

670 (136)

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Wednesday, Mar 08, 2006  
Version

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### Factsheet Details

Waterbody ID: CAR2065001019980928164417  
 Waterbody Name: Napa River  
 Pollutant Name:  
 Source Name: -N/A  
 Designated Beneficial Uses : CM - Commercial and Sport Fishing (CA)  
 Factsheet ID: 3121  
 LOE ID: 3690

### Numeric Line of Evidence

- [Save Numeric LOE](#)
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LOE Subgroup:

Fraction:

Matrix:

Number of Samples:  (numeric)

Number of Exceedances:  (numeric)

Standard/Criteria/Objective:  (2000 characters max)

Evaluation Guideline:  (2000 characters max)

Data Used to Assess Water Quality:  (4000 characters max)

Spatial Representation:  (2000 characters max)

Temporal Representation:  (2000 characters max)

Environmental Conditions:  (2000 characters max)

COMMON	NUMB	TISSUE	HG_W
Bluegill	2	F	0.360
Brown Bullhead	1	F	0.320
Sacramento Squawfish	1	F	0.080

012.001.F.95  
012.002.F.95  
012.001.F.96

STANUM  
206.50.36  
206.50.36  
206.50.23

STANAME  
Napa River/Pioneer Park  
Napa River/Pioneer Park  
Napa River/u/s HWY.12

CDATE BOT  
10/4/1995 012.001.F.95  
10/4/1995 012.002.F.95  
5/22/1997 012.001.F.96

$0.002 \text{ (MUN 80) Mg/L} = 2.00 \text{ ug/L}$

Napa R.  
Hg

Water Column Data

Date	SITE #1 (ug/L)	SITE #2 (ug/L)
4/25/02	0.0060 (.00006 mg/L)	.0110
7/18/02	0.0061 (.000061 mg/L)	.0065
10/14/02	0.0030 (00003 mg/L)	.0031

0/6 EXCEED (NEW L.O.E.)

2/3 " (TSMP/TISSUE)

2/9 + 2/25/02

ALPHA BL

2/10 EXCEED

#5) Combining LOE'S = 2/9 = LIST

#2) L OR EQUAL TO

.3 is .3000  $\infty$  - LIST

#3) Data collected over 2 yrs - LIST (SPRING? 2 DIFF SEASONS + FALL)

#1) ~~Maybe~~ 2 Different FISH = 2 Diff. samples

~~Yr 1~~ ~~Yr 2~~



Documentation presented has not identified whether the presence of Hg in the Napa River is or has originated from a controllable source

TOM MUMLEY

NAPA RIVER Hg

TSMP :

0.360 ✓  
0.320 ✓  
0.080

2/3 EXCEED

Hg WATER COLUMN DATA

2002 :

0.0066  
0.0061  
0.0030  
( FEB 2002 ) 0.015

0.0110

0.0065

0.0031

0/7 EXCEED

TOTAL 2/10 EXCEED



672

Dedicated to Preserving the Napa River for Generations to Come

935 HARTLE COURT  
P.O. BOX 2480  
NAPA, CALIFORNIA 94558-0522  
TELEPHONE (707) 258-6000  
FAX (707) 258-6048

~~162~~  
136

January 31, 2006

Selica Potter, Acting Clerk to the Board  
State Water Resources Control Board  
Executive Office  
1001 I Street, 24th Floor  
Sacramento, CA 95814



Fax: (916) 341-5620  
Email: [commentletters@waterboards.ca.gov](mailto:commentletters@waterboards.ca.gov)

Subject: Comments on the *Revision to Federal Clean Water Act Section 303(d) List of Water Quality Limited Segments for California*

Dear Ms. Potter:

On behalf of the Napa Sanitation District, we would like to thank you for the opportunity to provide comments on the draft *Revision of the Clean Water Act Section 303(d) List of Water Quality Limited Segments*, released in September 2005. We have reviewed the state's proposed revisions and are concerned that the proposed mercury listing for the Napa River is not supported by the data cited by the State Water Resources Control Board (State Water Board).

The Napa River is proposed to be placed on the 2006 303(d) list for mercury due to exceedances of the Office of Environmental Health Hazard Assessment (OEHHA) Screening Value of 0.3 µg/g in two out of three samples analyzed. All three samples were collected by the Toxic Substance Monitoring Program at two stations in the Napa River (Table 1), approximately 26 miles from one another.

**Table 1. Data Used in Proposed Mercury Listing for Napa River**

Station Name	Species Common Name	Collection Date	Hg Concentration (µg/g)
Calistoga at Elm St. (upstream)	Bluegill	10/4/95	0.360
	Brown Bullhead	10/4/95	0.320
½ mile up from JFK Park boat ramp (downstream)	Sacramento Squawfish	5/22/97	0.080

The reasons we believe this listing is inappropriate are described on the following pages.



**1. The data used in the proposed listing does not meet the Data Quantity Assessment standards for Temporal Representation.**

Section 6.1.5 of the *Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List*, adopted September 2004 (Policy), and more specifically, section 6.1.5.3 (page 23) states:

“Samples should be representative of the critical timing that the pollutant is expected to impact the water body. Samples used in the assessment must be temporally independent. If the majority of samples were collected on a single day or during a single short-term natural event (e.g., a storm, flood, or wildfire), the data shall not be used as the primary data set supporting the listing decision.”

In addition, the Functional Equivalent Document<sup>1</sup> for the Policy indicates that small sample populations can be used as long as the samples are spatially and temporally representative. In other words, data that are not temporally representative should not be used as the primary data set to support listing decisions, and, when the data set is small, it is even more important that the data be temporally representative.

As shown in Table 1, the data used to propose listing of the Napa River for mercury do not meet the temporal representation guidelines contained in the Policy because (1) 67 percent, or a majority of the samples, were collected on a single day, (2) samples were collected at each site (which are 26 miles apart along the same water body) on only one day each, (3) sufficient temporal distribution was not provided for this extremely small data set, (4) the two observed values claimed to be exceedances occurred on only one day, and (4) the water quality fact sheet does not have any description at all about the significance of the sample timing, as required in the listing policy.

**2. Only one exceedance of the OEHHA screening value was observed, not two.**

The OEHHA Screening Value of 0.3 µg/g contains one significant figure. However, the data used as evidence was reported with 3 significant figures (e.g., 0.320 µg/g). Since there is only one significant figure in the OEHHA screening value, a comparison of observed data to the screening value can only be meaningful if the observed values are rounded to the same number of significant figures as the screening value. When this comparison is made, there is only one exceedance of the screening value, because the brown bullhead concentration of 0.320 µg/g would be rounded to 0.3 µg/g and therefore would not exceed the screening value. At a minimum, the one exceedance doesn't meet the minimum required for a listing as indicated in the *Water Quality Control Policy For Developing California's Clean Water Act Section 303(d) List* (September 2004) . In

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<sup>1</sup> Final Functional Equivalent Document: Water Quality Control Policy for Developing California Clean Water Act Section 303(d) List. July 2004.

addition, the exceedance is not "...clearly manifested..." as required by the listing policy (Page 23), and therefore there is insufficient data to support a listing

**3. The data are about ten years old and therefore of questionable value at this time.**

The data used in the listing of mercury for the Napa River were collected in 1995 and 1997, more than two listing cycles ago. It seems inappropriate at this time to consider these data representative of the river without collecting additional data, especially since there are such few data to start with.

**4. A mercury listing in the Napa River is redundant with the mercury listing in San Francisco Bay.**

The San Francisco Bay, to which the Napa River is tributary, is currently on the 303(d) list for mercury. Efforts conducted to develop a total maximum daily load (TMDL) for the San Francisco Bay address mercury loads from the Napa River. Therefore, work is already being performed to control contributions from sources in the Napa River, and additional requirements would be redundant with these efforts, and a significant waste of scarce public resources.

**5. Water column data show opposite trend from fish tissue data.**

Additionally, water column data collected in 2002 to fulfill the San Francisco Bay Regional Water Quality Control Board's 13267 monitoring requirements in the Napa River showed that that mercury water column concentrations increase downstream<sup>2</sup>, as summarized in Table 2.

**Table 2. Napa River Mercury Water Column Data Collected in 2002.**

Date	Hg Concentration At Calistoga (upstream) (µg/L)	Hg Concentration At Napa (downstream) (µg/L)
4/25/02	0.0066	0.0110
7/18/02	0.0061	0.0065
10/14/02	0.0030	0.0031

Note: For reference, the water column objective for mercury is 0.0250 µg/L.

This increase does not correlate with the concentrations measured in the tested fish. Fish analyzed at the upstream site exceeded the OEHHA screening level for mercury, while the downstream fish concentrations did not. Detailed data information which meets the requirements of the listing policy data is provided in Attachment 1 to this letter.

<sup>2</sup> Collaborative Napa River Receiving Water Study, 2002.

Ms. Selica Potter  
January 31, 2006  
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**In summary, there are multiple reasons why the Napa River should not be listed for mercury.**

Based on the lack of sufficient data, lack of temporal representation, the current listing in San Francisco Bay, the movement of tested species between the Napa River and San Francisco Bay, the conflicting fish tissue and water column data, and the lack of any additional evidence that there is impairment, we urge that the Napa River not be listed at this time for mercury. There is not adequate information to assess whether water quality standards are being met or beneficial uses are impaired, and a listing would be redundant with the San Francisco Bay listing and therefore, a waste of public resources.

Sincerely,



Michael Abramson  
General Manager

cc: Mr. Dyan Whyte, San Francisco Bay Regional Water Quality Control Board  
Ms. Monica Oakley, Larry Walker Associates

Attachment: Submittal of numeric data for consideration in 2006 303(d) list

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**Attachment 1**  
Submittal of numeric data for consideration in 2006 303(d) list

## Collaborative Napa River Receiving Water Study

### Description of Numeric Data for Mercury Prepared for Development of 2006 303(d) List

#### Introduction

The following information is provided for use in developing the State's list of impaired waterbodies, per the California State Water Resources Control Board's *Water Quality Control Policy for Developing California's Clean Water Act Section 303(d) List* (adopted September 2004).

#### Objectives of the Study

The objective of the Collaborative Napa River Receiving Water Study (Study) was to satisfy requirements of the San Francisco Bay Regional Water Quality Control Board's (Regional Water Board) August 6, 2001 letter "Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy." The August 6, 2001 letter required submission of ambient receiving water data on priority pollutants, including mercury.

#### Methods for Sample Collection and Handling

Methods used for sample collection are described in detail in the Study Plan (**Attachment 1a**). United States Environmental Protection Agency (USEPA) sampling Method 1669<sup>1</sup> (clean hands-dirty hands technique for "ultra-clean" sampling) was used for all sample collection. Immediately following collection, all mercury samples were hand delivered, on ice, to the analytical laboratory.

#### Field and Laboratory Measurement and Analysis

Field measurements collected during the Study are described in the Study Plan (**Attachment 1a**). All laboratory data were analyzed following the USEPA's Method 1631<sup>2</sup>: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry. Laboratory analyses were performed by:

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<sup>1</sup> United States Environmental Protection Agency (USEPA). April, 1995. Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels. EPA 821-R-95-034.

<sup>2</sup> United States Environmental Protection Agency (USEPA). August, 2002. Method 1631, Revision E: Mercury in Water by Oxidation, Purge and Trap, and Cold Vapor Atomic Fluorescence Spectrometry. EPA 821-R-02-019.

Caltest Analytical Laboratories  
1885 North Kelly Road  
Napa, CA 94558  
(707) 258-4000 phone  
(707) 226-1001 fax  
Project Manager: Todd Albertson  
[todd\\_albertson@caltestlab.com](mailto:todd_albertson@caltestlab.com)  
ELAP Certification No. 1664  
NELAP Certification No. 01103CA

### **Data Management, Validation, and Recordkeeping Procedures**

Data collected as part of the Collaborative Napa River Receiving Water Study were maintained in an Excel database spreadsheet and reviewed by the analytical laboratory staff, as well as by in-house scientists to identify any quality assurance issues. Additionally, chain of custody forms (included as part of numeric results presented in **Attachment 1b**) were maintained for all samples collected.

### **Quality Assurance and Quality Control**

Quality assurance and quality control (QA/QC) measures were followed during each event, including field blanks, field duplicates, laboratory duplicates and matrix spike/matrix spike duplicates. Further information on the QA/QC procedures is provided in the Study Plan (**Attachment 1a**) and in the description of the project-specific sampling and analysis plan, below.

### **Certification of Adequacy of the QA/QC Program**

The data collected during the Collaborative Napa River Receiving Water Study follows current USEPA protocols for both sample collection and analysis. All field and laboratory personnel have been trained to follow these protocols.

Contact information for the data submittal can be found below.

Kristine Corneillie  
Larry Walker Associates, Inc.  
250 Lafayette Circle, Ste 200  
Lafayette, CA 94549  
(408) 261-3996 phone  
(925) 962-9701 fax  
[KrisC@lwa.com](mailto:KrisC@lwa.com)

## Personnel training

Sampling personnel included at least one staff member with greater than 4 years monitoring experience and one other staff member. In-house training by Larry Walker Associates is conducted annually for all staff that perform monitoring, or may perform monitoring in the future. Annual training covers the following agenda in detail:

1. Introduction/Overview
2. Preparation Activities
  - Chain of custody
  - Bottle Order/Bottle types
  - Organization and checklist
  - Site visits prior to first event
3. Sample Collection
  - Clean sampling techniques
  - Grab sampling
  - Composite sampling
  - Field measurements/log sheet
4. QA/QC Sample Collection
  - Blanks (equipment and field)
  - Duplicates (lab and field)
  - Matrix spike/matrix spike duplicates (MS/MSD)
5. Sample Splitting and Shipping
  - Compositing/Splitting
  - Packaging
  - Shipping/delivery
  - Hold times
6. Safety
  - Health & Safety Plan.
  - 2-person crew

## Project-specific Sampling and Analysis Plan

The sampling plan for the “Collaborative Napa River Receiving Water Study,” which outlines the study objectives and procedures, is included as **Attachment 1a**. Please note that a second station, just downstream of downtown Napa, was added starting with the second sampling event.

## Data Quality Objectives for the Project

Data quality objectives used for mercury data validation were as follows. All data quality objectives were met during this study.

Analyte	Field Blank Limit	Maximum RPD	Spike Recovery Lower Limit	Spike Recovery Upper Limit
Mercury	Site sample $\geq 5x$ blank	20%	75%	125%

*RPD = relative percent difference*

## Achievement of Data Quality Objectives

**Attachment 1b** includes a spreadsheet that includes the results of the quality control measures. All data met the data quality objectives described above. One field blank sample was qualified as “estimated” because it was detected below the reporting limit, but above method detection limit. This estimated value was significantly below the concentration measured in the environmental sample so no qualification of site samples was necessary.

## **Sampling Sites, Water Quality Parameters, and Sampling Frequency**

Water quality parameters, sampling frequency and methodology were chosen based on the August 6, 2001 letter requirements. After the first sampling event, an additional station (Napa River Station) was included for the priority pollutant sampling to more thoroughly characterize the Napa River. Revisions to the Quality Assurance/Quality Control element that occurred when the Napa River Station was added are included as part of **Attachment 1a**. To consider spatial variability, mercury samples were collected at two sites in the Napa River, approximately 30 miles apart. To consider seasonal variability of the receiving water and to cover both wet and dry weather conditions, sampling was conducted during January, April, July and October of 2002.

## **Reproducible Results**

Duplicate samples collected as part of the quality assurance and quality control measures show low variability between samples. Additionally, samples collected during each event (for various seasons) at the two sites varied by only 3 – 50% from site-to-site.



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## COLLABORATIVE NAPA RIVER RECEIVING WATER STUDY

### INTRODUCTION

The August 6, 2001 letter "Requirement for Monitoring of Pollutants in Effluent and Receiving Water to Implement New Statewide Regulations and Policy" (13267 letter) requires submission of ambient receiving water data on priority pollutants and a sampling plan to collect those data. The requirements of the 13267 letter take precedent over any existing permit requirements for ambient monitoring (except for deadlines), and the letter requires submission of the sampling plan by October 1, 2001. The five dischargers on the Napa River (Napa, Calistoga, American Canyon, Yountville, and St. Helena) are pursuing a collaborative sampling program. This study plan reflects that intent, and is therefore submitted in lieu of individual plans. The Study Plan contains the following information:

- Introduction
- Certification of Adequacy of Sampling Plan
- Sampling Locations
- Sampling Logistics
- Sample Analysis
- Personnel and Contact Information

Summary information for each discharger is provided in the table below. For descriptions of discharge locations, please refer to the map found in Attachment 1.

Facility Name	NPDES Permit #	Board Order #	Design ADWF
Napa Sanitation District	CA0037575	00-059	15.4 mgd
City of Calistoga	CA0037966	00-131	0.84 mgd
City of American Canyon	CA0038768	00-003	2.5 mgd
Town of Yountville	CA0038121	93-157	0.55 mgd
City of St. Helena	CA0038016	92-006	0.5 mgd

### CERTIFICATION OF ADEQUACY OF SAMPLING PLAN

Sampling in accordance with the proposed plan should yield data that adequately characterizes the receiving water for purposes of performing future Reasonable Potential Analyses (RPAs) and calculating required numeric effluent limitations using procedures in the 2000 SWRCB Policy for the Implementation of Toxic Standards for Inland Surface Waters, Enclosed Bays, and Estuaries (State Implementation Plan, or SIP). The proposed sampling station is upstream of all POTW influence on River water quality and, therefore, would also be appropriate as the sampling station for a coordinated background ambient sampling program for all five Napa River dischargers. In addition, samples will be taken from two downstream locations to characterize pH, hardness, and salinity for both freshwater (Calistoga, St. Helena, and Yountville) and saltwater (Napa and American Canyon) conditions.

## COLLABORATIVE NAPA RIVER RECEIVING WATER STUDY

### SAMPLING LOCATIONS

Receiving water samples will be taken upstream of all POTW discharges to the Napa River. The selected sampling site is the background ambient receiving water Station C-1 used by the City of Calistoga Wastewater Treatment Plant and cited in their NPDES permit Self Monitoring Program. Station C-1 is located in the Napa River at Latitude N 38°34'21" and Longitude W 122°33'39", approximately 500 feet upstream of the City of Calistoga Wastewater Treatment Plant E-001 outfall. The proposed sampling station is upstream of all POTW influence on Napa River water quality and, therefore, would also be appropriate as the sampling station for a coordinated background ambient sampling program for all five Napa River dischargers.

In addition, samples will be taken at two downstream locations to characterize pH, hardness, and salinity for both freshwater (Calistoga, St. Helena, and Yountville) and saltwater (Napa and American Canyon) conditions. The two downstream locations proposed are: 1) freshwater location: approximately 1000 feet downstream of the Yountville discharge location, and 2) saltwater location: approximately 1000 feet downstream of the confluence of North Slough (into which American Canyon discharges) and the Napa River. These two locations will provide representative fresh and saline receiving water conditions below where the discharge has mixed with the receiving water.

Based on USGS flow gage data and visual observation by Napa Resource Conservation Service staff, it is known that the furthest upstream travel of salt water occurs somewhere downstream of the USGS flow gage station midway between Yountville and Napa and upstream of the Trancas Bridge on the north side of the City of Napa. Therefore, the monitoring site 1000 feet downstream of Yountville is above the tidal influence and therefore an acceptable freshwater monitoring site.

A map of the discharge and sampling locations and the referenced USGS flow gage is found in Attachment 1.

### SAMPLING LOGISTICS

#### Constituents to be Sampled

Tests will be conducted for all CTR priority pollutants plus three additional toxic chemicals of concern to the RWQCB: tributyltin and the organophosphate pesticides chlorpyrifos and diazinon. The flow rate at the Napa River upstream site C-1 will be measured at each sampling event. Napa River flows at the C-1 monitoring station will be determined using existing procedures as currently utilized for the Calistoga NPDES Self Monitoring program. Only pH, hardness, and salinity data will be collected at the two downstream locations.

#### Sampling Schedule

Samples from Calistoga Station C-1 and the two downstream stations will be taken quarterly for one year, for a total of four sampling events, a frequency which is similar to other Bay Area dischargers and the Regional Monitoring Program. To consider seasonal variability of the

## COLLABORATIVE NAPA RIVER RECEIVING WATER STUDY

receiving water and to cover both wet and dry weather conditions, sampling is proposed for mid-month for the following four months:

- January 2002
- April 2002
- July 2002
- October 2002

To insure field crew safety, river sample collection will not be conducted during non-daylight hours or if sampling appears unsafe due to high flow or other unsafe conditions.

### Sampling Techniques

All samples from the receiving water stations will be collected as grab samples collected by direct sample bottle submersion. Field personnel will follow appropriate EPA ultra-clean sampling protocols (EPA Method 1669<sup>1</sup>) for the collection of all samples for trace metals and trace organic constituent determination.

All sample bottles will meet material and cleaning specifications specified by each analytical method. Additionally, all samples will be preserved as specified by analytical methods, and kept cool from the time of sample collection to the time of delivery to the analytical laboratory.

### SAMPLE ANALYSIS

Attachment 2 lists all CTR pollutants and the three additional constituents of concern noted above which will be included in the proposed sampling program. For each constituent, Attachment 2 also contains the following information:

- The EPA analytical method and testing lab proposed for use in this study
- The achievable ML for the proposed lab.

All samples will be submitted to Caltest Analytical following collection. Most of the constituents will be analyzed in-house by Caltest Analytical in Napa, California. However, Caltest Analytical will sub-contract with the analytical laboratories listed below for certain analyses. Caltest is a commercial laboratory approved to perform the work under ELAP Certificate #1664.

- Dioxins and furans analysis will be performed by Alta Analytical Laboratory in El Dorado Hills, California. Alta is a commercial laboratory approved to perform the work under ELAP Certificate #1640.
- Asbestos analysis will be performed by EMSL Analytical of Milpitas, California. EMSL is a commercial laboratory approved to perform the work under ELAP Certificate #1620.

1. \_\_\_\_\_  
<sup>1</sup> United States Environmental Protection Agency (USEPA). 1995. Method 1669: Sampling Ambient Water for Trace Metals at EPA Water Quality Criteria Levels. EPA 821-R-95-034. April 1995.

**COLLABORATIVE NAPA RIVER RECEIVING WATER STUDY**

- Tributyltin analysis will be performed by ToxScan of Watsonville, California. Toxscan is a commercial laboratory approved to perform the work under ELAP Certificate #1515.

As indicated by Attachment 2, the testing laboratories proposed by the District for this Study can conform to the applicable Minimum Levels dictated by the SIP.

**Quality Assurance/Quality Control**

The Quality Assurance/Quality Control (QA/QC) program for this project will include the following components.

Every Event

- Laboratory-initiated method blanks
- Standard laboratory-initiated accuracy, precision, and calibration checks.

Every Other Event

- Field blank collection and analysis for trace metal and organic constituents.
- MS/MSD analysis for trace metal and organic constituents.
- Either a field-initiated or laboratory-initiated duplicate sample for all constituents.

The QA/QC schedule below indicates the planned QA/QC sample collection frequency.

Site	Event #1	Event #2	Event #3	Event #4
Calistoga Station C-1	Field Blank, MS/MSD	Lab Duplicate	Field Blank, MS/MSD	Field Duplicate
Downstream of Yountville		Lab Duplicate		Field Duplicate
Downstream of American Canyon		Lab Duplicate		Field Duplicate

**VI. PERSONNEL AND CONTACT INFORMATION**

**Facility Contacts:**

Napa Sanitation District  
 Mike Alexander  
 General Manager  
 950 Imola Avenue West  
 Napa, CA 94558  
 (707) 258-6000 ext. 511  
 (707) 258-6049  
[malexand@co.napa.ca.us](mailto:malexand@co.napa.ca.us)

City of Calistoga  
 Steve Anderson  
 Water Systems Superintendent  
 232 Washington St.  
 Calistoga, CA 94515  
 (707) 942-2847  
 (707) 942-2835 (fax)  
[wwtp@ci.calistoga.ca.us](mailto:wwtp@ci.calistoga.ca.us)

## COLLABORATIVE NAPA RIVER RECEIVING WATER STUDY

### City of American Canyon

Tom Foley  
Chief Plant Operator  
205 Wetlands Edge Rd.  
American Canyon, CA 94503  
(707) 333-9173 (cell)  
(707) 647-4367  
[tfoley@hotmail.com](mailto:tfoley@hotmail.com)

### City of St. Helena

Myke Praul  
Director of Public Works/City Engineer  
1 Thomann Lane  
St. Helena, CA 94574  
(707) 963-2741  
(707) 963-7748 (fax)  
[mykep@ci.st-helena.ca.us](mailto:mykep@ci.st-helena.ca.us)

### Town of Yountville

Steven Rosa  
Chief Operator  
7501 Solano Avenue  
Yountville, CA 94599  
(707) 944-2988  
(707) 944-9619 (fax)

### **Sampling Contact**

Gil Wheeler  
Larry Walker Associates  
509 4<sup>th</sup> Street  
Davis, CA 95616  
(530) 753-6400  
(530) 753-7030 (fax)  
[gilw@lwa.com](mailto:gilw@lwa.com)

### **Analytical Lab Contacts**

#### Caltest Analytical

Todd Albertson  
Project Manager  
1885 North Kelly Road  
Napa, CA 94558  
(707) 258-4000  
(707) 226-1001 (fax)  
[todd\\_albertson@caltestlab.com](mailto:todd_albertson@caltestlab.com)

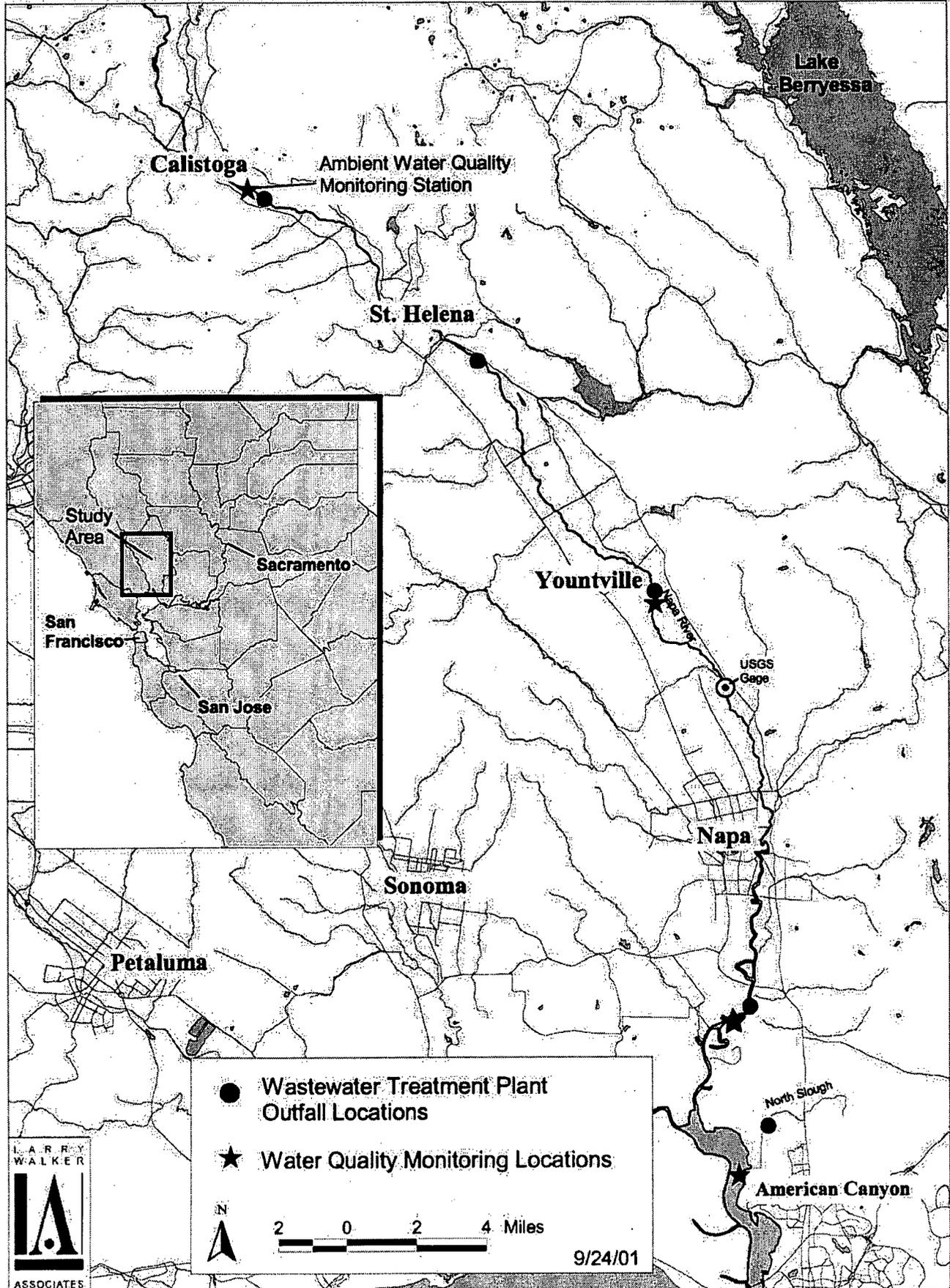
#### Alta Analytical Laboratory Inc.

Martha Maier  
5070 Robert J. Matthews Parkway  
El Dorado Hills, CA 95630  
(916) 933-1640  
(916) 933-0940 (fax)  
[mmaier@altalab.com](mailto:mmaier@altalab.com)

**COLLABORATIVE NAPA RIVER RECEIVING WATER STUDY**

<p><u>EMSL</u> Sean Fitzgerald 382 South Abbott Avenue Milpitas, CA 95035 (408) 934-7010 (408) 934-7015 (fax) <a href="mailto:sfitzgerald@emsl.com">sfitzgerald@emsl.com</a></p>	<p><u>ToxScan Inc.</u> Phil Carpenter 42 Hangar Way Watsonville, CA 95076 (831) 724-4522 (408) 724-3188 (fax) <a href="mailto:pcarpenter@toxscan.com">pcarpenter@toxscan.com</a></p>
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Attachment 1. Study Area for Collaborative Napa River Receiving Water Study



**UPDATED: COLLABORATIVE NAPA RIVER RECEIVING WATER STUDY**

**REVISED: Quality Assurance/Quality Control**

The Quality Assurance/Quality Control (QA/QC) program for this project included the following components.

Every Event

- Laboratory-initiated method blanks.
- Standard laboratory-initiated accuracy, precision, and calibration checks.

Every Other Event

- Field blank collection and analysis for trace metal and organic constituents.
- MS/MSD analysis for trace metal and organic constituents.
- Either a field-initiated or laboratory-initiated duplicate sample for all constituents.

The QA/QC schedule below indicates the QA/QC sample collection frequency.

Site	Event #1	Event #2	Event #3	Event #4
Calistoga Station C-1	MS/MSD	Field Blank, Lab Duplicate		
Napa River Station <sup>[1]</sup>			Field Blank, MS/MSD	Field Duplicate

[1] The Napa River Station was added for priority pollutants following Event #1 to characterize the Napa River more thoroughly.

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**Attachment 1b**  
Data Summary, Laboratory Analytical Reports, and Chain of Custodies for the  
Collaborative Napa River Receiving Water Study

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**Trace Level Mercury Concentrations Collected during Collaborative Napa River Receiving Water Study**

Sample Type	Sample Date	Sample Location	Result	RL	MDL	Units	Analytical Method	Analytical Laboratory
Environmental	2/25/2002	N38°34'21", W122°33'39" (nr Calistoga)	0.0150	0.0005	0.00017	µg/L	EPA 1631B	Caltest
Environmental	4/25/2002	N38°34'21", W122°33'39" (nr Calistoga)	0.0066	0.0005	0.00017	µg/L	EPA 1631B	Caltest
Environmental	4/25/2002	N38°14'34.6", W122°17'5.6" (nr Napa)	0.0110	0.0005	0.00017	µg/L	EPA 1631B	Caltest
Environmental	7/18/2002	N38°34'21", W122°33'39" (nr Calistoga)	0.0061	0.0005	0.00024	µg/L	EPA 1631B	Caltest
Environmental	7/18/2002	N38°14'34.6", W122°17'5.6" (nr Napa)	0.0065	0.0005	0.00024	µg/L	EPA 1631B	Caltest
Environmental	10/14/2002	N38°34'21", W122°33'39" (nr Calistoga)	0.0030	0.0005	0.00024	µg/L	EPA 1631B	Caltest
Environmental	10/14/2002	N38°14'34.6", W122°17'5.6" (nr Napa)	0.0031	0.0005	0.00024	µg/L	EPA 1631B	Caltest
Lab Duplicate	4/25/2002	N38°34'21", W122°33'39" (nr Calistoga)	9.5	0.0005	0.00017	RPD (%)	EPA 1631B	Caltest
Field Blank	4/25/2002	N38°34'21", W122°33'39" (nr Calistoga)	J0.0002	0.0005	0.00017	µg/L	EPA 1631B	Caltest
Field Blank	7/18/2002	N38°14'34.6", W122°17'5.6" (nr Napa)	ND	0.0005	0.00024	µg/L	EPA 1631B	Caltest
Field Duplicate	10/14/2002	N38°14'34.6", W122°17'5.6" (nr Napa)	0	0.0005	0.00024	RPD (%)	EPA 1631B	Caltest

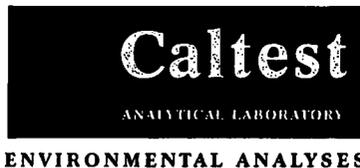
RL = Reporting Limit

ML = Method Detection Limit

RPD = Relative Percent Difference

J = Detected below reporting limit, but above method detection limit, therefore the value is *estimated*.

ND = Not detected



LAB ORDER No.:

C020772

Page 1 of 11

Report Date:

09 APR 2002

Received Date:

25 FEB 2002

REPORT of ANALYTICAL RESULTS

Client: Michelle Buzbee  
 LARRY WALKER ASSOCIATES  
 250 Lafayette Circle, Suite 200  
 Lafayette, CA 94549

Project: NAPA RIVER RECEIVING WATER STUDY

Sampled by:

ERICH S

<u>Lab Number</u>	<u>Sample Identification</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>
C020772-1	CALISTOGA	AQUEOUS	25 FEB 02 10:50
C020772-2	CALISTOGA BLANK	AQUEOUS	25 FEB 02
C020772-3	CALISTOGA YOUNTVILLE	AQUEOUS	25 FEB 02

  
 Todd M. Albertson  
 Project Manager

  
 Christine Horn  
 Laboratory Director

CALTEST authorizes this report to be reproduced only in its entirety.  
 Results are specific to the sample as submitted and only to the parameters reported.  
 All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.  
 Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).  
 'D.F.' means Dilution Factor and has been used to adjust the listed Reporting Limit (R.L.).  
 Acceptance Criteria for all Surrogate recoveries are defined in the QC Spike Data Reports.  
 Caltest collects samples in compliance with CFR 40, EPA Methods, Cal. Title 22, and Standard Methods.





LAB ORDER No.:

C020772

INORGANIC ANALYTICAL RESULTS

Page 2 of 11

ANALYTE	RESULT	R.L.	MDL	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: C020772-1									
SAMPLE ID: CALISTOGA									
SAMPLED: 25 FEB 02 10:50									
Antimony	0.7	0.5	0.01	ug/L	1	200.8	03.15.02	A020274IMS	1.2.3
Antimony, dissolved	ND	0.5	0.01	ug/L	1	200.8	03.12.02	A020254IMS	4
Arsenic	1.3	0.5	0.08	ug/L	1	200.8	03.15.02	A020274IMS	1.2
Arsenic, dissolved	1.0	0.5	0.08	ug/L	1	200.8	03.12.02	A020254IMS	4
Beryllium	ND	0.1	0.06	ug/L	1	200.8	03.15.02	A020274IMS	1.2.5
Beryllium, dissolved	ND	0.2	0.06	ug/L	2	200.8	03.13.02	A020254IMS	4.6
Cadmium	ND	0.1	0.04	ug/L	1	200.8	03.15.02	A020274IMS	1.2.5
Cadmium, dissolved	ND	0.1	0.04	ug/L	1	200.8	03.12.02	A020254IMS	4
Chromium	0.6	0.5	0.2	ug/L	1	200.8	03.15.02	A020274IMS	1.2.3
Chromium, dissolved	ND	1.	0.2	ug/L	2	200.8	03.13.02	A020254IMS	4.6
Copper	0.9	0.5	0.2	ug/L	1	200.8	03.15.02	A020274IMS	1.2
Copper, dissolved	0.7	0.5	0.2	ug/L	1	200.8	03.12.02	A020254IMS	4
Lead	J0.21	0.25	0.02	ug/L	1	200.8	03.15.02	A020274IMS	1.2.3
Lead, dissolved	ND	0.25	0.2	ug/L	1	200.8	03.12.02	A020254IMS	4
Mercury, Trace Level	0.015	0.0005	0.00017	ug/L	1	1631	03.06.02	A020244MER	2.7
Nickel	1.9	0.5	0.2	ug/L	1	200.8	03.15.02	A020274IMS	1.2
Nickel, dissolved	1.4	0.5	0.2	ug/L	1	200.8	03.12.02	A020254IMS	4
Selenium	ND	1.	0.3	ug/L	1	200.8	03.15.02	A020280IMS	2.5.8
Selenium, dissolved	ND	0.5	0.3	ug/L	1	200.8	03.12.02	A020254IMS	4
Silver	J0.02	0.1	0.02	ug/L	1	200.8	03.15.02	A020274IMS	1.2.3
Silver, dissolved	ND	0.1	0.02	ug/L	1	200.8	03.12.02	A020254IMS	4
Thallium	0.2	0.1	0.03	ug/L	1	200.8	03.15.02	A020274IMS	1.2.5
Thallium, dissolved	0.2	0.1	0.03	ug/L	1	200.8	03.12.02	A020254IMS	4
Zinc	2.	1.	0.5	ug/L	1	200.8	03.15.02	A020280IMS	2.3.8
Zinc, dissolved	ND	2.	0.5	ug/L	1	200.8	03.12.02	A020254IMS	4
Asbestos	RR			MFL	1		TEM		9.10
Chromium (VI)	ND	10.	2.	ug/L	1	SM3500CR D	02.26.02	I020011CR6	2
Cyanide, total	ND	3.	0.6	ug/L	1	335.2	03.01.02	I020021CYA	2.5
Hardness	58.	5.	1.3	mg/L	1	130.2	02.28.02	I020015SHAR	

- 1) Sample Preparation on 03-12-02 using 200.8
- 2) 'RL' (Reporting Limit) represents the lowest calibration standard in methods that require multipoint calibrations. RL is equivalent to the ML (Minimum Level) in the State Implementation Plan (SIP) of the California Toxics Rule (CTR).
- 3) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.
- 4) Sample Preparation on 03-07-02 using 200.8 (Filtrate)
- 5) Analyte was not detected at or above the Method Detection Limit (MDL).
- 6) Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in (a) higher reporting limit(s).
- 7) Sample Preparation on 03-05-02 using 1631
- 8) Sample Preparation on 03-13-02 using 200.8
- 9) Analysis performed by EMSL Analytical, ELAP certification # 1620.
- 10) RR = Refer to the attached reference laboratory report for the original certificate of analysis and supporting Quality Control data.



LAB ORDER No.:

C020772  
Page 1 of 15

SUPPLEMENTAL QUALITY CONTROL (QC) DATA REPORT

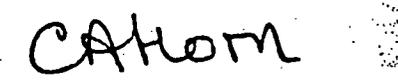
Report Date: 09 APR 2002  
Received Date: 25 FEB 2002

Client: Michelle Buzbee  
LARRY WALKER ASSOCIATES  
250 Lafayette Circle, Suite 200  
Lafayette, CA 94549

Project: NAPA RIVER RECEIVING WATER STUDY

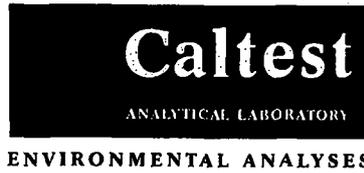
<u>QC Batch ID</u>	<u>Method</u>	<u>Matrix</u>
A020244MER	1631	AQUEOUS
A020254IMS	200.8	AQUEOUS
A020274IMS	200.8	AQUEOUS
A020280IMS	200.8	AQUEOUS
I020011CR6	SM3500CR D	AQUEOUS
I020015HAR	130.2	AQUEOUS
I020016HAR	130.2	AQUEOUS
I020021CYA	335.2	AQUEOUS
R020022PAH	610	AQUEOUS
S020015BNA	625	AQUEOUS
T0200550CP	608	AQUEOUS
T0200560PP	614	AQUEOUS
V020010MSB	624	AQUEOUS

  
Todd M. Albertson  
Project Manager

  
Christine Horn  
Laboratory Director

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Results are specific to the sample as submitted and only to the parameters reported.  
All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.  
Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).  
Analyte Spike Amounts reported as 'NS' mean not spiked and will not have recoveries reported.  
'RPD' means Relative Percent Difference and RPD Acceptance Criteria is stated as a maximum.  
'NC' means not calculated for RPD or Spike Recoveries.





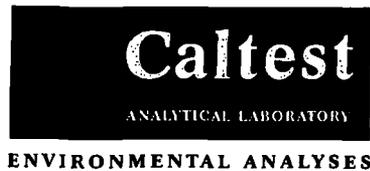
METHOD BLANK ANALYTICAL RESULTS

LAB ORDER No.:

C020772  
Page 2 of 15

<u>ANALYTE</u>	<u>RESULT</u>	<u>R.L.</u>	<u>UNITS</u>	<u>ANALYZED</u>	<u>NOTES</u>
QC BATCH: A020244MER					
Mercury, Trace Level	ND	0.0005	ug/L	03.06.02	
QC BATCH: A020254IMS					
Antimony, dissolved	ND	0.5	ug/L	03.12.02	
Arsenic, dissolved	ND	0.5	ug/L	03.12.02	
Beryllium, dissolved	ND	0.1	ug/L	03.13.02	
Cadmium, dissolved	ND	0.1	ug/L	03.12.02	
Chromium, dissolved	ND	0.5	ug/L	03.13.02	
Copper, dissolved	ND	0.5	ug/L	03.12.02	
Lead, dissolved	ND	0.25	ug/L	03.12.02	
Nickel, dissolved	ND	0.5	ug/L	03.12.02	
Selenium, dissolved	ND	0.5	ug/L	03.12.02	
Silver, dissolved	ND	0.1	ug/L	03.12.02	
Thallium, dissolved	ND	0.1	ug/L	03.12.02	
Zinc, dissolved	ND	10.	ug/L	03.12.02	
QC BATCH: A020274IMS					
Antimony	ND	0.5	ug/L	03.15.02	
Arsenic	ND	0.5	ug/L	03.15.02	
Beryllium	ND	0.1	ug/L	03.15.02	
Cadmium	ND	0.1	ug/L	03.15.02	
Chromium	ND	0.5	ug/L	03.15.02	
Copper	ND	0.5	ug/L	03.15.02	
Lead	ND	0.25	ug/L	03.15.02	
Nickel	ND	0.5	ug/L	03.15.02	
Silver	ND	0.1	ug/L	03.15.02	
Thallium	ND	0.1	ug/L	03.15.02	
QC BATCH: A020280IMS					
Selenium	ND	1.	ug/L	03.15.02	
Zinc	ND	1.	ug/L	03.15.02	
QC BATCH: I020011CR6					
Chromium (VI)	ND	10.	ug/L	02.26.02	





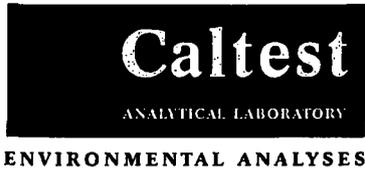
## LABORATORY CONTROL SAMPLE ANALYTICAL RESULTS

LAB ORDER No.:

C020772  
Page 8 of 15

ANALYTE	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: A020244MER							
Mercury, Trace Level	0.0200	0.0179\	90\	71-125\20		03.06.02	
QC BATCH: A020254IMS							
Antimony, dissolved	20.0	20.2\	101\	80-120\20		03.12.02	
Arsenic, dissolved	20.0	19.7\	98\	80-120\20		03.12.02	
Beryllium, dissolved	20.0	19.8\	99\	80-120\20		03.13.02	
Cadmium, dissolved	20.0	19.5\	98\	80-120\20		03.12.02	
Chromium, dissolved	20.0	20.2\	101\	80-120\20		03.13.02	
Copper, dissolved	20.0	19.4\	97\	80-120\20		03.12.02	
Lead, dissolved	20.0	20.0\	100\	80-120\20		03.12.02	
Nickel, dissolved	20.0	19.2\	96\	80-120\20		03.12.02	
Selenium, dissolved	20.0	20.4\	102\	80-120\20		03.12.02	
Silver, dissolved	20.0	19.7\	98\	80-120\20		03.12.02	
Thallium, dissolved	20.0	20.0\	100\	80-120\20		03.12.02	
Zinc, dissolved	20.0	19.3\	96\	80-120\20		03.12.02	
QC BATCH: A020274IMS							
Antimony	20.0	21.5\	108\	80-120\20		03.15.02	
Arsenic	20.0	21.2\	106\	80-120\20		03.15.02	
Beryllium	20.0	22.2\	111\	80-120\20		03.15.02	
Cadmium	20.0	21.8\	109\	80-120\20		03.15.02	
Chromium	20.0	22.8\	114\	80-120\20		03.15.02	
Copper	20.0	22.0\	110\	80-130\20		03.15.02	
Lead	20.0	23.0\	115\	80-120\20		03.15.02	
Nickel	20.0	21.9\	110\	80-120\20		03.15.02	
Silver	20.0	22.1\	110\	80-120\20		03.15.02	
Thallium	20.0	23.3\	116\	80-120\20		03.15.02	
QC BATCH: A020280IMS							
Selenium	20.0	18.9\	94\	80-120\20		03.15.02	
Zinc	20.0	19.8\	99\	80-120\20		03.15.02	
QC BATCH: I020011CR6							
Chromium (VI)	40.0	40.0\	100\	75-125\20		02.26.02	





LAB ORDER No.:

C020772

MATRIX SPIKE ANALYTICAL RESULTS

Page 11 of 15

ANALYTE	ORIGINAL RESULT	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: A020244MER QC SAMPLE LAB NUMBER: C020772-1								
Mercury, Trace Level	0.015	0.0200	0.0345\0.0335	98\92	71-125\20	2.9	03.06.02	
QC BATCH: A020254IMS QC SAMPLE LAB NUMBER: C020772-1								
Antimony, dissolved QC BATCH: A020254IMS (continued) QC SAMPLE LAB NUMBER: C020772-1	ND	20.0	20.4\20.4	102\102	80-120\20	0.0	03.12.02	
Arsenic, dissolved QC BATCH: A020254IMS (continued) QC SAMPLE LAB NUMBER: C020772-1	0.972	20.0	20.4\20.5	97\98	80-120\20	0.5	03.12.02	
Beryllium, dissolved QC BATCH: A020254IMS (continued) QC SAMPLE LAB NUMBER: C020772-1	ND	20.0	18.0\18.2	90\91	80-120\20	1.1	03.13.02	
Cadmium, dissolved QC BATCH: A020254IMS (continued) QC SAMPLE LAB NUMBER: C020772-1	ND	20.0	18.9\18.9	94\94	80-120\20	0.0	03.12.02	
Chromium, dissolved QC BATCH: A020254IMS (continued) QC SAMPLE LAB NUMBER: C020772-1	ND	20.0	18.1\18.2	90\91	80-120\20	0.6	03.13.02	
Copper, dissolved QC BATCH: A020254IMS (continued) QC SAMPLE LAB NUMBER: C020772-1	0.673	20.0	18.9\19.0	91\92	80-120\20	0.5	03.12.02	
Lead, dissolved QC BATCH: A020254IMS (continued) QC SAMPLE LAB NUMBER: C020772-1	ND	20.0	20.0\20.0	100\100	80-120\20	0.0	03.12.02	
Nickel, dissolved QC BATCH: A020254IMS (continued) QC SAMPLE LAB NUMBER: C020772-1	1.42	20.0	19.6\19.8	91\92	80-120\20	1.0	03.12.02	
Selenium, dissolved QC BATCH: A020254IMS (continued) QC SAMPLE LAB NUMBER: C020772-1	ND	20.0	19.1\18.9	96\94	80-120\20	1.1	03.12.02	
Silver, dissolved	ND	20.0	19.0\19.1	95\96	80-120\20	0.5	03.12.02	



CO20764  
CO20772 2/25

**LARRY WALKER ASSOCIATES**

509 FOURTH STREET, DAVIS, CA 95616 TEL: 530.753.6400 FAX: 530.753.7030

**CHAIN-OF-CUSTODY RECORD**

DATE:

02/25/02

Lab ID:

<b>DESTINATION LAB:</b> CalTest Analytical Labs ATTN: Todd Albertson <b>ADDRESS:</b> 1885 N. Kelly Road Napa, CA. 94552  <b>PHONE:</b> (707) 258-4000 <b>FAX:</b> (707) 226-1001 <b>SAMPLED BY:</b> Erich S. & John L. <b>LWA Contact:</b> Michelle Buzbee <b>Napa River Receiving Water Study</b>							<b>REQUESTED ANALYSIS</b>									
							EPA 624*	EPA 625*, EPA 610*	Mercury (EPA 1631)*	Diss. Metals*, Chromium VI*	Total Metals*	Cyanide	EPA 608, EPA 1613, Diazinon & Chlorpyrifos, & Tributyltin	Asbestos	Hardness (as CaCO3)	NOTES
Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container			EPA 624*	EPA 625*, EPA 610*	Mercury (EPA 1631)*	Diss. Metals*, Chromium VI*	Total Metals*	Cyanide	EPA 608, EPA 1613, Diazinon & Chlorpyrifos, & Tributyltin	Asbestos	Hardness (as CaCO3)	NOTES
				#	Type	Pres.										
1 Calistoga	02/25/02	10:30		9	40mL VOA	HCl	X									* Perform MS/MSD
2 Calistoga	02/25/02	10:04		15	1-L Am GI			X								
3 Calistoga	02/25/02	10:30		3	500mL GI	HCl		X								
4 Calistoga	02/25/02	10:40		6	500mL PE				X							
5 Calistoga	02/25/02	10:40		3	500mL PE	HNO3				X						
6 Calistoga	02/25/02	10:40		1	1-L PE	NaOH					X					
7 Calistoga	02/25/02	10:04		8	1-L Am GI							X				
8 Calistoga	02/25/02	10:40		1	1-L PE								X			Feed 1 container
9 Calistoga, Yountville	02/25/02	10:40	*	2	500mL PE	HNO3								X		Yountville + Ord 1
<b>SENDER COMMENTS:</b> Bill to LWA Send Results to: Larry Walker Associates ATTN: Michelle Buzbee 250 Lafayette Circle Suite 200 Lafayette, CA. 94549							<b>BELIQUISHED BY</b> Signature: <i>[Signature]</i> Print: <u>John Lecker</u> Company: Larry Walker Associates Date: 02/25/02 Time: 2:30 (aged in per cont.									
<b>LABORATORY COMMENTS:</b>							<b>RECEIVED BY [2]</b> Signature: <i>[Signature]</i> Print: <u>Michelle Buzbee</u> Company: Date: 2/25/02 Time: 1940									

2-28  
Calim  
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C



ENVIRONMENTAL ANALYSES

LAB ORDER No.:

C040734  
Page 1 of 24

REPORT of ANALYTICAL RESULTS

Report Date: 10 JUN 2002  
Received Date: 25 APR 2002

Client: Michelle Buzbee  
Larry Walker and Associates  
509 4th Street  
Davis, CA 95616

Project: NAPA RIVER RECEIVING WATER STUDY/PROJECT#15.04, TASK 2

Sampled by: ERIC ZEIGLER/ERICH SIMON

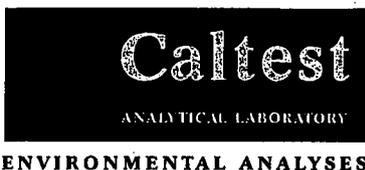
<u>Lab Number</u>	<u>Sample Identification</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>
C040734-1	CALISTOGA, RECEIVING WATER	AQUEOUS	25 APR 02 10:45
C040734-2	NAPA, RECEIVING WATER	AQUEOUS	25 APR 02 13:40
C040734-3	CALISTOGA, FB	AQUEOUS	25 APR 02 10:00
C040734-4	YOUNTVILLE, RECEIVING WATER	AQUEOUS	25 APR 02 13:45
C040734-5	AMERICAN CANYON RW	AQUEOUS	25 APR 02 13:40
C040734-6	CALISTOGA, RECEIVING WATER (LAB DUPLICATE)	AQUEOUS	25 APR 02 10:45
C040734-7	YOUNTVILLE, RECEIVING WATER LAB DUPLICATE	AQUEOUS	25 APR 02 13:45
C040734-8	AMERICAN CANYON RW LAB DUPLICATE	AQUEOUS	25 APR 02 13:40
C040734-9	CALISTOGA RECEIVING WATER LAB DUPLICATE	AQUEOUS	25 APR 02 10:45

Todd M. Albertson  
Project Manager

Christine Horn  
Laboratory Director

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Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).  
'D.F.' means Dilution Factor and has been used to adjust the listed Reporting Limit (R.L.).  
Acceptance Criteria for all Surrogate recoveries are defined in the QC Spike Data Reports.  
Caltest collects samples in compliance with CFR 40, EPA Methods, Cal. Title 22, and Standard Methods.





## INORGANIC ANALYTICAL RESULTS

LAB ORDER No.:

C040734

Page 2 of 24

ANALYTE	RESULT	R.L.	MDL	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: C040734-1									
SAMPLE ID: CALISTOGA, RECEIVING WATER									
SAMPLED: 25 APR 02 10:45									
Antimony	1.	0.5	0.01	ug/L	1	200.8	04.30.02	A020491IMS	1,2
Antimony, dissolved	1.1	0.5	0.01	ug/L	1	200.8	05.09.02	A020527IMS	3
Arsenic	2.4	0.5	0.08	ug/L	1	200.8	04.30.02	A020491IMS	1,2
Arsenic, dissolved	2.1	0.5	0.08	ug/L	1	200.8	05.09.02	A020527IMS	3
Beryllium	ND	0.1	0.06	ug/L	1	200.8	04.30.02	A020491IMS	1,2,4
Beryllium, dissolved	ND	0.1	0.06	ug/L	1	200.8	05.09.02	A020527IMS	3
Cadmium	ND	0.1	0.04	ug/L	1	200.8	04.30.02	A020491IMS	1,2,4
Cadmium, dissolved	ND	0.1	0.04	ug/L	1	200.8	05.09.02	A020527IMS	3
Chromium	ND	0.5	0.2	ug/L	1	200.8	04.30.02	A020491IMS	1,2,4
Chromium, dissolved	ND	1.	0.2	ug/L	2	200.8	05.16.02	A020527IMS	3,5
Copper	1.0	0.5	0.2	ug/L	1	200.8	04.30.02	A020491IMS	1,2
Copper, dissolved	0.9	0.5	0.2	ug/L	1	200.8	05.09.02	A020527IMS	3
Lead	J0.12	0.25	0.02	ug/L	1	200.8	04.30.02	A020491IMS	1,2,6
Lead, dissolved	ND	0.25	0.2	ug/L	1	200.8	05.09.02	A020527IMS	3
Mercury, Trace Level	0.0066	0.0005	0.00017	ug/L	1	1631B	05.01.02	A020495MER	2,7
Nickel	2.2	0.5	0.2	ug/L	1	200.8	04.30.02	A020491IMS	1,2
Nickel, dissolved	1.7	0.5	0.2	ug/L	1	200.8	05.09.02	A020527IMS	3
Selenium	ND	1.	0.5	ug/L	1	200.8	05.06.02	A020502IMS	2,4,8
Selenium, dissolved	ND	1.	0.5	ug/L	1	200.8	05.01.02	A020492IMS	2,4,9
Silver	J0.03	0.1	0.02	ug/L	1	200.8	04.30.02	A020491IMS	1,2,6
Silver, dissolved	ND	0.1	0.02	ug/L	1	200.8	05.09.02	A020527IMS	3
Thallium	J0.08	0.1	0.03	ug/L	1	200.8	04.30.02	A020491IMS	1,2,6
Thallium, dissolved	ND	0.1	0.03	ug/L	1	200.8	05.09.02	A020527IMS	3
Zinc	J0.9	1.	0.5	ug/L	1	200.8	05.06.02	A020502IMS	2,6,8
Zinc, dissolved	ND	2.	0.5	ug/L	1	200.8	05.09.02	A020527IMS	2,3
Asbestos	RR				1				10.11
Chromium (VI) LowLevel	RR				1				11.12
Hardness	80.	5.	1.3	mg/L	1	130.2	05.07.02	I020033HAR	

1) Sample Preparation on 04-30-02 using 200.8

2) 'RL' (Reporting Limit) represents the lowest calibration standard in methods that require multipoint calibrations. RL is equivalent to the ML (Minimum Level) in the State Implementation Plan (SIP) of the California Toxics Rule (CTR).

3) Sample Preparation on 05-08-02 using 200.8 (Filtrate)

4) Analyte was not detected at or above the Method Detection Limit (MDL).

5) Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in (a) higher reporting limit(s).

6) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

7) Sample Preparation on 04-30-02 using 1631B

8) Sample Preparation on 05-02-02 using 200.8

9) Sample Preparation on 04-30-02 using 200.8-ML (Filtrate)

10) Analysis performed by EMSL Analytical. ELAP certification # 1620.

11) RR = Refer to the attached reference laboratory report for the original certificate of analysis and supporting Quality Control data.

12) Analysis performed by BSK Analytical Laboratories. ELAP Certification #1180.





ENVIRONMENTAL ANALYSES

LAB ORDER No.:

C040734

INORGANIC ANALYTICAL RESULTS

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ANALYTE	RESULT	R.L.	MDL	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: C040734-2									
SAMPLE ID: NAPA, RECEIVING WATER									
SAMPLED: 25 APR 02 13:40									
Antimony	J0.5	1.	0.01	ug/L	2	200.8	05.01.02	A020491IMS	1,2,3
Antimony, dissolved	0.7	0.5	0.01	ug/L	1	200.8	05.09.02	A020527IMS	4
Arsenic	14.	2.	0.08	ug/L	2	200.8	05.01.02	A020491IMS	1,2
Arsenic, dissolved	11.	0.5	0.08	ug/L	1	200.8	05.09.02	A020527IMS	4
Beryllium	ND	0.1	0.06	ug/L	1	200.8	04.30.02	A020491IMS	1,2,5
Beryllium, dissolved	ND	0.1	0.06	ug/L	1	200.8	05.09.02	A020527IMS	4
Cadmium	J0.04	0.2	0.04	ug/L	2	200.8	05.01.02	A020491IMS	1,2,3
Cadmium, dissolved	ND	0.1	0.04	ug/L	1	200.8	05.09.02	A020527IMS	4
Chromium	2.6	0.5	0.2	ug/L	1	200.8	04.30.02	A020491IMS	1,2
Chromium, dissolved	ND	1.	0.2	ug/L	2	200.8	05.16.02	A020527IMS	4,6
Copper	7.	2.	0.2	ug/L	2	200.8	05.01.02	A020491IMS	1,2
Copper, dissolved	4.5	0.5	0.2	ug/L	1	200.8	05.09.02	A020527IMS	4
Lead	0.78	0.50	0.02	ug/L	2	200.8	05.01.02	A020491IMS	1,2
Lead, dissolved	ND	0.25	0.2	ug/L	1	200.8	05.09.02	A020527IMS	4
Mercury, Trace Level	0.011	0.0005	0.00017	ug/L	1	1631B	05.01.02	A020495MER	2,7
Nickel	11.	1.	0.2	ug/L	2	200.8	05.01.02	A020491IMS	1,2
Nickel, dissolved	6.6	0.5	0.2	ug/L	1	200.8	05.09.02	A020527IMS	4
Selenium	ND	1.	0.5	ug/L	1	200.8	05.07.02	A020502IMS	2,5,8
Selenium, dissolved	J2.	3.	0.5	ug/L	2.5	200.8	05.02.02	A020492IMS	2,3,9
Silver	ND	0.5	0.02	ug/L	2	200.8	05.01.02	A020491IMS	1,2,5,6
Silver, dissolved	ND	0.1	0.02	ug/L	1	200.8	05.09.02	A020527IMS	4
Thallium	ND	0.2	0.03	ug/L	2	200.8	05.01.02	A020491IMS	1,2,5
Thallium, dissolved	ND	0.1	0.03	ug/L	1	200.8	05.09.02	A020527IMS	4
Zinc	7.	2.	0.5	ug/L	2	200.8	05.01.02	A020491IMS	1,2
Zinc, dissolved	5.	2.	0.5	ug/L	1	200.8	05.09.02	A020527IMS	2,4
Asbestos	RR				1				10,11
Chromium (VI) LowLevel	RR				1				11,12
Hardness	1400.	5.	1.3	mg/L	1	130.2	05.07.02	I020033HAR	

1) Sample Preparation on 04-30-02 using 200.8

2) 'RL' (Reporting Limit) represents the lowest calibration standard in methods that require multipoint calibrations. RL is equivalent to the ML (Minimum Level) in the State Implementation Plan (SIP) of the California Toxics Rule (CTR).

3) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.

4) Sample Preparation on 05-08-02 using 200.8 (Filtrate)

5) Analyte was not detected at or above the Method Detection Limit (MDL).

6) Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in (a) higher reporting limit(s).

7) Sample Preparation on 04-30-02 using 1631B

8) Sample Preparation on 05-02-02 using 200.8

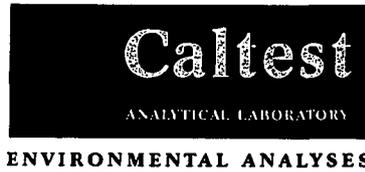
9) Sample Preparation on 04-30-02 using 200.8-ML (Filtrate)

10) Analysis performed by EMSL Analytical. ELAP certification # 1620.

11) RR = Refer to the attached reference laboratory report for the original certificate of analysis and supporting Quality Control data.

12) Analysis performed by BSK Analytical Laboratories. ELAP Certification #1180.





LAB ORDER No.:

C040734

INORGANIC ANALYTICAL RESULTS

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ANALYTE	RESULT	R.L.	MDL	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: C040734-3									
SAMPLE ID: CALISTOGA, FB									
SAMPLED: 25 APR 02 10:00									
Antimony	ND	0.5	0.01	ug/L	1	200.8	04.30.02	A020491IMS	1.2.3
Arsenic	J0.1	0.5	0.08	ug/L	1	200.8	04.30.02	A020491IMS	1.2.4
Beryllium	ND	0.1	0.06	ug/L	1	200.8	04.30.02	A020491IMS	1.2.3
Cadmium	ND	0.1	0.04	ug/L	1	200.8	04.30.02	A020491IMS	1.2.3
Chromium	ND	0.5	0.2	ug/L	1	200.8	04.30.02	A020491IMS	1.2.3
Copper	ND	0.5	0.2	ug/L	1	200.8	04.30.02	A020491IMS	1.2.3
Lead	ND	0.25	0.02	ug/L	1	200.8	04.30.02	A020491IMS	1.2.3
Mercury, Trace Level	J0.0002	0.0005	0.00017	ug/L	1	1631B	05.01.02	A020495MER	2.4.5
Nickel	ND	0.5	0.2	ug/L	1	200.8	04.30.02	A020491IMS	1.2.3
Selenium	ND	1.	0.5	ug/L	1	200.8	05.06.02	A020502IMS	2.3.6
Silver	ND	0.1	0.02	ug/L	1	200.8	04.30.02	A020491IMS	1.2.3
Thallium	ND	0.1	0.03	ug/L	1	200.8	04.30.02	A020491IMS	1.2.3
Zinc	ND	1.	0.5	ug/L	1	200.8	05.07.02	A020502IMS	2.3.6

LAB NUMBER: C040734-4  
 SAMPLE ID: YOUNTVILLE, RECEIVING WATER  
 SAMPLED: 25 APR 02 13:45

Hardness	150.	5.	1.3	mg/L	1	130.2	05.07.02	I020033HAR	
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LAB NUMBER: C040734-5  
 SAMPLE ID: AMERICAN CANYON RW  
 SAMPLED: 25 APR 02 13:40

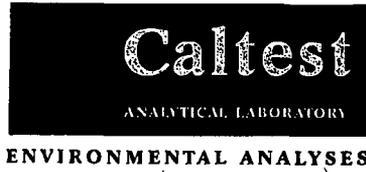
Hardness	2400.	5.	1.3	mg/L	1	130.2	05.07.02	I020033HAR	
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LAB NUMBER: C040734-6  
 SAMPLE ID: CALISTOGA, RECEIVING WATER (LAB DUPLICATE)  
 SAMPLED: 25 APR 02 10:45

Antimony	0.9	0.5	0.01	ug/L	1	200.8	04.30.02	A020491IMS	1.2
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- 1) Sample Preparation on 04-30-02 using 200.8
- 2) 'RL' (Reporting Limit) represents the lowest calibration standard in methods that require multipoint calibrations. RL is equivalent to the ML (Minimum Level) in the State Implementation Plan (SIP) of the California Toxics Rule (CTR).
- 3) Analyte was not detected at or above the Method Detection Limit (MDL).
- 4) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNO Estimated Concentration flag.
- 5) Sample Preparation on 04-30-02 using 1631B
- 6) Sample Preparation on 05-02-02 using 200.8





LAB ORDER No.:

C040734

INORGANIC ANALYTICAL RESULTS

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ANALYTE	RESULT	R.L.	MDL	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: C040734-6 (continued)									
Antimony, dissolved	1.0	0.5	0.01	ug/L	1	200.8	05.09.02	A020527IMS	1
Arsenic	2.5	0.5	0.08	ug/L	1	200.8	04.30.02	A020491IMS	2,3
Arsenic, dissolved	2.0	0.5	0.08	ug/L	1	200.8	05.09.02	A020527IMS	1
Beryllium	ND	0.1	0.06	ug/L	1	200.8	04.30.02	A020491IMS	2,3,4
Beryllium, dissolved	ND	0.1	0.06	ug/L	1	200.8	05.09.02	A020527IMS	1
Cadmium	ND	0.1	0.04	ug/L	1	200.8	04.30.02	A020491IMS	2,3,4
Cadmium, dissolved	ND	0.1	0.04	ug/L	1	200.8	05.09.02	A020527IMS	1
Chromium	ND	0.5	0.2	ug/L	1	200.8	04.30.02	A020491IMS	2,3,4
Chromium, dissolved	ND	1.	0.2	ug/L	2	200.8	05.20.02	A020527IMS	1,5
Copper	1.0	0.5	0.2	ug/L	1	200.8	04.30.02	A020491IMS	2,3
Copper, dissolved	1.0	0.5	0.2	ug/L	1	200.8	05.09.02	A020527IMS	1
Lead	J0.10	0.25	0.02	ug/L	1	200.8	04.30.02	A020491IMS	2,3,6
Lead, dissolved	ND	0.25	0.2	ug/L	1	200.8	05.09.02	A020527IMS	1
Mercury, Trace Level	0.0060	0.0005	0.00017	ug/L	1	1631B	05.01.02	A020495MER	3,7
Nickel	2.2	0.5	0.2	ug/L	1	200.8	04.30.02	A020491IMS	2,3
Nickel, dissolved	1.8	0.5	0.2	ug/L	1	200.8	05.09.02	A020527IMS	1
Selenium	ND	1.	0.5	ug/L	1	200.8	05.06.02	A020502IMS	3,4,8
Selenium, dissolved	ND	1.	0.5	ug/L	1	200.8	05.07.02	A020508IMS	3,4,9
Silver	ND	0.1	0.02	ug/L	1	200.8	04.30.02	A020491IMS	2,3,4
Silver, dissolved	ND	0.1	0.02	ug/L	1	200.8	05.09.02	A020527IMS	1
Thallium	ND	0.1	0.03	ug/L	1	200.8	04.30.02	A020491IMS	2,3,4
Thallium, dissolved	ND	0.1	0.03	ug/L	1	200.8	05.09.02	A020527IMS	1
Zinc	J0.9	1.	0.5	ug/L	1	200.8	05.06.02	A020502IMS	3,6,8
Zinc, dissolved	ND	2.	0.5	ug/L	1	200.8	05.09.02	A020527IMS	1,3
Hardness	80.	5.	1.3	mg/L	1	130.2	05.07.02	I020033HAR	

LAB NUMBER: C040734-7

SAMPLE ID: YOUNTVILLE, RECEIVING WATER LAB DUPLICATE

SAMPLED: 25 APR 02 13:45

Hardness	150.	5.	1.3	mg/L	1	130.2	05.07.02	I020033HAR	
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- 1) Sample Preparation on 05-08-02 using 200.8 (Filtrate)
- 2) Sample Preparation on 04-30-02 using 200.8
- 3) 'RL' (Reporting Limit) represents the lowest calibration standard in methods that require multipoint calibrations. RL is equivalent to the ML (Minimum Level) in the State Implementation Plan (SIP) of the California Toxics Rule (CTR).
- 4) Analyte was not detected at or above the Method Detection Limit (MDL).
- 5) Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in (a) higher reporting limit(s).
- 6) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.
- 7) Sample Preparation on 04-30-02 using 1631B
- 8) Sample Preparation on 05-02-02 using 200.8
- 9) Sample Preparation on 05-03-02 using 200.8-ML (Filtrate)





ENVIRONMENTAL ANALYSES

LAB ORDER No.:

C040734

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SUPPLEMENTAL QUALITY CONTROL (QC) DATA REPORT

Report Date:

10 JUN 2002

Received Date:

25 APR 2002

Client: Michelle Buzbee
Larry Walker and Associates
509 4th Street
Davis, CA 95616

Project: NAPA RIVER RECEIVING WATER STUDY/PROJECT#15.04, TASK 2

Table with 3 columns: QC Batch ID, Method, Matrix. Lists various batch IDs and their corresponding methods and matrices (all AQUEOUS).

Handwritten signature of Todd M. Albertson, Project Manager.

Handwritten signature of Christine Horn, Laboratory Director.

CALTEST authorizes this report to be reproduced only in its entirety. Results are specific to the sample as submitted and only to the parameters reported. All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted. Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.). Analyte Spike Amounts reported as 'NS' mean not spiked and will not have recoveries reported. 'RPD' means Relative Percent Difference and RPD Acceptance Criteria is stated as a maximum. 'NC' means not calculated for RPD or Spike Recoveries.





LAB ORDER No.:

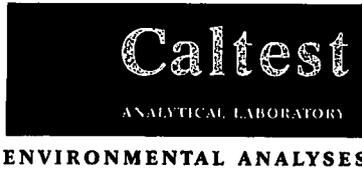
C040734

METHOD BLANK ANALYTICAL RESULTS

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<u>ANALYTE</u>	<u>RESULT</u>	<u>R.L.</u>	<u>UNITS</u>	<u>ANALYZED</u>	<u>NOTES</u>
<b>QC BATCH: A020491IMS</b>					
Antimony	ND	0.5	ug/L	04.30.02	
Arsenic	ND	0.5	ug/L	04.30.02	
Beryllium	ND	0.1	ug/L	04.30.02	
Cadmium	ND	0.1	ug/L	04.30.02	
Chromium	ND	0.5	ug/L	04.30.02	
Copper	ND	0.5	ug/L	04.30.02	
Lead	ND	0.25	ug/L	04.30.02	
Nickel	ND	0.5	ug/L	04.30.02	
Silver	ND	0.1	ug/L	04.30.02	
Thallium	ND	0.1	ug/L	04.30.02	
Zinc	ND	2.	ug/L	04.30.02	
<b>QC BATCH: A020492IMS</b>					
Selenium	ND	1.	ug/L	05.01.02	
<b>QC BATCH: A020495MER</b>					
Mercury, Trace Level	ND	0.0005	ug/L	05.01.02	
<b>QC BATCH: A020502IMS</b>					
Selenium	ND	1.	ug/L	05.06.02	
Zinc	ND	1.	ug/L	05.06.02	
<b>QC BATCH: A020508IMS</b>					
Selenium	ND	1.	ug/L	05.07.02	
<b>QC BATCH: A020527IMS</b>					
Antimony, dissolved	ND	0.5	ug/L	05.09.02	
Arsenic, dissolved	ND	0.5	ug/L	05.09.02	
Beryllium, dissolved	ND	0.1	ug/L	05.09.02	
Cadmium, dissolved	ND	0.1	ug/L	05.09.02	
Chromium, dissolved	ND	0.5	ug/L	05.16.02	
Copper, dissolved	ND	0.5	ug/L	05.09.02	





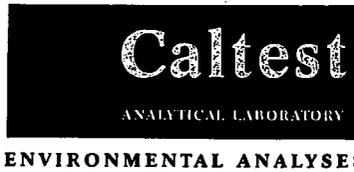
LAB ORDER No.:

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LABORATORY CONTROL SAMPLE ANALYTICAL RESULTS

<u>ANALYTE</u>	<u>SPIKE AMOUNT</u>	<u>SPIKE\DUP RESULT</u>	<u>SPK\DUP %REC</u>	<u>ACCEPTANCE %REC \RPD</u>	<u>REL% DIFF</u>	<u>ANALYZED</u>	<u>NOTES</u>
<b>QC BATCH: A020491IMS</b>							
Antimony	20.0	21.0\	105\	80-120\20		04.30.02	
Arsenic	20.0	20.7\	104\	80-120\20		04.30.02	
Beryllium	20.0	21.6\	108\	80-120\20		04.30.02	
Cadmium	20.0	21.0\	105\	80-120\20		04.30.02	
Chromium	20.0	21.0\	105\	80-120\20		04.30.02	
Copper	20.0	21.6\	108\	80-130\20		04.30.02	
Lead	20.0	21.4\	107\	80-120\20		04.30.02	
Nickel	20.0	21.6\	108\	80-120\20		04.30.02	
Silver	20.0	21.2\	106\	80-120\20		04.30.02	
Thallium	20.0	20.9\	104\	80-120\20		04.30.02	
Zinc	20.0	21.9\	110\	80-120\20		04.30.02	
<b>QC BATCH: A020492IMS</b>							
Selenium	20.0	18.8\	94\	80-120\20		05.01.02	
<b>QC BATCH: A020495MER</b>							
Mercury, Trace Level	0.0200	0.0202\	101\	71-125\20		05.01.02	
<b>QC BATCH: A020502IMS</b>							
Selenium	20.0	18.1\	90\	80-120\20		05.06.02	
Zinc	20.0	21.3\	106\	80-120\20		05.06.02	
<b>QC BATCH: A020508IMS</b>							
Selenium	20.0	18.1\	90\	80-120\20		05.07.02	
<b>QC BATCH: A020527IMS</b>							
Antimony, dissolved	20.0	19.3\	96\	80-120\20		05.09.02	
Arsenic, dissolved	20.0	20.0\	100\	80-120\20		05.09.02	
Beryllium, dissolved	20.0	21.2\	106\	80-120\20		05.09.02	
Cadmium, dissolved	20.0	19.5\	98\	80-120\20		05.09.02	
Chromium, dissolved	20.0	19.7\	98\	80-120\20		05.16.02	





LAB ORDER No.:

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MATRIX SPIKE ANALYTICAL RESULTS

ANALYTE	ORIGINAL RESULT	SPIKE AMOUNT	SPIKE\DUPLICATE RESULT	SPK\DUPLICATE %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: A020491IMS (continued)								
QC BATCH: A020491IMS (continued)								
QC SAMPLE LAB NUMBER: C040734-3								
Zinc	1.22	20.0	24.5\21.0	116\99	80-120\20	15.	04.30.02	
QC BATCH: A020492IMS								
QC SAMPLE LAB NUMBER: C040705-1								
Selenium	ND	20.0	18.4\19.1	92\96	80-120\20	3.7	05.01.02	
QC BATCH: A020495MER								
QC SAMPLE LAB NUMBER: C040560-2								
Mercury, Trace Level	0.0038	0.0200	0.0252\0.0244	107\103	71-125\20	3.2	05.01.02	
QC BATCH: A020502IMS								
QC SAMPLE LAB NUMBER: C040741-1								
Selenium	ND	20.0	18.4\18.2	92\91	80-120\20	1.1	05.06.02	
QC BATCH: A020502IMS (continued)								
QC SAMPLE LAB NUMBER: C040741-1								
Zinc	20.3	20.0	40.8\39.3	102\95	80-120\20	3.7	05.06.02	
QC BATCH: A020508IMS								
QC SAMPLE LAB NUMBER: C050048-1								
Selenium	ND	20.0	16.2\18.1	81\90	80-120\20	11.	05.07.02	
QC BATCH: A020527IMS								
QC SAMPLE LAB NUMBER: C040734-1								
Antimony, dissolved	1.14	20.0	20.8\20.4	98\96	80-120\20	1.9	05.09.02	
QC BATCH: A020527IMS (continued)								
QC SAMPLE LAB NUMBER: C040734-1								
Arsenic, dissolved	2.14	20.0	22.1\21.9	100\99	80-120\20	0.9	05.09.02	



**Caltest**  
Analytical Laboratory

1885 N. KELLY ROAD NAPA, CA 94558 (707) 258-4000 FAX (707) 226-1001 www.caltestlab.com

PAGE 1 OF 3

**SAMPLE CHAIN OF CUSTODY**

PROJECT NAME / PROJECT NUMBER <b>Napa River Receiving Water Study / Project# 15.04, Task 2</b>		P.O. #	LAB ORDER # <b>CO40734</b>
CLIENT: <b>Larry Walker Associates</b>	REPORT TO: <b>Michelle Buzbee</b>	ANALYSES REQUESTED	
MAILING ADDRESS: <b>250 Lafayette Circle, Suite 200, Lafayette</b>	STATE: <b>CA</b> ZIP: <b>94549</b>	<input type="checkbox"/> EPA 101 - Toxic Trace Metals <input type="checkbox"/> EPA 200 - Diss. Metals (Cr, Cu, Ni, Se, Sb, As, Ba, Cd, Pb, Hg, Tl, & Zn) <input type="checkbox"/> EPA 1631 - Mercury <input type="checkbox"/> EPA 654 - VOCs <input type="checkbox"/> EPA 654 - semi and nonvolatile organics <input type="checkbox"/> EPA 604 - OC Pesticides and PCBs <input type="checkbox"/> EPA 816 - PAHs <input type="checkbox"/> (Industry) <input type="checkbox"/> Hexachlor (dieldrin) <input type="checkbox"/> EPA 816 - Dioxins & Furans <input type="checkbox"/> EPA 816 - Dioxin & Chlordane	
BILLING ADDRESS: <b>Same as above</b>	ATTN: <b>same as report to</b>		
PHONE #: <b>(925) 962-9700</b>	FAX PHONE: <b>(925) 962-9701</b>		
SAMPLER (PRINT & SIGN NAME) <b>Eric Zelgler and Erich Simon</b>		TURN-AROUND TIME <input checked="" type="checkbox"/> STANDARD <input type="checkbox"/> RUSH DUE DATE:	

CALTEST LAB #	DATE SAMPLED	TIME SAMPLED	SAMPLE MATRIX	CONTAINER TYPE/ AMOUNT	PRESERVATIVE	SAMPLE IDENTIFICATION / SITE	CLIENT LAB #	COMP. or GRAB	EPA 101	EPA 200	EPA 1631	EPA 654	EPA 654	EPA 604	EPA 816	Hexachlor	EPA 816	REMARKS
	4/25/02	1045	FE	PT/2	HNO3	Callistoga, Receiving Water		Grab	X									Perform Lab Duplicate
	4/25/02		FE	PT/2	None	Callistoga, Receiving Water		Grab		X								Perform Lab Duplicate
	4/25/02		FE	OTC(500ml Glass)/2	HCl	Callistoga, Receiving Water		Grab			X							Perform Lab Duplicate
	4/25/02		FE	VOA/B	HCL	Callistoga, Receiving Water		Grab				X						Perform Lab Duplicate
	4/25/02		FE	AL/4	None	Callistoga, Receiving Water		Grab					X					Perform Lab Duplicate
	4/25/02		FE	AL/4	None	Callistoga, Receiving Water		Grab						X				Perform Lab Duplicate
	4/25/02		FE	AL/4	None	Callistoga, Receiving Water		Grab							X			Perform Lab Duplicate
	4/25/02		FE	AL/4	None	Callistoga, Receiving Water		Grab								X		Perform Lab Duplicate
	4/25/02		FE	PT/2	HNO3	Callistoga, Receiving Water		Grab									X	Perform Lab Duplicate
	4/25/02		FE	AL/2	None	Callistoga, Receiving Water		Grab										Perform Lab Duplicate
	4/25/02		FE	AL/4	None	Callistoga, Receiving Water		Grab										X Perform Lab Duplicate

RELINQUISHED BY	DATE/TIME	RECEIVED BY	RELINQUISHED BY	DATE/TIME	RECEIVED BY
<i>[Signature]</i>	4/26/02 1545	<i>[Signature]</i>			

Samples: WC, MICK, BIO, AA, SV, VOA, DHT Y/N, TEMP, SEALED, INTACT	*MATRIX: AQ = Aqueous Nondrinking Water, Digested Metals; FE = Low R.L.s, Aqueous Nondrinking Water, Digested Metals; DW = Drinking Water, SL = Soil Sludge, Solid; FP = Free Product
BD: BIO, WC, AA	COMMENTS:
CC: AA, SV, VOA	ML analysis for all 11257 constituents
SIL: HP, PT, QT, VOA	Cr, Cu, Ni, Se, Sb, As, Ba, Cd, Pb, Ag, Tl, & Zn
WHNO, H2SO, N2OH	Filter for dissolved metals immediately upon receipt at lab.
P/L: HNO, H2SO, N2OH, HCL	R PR SL F

WRITE - LABORATORY YELLOW - CLIENT COPY TO ACCOMPANY FINAL REPORT PINK - CLIENT COPY AS RECEIPT







LAB ORDER No.:

C070625  
Page 1 of 7

Report Date:  
Received Date:

06 AUG 2002  
18 JUL 2002

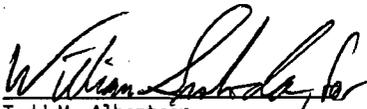
REPORT of ANALYTICAL RESULTS

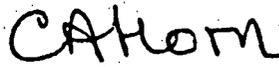
Client: Michelle Buzbee  
Larry Walker and Associates  
509 4th Street  
Davis, CA 95616

Project: NAPA RIVER RECEIVING WATER STUDY\PROJECT #15.04, TASK 2

Sampled by: CHRIS ERICHSEN\VERICH SIMON

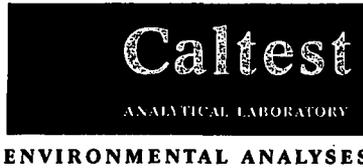
<u>Lab Number</u>	<u>Sample Identification</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>
C070625-1	CALISTOGA, RECEIVING WATER	AQUEOUS	18 JUL 02 10:15
C070625-2	YOUNTVILLE, RECEIVING WATER	AQUEOUS	18 JUL 02 13:30

  
Todd M. Albertson  
Project Manager

  
Christine Horn  
Laboratory Director

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 Results are specific to the sample as submitted and only to the parameters reported.  
 All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.  
 Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).  
 'D.F.' means Dilution Factor and has been used to adjust the listed Reporting Limit (R.L.).  
 Acceptance Criteria for all Surrogate recoveries are defined in the QC Spike Data Reports.  
 Caltest collects samples in compliance with CFR 40, EPA Methods, Cal. Title 22, and Standard Methods.





LAB ORDER No. :

C070625

INORGANIC ANALYTICAL RESULTS

Page 2 of 7

ANALYTE	RESULT	R.L.	MDL	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: C070625-1									
SAMPLE ID: CALISTOGA, RECEIVING WATER									
SAMPLED: 18 JUL 02 10:15									
Antimony	J0.3	0.5	0.2	ug/L	1	200.8	07.24.02	A020867IMS	1,2,3
Antimony, dissolved	ND	1.	0.2	ug/L	2	200.8	07.31.02	A020881IMS	4
Arsenic	5.9	0.5	0.2	ug/L	1	200.8	07.24.02	A020867IMS	1,2
Arsenic, dissolved	5.7	0.5	0.08	ug/L	1	200.8	07.30.02	A020881IMS	4
Beryllium	ND	0.1	0.06	ug/L	1	200.8	07.24.02	A020867IMS	1,2,5
Beryllium, dissolved	ND	0.1	0.06	ug/L	1	200.8	07.30.02	A020881IMS	4
Cadmium	ND	0.1	0.03	ug/L	1	200.8	07.24.02	A020867IMS	1,2,5
Cadmium, dissolved	ND	0.2	0.04	ug/L	2	200.8	07.31.02	A020881IMS	4
Chromium	ND	0.5	0.2	ug/L	1	200.8	07.24.02	A020867IMS	1,2,5
Chromium, dissolved	ND	0.5	0.2	ug/L	1	200.8	07.30.02	A020881IMS	4
Copper	1.1	0.5	0.3	ug/L	1	200.8	07.24.02	A020867IMS	1,2
Copper, dissolved	0.7	0.5	0.2	ug/L	1	200.8	07.30.02	A020881IMS	4
Lead	J0.053	0.25	0.04	ug/L	1	200.8	07.24.02	A020867IMS	1,2,3
Lead, dissolved	ND	0.25	0.02	ug/L	1	200.8	07.30.02	A020881IMS	4
Mercury, Trace Level	0.0061	0.0005	0.00024	ug/L	1	1631B	07.30.02	A020883MER	2,6
Nickel	3.8	0.5	0.2	ug/L	1	200.8	07.24.02	A020867IMS	1,2
Nickel, dissolved	3.3	0.5	0.2	ug/L	1	200.8	08.01.02	A020899IMS	7
Selenium	ND	1.	0.5	ug/L	1	200.8	07.26.02	A020868IMS	1,2,5
Selenium, dissolved	ND	2.	0.5	ug/L	1	200.8	07.30.02	A020881IMS	4
Silver	ND	0.1	0.02	ug/L	1	200.8	07.24.02	A020867IMS	1,2,5
Silver, dissolved	ND	0.2	0.02	ug/L	2	200.8	07.31.02	A020881IMS	4
Thallium	ND	0.1	0.03	ug/L	1	200.8	07.24.02	A020867IMS	1,2,5
Thallium, dissolved	ND	0.2	0.03	ug/L	2	200.8	07.31.02	A020881IMS	4
Zinc	1.	1.	0.3	ug/L	1	200.8	07.24.02	A020867IMS	1,2
Zinc, dissolved	ND	10.	0.5	ug/L	1	200.8	08.01.02	A020899IMS	7
Hardness	120.	5.	1.3	mg/L	1	130.2	07.23.02	I020049HAR	

LAB NUMBER: C070625-2

SAMPLE ID: YOUNTVILLE, RECEIVING WATER

SAMPLED: 18 JUL 02 13:30

Hardness	190.	5.	1.3	mg/L	1	130.2	07.23.02	I020049HAR	
----------	------	----	-----	------	---	-------	----------	------------	--

- 1) Sample Preparation on 07-23-02 using 200.8
- 2) 'RL' (Reporting Limit) represents the lowest calibration standard in methods that require multipoint calibrations. RL is equivalent to the ML (Minimum Level) in the State Implementation Plan (SIP) of the California Toxics Rule (CTR).
- 3) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.
- 4) Sample Preparation on 07-29-02 using 200.8 (Filtrate)
- 5) Analyte was not detected at or above the Method Detection Limit (MDL).
- 6) Sample Preparation on 07-29-02 using 1631B
- 7) Sample Preparation on 08-01-02 using 200.8 (Filtrate)





LAB ORDER No.:

C070625  
Page 1 of 15

Report Date:  
Received Date:

06 AUG 2002  
18 JUL 2002

SUPPLEMENTAL QUALITY CONTROL (QC) DATA REPORT

Client: Michelle Buzbee  
Larry Walker and Associates  
509 4th Street  
Davis, CA 95616

Project: NAPA RIVER RECEIVING WATER STUDY\PROJECT #15.04, TASK 2

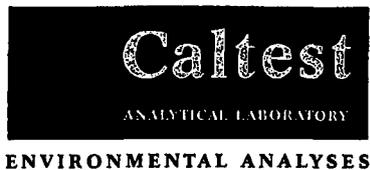
<u>QC Batch ID</u>	<u>Method</u>	<u>Matrix</u>
A020867IMS	200.8	AQUEOUS
A020868IMS	200.8	AQUEOUS
A020881IMS	200.8	AQUEOUS
A020883MER	1631B	AQUEOUS
A020899IMS	200.8	AQUEOUS
I020049HAR	130.2	AQUEOUS
R020090PAH	610	AQUEOUS
S020060BNA	625	AQUEOUS
T0202110CP	608	AQUEOUS
T0202150PP	614	AQUEOUS
V020080MSB	624	AQUEOUS

*Todd M. Albertson*  
Todd M. Albertson  
Project Manager

*CA Horn*  
Christine Horn  
Laboratory Director

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Results are specific to the sample as submitted and only to the parameters reported.  
All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.  
Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).  
Analyte Spike Amounts reported as 'NS' mean not spiked and will not have recoveries reported.  
'RPD' means Relative Percent Difference and RPD Acceptance Criteria is stated as a maximum.  
'NC' means not calculated for RPD or Spike Recoveries.





LAB ORDER No.:

C070625

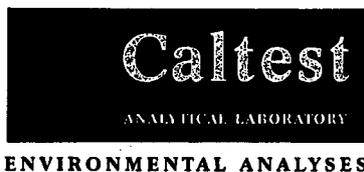
METHOD BLANK ANALYTICAL RESULTS

Page 2 of 15

<u>ANALYTE</u>	<u>RESULT</u>	<u>R.L.</u>	<u>UNITS</u>	<u>ANALYZED</u>	<u>NOTES</u>
QC BATCH: A020867IMS					
Antimony	ND	0.5	ug/L	07.26.02	
Arsenic	J0.266	0.5	ug/L	07.26.02	1
Beryllium	ND	0.1	ug/L	07.26.02	
Cadmium	ND	0.1	ug/L	07.26.02	
Chromium	ND	0.5	ug/L	07.26.02	
Copper	ND	0.5	ug/L	07.26.02	
Lead	ND	0.25	ug/L	07.26.02	
Nickel	ND	0.5	ug/L	07.26.02	
Silver	ND	0.1	ug/L	07.26.02	
Thallium	ND	0.1	ug/L	07.26.02	
Zinc	ND	1.	ug/L	07.26.02	
QC BATCH: A020868IMS					
Selenium	ND	1.	ug/L	07.26.02	
QC BATCH: A020881IMS					
Antimony, dissolved	ND	0.5	ug/L	07.31.02	
Arsenic, dissolved	ND	0.5	ug/L	07.30.02	
Beryllium, dissolved	ND	0.1	ug/L	07.30.02	
Cadmium, dissolved	ND	0.1	ug/L	07.31.02	
Chromium, dissolved	ND	0.5	ug/L	07.30.02	
Copper, dissolved	ND	0.5	ug/L	07.30.02	
Lead, dissolved	ND	0.25	ug/L	07.30.02	
Selenium, dissolved	ND	2.	ug/L	07.30.02	
Silver, dissolved	ND	0.1	ug/L	07.31.02	
Thallium, dissolved	ND	0.1	ug/L	07.30.02	
QC BATCH: A020883MER					
Mercury, Trace Level	ND	0.0005	ug/L	07.30.02	

1) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.





LAB ORDER No.:

C070625  
Page 8 of 15

LABORATORY CONTROL SAMPLE ANALYTICAL RESULTS

<u>ANALYTE</u>	<u>SPIKE AMOUNT</u>	<u>SPIKE\DUP RESULT</u>	<u>SPK\DUP %REC</u>	<u>ACCEPTANCE %REC \RPD</u>	<u>REL% DIFF</u>	<u>ANALYZED</u>	<u>NOTES</u>
QC BATCH: A020867IMS							
Antimony	20.0	21.0\	105\	80-120\20		07.26.02	
Arsenic	20.0	20.0\	100\	80-120\20		07.26.02	
Beryllium	20.0	20.5\	102\	80-120\20		07.26.02	
Cadmium	20.0	20.3\	102\	80-120\20		07.26.02	
Chromium	20.0	20.1\	100\	80-120\20		07.26.02	
Copper	20.0	21.7\	108\	80-130\20		07.26.02	
Lead	20.0	19.6\	98\	80-120\20		07.26.02	
Nickel	20.0	21.7\	108\	80-120\20		07.26.02	
Silver	20.0	20.0\	100\	80-120\20		07.26.02	
Thallium	20.0	19.5\	98\	80-120\20		07.26.02	
Zinc	20.0	21.6\	108\	80-120\20		07.26.02	
QC BATCH: A020868IMS							
Selenium	20.0	17.2\	86\	80-120\20		07.26.02	
QC BATCH: A020881IMS							
Antimony, dissolved	20.0	18.9\	94\	80-120\20		07.31.02	
Arsenic, dissolved	20.0	18.8\	94\	80-120\20		07.30.02	
Beryllium, dissolved	20.0	20.8\	104\	80-120\20		07.30.02	
Cadmium, dissolved	20.0	19.0\	95\	80-120\20		07.31.02	
Chromium, dissolved	20.0	19.3\	96\	80-120\20		07.30.02	
Copper, dissolved	20.0	21.2\	106\	80-130\20		07.30.02	
Lead, dissolved	20.0	19.5\	98\	80-120\20		07.30.02	
Selenium, dissolved	20.0	18.0\	90\	80-120\20		07.30.02	
Silver, dissolved	20.0	17.9\	90\	80-120\20		07.31.02	
Thallium, dissolved	20.0	19.5\	98\	80-120\20		07.30.02	
QC BATCH: A020883MER							
Mercury, Trace Level	0.0200	0.0225\	112\	71-125\20		07.30.02	
QC BATCH: A020899IMS							
Nickel, dissolved	20.0	19.8\	99\	80-120\20		08.01.02	
Zinc, dissolved	20.0	19.1\	96\	80-120\20		08.01.02	





LAB ORDER No.:

C070625

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MATRIX SPIKE ANALYTICAL RESULTS

ANALYTE	ORIGINAL RESULT	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: A020881IMS (continued)								
QC BATCH: A020881IMS (continued)								
QC SAMPLE LAB NUMBER: C070577-1								
Thallium, dissolved	ND	20.0	18.3\18.1	92\90	80-120\20	1.1	07.30.02	
QC BATCH: A020883MER								
QC SAMPLE LAB NUMBER: C070622-1								
Mercury, Trace Level	0.00646	0.0200	0.0295\0.0283	115\109	71-125\20	4.2	07.30.02	
QC BATCH: A020899IMS								
QC SAMPLE LAB NUMBER: C070577-1								
Nickel, dissolved	3.94	20.0	22.3\22.7	92\94	80-120\20	1.8	08.01.02	
QC BATCH: A020899IMS (continued)								
QC SAMPLE LAB NUMBER: C070577-1								
Zinc, dissolved	30.4	20.0	46.9\47.2	82\84	80-120\20	0.6	08.01.02	
QC BATCH: I020049HAR								
QC SAMPLE LAB NUMBER: C070534-3								
Total Hardness	180.	200.	380.\380.	100\100	80-120\20	0.0	07.23.02	
QC BATCH: R020090PAH								
QC SAMPLE LAB NUMBER: C070622-1								
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)							07.26.02	1
Benzo(a)pyrene	ND	8.33	8.97\6.97	108\84	20-140\25	25.		
Fluorene	ND	8.33	1.18\2.11	14\25	20-140\25	57.		
Pyrene	ND	8.33	6.65\5.76	80\69	20-140\25	14.		
Surrogate p-Terphenyl	53.%	8.33	5.55\6.31	67\76	30-120\			

1) ALUMINA.CLEANUP Fluorene recovered low in the MSD, data accepted on LCS results.



**Caltest**  
Analytical Laboratory

1885 N. KELLY ROAD NAPA, CA 94558 (707) 258-4000 FAX (707) 226-1001 www.caltestlab.com

PAGE 1 OF 3

**SAMPLE CHAIN OF CUSTODY**

PROJECT NAME / PROJECT NUMBER

P.O. #

LAB ORDER #

**Napa River Receiving Water Study / Project# 15.04, Task 2**

C070625

CLIENT:  
Larry Walker Associates

REPORT TO:  
Michelle Buzbee

ANALYSES REQUESTED

MAILING ADDRESS:  
250 Lafayette Circle, Suite 200, Lafayette

STATE: CA ZIP: 94549

BILLING ADDRESS:  
Same as above

ATTN: same as report to

PHONE #: (925) 962-9700

FAX PHONE: (925) 962-9701

SAMPLER (PRINT & SIGN NAME)  
Chris Erichsen and Erich Simon

TURN-AROUND TIME

STANDARD

RUSH

DUE DATE:

REMARKS

CALTEST LAB #	DATE SAMPLED	TIME SAMPLED	SAMPLE MATRIX*	CONTAINER TYPE/ AMOUNT**	PRESERVATIVE	SAMPLE IDENTIFICATION / SITE	CLIENT LAB #	COMP. or GRAB	EPA 200.8 - Tot. Rac. Metals***	EPA 200.8 - Diss. Metals (Cr, Cu, Ni, Se, Sb, As, Ba, Cd, Pb, Ag, Tl, & Zn)****	EPA 1831 - Mercury	EPA 824 - VOCs	EPA 825 - semi and non-volatile organics	EPA 810 - PAHs	EPA 808 - OC Pesticides and PCBs	Tributyltin	Hardness (as CaCO3)	EPA 1613 - Dioxins & Furans	EPA 814 - Dieldrin & Chlordane
	7/18/2002	10:15	FE	PT/1	HNO3	Callstoga, Receiving Water	1	Grab	X										
	7/18/2002		FE	PT/1	None	Callstoga, Receiving Water		Grab		X									
	7/18/2002		FE	OTC(500ml Glass)/1	HCl	Callstoga, Receiving Water		Grab			X								
	7/18/2002		FE	VOA/3	HCL	Callstoga, Receiving Water		Grab				X							
	7/18/2002		FE	AL/2	None	Callstoga, Receiving Water		Grab					X						
	7/18/2002		FE	AL/2	None	Callstoga, Receiving Water		Grab						X					
	7/18/2002		FE	AL/2	None	Callstoga, Receiving Water		Grab							X				
	7/18/2002		FE	PT/1	HNO3	Callstoga, Receiving Water		Grab								X			
	7/18/2002		FE	AL/2	None	Callstoga, Receiving Water		Grab									X		
	7/18/2002		FE	AL/2	None	Callstoga, Receiving Water		Grab										X	

RELINQUISHED BY	DATE/TIME	RECEIVED BY	RELINQUISHED BY	DATE/TIME	RECEIVED BY
<i>Chris Erichsen</i>	7/18/02 2:15 pm	<i>Michelle Buzbee</i>			
<i>Chris Erichsen</i>	7/18/02 2:15 pm	<i>Michelle Buzbee</i>			

FOR LAB USE ONLY

Samples: WC MICRO BIO AA SV VOA pH? Y/N TEMP: SEALED: Y/N INTACT: Y/N

BD: BIO WC AA

CC: AA SV VOA

SIL: HP PT QT VOA

W/HNO<sub>3</sub> H<sub>2</sub>SO<sub>4</sub> NaOH

PIL: HNO<sub>3</sub> H<sub>2</sub>SO<sub>4</sub> NaOH HCL

COMMENTS:  
ML analysis for all 13267 constituents  
\*\*\*Cr, Cu, Ni, Se, Sb, As, Ba, Cd, Pb, Ag, Tl, & Zn  
\*\*\*\*Filter for dissolved metals immediately upon receipt at lab.

*transferred to C070626 7-18-02*

\*MATRIX: AQ = Aqueous Nondrinking Water, Digested Metals; FE = Low R.L.s., Aqueous Nondrinking Water, Digested Metals; DW = Drinking Water; SL = Soil Sludge, Solid; FP = Free Product

\*\*CONTAINER TYPES: AL = Amber Liter; AHL = 500 ml Amber; PT = Pint (Plastic); QT = Quart (Plastic); HG = Half Gallon (Plastic); SJ = Soil Jar; B4 = 4oz. BACT; BT = Brass Tube; VOA = 40ml VOA; OTC - Other Type Container

R PR M F

WHITE - LABORATORY YELLOW - CLIENT COPY TO ACCOMPANY FINAL REPORT PINK - CLIENT COPY AS RECEIPT



LAB ORDER No.: C070622  
Page 1 of 12

Report Date: 06 AUG 2002  
Received Date: 18 JUL 2002

REPORT of ANALYTICAL RESULTS

Client: Michelle Buzbee  
Larry Walker and Associates  
509 4th Street  
Davis, CA 95616

Project: NAPA RIVER RECEIVING WATER STUDY\PROJECT #15.04, TASK 2

Sampled by: KRISTINE CORNEILLIE\YAZMIN OQUINN

<u>Lab Number</u>	<u>Sample Identification</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>
C070622-1	NAPA, RECEIVING WATER	AQUEOUS	18 JUL 02 11:45
C070622-2	NAPA,FB	AQUEOUS	18 JUL 02 11:15
C070622-3	AMERICAN CANYON, RW	AQUEOUS	18 JUL 02 12:50

*Todd M. Albertson*  
Todd M. Albertson  
Project Manager

*CA Horn*  
Christine Horn  
Laboratory Director

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Results are specific to the sample as submitted and only to the parameters reported.  
All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.  
Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).  
'D.F.' means Dilution Factor and has been used to adjust the listed Reporting Limit (R.L.).  
Acceptance Criteria for all Surrogate recoveries are defined in the QC Spike Data Reports.  
Caltest collects samples in compliance with CFR 40, EPA Methods, Cal. Title 22, and Standard Methods.





LAB ORDER No.:

C070622

INORGANIC ANALYTICAL RESULTS

Page 2 of 12

ANALYTE	RESULT	R.L.	MDL	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: C070622-1									
SAMPLE ID: NAPA, RECEIVING WATER									
SAMPLED: 18 JUL 02 11:45									
Antimony	J1.7	2.5	0.2	ug/L	5	200.8	07.26.02	A020867IMS	1.2.3
Antimony, dissolved	ND	1.	0.2	ug/L	2	200.8	07.31.02	A020881IMS	4
Arsenic	34.	2.5	0.2	ug/L	5	200.8	07.26.02	A020867IMS	1.2
Arsenic, dissolved	30.	1.	0.08	ug/L	2	200.8	07.31.02	A020881IMS	4
Beryllium	ND	0.5	0.06	ug/L	5	200.8	07.26.02	A020867IMS	1.2.5.6
Beryllium, dissolved	ND	0.2	0.06	ug/L	2	200.8	07.31.02	A020881IMS	4
Cadmium	ND	0.5	0.03	ug/L	5	200.8	07.26.02	A020867IMS	1.2.5
Cadmium, dissolved	ND	0.2	0.04	ug/L	2	200.8	07.31.02	A020881IMS	4
Chromium	J1.2	2.5	0.2	ug/L	5	200.8	07.26.02	A020867IMS	1.2.3
Chromium, dissolved	ND	1.	0.2	ug/L	2	200.8	07.31.02	A020881IMS	4
Copper	11.	2.5	0.3	ug/L	5	200.8	07.26.02	A020867IMS	1.2
Copper, dissolved	7.	1.	0.2	ug/L	2	200.8	07.31.02	A020881IMS	4
Lead	J0.52	1.3	0.04	ug/L	5	200.8	07.26.02	A020867IMS	1.2.3
Lead, dissolved	ND	0.50	0.02	ug/L	2	200.8	07.31.02	A020881IMS	4.6
Mercury, Trace Level	0.0065	0.0005	0.00024	ug/L	1	1631B	07.30.02	A020883MER	2.7
Nickel	20.	2.5	0.2	ug/L	5	200.8	07.26.02	A020867IMS	1.2
Nickel, dissolved	14.	1.	0.2	ug/L	2	200.8	07.31.02	A020881IMS	4
Selenium	6.	3.	0.5	ug/L	5	200.8	07.30.02	A020868IMS	1.2
Selenium, dissolved	5.	1.	0.5	ug/L	2	200.8	07.31.02	A020881IMS	4
Silver	ND	0.5	0.02	ug/L	5	200.8	07.26.02	A020867IMS	1.2.5
Silver, dissolved	ND	0.2	0.02	ug/L	2	200.8	07.31.02	A020881IMS	4
Thallium	J0.3	0.5	0.03	ug/L	5	200.8	07.26.02	A020867IMS	1.2.3
Thallium, dissolved	ND	0.5	0.03	ug/L	5	200.8	07.31.02	A020881IMS	4.6
Zinc	10.	5.	0.3	ug/L	5	200.8	07.26.02	A020867IMS	1.2
Zinc, dissolved	ND	10.	0.5	ug/L	2	200.8	08.01.02	A020899IMS	8
Electrical Conductance	32000.	200.		umhos/cm	20	120.1	07.25.02	I020058CON	
Hardness	2940.	50.	1.3	mg/L	10	130.2	07.23.02	I020049HAR	

- 1) Sample Preparation on 07-23-02 using 200.8
- 2) 'RL' (Reporting Limit) represents the lowest calibration standard in methods that require multipoint calibrations. RL is equivalent to the ML (Minimum Level) in the State Implementation Plan (SIP) of the California Toxics Rule (CTR).
- 3) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.
- 4) Sample Preparation on 07-29-02 using 200.8 (Filtrate)
- 5) Analyte was not detected at or above the Method Detection Limit (MDL).
- 6) Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in (a) higher reporting limit(s).
- 7) Sample Preparation on 07-29-02 using 1631B
- 8) Sample Preparation on 08-01-02 using 200.8 (Filtrate)





## INORGANIC ANALYTICAL RESULTS

LAB ORDER No.:

C070622  
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ANALYTE	RESULT	R.L.	MDL	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: C070622-2									
SAMPLE ID: NAPA,FB									
SAMPLED: 18 JUL 02 11:15									
Antimony	ND	0.5	0.2	ug/L	1	200.8	07.24.02	A020867IMS	1.2.3
Arsenic	J0.4	0.5	0.2	ug/L	1	200.8	07.24.02	A020867IMS	1.2.4
Beryllium	ND	0.1	0.06	ug/L	1	200.8	07.24.02	A020867IMS	1.2.3
Cadmium	ND	0.1	0.03	ug/L	1	200.8	07.24.02	A020867IMS	1.2.3
Chromium	ND	0.5	0.2	ug/L	1	200.8	07.24.02	A020867IMS	1.2.3
Copper	J0.4	0.5	0.3	ug/L	1	200.8	07.24.02	A020867IMS	1.2.4
Lead	ND	0.25	0.04	ug/L	1	200.8	07.24.02	A020867IMS	1.2.3
Mercury, Trace Level	ND	0.0005	0.00024	ug/L	1	1631B	07.30.02	A020883MER	2.3.5
Nickel	ND	0.5	0.2	ug/L	1	200.8	07.24.02	A020867IMS	1.2.3
Selenium	ND	1.	0.5	ug/L	1	200.8	07.26.02	A020868IMS	1.2.3
Silver	ND	0.1	0.02	ug/L	1	200.8	07.24.02	A020867IMS	1.2.3
Thallium	ND	0.1	0.03	ug/L	1	200.8	07.24.02	A020867IMS	1.2.3
Zinc	2.	1.	0.3	ug/L	1	200.8	07.24.02	A020867IMS	1.2

LAB NUMBER: C070622-3  
SAMPLE ID: AMERICAN CANYON, RW  
SAMPLED: 18 JUL 02 12:50

Electrical Conductance	37000.	200.		umhos/cm	20	120.1	07.25.02	I020058CON	
Hardness	3360.	50.	1.3	mg/L	10	130.2	07.23.02	I020049HAR	

- 1) Sample Preparation on 07-23-02 using 200.8
- 2) 'RL' (Reporting Limit) represents the lowest calibration standard in methods that require multipoint calibrations. RL is equivalent to the ML (Minimum Level) in the State Implementation Plan (SIP) of the California Toxics Rule (CTR).
- 3) Analyte was not detected at or above the Method Detection Limit (MDL).
- 4) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.
- 5) Sample Preparation on 07-29-02 using 1631B





LAB ORDER No.:

C070622

Page 1 of 16

SUPPLEMENTAL QUALITY CONTROL (QC) DATA REPORT

Report Date:

06 AUG 2002

Received Date:

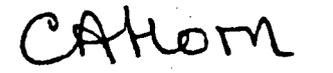
18 JUL 2002

Client: Michelle Buzbee  
 Larry Walker and Associates  
 509 4th Street  
 Davis, CA 95616

Project: NAPA RIVER RECEIVING WATER STUDY\PROJECT #15.04, TASK 2

<u>QC Batch ID</u>	<u>Method</u>	<u>Matrix</u>
A020867IMS	200.8	AQUEOUS
A020868IMS	200.8	AQUEOUS
A020881IMS	200.8	AQUEOUS
A020883MER	1631B	AQUEOUS
A020899IMS	200.8	AQUEOUS
I020049HAR	130.2	AQUEOUS
I020058CON	120.1	AQUEOUS
R020090PAH	610	AQUEOUS
S020060BNA	625	AQUEOUS
T0202110CP	608	AQUEOUS
T020215OPP	614	AQUEOUS
V020079MSB	624	AQUEOUS
V020080MSB	624	AQUEOUS

  
 Todd M. Albertson  
 Project Manager

  
 Christine Horn  
 Laboratory Director

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 Analyte Spike Amounts reported as 'NS' mean not spiked and will not have recoveries reported.  
 'RPD' means Relative Percent Difference and RPD Acceptance Criteria is stated as a maximum.  
 'NC' means not calculated for RPD or Spike Recoveries.





LAB ORDER No.:

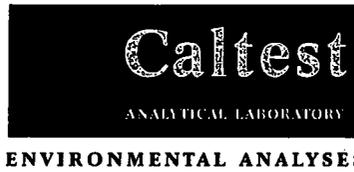
C070622  
Page 2 of 16

METHOD BLANK ANALYTICAL RESULTS

ANALYTE	RESULT	R.L.	UNITS	ANALYZED	NOTES
<b>QC BATCH: A020867IMS</b>					
Antimony	ND	0.5	ug/L	07.26.02	
Arsenic	J0.266	0.5	ug/L	07.26.02	1
Beryllium	ND	0.1	ug/L	07.26.02	
Cadmium	ND	0.1	ug/L	07.26.02	
Chromium	ND	0.5	ug/L	07.26.02	
Copper	ND	0.5	ug/L	07.26.02	
Lead	ND	0.25	ug/L	07.26.02	
Nickel	ND	0.5	ug/L	07.26.02	
Silver	ND	0.1	ug/L	07.26.02	
Thallium	ND	0.1	ug/L	07.26.02	
Zinc	ND	1.	ug/L	07.26.02	
<b>QC BATCH: A020868IMS</b>					
Selenium	ND	1.	ug/L	07.26.02	
<b>QC BATCH: A020881IMS</b>					
Antimony, dissolved	ND	0.5	ug/L	07.31.02	
Arsenic, dissolved	ND	0.5	ug/L	07.30.02	
Beryllium, dissolved	ND	0.1	ug/L	07.30.02	
Cadmium, dissolved	ND	0.1	ug/L	07.31.02	
Chromium, dissolved	ND	0.5	ug/L	07.30.02	
Copper, dissolved	ND	0.5	ug/L	07.30.02	
Lead, dissolved	ND	0.25	ug/L	07.30.02	
Nickel, dissolved	ND	0.5	ug/L	07.30.02	
Selenium, dissolved	ND	2.	ug/L	07.30.02	
Silver, dissolved	ND	0.1	ug/L	07.31.02	
Thallium, dissolved	ND	0.1	ug/L	07.30.02	
<b>QC BATCH: A020883MER</b>					
Mercury, Trace Level	ND	0.0005	ug/L	07.30.02	

1) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.





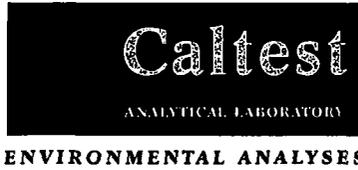
LABORATORY CONTROL SAMPLE ANALYTICAL RESULTS

LAB ORDER No.:

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<u>ANALYTE</u>	<u>SPIKE AMOUNT</u>	<u>SPIKE\DUP RESULT</u>	<u>SPK\DUP %REC</u>	<u>ACCEPTANCE %REC \RPD</u>	<u>REL&amp; DIFF</u>	<u>ANALYZED</u>	<u>NOTES</u>
<b>QC BATCH: A020867IMS</b>							
Antimony	20.0	21.0\	105\	80-120\20		07.26.02	
Arsenic	20.0	20.0\	100\	80-120\20		07.26.02	
Beryllium	20.0	20.5\	102\	80-120\20		07.26.02	
Cadmium	20.0	20.3\	102\	80-120\20		07.26.02	
Chromium	20.0	20.1\	100\	80-120\20		07.26.02	
Copper	20.0	21.7\	108\	80-130\20		07.26.02	
Lead	20.0	19.6\	98\	80-120\20		07.26.02	
Nickel	20.0	21.7\	108\	80-120\20		07.26.02	
Silver	20.0	20.0\	100\	80-120\20		07.26.02	
Thallium	20.0	19.5\	98\	80-120\20		07.26.02	
Zinc	20.0	21.6\	108\	80-120\20		07.26.02	
<b>QC BATCH: A020868IMS</b>							
Selenium	20.0	17.2\	86\	80-120\20		07.26.02	
<b>QC BATCH: A020881IMS</b>							
Antimony, dissolved	20.0	18.9\	94\	80-120\20		07.31.02	
Arsenic, dissolved	20.0	18.8\	94\	80-120\20		07.30.02	
Beryllium, dissolved	20.0	20.8\	104\	80-120\20		07.30.02	
Cadmium, dissolved	20.0	19.0\	95\	80-120\20		07.31.02	
Chromium, dissolved	20.0	19.3\	96\	80-120\20		07.30.02	
Copper, dissolved	20.0	21.2\	106\	80-130\20		07.30.02	
Lead, dissolved	20.0	19.5\	98\	80-120\20		07.30.02	
Nickel, dissolved	20.0	22.3\	112\	80-120\20		07.30.02	
Selenium, dissolved	20.0	18.0\	90\	80-120\20		07.30.02	
Silver, dissolved	20.0	17.9\	90\	80-120\20		07.31.02	
Thallium, dissolved	20.0	19.5\	98\	80-120\20		07.30.02	
<b>QC BATCH: A020883MER</b>							
Mercury, Trace Level	0.0200	0.0225\	112\	71-125\20		07.30.02	
<b>QC BATCH: A020899IMS</b>							
Zinc, dissolved	20.0	19.1\	96\	80-120\20		08.01.02	





LAB ORDER No.:

C070622

MATRIX SPIKE ANALYTICAL RESULTS

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ANALYTE	ORIGINAL RESULT	SPIKE AMOUNT	SPIKE\DUPLICATE RESULT	SPK\DUPLICATE %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: A020881IMS (continued)								
QC BATCH: A020881IMS (continued)								
QC SAMPLE LAB NUMBER: C070577-1								
Silver, dissolved	ND	20.0	16.6\16.6	83\83	80-120\20	0.0	07.31.02	
QC BATCH: A020881IMS (continued)								
QC SAMPLE LAB NUMBER: C070577-1								
Thallium, dissolved	ND	20.0	18.3\18.1	92\90	80-120\20	1.1	07.30.02	
QC BATCH: A020883MER								
QC SAMPLE LAB NUMBER: C070622-1								
Mercury, Trace Level	0.00646	0.0200	0.0295\0.0283	115\109	71-125\20	4.2	07.30.02	
QC BATCH: A020899IMS								
QC SAMPLE LAB NUMBER: C070577-1								
Zinc, dissolved	30.4	20.0	46.9\47.2	82\84	80-120\20	0.6	08.01.02	
QC BATCH: I020049HAR								
QC SAMPLE LAB NUMBER: C070534-3								
Total Hardness	180.	200.	380.\380.	100\100	80-120\20	0.0	07.23.02	
QC BATCH: R020090PAH								
QC SAMPLE LAB NUMBER: C070622-1								
POLYNUCLEAR AROMATIC HYDROCARBONS (PAH)							07.26.02	1
Benzo(a)pyrene	ND	8.33	8.97\6.97	108\84	20-140\25	25.		
Fluorene	ND	8.33	1.18\2.11	14\25	20-140\25	57.		
Pyrene	ND	8.33	6.65\5.76	80\69	20-140\25	14.		
Surrogate p-Terphenyl	53.%	8.33	5.55\6.31	67\76	30-120\			

1) ALUMINA.CLEANUP Fluorene recovered low in the MSD, data accepted on LCS results.



**Caltest**  
Analytical Laboratory

1885 N. KELLY ROAD NAPA, CA 94558 (707) 258-4000 FAX (707) 226-1001 www.caltestlab.com

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**SAMPLE CHAIN OF CUSTODY**

PROJECT NAME / PROJECT NUMBER <b>Napa River Receiving Water Study / Project# 15.04, Task 2</b>						P.O.#		LAB ORDER # <b>C070622</b>																																																																																																																									
CLIENT: <b>Larry Walker Associates</b>				REPORT TO: <b>Rhett Buzzbee</b>		ANALYZED REQUESTED																																																																																																																											
MAILING ADDRESS: <b>250 Lafayette Circle, Suite 200, Lafayette</b>				STATE: <b>CA</b>	ZIP: <b>94549</b>	EPA 822 - Tot. Res. Hardness																																																																																																																											
BILLING ADDRESS: <b>Same as above</b>				ATTN: <b>same as report to</b>		EPA 826 - Dissolved Metals (As, Cd, Ni, Pb, Se, Ag, Ba, Cr, Cu, Fe, Hg, Mn, Mo, Zn)																																																																																																																											
PHONE #: <b>(925) 962-9700</b>	FAX PHONE: <b>(925) 962-9701</b>	SAMPLER (PRINT & SIGN NAME) <b>Kristine Cornelle and Yazmin Oquina</b>				EPA 816 - Asbestos & Volatile Organics																																																																																																																											
						EPA 824 - Lead and non-lead organics																																																																																																																											
						EPA 810 - PAHs																																																																																																																											
						EPA 806 - OC Pesticides and PCBs																																																																																																																											
						Inorganics																																																																																																																											
						Mercury (as CalCOF)																																																																																																																											
						EPA 813 - Phospha. & Puma																																																																																																																											
						EPA 814 - Boron & Chloride																																																																																																																											
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RELINQUISHED BY <i>K. Cornelle</i>			DATE/TIME <i>7/18/02 1350</i>		RECEIVED BY <i>K. Champion</i>			RELINQUISHED BY																																																																																																																									
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FOR LAB USE ONLY												
Sample:	WC	BICR	BIO	AA	SV	VQA	HP	VP	TEMP:	SEALED: Y/N	INTACT: Y/N	
BD:	BIO	WC	AA	COMMENTS:								
DC:	AA	SV	VQA	MS analysis for all 1327 constituents								
DR:	HP	VP	OT	VQA	As, Cd, Ni, Pb, Se, Ag, Ba, Cr, Cu, Fe, Hg, Mn, Mo, Zn							
WHNO:	HNO3	H2SO4	H2OH	Filter for dissolved metals immediately upon receipt at lab.								
ML:	HNO3	H2SO4	H2OH	HCL								
<p>**MATRIX: AQ = Aqueous Nondrinking Water, Digested Metals; FE = Low R.L.E., Aqueous Nondrinking Water, Digested Metals; DW = Drinking Water; SL = Soil Sludge, Solid; FP = Free Product</p> <p>**CONTAINER TYPES: AL = Amber Litr; AHL = 500 ml Amber; PT = Pint (Plastic); QT = Quart (Plastic); HD = Half Gallon (Plastic); SJ = Soil Jar; B4 = 4oz. BACT; BT = Brass Tube; VOA = 40ml; VQA: OTC - Other Type Container</p>												

Ref Labs moved to C070623  
AS 7/18/02

AUG 6 7 2002

WHITE - LABORATORY YELLOW - CLIENT COPY TO ACCOMPANY FINAL REPORT PUR - CLIENT COPY AS RECEIPT





LAB ORDER No.: C100496  
Page 1 of 8

Report Date: 08 NOV 2002  
Received Date: 14 OCT 2002

REPORT of ANALYTICAL RESULTS

Client: Michelle Buzbee  
Larry Walker and Associates  
250 Lafayette Cr., St#200  
Lafayette, CA 94549

Project: NAPA RIVER RECEIVING WATER STUDY\ PROJECT# 15.04 TASK2

Sampled by: E. SIMON, Y. O'QUINN

<u>Lab Number</u>	<u>Sample Identification</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>
C100496-1	CALISTOGA RECEIVING WATER	AQUEOUS	14 OCT 02 11:00
C100496-2	YOUNTVILLE RECEIVING WATER	AQUEOUS	14 OCT 02 13:25
C100496-3	DOMAINE CHANDON	AQUEOUS	14 OCT 02 13:25

Todd M. Albertson  
Project Manager

Christine Horn  
Laboratory Director

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Results are specific to the sample as submitted and only to the parameters reported.  
All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.  
Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).  
'D.F.' means Dilution Factor and has been used to adjust the listed Reporting Limit (R.L.).  
Acceptance Criteria for all Surrogate recoveries are defined in the QC Spike Data Reports.  
Caltest collects samples in compliance with CFR 40, EPA Methods, Cal. Title 22, and Standard Methods.





LAB ORDER No.:

C100496

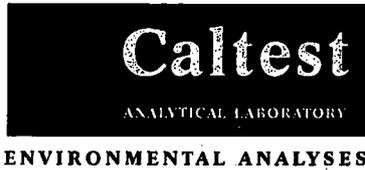
INORGANIC ANALYTICAL RESULTS

Page 2 of 8

ANALYTE	RESULT	R.L.	MDL	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: C100496-1									
SAMPLE ID: CALISTOGA RECEIVING WATER									
SAMPLED: 14 OCT 02 11:00									
Antimony	ND	1.	0.2	ug/L	2	200.8	10.28.02	A021245IMS	1,2,3,4
Antimony, dissolved	ND	0.5	0.2	ug/L	1	200.8	10.28.02	A021254IMS	3,5
Arsenic	6.	1.	0.2	ug/L	2	200.8	10.28.02	A021245IMS	1,2
Arsenic, dissolved	4.8	0.5	0.14	ug/L	1	200.8	10.28.02	A021254IMS	5
Beryllium	ND	0.2	0.06	ug/L	2	200.8	10.28.02	A021245IMS	1,2,3,4
Beryllium, dissolved	ND	0.1	0.06	ug/L	1	200.8	10.28.02	A021254IMS	3,5
Cadmium	ND	0.2	0.03	ug/L	2	200.8	10.28.02	A021245IMS	1,2,3,4
Cadmium, dissolved	ND	0.1	0.04	ug/L	1	200.8	10.28.02	A021254IMS	3,5
Chromium	ND	1.	0.2	ug/L	2	200.8	10.28.02	A021245IMS	1,2,3,4
Chromium, dissolved	ND	0.5	0.2	ug/L	1	200.8	10.28.02	A021254IMS	3,5
Copper	1.	1.	0.3	ug/L	2	200.8	10.28.02	A021245IMS	1,2
Copper, dissolved	1.5	0.5	0.2	ug/L	1	200.8	10.28.02	A021254IMS	5
Lead	ND	0.50	0.04	ug/L	2	200.8	10.28.02	A021245IMS	1,2,3,4
Lead, dissolved	ND	0.25	0.02	ug/L	1	200.8	10.28.02	A021254IMS	3,5
Mercury, Trace Level	0.0030	0.0005	0.00024	ug/L	1	1631B	10.17.02	A021241MER	2,6
Nickel	4.	1.	0.2	ug/L	2	200.8	10.28.02	A021245IMS	1,2
Nickel, dissolved	3.6	0.5	0.2	ug/L	1	200.8	10.28.02	A021254IMS	5
Selenium	ND	1.	0.5	ug/L	1	200.8	10.24.02	A021251IMS	2,3,7
Selenium, dissolved	ND	1.	0.5	ug/L	1	200.8	10.24.02	A021246IMS	2,3,8
Silver	ND	0.2	0.02	ug/L	2	200.8	10.28.02	A021245IMS	1,2,3,4
Silver, dissolved	ND	0.1	0.02	ug/L	1	200.8	10.28.02	A021254IMS	3,5
Thallium	ND	0.2	0.03	ug/L	2	200.8	10.28.02	A021245IMS	1,2,3,4
Thallium, dissolved	ND	0.1	0.03	ug/L	1	200.8	10.28.02	A021254IMS	3,5
Zinc	J1.6	2.	0.3	ug/L	2	200.8	10.28.02	A021245IMS	1,2,4,9
Zinc, dissolved	J0.6	1.	0.3	ug/L	1	200.8	10.28.02	A021254IMS	2,5,9
Hardness	160.	10.	1.3	mg/L	2	130.2	10.18.02	I020061HAR	

- 1) Sample Preparation on 10-17-02 using 200.8
- 2) 'RL' (Reporting Limit) represents the lowest calibration standard in methods that require multipoint calibrations. RL is equivalent to the ML (Minimum Level) in the State Implementation Plan (SIP) of the California Toxics Rule (CTR).
- 3) Analyte was not detected at or above the Method Detection Limit (MDL).
- 4) Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in (a) higher reporting limit(s).
- 5) Sample Preparation on 10-21-02 using 200.8 (Filtrate)
- 6) Sample Preparation on 10-16-02 using 1631B
- 7) Sample Preparation on 10-18-02 using 200.8
- 8) Sample Preparation on 10-17-02 using 200.8-ML (Filtrate)
- 9) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNO Estimated Concentration flag.





LAB ORDER No.:

C100496  
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Report Date:  
Received Date:

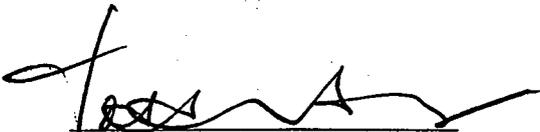
08 NOV 2002  
14 OCT 2002

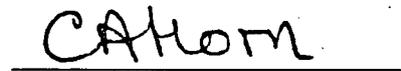
SUPPLEMENTAL QUALITY CONTROL (QC) DATA REPORT

Client: Michelle Buzbee  
Larry Walker and Associates  
250 Lafayette Cr., St#200  
Lafayette, CA 94549

Project: NAPA RIVER RECEIVING WATER STUDY\ PROJECT# 15.04 TASK2

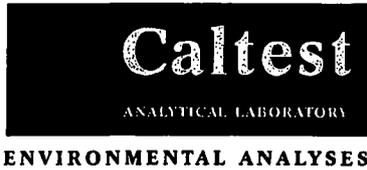
<u>QC Batch ID</u>	<u>Method</u>	<u>Matrix</u>
A021241MER	1631B	AQUEOUS
A021245IMS	200.8	AQUEOUS
A021246IMS	200.8	AQUEOUS
A021251IMS	200.8	AQUEOUS
A021254IMS	200.8	AQUEOUS
I020061HAR	130.2	AQUEOUS
R020130PAH	610	AQUEOUS
S020088BNA	625	AQUEOUS
T0202930CP	608	AQUEOUS
T0202980PP	614	AQUEOUS
V020124MSB	624	AQUEOUS

  
Todd M. Albertson  
Project Manager

  
Christine Horn  
Laboratory Director

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Results are specific to the sample as submitted and only to the parameters reported.  
All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.  
Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).  
Analyte Spike Amounts reported as 'NS' mean not spiked and will not have recoveries reported.  
'RPD' means Relative Percent Difference and RPD Acceptance Criteria is stated as a maximum.  
'NC' means not calculated for RPD or Spike Recoveries.





LAB ORDER No.:

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METHOD BLANK ANALYTICAL RESULTS

<u>ANALYTE</u>	<u>RESULT</u>	<u>R.L.</u>	<u>UNITS</u>	<u>ANALYZED</u>	<u>NOTES</u>
<b>QC BATCH: A021241MER</b>					
Mercury, Trace Level (dissolved)	ND	0.0005	ug/L	10.17.02	
<b>QC BATCH: A021245IMS</b>					
Antimony	ND	0.5	ug/L	10.28.02	
Arsenic	ND	0.5	ug/L	10.28.02	
Beryllium	ND	0.1	ug/L	10.28.02	
Cadmium	ND	0.1	ug/L	10.28.02	
Chromium	ND	0.5	ug/L	10.28.02	
Copper	ND	0.5	ug/L	10.28.02	
Lead	ND	0.25	ug/L	10.28.02	
Nickel	ND	0.5	ug/L	10.28.02	
Silver	ND	0.1	ug/L	10.28.02	
Thallium	ND	0.1	ug/L	10.28.02	
Zinc	ND	1.	ug/L	10.28.02	
<b>QC BATCH: A021246IMS</b>					
Selenium	ND	1.	ug/L	10.24.02	
<b>QC BATCH: A021251IMS</b>					
Selenium	ND	1.	ug/L	10.24.02	
<b>QC BATCH: A021254IMS</b>					
Antimony, dissolved	ND	0.5	ug/L	10.28.02	
Arsenic, dissolved	ND	0.5	ug/L	10.28.02	
Beryllium, dissolved	ND	0.1	ug/L	10.28.02	
Cadmium, dissolved	ND	0.1	ug/L	10.28.02	
Chromium, dissolved	ND	0.5	ug/L	10.28.02	
Copper, dissolved	ND	0.5	ug/L	10.28.02	
Lead, dissolved	ND	0.25	ug/L	10.28.02	
Nickel, dissolved	ND	0.5	ug/L	10.28.02	
Silver, dissolved	ND	0.1	ug/L	10.28.02	
Thallium, dissolved	ND	0.1	ug/L	10.28.02	
Zinc, dissolved	ND	1.	ug/L	10.28.02	





ENVIRONMENTAL ANALYSES

LAB ORDER No.:

C100496

LABORATORY CONTROL SAMPLE ANALYTICAL RESULTS

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<u>ANALYTE</u>	<u>SPIKE AMOUNT</u>	<u>SPIKE\DUPLICATE RESULT</u>	<u>SPK\DUPLICATE %REC</u>	<u>ACCEPTANCE %REC \RPD</u>	<u>RELX DIFF</u>	<u>ANALYZED</u>	<u>NOTES</u>
<b>QC BATCH: A021241MER</b>							
Mercury, Trace Level (dissolved)	0.0200	0.0213\	106\	71-125\20		10.17.02	
<b>QC BATCH: A021245IMS</b>							
Antimony	20.0	21.2\	106\	80-120\20		10.28.02	
Arsenic	20.0	20.2\	101\	80-120\20		10.28.02	
Beryllium	20.0	21.7\	108\	80-120\20		10.28.02	
Cadmium	20.0	20.8\	104\	80-120\20		10.28.02	
Chromium	20.0	20.4\	102\	80-120\20		10.28.02	
Copper	20.0	20.5\	102\	80-130\20		10.28.02	
Lead	20.0	20.4\	102\	80-120\20		10.28.02	
Nickel	20.0	20.3\	102\	80-120\20		10.28.02	
Silver	20.0	17.9\	90\	80-120\20		10.28.02	
Thallium	20.0	19.3\	96\	80-120\20		10.28.02	
Zinc	20.0	21.7\	108\	80-120\20		10.28.02	
<b>QC BATCH: A021246IMS</b>							
Selenium	20.0	17.1\	86\	80-120\20		10.24.02	
<b>QC BATCH: A021251IMS</b>							
Selenium	20.0	18.3\	92\	80-120\20		10.24.02	
<b>QC BATCH: A021254IMS</b>							
Antimony, dissolved	20.0	19.9\	100\	80-120\20		10.28.02	
Arsenic, dissolved	20.0	19.7\	98\	80-120\20		10.28.02	
Beryllium, dissolved	20.0	23.6\	118\	80-120\20		10.28.02	
Cadmium, dissolved	20.0	19.7\	98\	80-120\20		10.28.02	
Chromium, dissolved	20.0	19.3\	96\	80-120\20		10.28.02	
Copper, dissolved	20.0	19.4\	97\	80-120\20		10.28.02	
Lead, dissolved	20.0	19.8\	99\	80-120\20		10.28.02	
Nickel, dissolved	20.0	19.4\	97\	80-120\20		10.28.02	
Silver, dissolved	20.0	16.8\	84\	80-120\20		10.28.02	
Thallium, dissolved	20.0	19.6\	98\	80-120\20		10.28.02	
Zinc, dissolved	20.0	20.5\	102\	80-120\20		10.28.02	





LAB ORDER No.:

C100496  
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MATRIX SPIKE ANALYTICAL RESULTS

ANALYTE	ORIGINAL RESULT	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: A021241MER QC SAMPLE LAB NUMBER: C100306-2								
Mercury, Trace Level (dissolved)	0.00292	0.0200	0.0202\0.0203	86\87	71-125\20	0.5	10.17.02	
QC BATCH: A021245IMS QC SAMPLE LAB NUMBER: C100500-1								
Antimony	ND	20.0	21.5\22.0	108\110	80-120\20	2.3	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Arsenic	20.0	20.0	51.6\52.4	158\162	80-120\20	1.5	10.28.02	1
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Beryllium	ND	20.0	21.3\23.1	106\116	80-120\20	8.1	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Cadmium	ND	20.0	17.8\18.3	89\92	80-120\20	2.8	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Chromium	ND	20.0	19.2\20.	96\100	80-120\20	4.1	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Copper	12.2	20.0	31.5\31.5	96\96	80-130\20	0.0	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Lead	ND	20.0	19.9\19.8	100\99	80-120\20	0.5	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Nickel	19.2	20.0	39.4\39.8	101\103	80-120\20	1.0	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Silver	ND	20.0	15.3\16.1	76\80	80-120\20	5.1	10.28.02	2

- 1) High Matrix Spike recovery(ies) due to possible matrix interferences in the QC sample. QC batch accepted based on LCS and RPD results.
- 2) Low Matrix Spike recovery(ies) due to possible matrix interferences in the QC sample. QC batch accepted based on LCS and RPD results.



**Caltest**  
Analytical Laboratory

1885 N. KELLY ROAD NAPA, CA 94558 (707) 258-4000 FAX (707) 226-1001 www.caltestlab.com

PAGE 1 OF 6

**CHAIN OF CUSTODY**

PROJECT NAME / PROJECT NUMBER

Napa River Receiving Water Study / Project# 15.04, Task 2

P.O.#

LAB ORDER #

C100496

CLIENT:

Larry Walker Associates

MAILING ADDRESS:

250 Lafayette Circle, Suite 200, Lafayette

BILLING ADDRESS:

Same as above

PHONE #:

(925) 962-9700

FAX PHONE:

(925) 962-9701

REPORT TO:

Michelle Buzbee

STATE:

CA

ZIP:

94549

ATTN:

same as report to

SAMPLER (PRINT & SIGN NAME)

Erich Simon and Yazmin O'Quinn

ANALYSES REQUESTED

- EPA 200.8 - Tot. Rec. Metals
- EPA 200.8 - Diss. Metals (Cr, Cd, Ni, Se, Sb, As, Ba, Cd, Pb, Ag, Tl, & Zn)
- EPA 1631 - Mercury
- EPA 824 - VOCs
- EPA 825 - semi and non-volatile organics
- EPA 806 - OC Pesticides and PCBs
- EPA 810 - PAHs
- Tributyltin
- Hardness (as CaCO3)
- EPA 1613 - Disinfectants & Furan
- EPA 614 - Dioxin & Chlorinated

TURN-AROUND TIME

STANDARD

RUSH

DUE DATE:

REMARKS

CALTEST LAB #	DATE SAMPLED	TIME SAMPLED	SAMPLE MATRX	CONTAINER TYPE/ AMOUNT	PRESERVATIVE	SAMPLE IDENTIFICATION / SITE	CLIENT LAB #	COMP. or GRAB	EPA 200.8 - Tot. Rec. Metals	EPA 200.8 - Diss. Metals	EPA 1631 - Mercury	EPA 824 - VOCs	EPA 825 - semi and non-volatile organics	EPA 806 - OC Pesticides and PCBs	EPA 810 - PAHs	Tributyltin	Hardness (as CaCO3)	EPA 1613 - Disinfectants & Furan	EPA 614 - Dioxin & Chlorinated	
1	10/14/2002	11:00	FE	PT/1	HNO3	Callstoga, Receiving Water		Grab	X											
	10/14/2002		FE	PT/1	None	Callstoga, Receiving Water		Grab		X										
	10/14/2002		FE	OTC(500ml Glass)/1	HCl	Callstoga, Receiving Water		Grab			X									
	10/14/2002		FE	VOA/3	HCl	Callstoga, Receiving Water		Grab				X								
	10/14/2002		FE	AL/2	None	Callstoga, Receiving Water		Grab					X							
	10/14/2002		FE	AL/2	None	Callstoga, Receiving Water		Grab						X						
	10/14/2002		FE	AL/2	None	Callstoga, Receiving Water		Grab							X					
	10/14/2002		FE	AL/2	None	Callstoga, Receiving Water		Grab								X				
	10/14/2002		FE	PT/1	HNO3	Callstoga, Receiving Water		Grab									X			
	10/14/2002		FE	AL/2	None	Callstoga, Receiving Water		Grab										X		
	10/14/2002		FE	AL/2	None	Callstoga, Receiving Water		Grab											X	

\* Re Lab moved to LOC C100506 SM

RELINQUISHED BY	DATE/TIME	RECEIVED BY	RELINQUISHED BY	DATE/TIME	RECEIVED BY
<i>Erich Simon</i>	10/14/02 2:15	<i>SM</i>			

FOR LAB USE ONLY

Samples: WC \_\_\_\_\_ MICR \_\_\_\_\_ BIO \_\_\_\_\_ AA \_\_\_\_\_ SV \_\_\_\_\_ VOA \_\_\_\_\_ pH? Y/N \_\_\_\_\_ TEMP: \_\_\_\_\_ SEALED: Y/N \_\_\_\_\_ INTACT: Y/N

BD: BIO \_\_\_\_\_ WC \_\_\_\_\_ AA \_\_\_\_\_

CC: AA \_\_\_\_\_ SV \_\_\_\_\_ VOA \_\_\_\_\_

SIL: HP \_\_\_\_\_ PT \_\_\_\_\_ QT \_\_\_\_\_ VOA \_\_\_\_\_

WA/HNO<sub>3</sub> \_\_\_\_\_ H<sub>2</sub>SO<sub>4</sub> \_\_\_\_\_ NaOH \_\_\_\_\_

PL: HNO<sub>3</sub> \_\_\_\_\_ H<sub>2</sub>SO<sub>4</sub> \_\_\_\_\_ NaOH \_\_\_\_\_ HCL \_\_\_\_\_

COMMENTS: ML analysis for all 13267 constituents

\*\*\*Cr, Cu, Ni, Se, Sb, As, Ba, Cd, Pb, Ag, Tl, & Zn

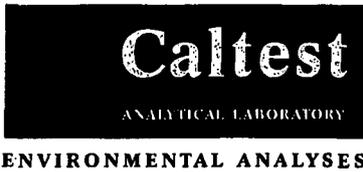
\*\*\*Filter for dissolved metals immediately upon receipt at lab.

\*\*MATRIX: AQ = Aqueous Nondrinking Water, Digested Metals; FE = Low R.L.s, Aqueous Nondrinking Water, Digested Metals; DW = Drinking Water; SL = Soft Sludge, Solid; FP = Free Product

\*\*CONTAINER TYPES: AL = Amber Liter; AL-IL = 500 ml Amber; PT = Pint (Plastic); QT = Quart (Plastic); HG = Half Gallon (Plastic); S = Soft Jar; B = Bottle; BACT; BT = Brass Tube; VOA = None VOA; OTC = OTC Type Container

R \_\_\_\_\_ PR \_\_\_\_\_

WRITE - LABORATOR YELLOW - CLIENT COPY TO ACCOMPANY FINAL REPORT PINK - CLIENT COPY AS RECEIPT



LAB ORDER No.: C100500  
Page 1 of 14

Report Date: 08 NOV 2002  
Received Date: 14 OCT 2002

REPORT of ANALYTICAL RESULTS

Client: Michelle Buzbee  
Larry Walker and Associates  
250 Lafayette Cr., St#200  
Lafayette, CA 94549

Project: NAPA RIVER RECEIVING WATER STUDY

Sampled by: KRISTINE CORNEILLIE

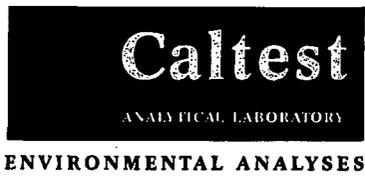
<u>Lab Number</u>	<u>Sample Identification</u>	<u>Matrix</u>	<u>Sampled Date/Time</u>
C100500-1	NAPA, RECEIVING WATER	AQUEOUS	14 OCT 02 12:00
C100500-2	MYRTLE CREEK, RECEIVING WATER	AQUEOUS	14 OCT 02 12:00
C100500-3	AMERICAN CANYON, RW	AQUEOUS	14 OCT 02 13:40
C100500-4	BERRINGER, RECEIVING WATER	AQUEOUS	14 OCT 02 13:40

Todd M. Albertson  
Project Manager

Christine Horn  
Laboratory Director

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 Results are specific to the sample as submitted and only to the parameters reported.  
 All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.  
 Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).  
 'D.F.' means Dilution Factor and has been used to adjust the listed Reporting Limit (R.L.).  
 Acceptance Criteria for all Surrogate recoveries are defined in the QC Spike Data Reports.  
 Caltest collects samples in compliance with CFR 40, EPA Methods, Cal. Title 22, and Standard Methods.





LAB ORDER No.:

C100500

INORGANIC ANALYTICAL RESULTS

Page 2 of 14

ANALYTE	RESULT	R.L.	MDL	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: C100500-1									
SAMPLE ID: NAPA, RECEIVING WATER									
SAMPLED: 14 OCT 02 12:00									
Antimony	ND	2.5	0.2	ug/L	5	200.8	10.28.02	A021245IMS	1.2,3,4
Antimony, dissolved	ND	2.5	0.2	ug/L	5	200.8	10.28.02	A021254IMS	4.5
Arsenic	20.	2.5	0.2	ug/L	5	200.8	10.28.02	A021245IMS	1.2
Arsenic, dissolved	34.	2.5	0.2	ug/L	5	200.8	10.28.02	A021254IMS	5
Beryllium	ND	0.5	0.06	ug/L	5	200.8	10.28.02	A021245IMS	1.2,3,4
Beryllium, dissolved	ND	0.5	0.06	ug/L	5	200.8	10.28.02	A021254IMS	4.5
Cadmium	ND	0.5	0.03	ug/L	5	200.8	10.28.02	A021245IMS	1.2,3,4
Cadmium, dissolved	ND	0.5	0.03	ug/L	5	200.8	10.28.02	A021254IMS	4.5
Chromium	ND	2.5	0.2	ug/L	5	200.8	10.28.02	A021245IMS	1.2,3,4
Chromium, dissolved	ND	2.5	0.2	ug/L	5	200.8	10.28.02	A021254IMS	4.5
Copper	12.	2.5	0.3	ug/L	5	200.8	10.28.02	A021245IMS	1.2
Copper, dissolved	9.7	2.5	0.3	ug/L	5	200.8	10.28.02	A021254IMS	5
Lead	ND	1.3	0.04	ug/L	5	200.8	10.28.02	A021245IMS	1.2,3,4
Lead, dissolved	ND	1.3	0.04	ug/L	5	200.8	10.28.02	A021254IMS	4.5
Mercury, Trace Level	0.0031	0.0005	0.00024	ug/L	1	1631B	10.17.02	A021241MER	2.6
Nickel	19.	2.5	0.2	ug/L	5	200.8	10.28.02	A021245IMS	1.2
Nickel, dissolved	16.	2.5	0.2	ug/L	5	200.8	10.28.02	A021254IMS	5
Selenium	19.	3.	0.5	ug/L	5	200.8	10.25.02	A021251IMS	2.7
Selenium, dissolved	J9.	10.	0.5	ug/L	10	200.8	10.29.02	A021246IMS	2.8,9
Silver	ND	0.5	0.02	ug/L	5	200.8	10.28.02	A021245IMS	1.2,3,4
Silver, dissolved	ND	0.5	0.02	ug/L	5	200.8	10.28.02	A021254IMS	4.5
Thallium	J0.3	0.5	0.03	ug/L	5	200.8	10.28.02	A021245IMS	1.2,9
Thallium, dissolved	ND	0.5	0.03	ug/L	5	200.8	10.28.02	A021254IMS	4.5
Zinc	10.	5.	0.3	ug/L	5	200.8	10.28.02	A021245IMS	1.2
Zinc, dissolved	8.	5.	0.3	ug/L	5	200.8	10.28.02	A021254IMS	2.5
Electrical Conductance	39000.	100.		umhos/cm	10	120.1	10.17.02	I020077CON	
Hardness	3200.	250.	1.3	mg/L	50	130.2	10.18.02	I020061HAR	

- 1) Sample Preparation on 10-17-02 using 200.8
- 2) 'RL' (Reporting Limit) represents the lowest calibration standard in methods that require multipoint calibrations. RL is equivalent to the ML (Minimum Level) in the State Implementation Plan (SIP) of the California Toxics Rule (CTR).
- 3) Analyte was not detected at or above the Method Detection Limit (MDL).
- 4) Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in (a) higher reporting limit(s).
- 5) Sample Preparation on 10-21-02 using 200.8 (Filtrate)
- 6) Sample Preparation on 10-16-02 using 1631B
- 7) Sample Preparation on 10-18-02 using 200.8
- 8) Sample Preparation on 10-17-02 using 200.8-ML (Filtrate)
- 9) A "J" flagged result indicates an estimated concentration above the Method Detection Limit (MDL) and below the RL/ML (Reporting Limit/Minimum Level). The 'J' flag is equivalent to the DNQ Estimated Concentration flag.





LAB ORDER No.:

C100500

INORGANIC ANALYTICAL RESULTS

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ANALYTE	RESULT	R.L.	MDL	UNITS	D.F.	METHOD	ANALYZED	QC BATCH	NOTES
LAB NUMBER: C100500-2									
SAMPLE ID: MYRTLE CREEK, RECEIVING WATER									
SAMPLED: 14 OCT 02 12:00									
Antimony	ND	2.5	0.2	ug/L	5	200.8	10.28.02	A021245IMS	1.2,3,4
Antimony, dissolved	ND	2.5	0.2	ug/L	5	200.8	10.28.02	A021254IMS	4,5
Arsenic	23.	2.5	0.2	ug/L	5	200.8	10.28.02	A021245IMS	1,2
Arsenic, dissolved	32.	2.5	0.2	ug/L	5	200.8	10.28.02	A021254IMS	5
Beryllium	ND	0.5	0.06	ug/L	5	200.8	10.28.02	A021245IMS	1,2,3,4
Beryllium, dissolved	ND	0.5	0.06	ug/L	5	200.8	10.28.02	A021254IMS	4,5
Cadmium	ND	0.5	0.03	ug/L	5	200.8	10.28.02	A021245IMS	1,2,3,4
Cadmium, dissolved	ND	0.5	0.03	ug/L	5	200.8	10.28.02	A021254IMS	4,5
Chromium	ND	2.5	0.2	ug/L	5	200.8	10.28.02	A021245IMS	1,2,3,4
Chromium, dissolved	ND	2.5	0.2	ug/L	5	200.8	10.28.02	A021254IMS	4,5
Copper	12.	2.5	0.3	ug/L	5	200.8	10.28.02	A021245IMS	1,2
Copper, dissolved	9.6	2.5	0.3	ug/L	5	200.8	10.28.02	A021254IMS	5
Lead	ND	1.3	0.04	ug/L	5	200.8	10.28.02	A021245IMS	1,2,3,4
Lead, dissolved	ND	1.3	0.04	ug/L	5	200.8	10.28.02	A021254IMS	4,5
Mercury, Trace Level	0.0031	0.0005	0.00024	ug/L	1	1631B	10.17.02	A021241MER	2,6
Nickel	18.	2.5	0.2	ug/L	5	200.8	10.28.02	A021245IMS	1,2
Nickel, dissolved	16.	2.5	0.2	ug/L	5	200.8	10.28.02	A021254IMS	5
Selenium	12.	2.	0.5	ug/L	2.5	200.8	10.25.02	A021251IMS	2,7
Selenium, dissolved	8.	5.	0.5	ug/L	5	200.8	10.28.02	A021246IMS	2,8
Silver	ND	0.5	0.02	ug/L	5	200.8	10.28.02	A021245IMS	1,2,3,4
Silver, dissolved	ND	0.5	0.02	ug/L	5	200.8	10.28.02	A021254IMS	4,5
Thallium	ND	0.5	0.03	ug/L	5	200.8	10.28.02	A021245IMS	1,2,3,4
Thallium, dissolved	ND	0.5	0.03	ug/L	5	200.8	10.28.02	A021254IMS	4,5
Zinc	10.	5.	0.3	ug/L	5	200.8	10.28.02	A021245IMS	1,2
Zinc, dissolved	10.	5.	0.3	ug/L	5	200.8	10.28.02	A021254IMS	2,5
Hardness	4000.	250.	1.3	mg/L	50	130.2	10.18.02	I020061HAR	

LAB NUMBER: C100500-3

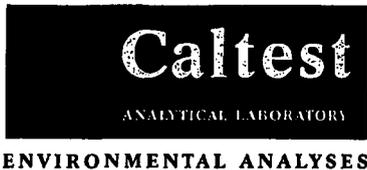
SAMPLE ID: AMERICAN CANYON,RW

SAMPLED: 14 OCT 02 13:40

Electrical Conductance	38000.	100.		umhos/cm	10	120.1	10.17.02	I020077CON	
Hardness	4000.	250.	1.3	mg/L	50	130.2	10.18.02	I020061HAR	

- 1) Sample Preparation on 10-17-02 using 200.8
- 2) 'RL' (Reporting Limit) represents the lowest calibration standard in methods that require multipoint calibrations. RL is equivalent to the ML (Minimum Level) in the State Implementation Plan (SIP) of the California Toxics Rule (CTR).
- 3) Analyte was not detected at or above the Method Detection Limit (MDL).
- 4) Sample diluted prior to analysis in an effort to reduce matrix interferences resulting in (a) higher reporting limit(s).
- 5) Sample Preparation on 10-21-02 using 200.8 (Filtrate)
- 6) Sample Preparation on 10-16-02 using 1631B
- 7) Sample Preparation on 10-18-02 using 200.8
- 8) Sample Preparation on 10-17-02 using 200.8-ML (Filtrate)





LAB ORDER No.:

C100500  
Page 1 of 13

Report Date:  
Received Date:

08 NOV 2002  
14 OCT 2002

SUPPLEMENTAL QUALITY CONTROL (QC) DATA REPORT

Client: Michelle Buzbee  
Larry Walker and Associates  
250 Lafayette Cr., St#200  
Lafayette, CA 94549

Project: NAPA RIVER RECEIVING WATER STUDY

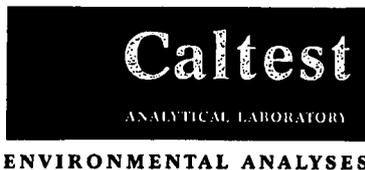
<u>QC Batch ID</u>	<u>Method</u>	<u>Matrix</u>
A021241MER	1631B	AQUEOUS
A021245IMS	200.8	AQUEOUS
A021246IMS	200.8	AQUEOUS
A021251IMS	200.8	AQUEOUS
A021254IMS	200.8	AQUEOUS
I020061HAR	130.2	AQUEOUS
I020077CON	120.1	AQUEOUS
R020130PAH	610	AQUEOUS
S020088BNA	625	AQUEOUS
T020293OCP	608	AQUEOUS
T020298OPP	614	AQUEOUS
V020123MSB	624	AQUEOUS

Todd M. Albertson  
Project Manager

Christine Horn  
Laboratory Director

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 All analyses performed by EPA Methods or Standard Methods (SM) 18th Ed. except where noted.  
 Results of 'ND' mean not detected at or above the listed Reporting Limit (R.L.).  
 Analyte Spike Amounts reported as 'NS' mean not spiked and will not have recoveries reported.  
 'RPD' means Relative Percent Difference and RPD Acceptance Criteria is stated as a maximum.  
 'NC' means not calculated for RPD or Spike Recoveries.





LAB ORDER No.:

C100500  
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METHOD BLANK ANALYTICAL RESULTS

<u>ANALYTE</u>	<u>RESULT</u>	<u>R.L.</u>	<u>UNITS</u>	<u>ANALYZED</u>	<u>NOTES</u>
<b>QC BATCH: A021241MER</b>					
Mercury, Trace Level (dissolved)	ND	0.0005	ug/L	10.17.02	
<b>QC BATCH: A021245IMS</b>					
Antimony	ND	0.5	ug/L	10.28.02	
Arsenic	ND	0.5	ug/L	10.28.02	
Beryllium	ND	0.1	ug/L	10.28.02	
Cadmium	ND	0.1	ug/L	10.28.02	
Chromium	ND	0.5	ug/L	10.28.02	
Copper	ND	0.5	ug/L	10.28.02	
Lead	ND	0.25	ug/L	10.28.02	
Nickel	ND	0.5	ug/L	10.28.02	
Silver	ND	0.1	ug/L	10.28.02	
Thallium	ND	0.1	ug/L	10.28.02	
Zinc	ND	1.	ug/L	10.28.02	
<b>QC BATCH: A021246IMS</b>					
Selenium	ND	1.	ug/L	10.24.02	
<b>QC BATCH: A021251IMS</b>					
Selenium	ND	1.	ug/L	10.24.02	
<b>QC BATCH: A021254IMS</b>					
Antimony, dissolved	ND	0.5	ug/L	10.28.02	
Arsenic, dissolved	ND	0.5	ug/L	10.28.02	
Beryllium, dissolved	ND	0.1	ug/L	10.28.02	
Cadmium, dissolved	ND	0.1	ug/L	10.28.02	
Chromium, dissolved	ND	0.5	ug/L	10.28.02	
Copper, dissolved	ND	0.5	ug/L	10.28.02	
Lead, dissolved	ND	0.25	ug/L	10.28.02	
Nickel, dissolved	ND	0.5	ug/L	10.28.02	
Silver, dissolved	ND	0.1	ug/L	10.28.02	
Thallium, dissolved	ND	0.1	ug/L	10.28.02	
Zinc, dissolved	ND	1.	ug/L	10.28.02	





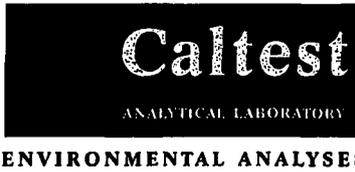
LAB ORDER No.:

C100500  
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LABORATORY CONTROL SAMPLE ANALYTICAL RESULTS

<u>ANALYTE</u>	<u>SPIKE AMOUNT</u>	<u>SPIKE\DUPLICATE RESULT</u>	<u>SPK\DUPLICATE %REC</u>	<u>ACCEPTANCE %REC \RPD</u>	<u>REL% DIFF</u>	<u>ANALYZED</u>	<u>NOTES</u>
<b>QC BATCH: A021241MER</b>							
Mercury, Trace Level (dissolved)	0.0200	0.0213\	106\	71-125\20		10.17.02	
<b>QC BATCH: A021245IMS</b>							
Antimony	20.0	21.2\	106\	80-120\20		10.28.02	
Arsenic	20.0	20.2\	101\	80-120\20		10.28.02	
Beryllium	20.0	21.7\	108\	80-120\20		10.28.02	
Cadmium	20.0	20.8\	104\	80-120\20		10.28.02	
Chromium	20.0	20.4\	102\	80-120\20		10.28.02	
Copper	20.0	20.5\	102\	80-130\20		10.28.02	
Lead	20.0	20.4\	102\	80-120\20		10.28.02	
Nickel	20.0	20.3\	102\	80-120\20		10.28.02	
Silver	20.0	17.9\	90\	80-120\20		10.28.02	
Thallium	20.0	19.3\	96\	80-120\20		10.28.02	
Zinc	20.0	21.7\	108\	80-120\20		10.28.02	
<b>QC BATCH: A021246IMS</b>							
Selenium	20.0	17.1\	86\	80-120\20		10.24.02	
<b>QC BATCH: A021251IMS</b>							
Selenium	20.0	18.3\	92\	80-120\20		10.24.02	
<b>QC BATCH: A021254IMS</b>							
Antimony, dissolved	20.0	19.9\	100\	80-120\20		10.28.02	
Arsenic, dissolved	20.0	19.7\	98\	80-120\20		10.28.02	
Beryllium, dissolved	20.0	23.6\	118\	80-120\20		10.28.02	
Cadmium, dissolved	20.0	19.7\	98\	80-120\20		10.28.02	
Chromium, dissolved	20.0	19.3\	96\	80-120\20		10.28.02	
Copper, dissolved	20.0	19.4\	97\	80-120\20		10.28.02	
Lead, dissolved	20.0	19.8\	99\	80-120\20		10.28.02	
Nickel, dissolved	20.0	19.4\	97\	80-120\20		10.28.02	
Silver, dissolved	20.0	16.8\	84\	80-120\20		10.28.02	
Thallium, dissolved	20.0	19.6\	98\	80-120\20		10.28.02	
Zinc, dissolved	20.0	20.5\	102\	80-120\20		10.28.02	





LAB ORDER No.:

C100500  
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MATRIX SPIKE ANALYTICAL RESULTS

ANALYTE	ORIGINAL RESULT	SPIKE AMOUNT	SPIKE\DUP RESULT	SPK\DUP %REC	ACCEPTANCE %REC \RPD	REL% DIFF	ANALYZED	NOTES
QC BATCH: A021241MER QC SAMPLE LAB NUMBER: C100306-2								
Mercury, Trace Level (dissolved)	0.00292	0.0200	0.0202\0.0203	86\87	71-125\20	0.5	10.17.02	
QC BATCH: A021245IMS QC SAMPLE LAB NUMBER: C100500-1								
Antimony	ND	20.0	21.5\22.0	108\110	80-120\20	2.3	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Arsenic	20.0	20.0	51.6\52.4	158\162	80-120\20	1.5	10.28.02	1
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Beryllium	ND	20.0	21.3\23.1	106\116	80-120\20	8.1	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Cadmium	ND	20.0	17.8\18.3	89\92	80-120\20	2.8	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Chromium	ND	20.0	19.2\20.	96\100	80-120\20	4.1	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Copper	12.2	20.0	31.5\31.5	96\96	80-130\20	0.0	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Lead	ND	20.0	19.9\19.8	100\99	80-120\20	0.5	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Nickel	19.2	20.0	39.4\39.8	101\103	80-120\20	1.0	10.28.02	
QC BATCH: A021245IMS (continued) QC SAMPLE LAB NUMBER: C100500-1								
Silver	ND	20.0	15.3\16.1	76\80	80-120\20	5.1	10.28.02	2

- 1) High Matrix Spike recovery(ies) due to possible matrix interferences in the QC sample. QC batch accepted based on LCS and RPD results.
- 2) Low Matrix Spike recovery(ies) due to possible matrix interferences in the QC sample. QC batch accepted based on LCS and RPD results.



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**SAMPLE CHAIN OF CUSTODY**

PROJECT NAME / PROJECT NUMBER <b>Napa River Receiving Water Study / Project# 15.04, Task 2</b>		P.O. #		LAB ORDER # <b>C100500</b>	
CLIENT: <b>Larry Walker Associates</b>		REPORT TO: <b>Nichelle Ruzbee</b>		ANALYSES REQUESTED	
MAILING ADDRESS: <b>250 Lafayette Circle, Suite 200, Lafayette</b>		STATE: <b>CA</b>	ZIP: <b>94549</b>	EPA 210.6 - Tox. Res. Metals	
BILLING ADDRESS: <b>Same as above</b>		ATTN: <b>same as report to</b>		EPA 210.6 - Trace Metals (Cu, Cr, Ni, Se, Pb, As, Br, Cd, Pb, Ag, Tl, & Zn)	
PHONE #: <b>(925) 962-9700</b>	FAX PHONE: <b>(925) 962-9701</b>	SAMPLER (PRINT & SIGN NAME) <b>Kristine Cornelle and Jocelyn Tunnard</b>		EPA 101 - Mercury	
				EPA 224 - Anions & Inorganic Organics	
				EPA 225 - eqm and non-vehicle organics	
				EPA 228 - OC Residues and PCBs	
				EPA 310 - PANS	
				Transtyran	
				Metals (as CaCO3)	
				EPA 1631 - Chlorides & Fluoride	
				EPA 1631 - Dissolved & Chlorophylla	

CALTEST LAB #	DATE SAMPLED	TIME SAMPLED	SAMPLE MATRIX	CONTAINER TYPE/ AMOUNT	PRESERVATIVE	SAMPLE IDENTIFICATION / SITE	CLIENT LAB #	COMP. or GRAB	EPA 210.6 - Tox. Res. Metals	EPA 210.6 - Trace Metals (Cu, Cr, Ni, Se, Pb, As, Br, Cd, Pb, Ag, Tl, & Zn)	EPA 101 - Mercury	EPA 224 - Anions & Inorganic Organics	EPA 225 - eqm and non-vehicle organics	EPA 228 - OC Residues and PCBs	EPA 310 - PANS	Transtyran	Metals (as CaCO3)	EPA 1631 - Chlorides & Fluoride	EPA 1631 - Dissolved & Chlorophylla
	10/14/02	1200	FE	PT/1	HNO3	Napa, Receiving Water		Grab	X										
	10/14/02		FE	PT/1	None	Napa, Receiving Water		Grab		X									
	10/14/02		FE	OTC(500ml Glass)/1	HCl	Napa, Receiving Water		Grab			X								
	10/14/02		FE	VOA/3	HCl	Napa, Receiving Water		Grab				X							
	10/14/02		FE	AL/2	None	Napa, Receiving Water		Grab					X						
	10/14/02		FE	AL/2	None	Napa, Receiving Water		Grab						X					
	10/14/02		FE	AL/2	None	Napa, Receiving Water		Grab							X				
	10/14/02		FE	PT/1	HNO3	Napa, Receiving Water		Grab									X		
	10/14/02		FE	AL/2	None	Napa, Receiving Water		Grab										X	
	10/14/02		FE	AL/2	None	Napa, Receiving Water		Grab											X

\*Ref Labs moved to C100506

RELINQUISHED BY <i>Kristine Cornelle</i>	DATE/TIME 10/14/02 1440	RECEIVED BY <i>[Signature]</i>	RELINQUISHED BY	DATE/TIME	RECEIVED BY
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Sample: WC MICRO BIO AA SV VOA pH Y/N TEMP: SEALED: Y/N INTACT: Y/N BD: BRO WC AA CC: AA SV VOA BR: HP PT OT VOA WH/NO H2SO4 NaOH P/L: HNO3 H2SO4 NaOH HCL	COMMENTS: ML analysis for all 13287 constituents Cr, Cu, Ni, Se, Sb, As, Ba, Cd, Pb, Ag, Tl, & Zn Filter for dissolved metals immediately upon receipt at lab.	*MATRIX: AQ = Aqueous Nondrinking Water, Digested Metals; FE = Low R.L., Aqueous Nondrinking Water, Digested Metals; DW = Drinking Water; SL = Soil Sludge, Solid; FP = Free Product **CONTAINER TYPES: AL = Amber Litr; AHL = 500 ml Amber; PT = Poly (Plastic); Q1 = Quart (Plastic); HG = Half Gallon (Plastic); S41 = 500 ml Jar; B4 = 1/2 Gallon Jar; BT = Brass Tube; VOA = 40ml VOA; OTC = Other Type Container
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WHITE - LABORATORY YELLOW - CLIENT COPY TO ACCOMPANY FINAL REPORT PINK - CLIENT COPY AS RECEIPT

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**SAMPLE CHAIN OF CUSTODY**

PROJECT NAME / PROJECT NUMBER: **Napa River Receiving Water Study / Project# 15.04, Task 2** P.O.#: \_\_\_\_\_ LAB ORDER # **C100500**

CLIENT: **Larry Walker Associates** REPORT TO: **Michele Buzbee**  
 MAILING ADDRESS: **250 Lafayette Circle, Suite 200, Lafayette** STATE: **CA** ZIP: **94548**  
 BILLING ADDRESS: **Same as above** ATTN: **same as report to**  
 PHONE #: **(925) 962-9700** FAX PHONE: **(925) 962-9701** SAMPLER (PRINT & SIGN NAME): **Kristine Cornelle and Jocelyn Turnard** *KMC*

ANALYSES REQUESTED:  
 EPA 206.6 - Tot. Res. Mercury  
 EPA 206.1 - Diet. Metals (Cr, Cu, Ni, Pb, Se, Zn, SS, SVP, Ag, Al, Fe, Mn)  
 EPA 1831 - Mercury  
 EPA 824 - Acetone & Volatile Organics  
 EPA 818 - acm and non-volatile organics  
 EPA 808 - OC Pesticides and PCBs  
 EPA 810 - PAHs  
 Trihalogenated  
 Hexanes (as CaCDX)  
 EPA 814 - Dioxin & Chlordane

TURN-AROUND TIME  
 STANDARD  
 RUSH

DUE DATE: \_\_\_\_\_

CALTEST LAB #	DATE SAMPLED	TIME SAMPLED	SAMPLE MATRIX	CONTAINER TYPE/ AMOUNT	PRESERVATIVE	SAMPLE IDENTIFICATION / SITE	CLIENT LAB #	COMP. or GRAB	EPA 206.6 - Tot. Res. Mercury	EPA 206.1 - Diet. Metals (Cr, Cu, Ni, Pb, Se, Zn, SS, SVP, Ag, Al, Fe, Mn)	EPA 1831 - Mercury	EPA 824 - Acetone & Volatile Organics	EPA 818 - acm and non-volatile organics	EPA 808 - OC Pesticides and PCBs	EPA 810 - PAHs	Trihalogenated	Hexanes (as CaCDX)	EPA 814 - Dioxin & Chlordane
2	10/14/02	1200	FE	PTI	HNO3	Myrtle Creek, Receiving Water		Grab	X									
	10/14/02		FE	PTI	None	Myrtle Creek, Receiving Water		Grab		X								
	10/14/02		FE	OTC(500ml Glass)/1	HCl	Myrtle Creek, Receiving Water		Grab			X							
	10/14/02		FE	VOA/3	HCl	Myrtle Creek, Receiving Water		Grab				X						
	10/14/02		FE	AL/2	None	Myrtle Creek, Receiving Water		Grab					X					
	10/14/02		FE	AL/2	None	Myrtle Creek, Receiving Water		Grab						X				
	10/14/02		FE	AL/2	None	Myrtle Creek, Receiving Water		Grab							X			
	10/14/02		FE	PTI	HNO3	Myrtle Creek, Receiving Water		Grab									X	
	10/14/02		FE	AL/2	None	Myrtle Creek, Receiving Water		Grab										X

\* Ref Lab moved to C100506

RELINQUISHED BY: *Kristine Cornelle* DATE/TIME: *10/14/02 1440* RECEIVED BY: *[Signature]*

FOR LAB USE ONLY

Sample: WC MICR BIO AA SV VOA pH Y/N TEMP: SEALED: Y/N INTACT: Y/N

BO: BIO WC AA

CO: AA SV VOA

SIL: HP PT QT VOA

W/NO<sub>2</sub> H<sub>2</sub>O NaOH

PTL HNO<sub>3</sub> H<sub>2</sub>SO<sub>4</sub> NaOH HCL

COMMENTS:  
 ML analysis for all 1326 constituents  
 \*\*Ca, Cr, Ni, Se, SS, Pb, Fe, Cd, Zn, Ag, J1, & Z1  
 \*\*\*Filter for dissolved metals immediately upon receipt at lab.

MATRIX: AQ = Aqueous Nondrinking Water, Digested Metals; FE = Low P.L.s, Aqueous Nondrinking Water, Digested Metals; DW = Drinking Water; SL = Soil Sludge, Solid; FP = Free Product

CONTAINER TYPES: AL = Amber Ltr; AHL = 500 ml Amber; PT = Ptn (Plastic); QT = Quart (Plastic); HG = Half Gallon (Plastic); BJ = Soil Jar; B4 = 4oz. BACT; BT = Brass Tube; VOA = 40ml VOA; OTC - Other Type Container

WRITE - LABORATORY YELLOW - CLIENT COPY TO ACCOMPANY FINAL REPORT - PHAS - CLIENT COPY AND RECEIPT