We presently are preparing the Draft Environmental Assessment for the Pookela Well Development Project. Pookela Well is located on the existing 2.2 acre Pookela Tank site owned by the Maui County Department of Water Supply (MDWS), and identified by Tax Map Key 2-4-12:28. This site is on the northern slopes of Haleakala, less than half a mile mauka of Makawao Town, and off Olinda Road. See the attached figure for the location.

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October 6, 2003

UHM Environmental Center
2550 Campus Road, Crawford 317
Honolulu, HI 96822

SUBJECT: Draft Environmental Assessment – Pookela Well Development

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Sincerely,
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Lynn Malinger

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May 28, 2003

UHM Water Resource Research Center
Holmes Hall, Room 283
2540 Dole Street
Honolulu, HI 96822

SUBJECT: Pre-Assessment Consultation for Draft Environmental Assessment – Pookela Well Development

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October 6, 2003

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Holmes Hall, Room 283
2540 Dole Street
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