



DWR SWP O&M Water Quality Data & Where To Find It...

Cindy Garcia, Chief
Water Quality Section



Auto-Station Data You want it? You got it!

- 12+ WQ auto-stations slated for upgrades to enable “auto-flow” of data via Internet-based communications
- Server-based data collections
- Data is automatically posted hourly to CDEC –web database



Auto-Station Upgrade

- New dataloggers communicate via the Internet through:
 - Digital means at plants and facilities
 - GOES satellite transmission at SWP Check structures and remote sites
- Hourly data now available on CDEC
- EC, Temp, Turb, pH, Fluor, Br-, DOC & Meteorological data available



Data-flow Upgrades

- Data from all automated WQ stations is now collected hourly
- Automatically QA/QC'd
 - Limits based upon historical data
- Automatically posted to CDEC by 15 minutes after every hour
- Data is collected from all stations regardless of communication type
- No more dial-up, data is available



O&M SWP WQ Stations

O&M WQ Autostations

#	CDEC ID	Station Name	County	Station Number	EC (Br-)	Temp C	Turb	pH	Fluoro	UVA-254 (DOC)
1	BKS	Barker Slough	Solano	KG000000	X	X	X	X		
2	C13	Check 13	Merced	KA007089	X	X	X	X		X
3	C21	Check 21	Kings	KA017226	X	X	X			
4	C29	Check 29	Kern	KA024454	X	X	X			
5	C41	Check 41	Kern	KA030341	X	X	X	X		
6	C66	Check 66	San Bernardino	KA040341	X	X	X			
7	CLC	Clifton Court Forebay	Contra Costa	KA000000	X	X	X	X	X	
8	CPP	Cordelia Pumping Plant	Solano	KG002111	X	X	X			
9	CSO	Castaic Lake Outlet	Los Angeles	CAS00000	X	X	X	X		
10	DCO	Del Valle Conservation Outlet Works	Alameda	DV000000	X	X	X	X		
11	DV7	Del Valle Check 7	Alameda	KB001638	X	X	X	X	X	
12	DVC	Devil Canyon Headworks	San Bernardino	KA041288	X	X	X			
13	DYR	Dyer Reservoir	Contra Costa	~KB000386	X	X	X	X		
14	EDP	Edmonston Pumping Plant	Kern	KA293.45						X
15	HBP	Banks Pumping Plant	Alameda	KA000331	X	X	X	X	X	X
16	PPP	Pacheco Pumping Plant	Contra Costa	SLR00000	X	X	X		X	
17	SBP	South Bay Pumping Plant	Alameda	KB000000	X	X	X	X		
18	VSB	Vallecitos Turnout	Contra Costa	KB002240	X	X	X	X	X	

~ proposed construction

*all data transfer will be >4mb txt files (avg 10-30 kb)

*all data will route through our server and post to CDEC


*all stations will need to be polled every hour

*prefer 2-way communication where possible



New O&M Web Site

- <http://www.water.ca.gov/swp/waterquality/>
- Faster access to O&M WQ data



CA .GOV | DEPARTMENT OF WATER RESOURCES

Skip to: [Content](#) | [Footer](#) | [Accessibility](#) Search
 California DWR

[Home](#) [Newsroom](#) [Flood & Safety](#) [Planning](#) [State Water Project](#) [Funding](#) [Environment](#) [Supply & Use](#) [Data](#)

[Water Deliveries](#) | [Operations Control](#) | [Facilities](#) | [Orville Facilities Relicensing](#) | [All SWP Topics...](#)

SWP O&M Water Quality Monitoring

[Home](#) → [Division of O&M](#) → [O&M Water Quality](#)

O&M WATER QUALITY

- [DWR Home](#)
- [Operations & Maintenance](#)
- [Water Quality Monitoring](#)
- [Automated Station Data](#)
- [Grab Sample Data](#)
- [WQ Summary Reports](#)
- [Groundwater Pump-Ins](#)
- [Water Treatment Plants](#)
- [Contact Us](#)

TAKING CARE OF BUSINESS

- [SWP WQ News & Updates](#)
- [CA Data Exchange Center \(CDEC\)](#)
- [Water Data Library \(WDL\)](#)
- [O&M WQ Publications](#)

Beginning in 1968, water quality monitoring for the California State Water Project (SWP) has been conducted by the Department of Water Resources (DWR) Division of Operations and Maintenance (O&M), Water Quality Section (WQS) to monitor eutrophication (an increase in chemical nutrients) in the SWP facilities, and salinity for agricultural users. Over time, the SWP water quality program expanded to emphasize parameters of concern for drinking water, recreation, and fish & wildlife purposes.

Today, chemical, physical and biological parameters are routinely monitored throughout the SWP from the Feather River drainage in the north and to Lake Perris in the south including more than 40 sites and over 200 individual chemicals. Both discrete [grab samples](#) and continuous [automated station](#) data comprise a comprehensive water quality monitoring program. This extensive water quality monitoring program provides water quality data to:

- Document spatial and temporal changes in SWP water quality
- Plan water treatment operational changes
- Identify and respond to toxic substance spills, floods, and other water quality emergencies
- Compare SWP water quality to California drinking water standards, contractual requirements with the State Water Contractors under [Water Service Provisions - Article 19](#), or other criteria.


[Back to Top](#) | [Help](#) | [Comments or Suggestions](#) | [Document Viewers](#)

[Conditions of Use](#) | [Privacy Policy](#)
Copyright © 2009 State of California
Last Modified: 06/02/2009



California Data Exchange Center (CDEC) for Auto-Station Data

- <http://cdec.water.ca.gov/>



CA.GOV Department of Water Resources
California Data Exchange Center

Skip to: [Content](#) | [Footer](#) | [Accessibility](#) Search
 California DWR

Home Query Tools Precipitation River Forecast River Stages/Flow Reservoirs Snow Stations Weather

About CDEC | Browse CDEC | DWR Home | DFM Home

MOST POPULAR LINKS

- [Executive Summary](#)
- [Real-time Data](#)
- [Daily Data](#)
- [Monthly Data](#)
- [Historical Data](#)
- [Data Plotter](#)
- [Station Search](#)
- [Station Locator](#)
- [Daily Water Temperatures](#)
- [Reports](#)
- [Other Related Data Sources](#)
- [Contact CDEC Staff](#)

RELATED LINKS

- [California Cooperative Snow Surveys](#)
- [California Drought Information](#) NEW
- [State Climatologist](#)
- [State Meteorologist](#)
- [Division of Flood Management](#)
- [Department of Water Resources](#)

CURRENT CONDITIONS

- [River Conditions](#)
- [River Guidance Plots](#)
- [Water Supply](#)
- [Statewide Water Conditions](#)
- [California's Monthly Drought Update](#) NEW

MORE INFORMATION

- [What's New](#)
- [General Information About CDEC](#)
- [CDEC FAQs](#)
- [Flood System Inspection Reports](#) NEW

ANNOUNCEMENTS

08/31/2009 - California's Monthly Drought Update:
→ [California Drought, An Update, August 2009](#) → [Please click here for Update Website](#)

08/31/2009 - 10-Day Feather River QPF: 10-Day Feather River QPF for August 31, 2009 is available now. The next update of this forecast will be about Tuesday, September 8, 2009, unless there are significant hydrologic changes.
→ [Please click here](#)

08/10/2009 - Executive Update of Hydrologic Conditions for August 1, 2009:
A synopsis of statewide water conditions has been updated on CDEC as of August 1, 2009. This product is generally updated weekly or biweekly (sooner if hydrologic conditions warrant it) during the wet season. Beginning about June 1, this product is updated monthly through the summer and dry fall months, unless there are significant hydrologic changes. The next anticipated update will be about Wednesday, September 9, 2009. The Executive Update of Hydrologic Conditions can be found at:
→ <http://cdec.water.ca.gov/cgi-progs/reports/EXECSUM>

07/13/2009 - Latest Weather and Climate Newsletter:
→ Weather and Climate Newsletters: [Latest](#) | [Archived](#)

BROWSE CDEC

[A](#) | [B](#) | [C](#) | [D](#) | [E](#) | [F](#) | [G](#) | [H](#) | [I](#) | [J](#) | [K](#) | [L](#) | [M](#) | [N](#) | [O](#) | [P](#) | [Q](#) | [R](#) | [S](#) | [T](#) | [U](#) | [V](#) | [X](#) | [Y](#) | [W](#) | [Z](#)

Back to Top | Help | Comments or Suggestions | Document Viewers



Enter a WQ Station ID



Department of Water Resources
California Data Exchange Center

Skip to: [Content](#) | [Footer](#) | [Accessibility](#)

[Home](#) [Query Tools](#) [Precipitation](#) [River Forecast](#) [River Stages/Flow](#) [Reservoirs](#) [Snow](#) [Stations](#) [Weather](#)

[Single Station\(Real Time\)](#) | [Station Group\(Real Time\)](#) | [Single Station\(Daily\)](#) | [Station Group\(Daily\)](#) | [Historical\(CSV Format\)](#) |

MOST POPULAR LINKS

- » [Executive Summary](#)
- » [Real-time Data](#)
- » [Daily Data](#)
- » [Monthly Data](#)
- » [Historical Data](#)
- » [Data Plotter](#)
- » [Station Search](#)
- » [Station Locator](#)
- » [Daily Water Temperatures](#)
- » [Reports](#)
- » [Other Related Data Sources](#)

RELATED LINKS

- » [California Cooperative Snow Surveys](#)
- » [State Climatologist](#)
- » [State Meteorologist](#)
- » [Division of Flood Management](#)
- » [Department of Water Resources](#)

Real-Time Event / Hourly Data

1. Enter part of a CDEC Station Name or a three-letter CDEC [Station ID](#).
2. Specify four or more letters to search for all Station Names containing those letters.
3. Specify one or two letters to search for all Station IDs that begin with what you specify.
4. Click the "Get Data" button only once.

Station ID:

[Back to Top](#) | [Help](#) | [Comments or Suggestions](#) | [Document Viewers](#)

[Conditions of Use](#) | [Privacy Policy](#)
Copyright © 2007 State of California



CA.GOV Department of Water Resources California Data Exchange Center

- Home
- Query Tools
- Precipitation
- River Forecast
- River Stages/Flow
- Reservoirs
- Snow
- Stations
- Weather

- Single Station(Real Time)
- Station Group(Real Time)
- Single Station(Daily)
- Station Group(Daily)
- Historical(CSV Format)

SHOW/HIDE LEFT SIDEBAR

MOST POPULAR LINKS

- Executive Summary
- Real-time Data
- Daily Data
- Monthly Data
- Historical Data
- Data Plotter
- Station Search
- Station Locator
- Daily Water Temperatures
- Reports
- Other Related Data Sources
- Contact CDEC Staff

RELATED LINKS

- California Cooperative Snow Surveys
- California Drought Information
- State Climatologist
- State Meteorologist
- Division of Flood Management
- Department of Water Resources

CAL AQUEDUCT CHECK 13 (KA007089) (C13)

Elevation: 204' - SAN JOAQUIN R basin - Operator: CA Dept of Water Resources/O & M

Query executed Friday at 8:34:11



Provisional data, subject to change.
Select a sensor type for a plot of data.

[Earlier](#)

Date / Time (PDT)	EL COND uS/cm	PH VAL PH	TEMP W DEG F	TEMP W C DEG C	TURB W NTU	UVA 254 U/CM
07/29/2010 21:00	314.80	8.2	--	23.0	7.29	0.111
07/29/2010 22:00	306.30	8.2	--	23.3	8.07	0.097
07/29/2010 23:00	306.80	8.3	--	23.3	7.06	0.084
07/30/2010 00:00	309.10	8.4	--	23.1	6.92	0.076
07/30/2010 01:00	313.70	8.4	--	22.9	6.91	0.072
07/30/2010 02:00	312.70	8.3	--	22.6	6.87	0.071
07/30/2010 03:00	311.20	8.3	--	22.5	6.86	0.069
07/30/2010 04:00	311.10	8.3	--	22.3	6.97	0.067
07/30/2010 05:00	311.20	8.2	--	22.2	7.23	0.064
07/30/2010 06:00	311.40	8.1	--	22.1	7.26	0.064
07/30/2010 07:00	319.30	8.0	--	22.0	7.28	0.064
07/30/2010 08:00	339.50	8.0	--	21.7	7.17	0.065

[Later](#) | [Latest](#)

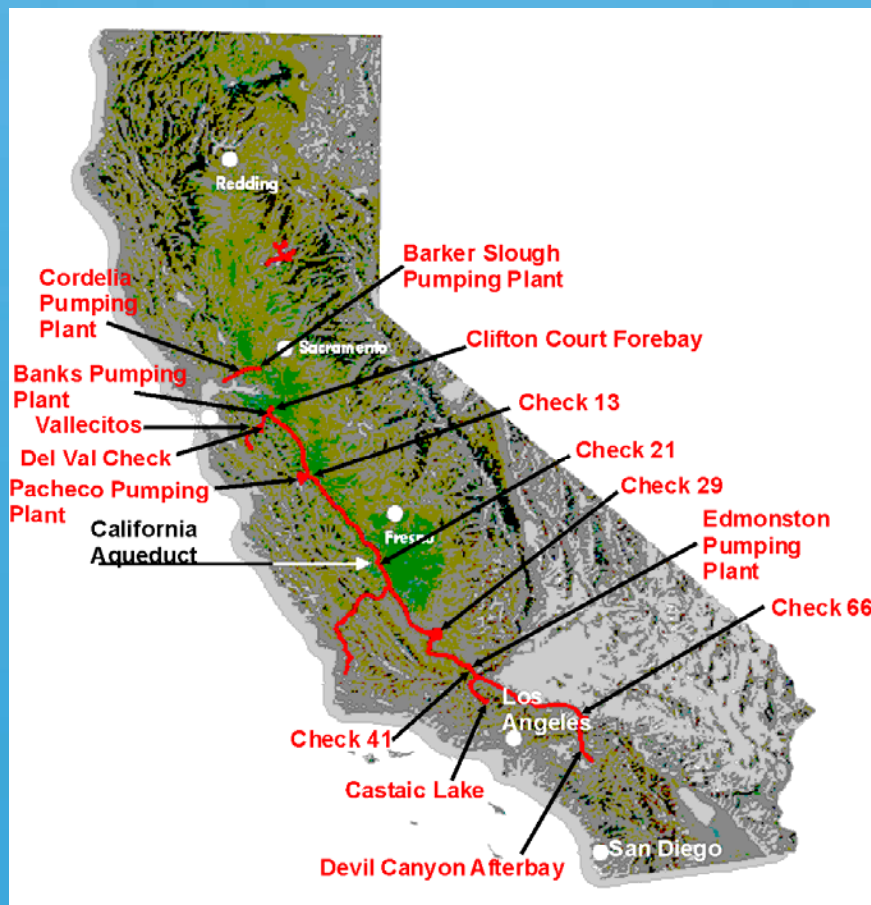
Warning! This data is preliminary and subject to revision.

[Download Data Now](#) | [Show C13 Map](#) | [24 Hours C13 Data](#) | [Plot all C13 Sensors](#) | [Daily C13 Data](#) | [C13 Info](#)



Map of O&M's Automated Stations

- Found from <http://www.water.ca.gov/swp/waterquality/>
- Each station name links to CDEC.
- Current daily & hourly data is available on CDEC.





Grab Sample Data

You want it? You got it!

- 12+ fabulous WQ Tech's collecting routine water samples
- 38+ locations throughout 5 O&M Field Divisions (including DMC)
- Frequency is weekly, monthly, quarterly, or annually
- Data is tracked through FLIMS and managed through the WDL



Water Data Library for Grab Sample Data

- <http://wdl.water.ca.gov/waterdatalibrary/>

CA.GOV | DEPARTMENT OF WATER RESOURCES

Skip to: [Content](#) | [Footer](#) | [Accessibility](#)
 California DWR

[Home](#) [Newsroom](#) [Flood & Safety](#) [Planning](#) [State Water Project](#) [Funding](#) [Environment](#) [Supply & Use](#) [Data](#)

[CDEC](#) | [CIMIS](#) | [WDL](#) | [IEP](#) | [IWRIS](#) | [All Data Topics...](#)

- [Water Data Library Home](#)
- [Groundwater Level Data](#)
- [Water Quality Data](#)
- [Continuous Data](#)
- [Contact Information](#)

DWR CLIENTS ONLY

- [Admin Login](#)
- [Climate Data \(Access Prototype\)](#)
- [Climate Data \(Beta 1.0\)](#)

Water Data Library

Welcome to the Department of Water Resources Water Data Library. This site provides access to periodic groundwater level data, grab sample water quality data, and continuous streamflow, gage height, tide stage, water quality, groundwater level, and subsidence data. Use the map interface below to navigate to your area of interest, or use the menu system to the left to select station data.
HINT: to improve map performance, deselect the all the site types, pan and/or zoom to your area of interest, then reselect the site types and click the "Refresh Map" button.

WDL STATION MAP

Site Selection

- Groundwater Level
- Water Quality
- Continuous Data

● = Multi-parameter site
● = Cluster, showing number of stations

To find monitoring stations for a specific area, enter the placename or zip code into the text box below then, click the "Find Stations" button.

Map Center: 38.550000, -121.750000
Map SW: 37.679473, -123.403931
Map NE: 39.406489, -120.097046
Map Zoom: 8

Mouse LatLon:
Mouse Px:
Mouse Title:
Mouse Click:

Marcelo Montagna©2008 - <http://maps.forum.net>



Data by Stations and County, or Project

Water Data Library - Water Quality Reports - Windows Internet Explorer

http://www.water.ca.gov/waterdatalibrary/waterquality/index.cfm

File Edit View Favorites Tools Help

Google Search

Water Data Library - Water Quality Reports

Skip to: [Content](#) | [Footer](#) | [Accessibility](#)

Search California

CA .GOV DEPARTMENT OF WATER RESOURCES

Home Newsroom Flood & Safety Planning State Water Project Funding Environment Supply & Use Data

CDEC CIMIS WDL IEP IWRIS All Data Topics...

→ Water Data Library Home

→ Groundwater Level Data

→ Water Quality Data

→ Continuous Data

→ Contact Information

Water Quality Data Reports

→ [Data by Station and County - select stations by name, number and/or county](#)

→ [Data by Project - select data by project name](#)

→ [Data by Station Group - select data by station group](#)

DWR CLIENTS ONLY

→ Admin Login

→ Climate Data (Beta 1.1)

→ Climate Data (Access Prototype)

DWR Documents

→ Data Collection in DPLA

→ Data Coordination Project Charter

→ Groundwater Strategic Plan

→ Surface Water Strategic Plan

→ Water Quality User's Manual

→ Well Data Strategic Plan

→ WDL Strategic Plan

→ Water PIE Strategic Plan

Hydstra Documents

→ Hydstra Procedures

→ Hydstra Tracking Reports

→ Hydstra Use Summary Reports



Search by: Station Name, #, or County

Water Data Library - Water Quality Reports - Windows Internet Explorer

http://www.water.ca.gov/waterdatalibrary/waterquality/station_county/index.cfm

File Edit View Favorites Tools Help

Google Search

Water Data Library - Water Quality Reports

CA.GOV DEPARTMENT OF WATER RESOURCES

Skip to: [Content](#) | [Footer](#) | [Accessibility](#)

Home Newsroom Flood & Safety Planning State Water Project Funding Environment Supply & Use Data

CDEC | CIMIS | WDL | IEP | IWRIS | All Data Topics...

Water Quality Data Reports

Instructions:
Use this form to search for water quality stations. In the upper portion of the form you can search for stations using either partial or complete station name, and partial or complete station number in the text box, by selecting a county from the dropdown box, or using a combination of any of the three options. Click on **Get Stations** to generate a list of stations that match your search criteria. **Note:** not all counties listed have water quality data.

Station Name:

Station Number:

Station County:

DWR CLIENTS ONLY

- Admin Login
- Climate Data (Beta 1.1)
- Climate Data (Access Prototype)

DWR Documents

- Data Collection in DPLA
- Data Coordination Project Charter
- Groundwater Strategic Plan
- Surface Water Strategic Plan
- Water Quality User's Manual
- Well Data Strategic Plan



Water Data Library - Water Quality Reports - Windows Internet Explorer

http://www.water.ca.gov/waterdatalibrary/waterquality/station_county/select_station.cfm

westlands water district

File Edit View Favorites Tools Help

Google Search

Water Data Library - Water Quality Reports

CA.GOV DEPARTMENT OF WATER RESOURCES

Skip to: [Content](#) | [Footer](#) | [Accessibility](#)

Search GO

California DWR

Home Newsroom Flood & Safety Planning State Water Project Funding Environment Supply & Use Data

CDEC | CIMIS | WDL | IEP | IWRIS | All Data Topics...

Water Data Library Home
Groundwater Level Data
Water Quality Data
Continuous Data
Contact Information

DWR CLIENTS ONLY

Admin Login
Climate Data (Beta 1.1)
Climate Data (Access Prototype)

DWR Documents

Data Collection in DPLA
Data Coordination Project Charter
Groundwater Strategic Plan
Surface Water Strategic Plan
Water Quality User's Manual
Well Data Strategic Plan
WDL Strategic Plan
Water PIE Strategic Plan

Hydstra Documents

Select Water Quality Station

Instructions:
Use this screen to refine search parameters for water quality data. Mark stations for retrieval by clicking in the checkbox next to the station name, choose an output format for the data, and select the date range for your retrieval. Click on the **Get Data** button to retrieve all analytes for the selected station(s). Click on the **Select Analytes** button to return a list of available analytes for the station(s) and date range. Click on the **Select Analyte Group** button to choose from a group of analytes for your data retrieval. **Note: Please limit your selection to a maximum of 15 stations.**

<input type="checkbox"/> Select	Station Name <small>(click to sort)</small>	Station Number <small>(click to sort)</small>	First Sample Date	Last Sample Date
<input type="checkbox"/>	Bank's PP Operation Control Ctr Outside Hose Bib	WKA0300L	01/06/2005 12:21	11/29/2007 14:22
<input type="checkbox"/>	Delta P.P. Headworks at H.O. Banks PP	KA000331	03/30/1982 09:00	06/23/2010 10:03

Output Format:

Include field data? Yes No

Select Date Range:

Jan 29 2010 to Jul 29 2010
 All Dates

Data source: [Water Data Library](#)

1. Select station(s) using check boxes.
2. Select an output format (HTML, Excel, Excel Crosstab, etc.).
3. Select "Yes/No" for field data.
4. Select a date range (default = last 6 mos.).
5. Click "Get Data."



Portion of the resulting report in Excel Crosstab format

Microsoft Excel - WDLReport

File Edit View Insert Format Tools Data Window Help Adobe PDF

Q22

	A	B	C	D	E	F	G	H	I	J	K	L	M	N
1	<<<Laboratory Results>>>													
2	Station Name	Station Number	Sample Date	Sample Code	Sample Depth	Sample Description	Sample Purpose	*No Lab Analyses (Field Measures Only) *FIELD DATA (Status) [1]*	1,1,1,2-Tetrachloroethane µg/L EPA 502.2 [1]*	1,1,1-Trichloroethane µg/L EPA 502.2 [1]*	1,1,2,2-Tetrachloroethane µg/L EPA 502.2 [1]*	1,1,2-Trichloroethane µg/L EPA 502.2 [1]*	1,1-Dichloroethane µg/L EPA 502.2 [1]*	1,1-Dichloroethene µg/L EPA 502.2 [1]*
3	Delta P.P. Headworks at H.O. Banks PP	KA000331	7/16/2008 8:00	DA0708B200 1	1 Meters		Normal Sample	N/A	<.5	<.5	<.5	<.5	<.5	<.5
4	Delta P.P. Headworks at H.O. Banks PP	KA000331	8/20/2008 8:05	DA0808B202 9	1 Meters		Normal Sample	N/A	<.5	<.5	<.5	<.5	<.5	<.5
5	Delta P.P. Headworks at H.O. Banks PP	KA000331	9/17/2008 8:50	DA0908B208 7	1 Meters		Normal Sample	N/A	<.5	<.5	<.5	<.5	<.5	<.5
6	Delta P.P. Headworks at H.O. Banks PP	KA000331	10/15/2008 8:50	DA1008B212 9	1 Meters		Normal Sample	N/A	<.5	<.5	<.5	<.5	<.5	<.5
7	Delta P.P. Headworks at H.O. Banks PP	KA000331	11/19/2008 8:50	DA1108B217 2	1 Meters		Normal Sample	N/A	<.5	<.5	<.5	<.5	<.5	<.5
8	Delta P.P. Headworks at H.O. Banks PP	KA000331	12/18/2008 8:30	DA1208B221 0	1 Meters		Normal Sample	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9														
10	*Codes in brackets ([]) following the analyte name refer to the Method Comparability Code. For more information, please refer to http://wdl.water.ca.gov/includes/mtc_code.cfm .													
11	**More than one analysis was made for this sample													



Questions??





Contact Information

Cindy Garcia

cgarcia@water.ca.gov

(916) 653-7213

Austine Eke

austine@water.ca.gov

(916) 653-7227

Diane Shimizu

dshimizu@water.ca.gov

(916) 653-1154

Eduardo Trejo

etrejo@water.ca.gov

(916) 653-5498

Aaron Cuthbertson

acuthber@water.ca.gov

(916) 653-0955