



**Energy  
Geosciences**  
EARTH & ENVIRONMENTAL SCIENCES AREA



**DRAFT**

***Regional Board Food Safety Project***

**Sampling Plan**

**Kern-Tulare Water District  
Citrus Crop**

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## **Introduction**

The objective of this sampling under the Regional Board Food Safety Project is to collect citrus crop samples during the current harvest season from orchards in the Kern-Tulare Water District (KTWD). Samples will be collected by Central Valley Regional Water Quality Control Board (Regional Board) staff and shipped to a contract laboratory for analysis of chemical constituents potentially found in produced waters. Other samples will be collected by Lawrence Berkeley National Laboratory (LBNL) personnel and delivered to the University of the Pacific (UOP) for archival storage and scientific purposes. UOP is a cooperating agency with LBNL.

## **Sample Collection & Analysis**

Samples collected by the Regional Board will be collected and analyzed according to procedures described in Attachment 1 (Citrus Fruit Sampling and Analysis Plan, Cawelo Water District, Bakersfield, California), with minor modifications. Regional Board staff may use pre-cleaned glass sample containers other than Mason jars for sample collection. Samples collected by LBNL will also be collected according to procedures detailed in Attachment 1 with some modifications. LBNL will collect samples in pre-cleaned metal and plastic containers, as well as glass containers. Plastic containers may include precleaned sample bottles and/or sealable plastic bags. Samples collected by LBNL will be driven to UOP and frozen (-18° C or less) on the same day they are collected.

The samples collected by the Regional Board staff will be sent for analysis to:

Weck Laboratories, Inc.  
114859 East Clark Avenue  
City of Industry, California 91745-1396  
Ph: 626-336-2139  
Contact: Chris Samatmanakit

Tables 1 and 2 show constituents to be measured by the contract laboratory on samples collected by Regional Board staff. Samples collected by LBNL will be archived for later analysis and study.

## **Sampling Locations**

Approximate sample locations shown in Figure 1. Two locations are in groves that have not been irrigated with produced water (C-1, C-2) and three are in groves that have been irrigated with produced water (T-1, T-2, T-3). The actual sample location may vary, depending on the location of trees still bearing fruit. The actual sample location (latitude and longitude) will be recorded when samples are collected.

Table 1. Organic chemical constituents to be analyzed by certified contract laboratory on citrus fruit collected by Regional Board.

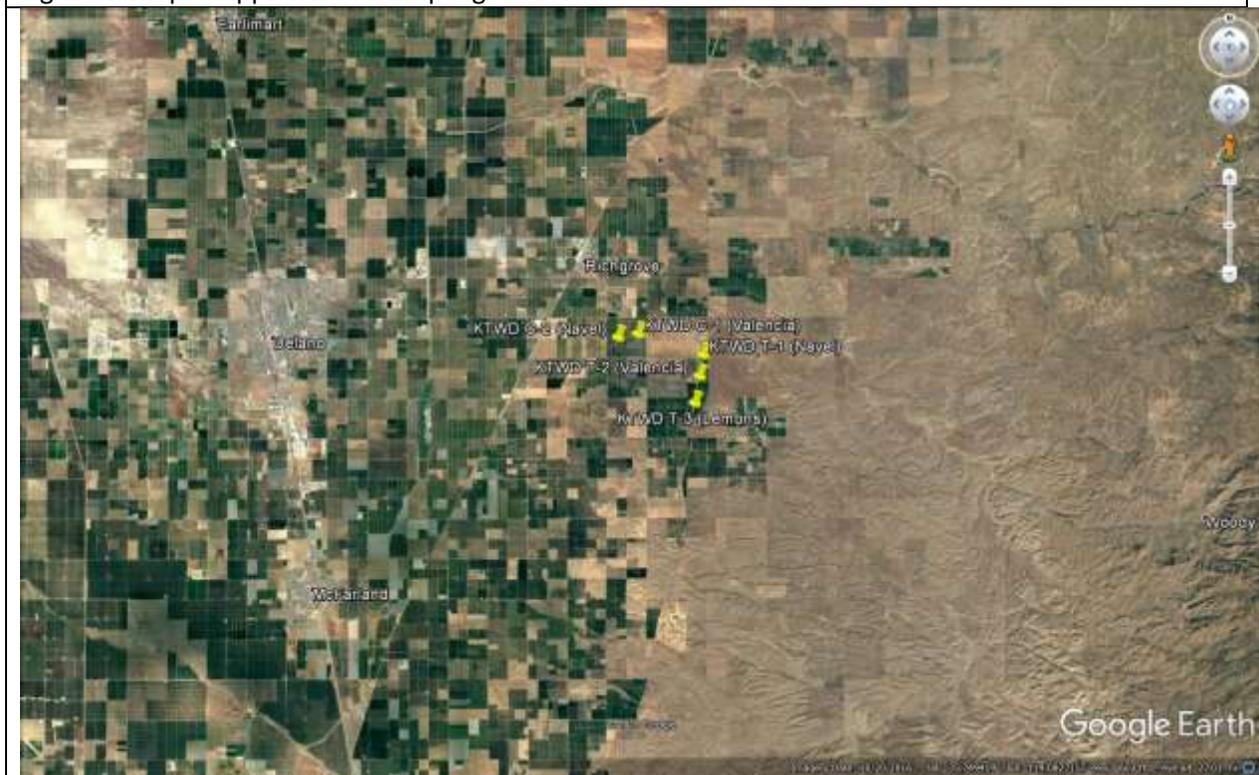
Analyte Category	Analyte	Method Number
VOC	1,2,4-Trimethylbenzene	8260B
VOC	Acetone	8260B
VOC	Benzene	8260B
VOC	Chloroform	8260B
VOC	Ethylbenzene	8260B
Alcohol	Methanol	8015D
VOC	Toluene	8260B
VOC	o-, m-, and p-Xylene	8260B
SVOC	2-Methylnaphthalene	8270C-SIM
SVOC	Acenaphthene	8270C-SIM
SVOC	Acenaphthylene	8270C-SIM
SVOC	Anthracene	8270C-SIM
SVOC	Benzo (a) anthracene	8270C-SIM
SVOC	Benzo (a) pyrene	8270C-SIM
SVOC	Benzo (b) fluoranthene	8270C-SIM
SVOC	Benzo (g,h,i) perylene	8270C-SIM
SVOC	Benzo (k) fluoranthene	8270C-SIM
SVOC	Bis(2-ethylhexyl) phthalate	8270C-SIM
SVOC	Chrysene	8270C-SIM
SVOC	Dibenzo (a,h) anthracene	8270C-SIM
SVOC	Fluoranthene	8270C-SIM
SVOC	Fluorene	8270C-SIM
SVOC	Indeno (1,2,3-cd) pyrene	8270C-SIM
SVOC	Naphthalene	8270C-SIM
SVOC	Phenanthrene	8270C-SIM
SVOC	Pyrene	8270C-SIM
SVOC	Carbazole*	(8270C-SIM)
SVOC	Phenol*	(8270C-SIM)
SVOC	Pyridine*	(8270C-SIM)

\*These compounds will be measured if included in standard calibration for 8270C-SIM.

Table 2. Inorganic chemical constituents to be analyzed by certified contract laboratory on citrus fruit collected by Regional Board.

<b>Analyte</b>	<b>Method Number</b>
Antimony	6020A
Arsenic	6020A
Barium	6020A
Beryllium	6020A
Cadmium	6020A
Chromium (total)	6020A
Cobalt	6020A
Copper	6020A
Lead	6020A
Lithium	6010B
Molybdenum	6020A
Nickel	6020A
Selenium	6020A
Silver	6020A
Strontium	6020A
Thallium	6020A
Vanadium	6020B
Zinc	6020A

Figure 1: Map of approximate sampling locations.



## **Attachment 1**

# **Citrus Fruit Sampling and Analysis Plan Cawelo Water District Bakersfield, California**