BUREAU OF RECLAMATION

Friant Division Groundwater Pump-in Program, Contract Years 2020-2022

CGB-EA-2021-033
Draft Environmental Assessment

U.S. Department of the Interior May 2021

Mission Statements

The U.S. Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors its trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated Island Communities.

The mission of the Bureau of Reclamation is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.

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1 Introduction

1.1 Background

In 2014, due to drought conditions and an unprecedented zero percent allocation for the Friant Division contractors, the Bureau of Reclamation (Reclamation) received requests to allow the cumulative annual introduction of up to 50,000 acre-feet of groundwater into the Friant-Kern Canal (FKC). Potential participants included any of the Friant Division or Cross Valley Central Valley Project (CVP) contractors located along the FKC. Reclamation analyzed a two-year FKC Groundwater Pump-in Program in Environmental Assessment (EA)-14-011 (Reclamation 2014a). Based on specific environmental commitments, including water quality requirements, Reclamation determined that the cumulative introduction, storage, and conveyance of up to 50,000 acre-feet per year of groundwater by the Friant Division and Cross Valley CVP contractors over a two-year period would not significantly affect the quality of the human environment and a Finding of No Significant Impact (FONSI) was completed on May 2, 2014.

Subsequently, North Kern Water Storage District, a non-CVP contractor located adjacent to the FKC in Kern County, requested approval from Reclamation to participate in the FKC Groundwater Pump-in Program. Reclamation analyzed the addition of North Kern to the FKC Groundwater Pump-in Program in EA-14-051 (Reclamation 2014b) and a FONSI was completed on October 15, 2014.

Due to limited water supplies available to the Friant Division, the Friant Water Authority on behalf of contractors participating in the FKC Groundwater Pump-in Program, requested permission to temporarily convey groundwater from wells that exceed the 45 milligram per liter (mg/L) limit for nitrates established by the State of California[1]. Reclamation analyzed the request in EA-14-043 (Reclamation 2014c). Based on specific conditions imposed by Reclamation on the exceedances (i.e. limit on nitrates and salinity in the FKC and frequent monitoring to prevent exceedance of the limits placed on the project), a FONSI was completed on December 17, 2014.

In 2015, due to ongoing dry conditions, the participating contractors requested to extend the FKC Groundwater Pump-in Program for an additional five years once the program expired in February 2016. The specific participants included: Delano-Earlimart Irrigation District, Lindsay-Strathmore Irrigation District, North Kern Water Storage District, Orange Cove Irrigation District, Saucelito Irrigation District, Southern San Joaquin Municipal Utility District, Tea Pot Dome Water District, and Terra Bella Irrigation District. Reclamation analyzed the continuation of the FKC Groundwater Pump-in Program for these participating districts over a five-year period in EA-15-046 and issued a FONSI on March 4, 2016 (Reclamation 2016a).

[1] Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010 4037), and Administrative Code (Sections 64401 et seq.), as amended.

As the five-year period for the FKC Groundwater Pump-in Program has expired and due to current drought conditions, the participants have requested another extension of the FKC Groundwater Pump-in Program to include the same relaxation of electrical conductivity and nitrate concentrations done under the previous program.

1.2 Purpose and Need for the Proposed Action

In February 2021, Reclamation issued its initial water supply allocations for CVP contractors. The initial allocation was based on an estimate of water available for delivery to CVP water users reflecting current reservoir storage, precipitation, and snowpack in the Central Valley and Sierra Nevada. Based on these conditions, Friant Division contractors received a 20 percent Class 1 and 0 percent Class 2 initial allocation. South of Delta CVP contracts, such as the Cross Valley contractors, received an initial 5 percent allocation (Reclamation 2021a). In March 2021, due to worsening hydrologic conditions, Reclamation announced that the 5 percent allocation for South of Delta CVP contractors was no longer available (Reclamation 2021b). These low allocations are an indicator of the dry winter California is experiencing after the dry water year of 2020.

Facing record dry conditions and insufficient CVP and State Water Project (SWP) water allocations, contractors will need to rely on groundwater to satisfy the demand of existing crops. The purpose of the Proposed Action is to provide Friant Division CVP contractors the flexibility to distribute groundwater to areas within their own districts where water demands from existing crops cannot be fully satisfied by the low supply of CVP water as well as provide North Kern Water Storage District's available groundwater to SWP contractors to meet existing demands.

2 Alternatives Including Proposed Action

2.1 No Action Alternative

Under the No Action Alternative, Reclamation would not allow the cumulative annual introduction of up to 50,000 acre-feet of groundwater into the FKC over a two-year period. Affected growers would have to find alternative supplies of water, provide for alternative conveyance path(s), or temporarily take land out of production if water supplies are insufficient to meet demands. Groundwater pumping within the respective districts would continue as they are under baseline conditions.

2.2 Proposed Action

Under the Proposed Action, Reclamation would issue annual Warren Act agreements to the participating districts listed in Table 1 that would allow the cumulative annual introduction of up to 50,000 acre-feet of groundwater into the FKC over a two-year period. The maximum pump-in amounts listed in Table 1 may be adjusted among the participants as needed in a given year (i.e.

could be more or less depending on need) but cannot exceed the cumulative total of 50,000 acre-feet.

Table 1. Participating Districts

District	Maximum pump-in quantity (acre-foot)
Delano-Earlimart Irrigation District	12,000
Lindsay-Strathmore Irrigation District	3,000
North Kern Water Storage District	10,000
Orange Cove Irrigation District	5,000
Porterville Irrigation District	5,000
Saucelito Irrigation District	2,000
Southern San Joaquin Municipal Utility District	3,000
Terra Bella Irrigation District	1,500

The source of the non-Project water would be groundwater pumped from privately owned wells within each district. The groundwater would then be introduced into the FKC through existing infrastructure. No ground disturbance or modification of facilities will be needed to complete the Proposed Action.

Prior to the introduction of groundwater into the FKC, all wells must be tested to demonstrate compliance with the water quality standards included in Reclamation's *Policy for Accepting Non-Project Water into the Friant-Kern and Madera Canals* (Appendix A), in addition to the standards listed in Table 2.

Table 2. Additional Water Quality Standards for Agricultural Suitability

Constituent	Units	Maximum Contaminant Level	Recommended Analytical Method	CAS Registry Number
Boron	mg/L	2.0[1]	EPA 200.7	7440-42-8
Chloride	mg/L	500[2]	EPA 300.1	16887-00-6
Sodium	mg/L	100[1]	EPA 200.7[3]	7440-23-5
Specific Conductance	µS/cm	2,200[2]	SM 2510 B[3]	E-10184
Sulfate	mg/L	500[2]	EPA 300.1[3]	14808-79-8
Total Dissolved Solids	mg/L	1,500[2]	SM 2540 C[3]	E-10173

Notes: Recommended Analytical Methods: https://www.nemi.gov/home/:
[1]Table 1: Guidelines for Interpretations of Water Quality for Irrigation, from Ayers, R. S. and D. W. Westcot, *Water Quality for Agriculture*, Food and Agriculture Organization of the United Nations - Irrigation and Drainage Paper No. 29, Rev. 1, Rome (1985). http://www.fao.org/3/T0234E/T0234E00.htm
[2]Title 22[2]. Table 64449-B. Secondary Maximum Contaminant Levels "Consumer Acceptance Levels"
[3]Title 22. Table 64432-A. Detection Limits for Purpose of Reporting (DLRs) for Regulated Inorganic Chemicals

[2] Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.

In addition, Reclamation would allow the introduction of groundwater from wells with high nitrates for the proposed two-year FKC Groundwater Pump-in Program, subject to the following conditions:

- The concentration of nitrates in the FKC may not exceed 20 mg/L, less than half of the maximum contaminant level (MCL) established by the State of California for nitrates.
- Water salinity in the FKC may not exceed 900 micromhos per centimeter (µmhos/cm).

During the course of the Proposed Action, water samples from the FKC shall be collected each week by the Friant Water Authority near the following municipal and industrial diversions:

- FKC Milepost 43.45 (City of Orange Cove diversion)
- FKC Milepost 85.55 (Lyndsay-Strathmore Irrigation District diversion)
- FKC Milepost 89.35 (Strathmore Public Utility District diversion)
- FKC Milepost 102.65 (Terra Bella Irrigation District diversion)
- FKC Milepost 151.80 (Arvin-Edison Water Storage District diversion, turnout near Terminus of the FKC at the Kern River)

Each weekly collection would consist of one sample from each location, plus one duplicate sample (total of six samples per week). The Friant Water Authority would deliver the samples to a Reclamation approved laboratory as noted in Appendix A. The Friant Water Authority will pay for all water sampling conducted for this contractor-requested water quality variance. Reclamation can provide bottles for sampling. Each sample will be tested for nitrates (as NO_3) with a minimum detection level of 1 microgram per liter (µg/L) and specific conductance (as a measure of salinity). If the concentration of nitrates or salinity exceeds the parameters listed above, the Friant Water Authority shall incrementally direct the well operators with the highest levels of nitrates to stop pumping into the FKC until thresholds are met. The Friant Water Authority, as Reclamation's agent, will determine which wells should be shut off.

The quantity of groundwater pumped into the FKC would be measured by flowmeters read and calibrated by Friant Water Authority field staff.

After introduction, the participating districts, with the exception of North Kern Water Storage District, would deliver the water, less conveyance losses if applicable, through turnouts on the FKC for agricultural use within their respective districts. Operational exchanges would also be permitted in situations where a district's discharge point to the canal is downstream of the location where the water is needed.

North Kern Water Storage District's groundwater would be introduced and conveyed through the FKC to the Cross Valley Canal for delivery to the following Kern County water districts via the California Aqueduct as was done under the previous FKC Groundwater Pump-in Programs:

- Belridge Water Storage District
- Berrenda Mesa Water District

- Lost Hills Water District
- Wheeler Ridge-Maricopa Water Storage District

All delivery schedules for North Kern Water Storage District's groundwater would be coordinated with the Kern County Water Agency and the California Department of Water Resources (DWR) and approved by Reclamation prior to introduction into the FKC. All delivery scheduled for Friant Division and Cross Valley CVP contractors would be coordinated with Friant Water Authority and approved by Reclamation prior to introduction into the FKC. The participating districts, conveyance facilities, and recipients of North Kern Water Storage District's groundwater is shown in Figure 1.

2.2.1 Environmental Commitments

The participating contractors shall implement the following environmental protection measures to reduce environmental consequences associated with the Proposed Action:

- All pumps to be used shall meet the applicable emission standards set by the San Joaquin Valley Air Pollution Control District.
- Districts shall comply with applicable local groundwater exportation policies.
- Districts shall comply with applicable Groundwater Sustainability Plans pursuant to the Sustainable Groundwater Management Act.
- Water from each well must meet water quality standards included in Appendix A and noted above prior to approval for introduction. If testing from any individual well indicates that its water does not meet these standards, it would not be allowed to introduce groundwater into the FKC until water quality concerns are addressed. Under the Proposed Action, individual wells will be exempt from the nitrate and salt content requirements in Appendix A, providing that water quality measurements from the FKC satisfy the two conditions for nitrate concentration and salt content, measured by electrical conductivity, noted above.
- The groundwater involved in these actions must not be used to cultivate native or untilled land (fallow for three consecutive years or more).
- The Proposed Action shall not change the land use patterns of the cultivated or fallowed fields that do have some value to listed species or birds protected by the Migratory Bird Treaty Act.

Environmental consequences for resource areas assume the measures specified would be fully implemented. Copies of all reports and monitoring data collected for the Proposed Action shall be submitted to Reclamation.

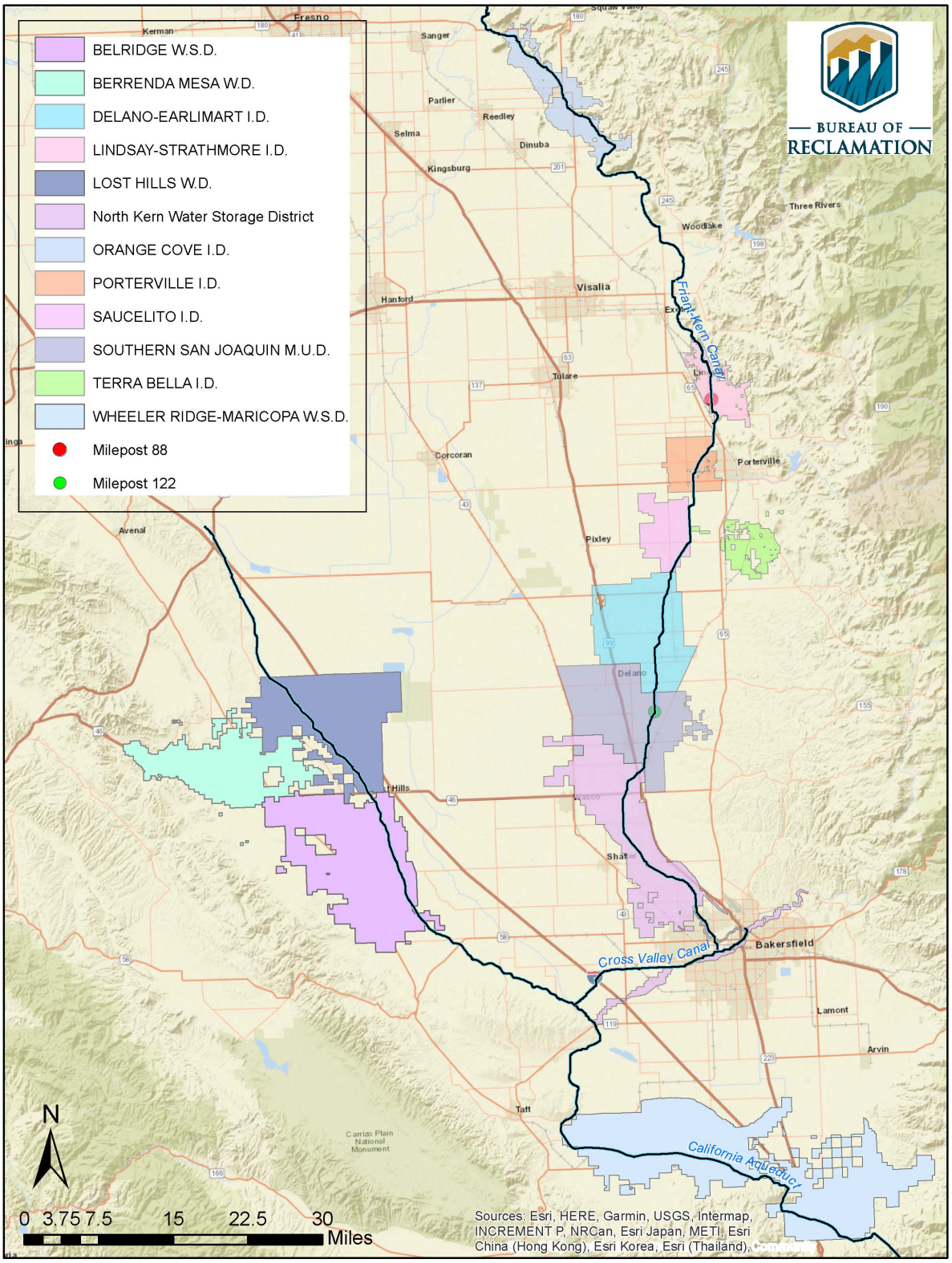

Figure 1. Participating Districts, Conveyance Facilities, and Recipients of North Kern's Groundwater

3 Affected Environment and Environmental Consequences

The Affected environment is the same as described in EA-15-046 (Reclamation 2016a), EA-14-051 (Reclamation 2014b), and EA-14-011 (Reclamation 2014a) which are hereby incorporated by reference.

3.1 Resources Eliminated from Further Analysis

Reclamation analyzed the affected environment and determined that the Proposed Action did not have the potential to cause adverse effects to the following resources:

3.1.1 Air Quality

The Proposed Action would not involve physical changes to the environment or construction activities that could impact air quality. Pumping would be required to introduce groundwater into the FKC under the Proposed Action, but power usage would be within the typical range for the facilities involved. In addition, any diesel pumps would be required by the San Joaquin Valley Air Pollution Control District to meet emission standards.

3.1.2 Agricultural Resources

The Proposed Action would be beneficial to agricultural resources as the groundwater would be used to maintain existing agricultural crops during drought conditions.

3.1.3 Biological Resources

The Proposed Action would not affect biological resources, species protected under the Endangered Species Act, critical habitat, migratory birds protected under the Migratory Bird Treaty Act, or eagles protected under the Bald and Golden Eagle Protection Act as no ground disturbance, conversion of native land or land that has not been tilled for three or more consecutive years would occur. There would be no change from current conditions.

3.1.4 Climate Change

The Proposed Action would not require additional diesel or electrical production beyond baseline conditions and would therefore not contribute to additional greenhouse gas emissions. As such, there would be no additional impacts to global climate change. Global climate change is expected to have some effect on the snowpack of the Sierra Nevada and the runoff regime. It is anticipated that climate change would result in more short-duration high-rainfall events and less snowpack runoff in the winter and early spring months by 2030 compared to recent historical conditions (Reclamation 2016b, pg 16-26). However, the effects of this are long-term and are not expected to impact CVP operations within the two-year window of this action. Further, CVP water allocations are made dependent on hydrologic conditions and environmental requirements. Since Reclamation operations and allocations are flexible, any changes in hydrologic conditions due to global climate change would be addressed within Reclamation's operation flexibility.

3.1.5 Cultural Resources

There would be no impacts to cultural resources as a result of implementing the Proposed Action as the Proposed Action would facilitate the flow of water through existing facilities to existing users. No new construction or ground disturbing activities would occur as part of the Proposed Action. Reclamation has determined that these activities have no potential to cause effects to historic properties pursuant to 36 CFR Part 800.3(a)(1).

3.1.6 Environmental Justice

Executive Order 12898 requires each federal agency to identify and address disproportionately high and adverse human health or environmental effects, including social and economic effects of its program, policies, and activities on minority populations and low-income populations. The Proposed Action would not cause dislocation, changes in employment, or increase flood, drought, or disease nor would it disproportionately impact economically disadvantaged or minority populations.

3.1.7 Indian Sacred Sites

Executive Order 13007 (May 24, 1996) a requires that federal agencies accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners and avoids adversely affecting the physical integrity of such sacred sites. The Proposed Action would not limit access to and ceremonial use of Indian sacred sites on Federal lands by Indian religious practitioners or affect the physical integrity of such sacred sites. There would be no impacts to Indian sacred sites as a result of the Proposed Action.

3.1.8 Indian Trust Assets

Indian Trust Assets are legal interests in assets that are held in trust by the United States for federally recognized Indian tribes or individuals. There are no Indian reservations, rancherias or allotments in the Proposed Action area. The nearest Indian Trust Asset is tribal land above Lake Success near the Tule River about 14 miles to the northeast. The Proposed Action does not have the potential to affect Indian Trust Assets.

3.1.9 Land Use

The Proposed Action would not change land use within the participating districts service areas as the groundwater would be used as a supplemental water supply to maintain existing agricultural crops. There would be no conversion of undeveloped/native land.

3.2 Water Resources

3.2.1 Affected Environment

As the affected environment for EA-15-046 (Reclamation 2016a), EA-14-051 (Reclamation 2014b), and EA-14-011 (Reclamation 2014a) has been incorporated by reference into this EA, rather than repeating the same information, the affected environment and environmental consequences section in this EA will focus on any updates or changes.

3.2.1.1 Groundwater Resources in the Action Area

The participating districts overlie the following San Joaquin Valley subbasins: Kings, Kaweah, Kern, and Tule. All four have been designated as critically overdrafted by the California Department of Water Resources (DWR 2020). Table 2 lists the participating districts, their respective subbasins, and their applicable Groundwater Sustainability Agency (GSA) pursuant to the Sustainable Groundwater Management Act. Water supplies in the Action area are managed through conjunctive use, i.e. aquifers are recharged with surface water in wet years to offset drawdown of groundwater supplies during dryer periods as was done under previous pump-in programs. For example, Orange Cove Irrigation District generally implements in lieu recharge during years when Friant Division Class 1 allocations are 90 percent or greater resulting in an increase in groundwater levels in that district of an average of 60 acre-feet per year since 1950 (F. Morrissey pers. communication). All participating districts, except for North Kern Water Storage District, have used and will continue to use the pumped groundwater within their respective districts as they would without the Proposed Action.

Table 3. Participating Districts, Groundwater Subbasins and Groundwater Sustainability Agencies

District	Subbasin	Groundwater Sustainability Agency
Delano-Earlimart Irrigation District	Tule	Delano-Earlimart Irrigation District GSA
Lindsay-Strathmore Irrigation District	Kaweah	East Kaweah GSA
North Kern Water Storage District	Kern	Kern Groundwater Authority GSA
Orange Cove Irrigation District	Kings	Kings River East GSA
Porterville Irrigation District	Tule	Eastern Tule GSA
Saucelito Irrigation District	Tule	Eastern Tule GSA
Southern San Joaquin Municipal Utility District	Kern	Kern Groundwater Authority GSA
Terra Bella Irrigation District	Tule	Eastern Tule GSA

Previous Pump-ins

Table 3 summarizes the annual amount of groundwater pumped into the FKC by district over the previous pump-in projects. Since initiation of the program, groundwater introduction to the FKC has only occurred during the 2014 and 2015 contract years (March 1, 2014 through February 28, 2016).

Table 4. Groundwater Pumped by District During Previous Pump-in Programs

Contractor	2014 (acre-feet)	2015 (acre-feet)	Total (acre-feet)
Delano-Earlimart Irrigation District	2,059	2,588	**4,647**
Lindsay-Strathmore Irrigation District	1,078	1,317	**2,395**
North-Kern Water Storage District	0	0	**0**
Orange Cove Irrigation District	308	576	**884**
Saucelito Irrigation District	675	850	**1,525**
Southern San Joaquin Municipal Utility Districts	0	1,315	**1,315**
Tea Pot Dome Water District	0	0	**0**
Terra Bella Irrigation District	409	624	**1,033**
Total	**4,529**	**7,270**	**11,799**

Water Quality

As described in Section 1.1, Reclamation previously approved groundwater pump-in programs for the participating districts including relaxation of electrical conductivity and nitrates. In order to prevent potential impacts to municipal and industrial users downstream of the pump-in locations, Reclamation required weekly monitoring at five key locations (mileposts 43.45, 85.55, 102.65, and 151.80) to ensure that nitrates in the FKC did not exceed 20 mg/L, less than half the maximum contaminant level for nitrates established by the State of California for drinking water standards. In addition, Reclamation required that salinity (measured as electrical conductivity) not exceed 900 µmhos/cm. All of the wells that previously participated were tested prior to introduction and met Reclamation's water quality criteria except for certain Friant Division contractor wells that exceeded the relaxed standard for nitrates (Figure 2). None of the wells exceeded the relaxed standard for electrical conductivity (Figure 3).

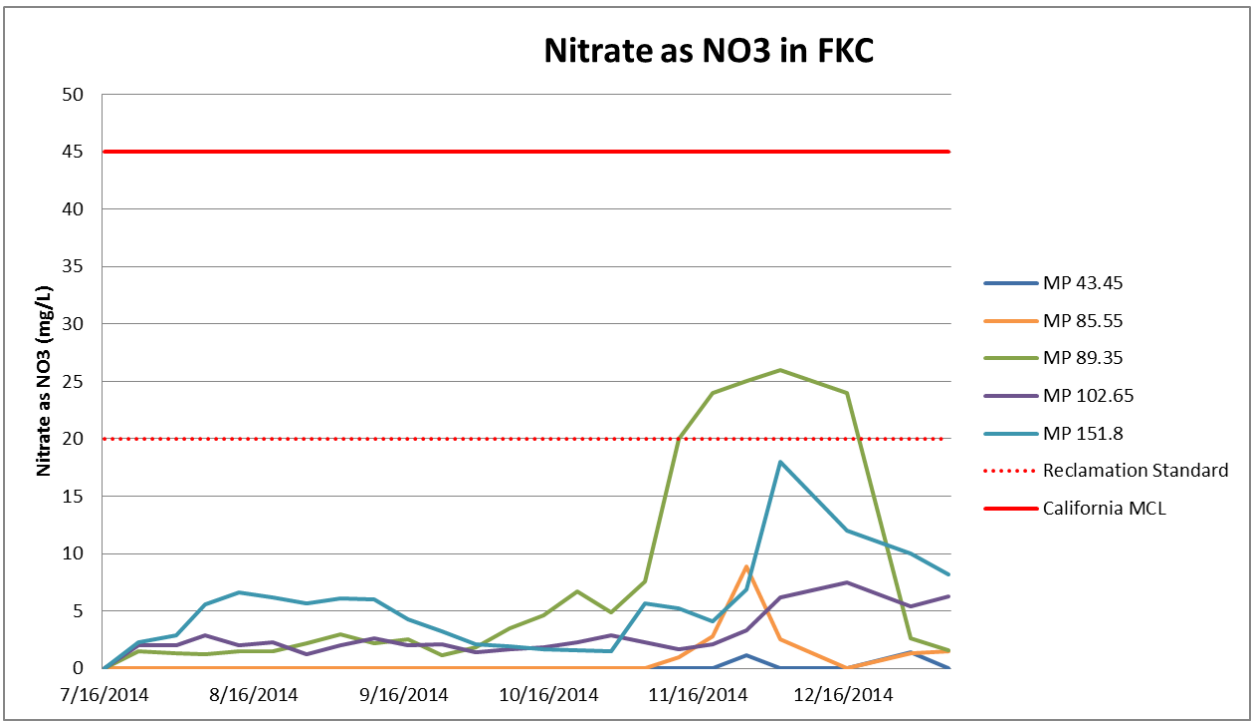

Figure 2. Summary of Nitrate (NO_3-) in FKC during 2014 Pump-in Events

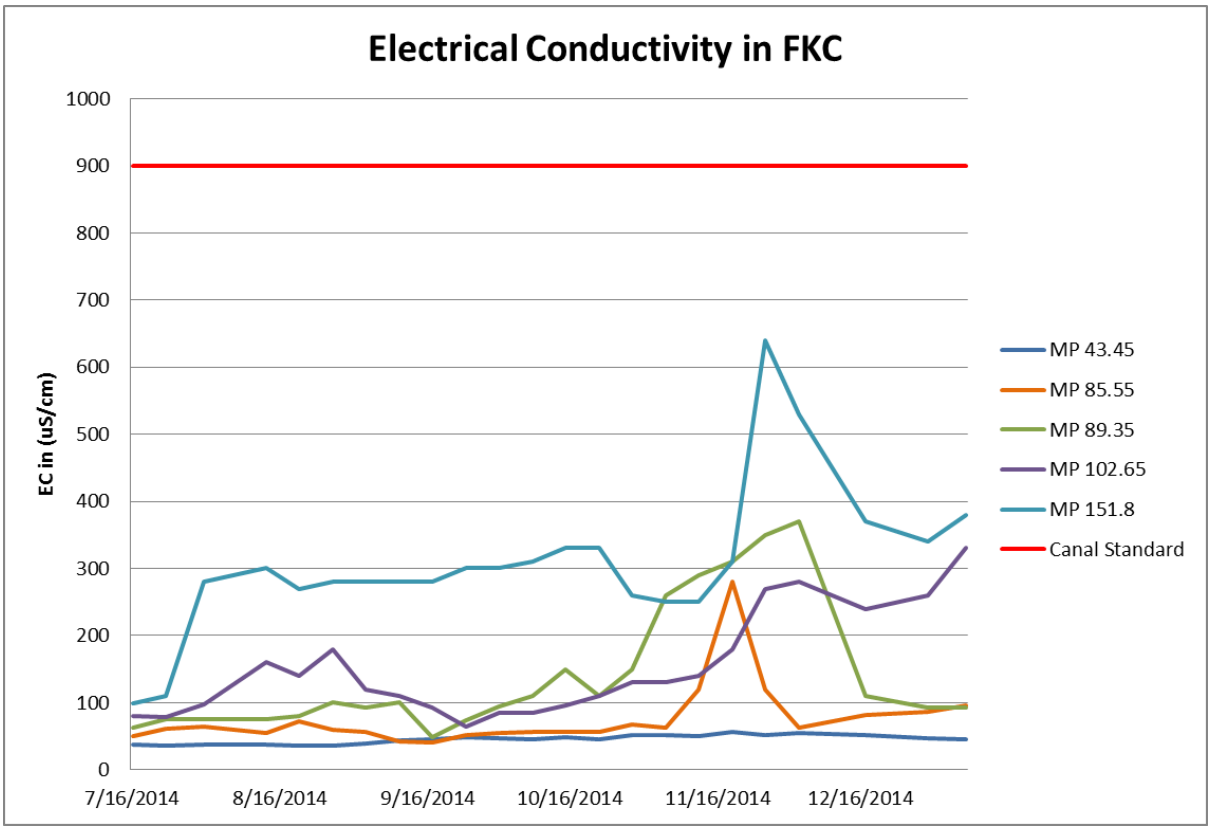

Figure 3. Summary of Electrical Conductivity in FKC during 2014 Pump-in Events

The only exceedance of Reclamation's relaxed standard for nitrates (as NO_3-) occurred in November 2014 at milepost 89.35; however, the exceedance was not recorded downstream as the water was held back by a check structure. Upon notification of the exceedance, the Friant Water Authority shut off the wells per Reclamation's water quality requirements.

3.2.1.2 Subsidence in the Action Area

Land subsidence is caused by subsurface movement of earth materials. Principal causes of subsidence within the San Joaquin Valley include: aquifer compaction due to groundwater pumping, hydrocompaction caused by application of water to dry soils, and oil extraction operations. Subsidence in the Action area specifically linked to withdrawal of groundwater resources has been studied extensively by DWR (2014).

Land subsidence has caused portions of the FKC to sink significantly in recent years, which has decreased the capacity of the canal to carry and deliver water. Hydraulic modeling completed as part of the *Friant-Kern Canal Capacity Restoration Feasibility Report* authorized pursuant to Section 10201(a)(1) of the San Joaquin River Restoration Settlement Act confirmed the reduction in FKC capacity in several segments (Reclamation 2020a). A portion of the Action area (Figure 1) falls within an approximately 33-mile section of the FKC located within Tulare and Kern Counties (milepost 88 to milepost 121.5), that has experienced more than 50 percent capacity loss due to regional land subsidence and other factors. The subsidence-induced capacity loss has resulted in downstream water delivery impacts to six Friant Division long-term contractors: Arvin-Edison Water Storage District, Delano-Earlimart Irrigation District, Kern-Tulare Water District, Sausalito Irrigation District, Shafter-Wasco Irrigation District, and Southern San Joaquin Municipal Utility

District, three of which are participants under this Proposed Action. Several of the participants are located outside this area as shown in Figure 1.

To address this issue, Reclamation and the Friant Water Authority have proposed to restore this section by raising portions of the embankments in the existing FKC over approximately 13 miles and constructing an approximately 20-mile realigned canal segment east of the existing FKC (Reclamation 2020b).

3.2.2 Environmental Consequences

3.2.2.1 No Action

Under the No Action Alternative, Reclamation would not approve the introduction of pumped groundwater into federal facilities. The contractors would need to find alternative supplies of water, provide for alternative conveyance path(s), or temporarily take land out of production if existing water supplies are insufficient to meet demands. As noted above, groundwater would continue to be withdrawn by landowners within the participating districts to meet existing demands as is being done currently. It is likely that existing crops would need to be fallowed due to water supply shortages this year and may not be able to be planted next year depending on hydrology and associated water allocations.

3.2.2.2 Proposed Action

The Proposed Action would allow groundwater to be introduced and conveyed in the FKC when excess capacity is available. This would allow the water to be delivered to the participants' service areas for existing agricultural use. There would be no modification to any of the conveyance facilities. All water conveyance would be coordinated and scheduled in advance in order to not impact other deliveries.

Groundwater from each well must meet the water quality standards included in Appendix A prior to approval for introduction. At this time new information on the water quality for the participating wells is not available but is being gathered by the respective districts. It is anticipated that water quality results would be similar to what was shown for the previous pump-ins (Figure 2 and 3), i.e. well below the California drinking water standard that could adversely impact municipal and industrial uses downstream of the pump-ins. In addition, as noted in Appendix A, Reclamation requires adherence to specific agricultural water quality criteria in order to protect downstream agricultural uses. The testing and monitoring program adequately protected the quality of water in the canal during the previous pump-in programs and is expected to do the same for the Proposed Action. Although there was a spike in nitrates in November 2014 (Figure 2), Reclamation was able to prevent the movement of impacted water from affecting other users' water supplies located downstream of the introduction points.

The groundwater to be pumped under the Proposed Action would come from wells at varying depths, from a wide range of locations along the FKC. Although the withdrawal of up to 50,000 acre-feet per year over a two-year period would contribute to regional overdraft and subsidence, this would occur with or without the Proposed Action.

4 Consultation and Coordination

4.1 Agencies and Persons Consulted

Reclamation consulted and coordinated with the Friant Water Authority, Delano-Earlimart Irrigation District, Lindsay-Strathmore Irrigation District, North Kern Water Storage District, Orange Cove Irrigation District, Saucelito Irrigation District, Southern San Joaquin Municipal Utility District, Tea Pot Dome Water District, and Terra Bella Irrigation District in the preparation of this EA.

4.2 Public Involvement

Reclamation intends to provide the public with an opportunity to comment on the Draft EA during a 15-day public review period.

5 References

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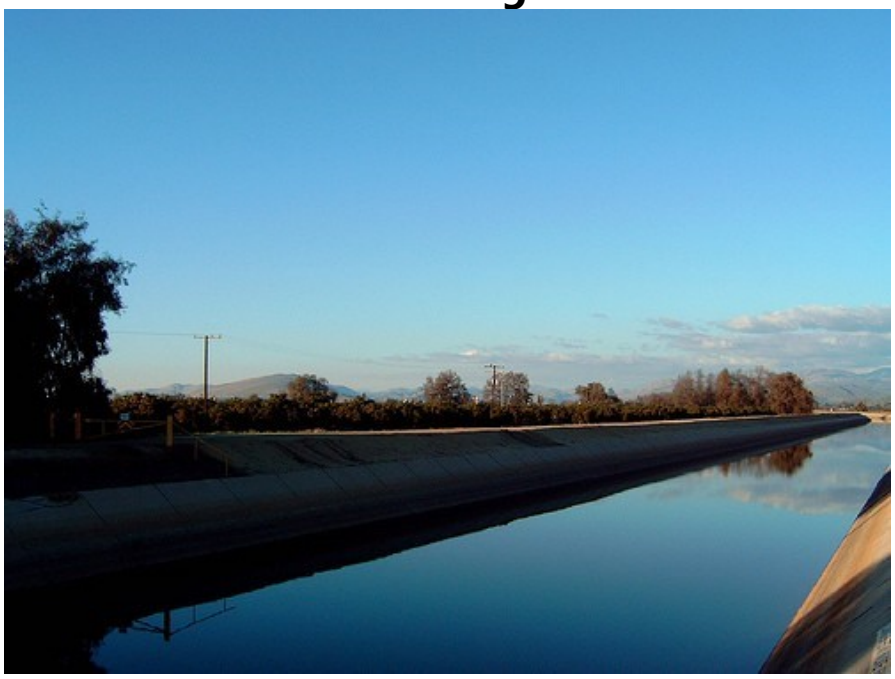
Appendix A: Reclamation's Policy for Accepting Non-Project Water into the Friant-Kern and Madera Canals

BUREAU OF RECLAMATION

Policy for Accepting Non-Project Water into the Friant-Kern and Madera Canals Water Quality Monitoring Requirements

Friant Division, Central Valley Project, California
California Great Basin Region



U.S. Department of the Interior

March 7, 2008
Revised 05/13/2021

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Cover Photo: Friant-Kern Canal in Tulare County (Credit: Ted Holzem, Mintier & Associates)

Contents

Definitions

CVP or Project water

Water that has been appropriated by the United States for the Friant Division of the CVP. The source of Project water in the Friant Division is the San Joaquin River watershed.

Non-project water

Water that has not been appropriated by the United States for the Friant Division of the CVP. This includes groundwater, and surface water from other streams and rivers that cross the Friant-Kern and Madera Canals, such as Wutchumna Ditch.

Maximum Contaminant Level

Usually reported in milligrams per liter (parts per million) or micrograms per liter (parts per billion).

Non-project discharge system

The pipe and pumps from which non-project water enters the Friant Division.

Title 22

The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.

Type A water

This is non-project water that meets California drinking water standards. This water must be tested every year for the full list of Title 22 constituents. No in-stream monitoring is required to convey Type A water in the Friant Division.

Type B water

This is non-project water that has constituents that may exceed the California drinking water standards. This water must be tested every year for the full list of Title 22 constituents, plus annually for constituents of concern. Field monitoring is required of each source and of water upstream and downstream of the discharge point.

Type C water

This is non-project water from the same watershed as Project water that has not been appropriated by the United States for the Central Valley Project. Water from Soquel Creek diversion or the State Water Project are Type C water. No water quality analyses are required to convey this water in the Friant-Kern Canal.

Introduction

This Policy describes the approval process, implementation procedures, and responsibilities of a Contractor requesting permission from the U.S. Bureau of Reclamation (Reclamation) to introduce non-project water into the Friant-Kern and Madera Canals, features of the Friant Division of the Central Valley Project (CVP). The monitoring requirements contained herein are intended to ensure that water quality is protected and that domestic and agricultural water users are not adversely impacted by the introduction of non-project water. The discharge of non- project water shall not in any way limit the ability of either Reclamation or the Friant Water Authority (Authority) to operate and maintain the Canals for their intended purposes nor shall it adversely impact existing contracts or any other agreements. The discharge of non-project water into the Canals will be permissible only when there is excess capacity in the system as determined by the Authority and or Reclamation.

The Contractor shall be responsible for securing other requisite Federal, State or local permits.

Reclamation, in cooperation with the Authority, will consider all proposals to convey non- project water based upon this Policy's water quality criteria and implementation procedures established in this document. Table 1 provides a summary of the Policy's water quality monitoring requirements.

Types of Non-Project Water

Type "A" Non-Project Water

Water for which analytical testing demonstrates complete compliance with California drinking water standards (Title 22)[1]. Type A water must be tested every year for the full list of constituents listed in Table 2. No in-prism (within the Canal) monitoring is required to convey Type A water.

Type "B" Non-Project Water

Water that generally complies with Title 22, but may exceed the Maximum Contaminant Level (MCL) for certain inorganic constituents of concern to be determined by Reclamation and the Authority on a case-by-case basis. This water may be discharged into the Canal over short- intervals. Type B water shall be tested every year for the full list of constituents in Table 2, and more frequently for the identified constituents of concern. Flood Water and Ground Water are Type B non-project water.

[1] Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.

Type B water may not be pumped into the Friant-Kern Canal within a half-mile upstream of a delivery point to a CVP Municipal and Industrial contractor. At this time, there are no M & I Contractors served from the Madera Canal.

The introduction of Type B water into the Friant-Kern and Madera Canals will require regular in-prism monitoring to confirm that the CVP water delivered to downstream customers is suitable in quality for their needs. The location, frequency, and parameters of in-prism monitoring will be determined by Reclamation and the Authority on a case-by-case basis.

Type "C" Non-Project Water

Type C Water is non-project water that originates in the same source as CVP water but that has not been appropriated by the United States. For example, non-project water from a tributary within the upper San Joaquin River watershed, such as the Soquel Diversion from Willow Creek above Bass Lake, is Type C water. Another example is State Water Project water pumped from the California Aqueduct and Cross Valley Canal into the lower Friant-Kern Canal. No water quality analyses are required to convey Type C water through the Friant-Kern or Madera Canals because it is physically the same as Project water.

Authorization

The Warren Act (Act of February 21, 1911, ch. 141, 36 Stat. 925), as supplemented by Section 305 of Public Law 102-250, authorizes Reclamation to contract for the carriage and storage of non-project water when excess capacity is available in Federal water facilities. The terms of this Policy are also based on the requirements of the Clean Water Act (33 U.S.C. 1251 et seq.), the Endangered Species Act of 1973 (P.L. 93-205), the National Environmental Policy Act of 1969 (NEPA, 42 U.S.C. 4321 et seq.), the Reclamation Act of 1902 (June 17, 1902 as amended), and the Safe Drinking Water Act of 1974 (P.L. 93-523, amended 1986) and Title XXIV of the Reclamation Projects Authorization and Adjustments Act of 1992 (P.L. 102-575, 106 Stat 4600).

General Requirements for Discharge of Non-Project Water

Contract Requirements

A Contractor wishing to discharge non-project water into the Friant-Kern or Madera Canals must first execute a contract with Reclamation. The contract may be negotiated with Reclamation's South Central California Area Office (SCCAO) in Fresno.

Facility Licensing

Each non-project water discharge facility must be licensed by Reclamation and the Authority. The license for erection and maintenance of structures may be negotiated with the SCCAO.

Prohibition When the Canal is Empty

Non-project shall not be conveyed in the Friant-Kern or Madera Canals during periods when the canal is de-watered for maintenance.

Non-Project Discharge, Water Quality, and Monitoring Program Requirements

General Discharge Approval Requirements

Each source of non-project water must be correctly sampled, completely analyzed, and be approved by Reclamation prior to introduction into the Friant-Kern or Madera Canals. The Contractor shall pay the cost of collection and analyses of the non-project water required under this policy[2].

[2] Reclamation will pay for the collection and analyses of quarterly baseline samples collected at Friant Dam and Lake Woolomes.

Water Quality Sampling and Analyses

Each source of Type A and B non-project water must be tested every year for the complete list of constituents of concern and bacterial organisms listed in Table 2. The analytical laboratory must be approved by Reclamation (Table 3).

Water Quality Reporting Requirements

Water quality analytical results must be reported to the Contracting Officer for review.

Type B Water Quality Monitoring

Reclamation will provide a Quality Assurance Project Plan (QAPP) that will describe the protocols and methods for sampling and analysis of Type B non-project water. The program may include sampling of canal water upstream and downstream of the Contractor's discharge point into the Friant-Kern or Madera Canal. The location of samples, and the duration and frequency of sampling, and the list of constituents to be analyzed, may be changed upon review of measured trends in concentration of those constituents of concern.

Control of Water Quality in the Friant Division

The quality of CVP water will be considered impaired if the conveyance of the Contractor's non-project water is causing the quality of CVP water to exceed a maximum contaminant level specified in Title 22 (Table 2).

Reclamation, in consultation with the Authority, will direct the Contractor to stop the discharge of non-project water from this source into the Friant-Kern or Madera Canal.

Baseline Water Quality Analysis

Every four months, Reclamation will collect samples of water from the Friant-Kern Canal near Friant Dam and near Lake Woolomes. These samples will be analyzed for Title 22 and many other constituents. The purpose of theses samples is to identify the baseline quality of water in the canal. No direct analysis within the Madera Canal will be conducted at this time.

The cost of this analysis will be borne by Reclamation under the CVP Baseline water quality monitoring program.

Water Quality Data Review and Management

All water quality data must be sent to Reclamation for review, verification, and approval. All water quality data will be entered into a database to be maintained by Reclamation. All field notes and

laboratory water quality analytical reports will be kept by the Authority. All water quality data will be available upon request to the Contractor and other interested parties.

Revision

This policy is subject to review and modification by Reclamation and the Authority. Reclamation and the Authority reserve the right to change the water quality monitoring requirements for any non-project water to be conveyed in the Friant-Kern and Madera Canals.

Table 1. Water Quality Monitoring Requirements – Friant Division, Central Valley Project

Type of Water	Location	Frequency	Constituents Measured
Project Water	Friant	January, April, June, October	Title 22 and bacterial constituents (1) (2)
	Lake Woolomes	January, April, June, October	Title 22 and bacterial constituents (1) (2)
Type A Non-Project Water		Every year	Title 22 and bacterial constituents (1) (2)
Type B Non-Project Water		Every year	Title 22 and bacterial constituents (1) (2)
		Every month (5)	Constituents of concern (5)
		Every week (5)	EC, turbidity, etc. (3) (5)
Type C Non-Project Water		None required	
Project Water	Upstream of each Type B discharge (4)	Every week (5)	EC, turbidity, etc. (3) (5)
	Downstream of each Type B discharge (4)	Every week (5)	EC, turbidity, etc. (3) (5)

Revised: 08/16/2007 SCC-107

(1) California Department of Health Services, California Code of Regulations, Title 22, Division 4, Chapter 15, Domestic Water Quality and Monitoring *http://www.dhs.ca.gov/ps/ddwem/publications/Regulations/regulations_index.htm.*

(2) Cryptosporidium, Giardia, total coliform bacteria

(3) Field measurements

(4) Location to be determined by the Contracting Officer

(5) To be determined by the Contracting Officer, if necessary

This water quality monitoring program is subject to change at any time by the Contracting Officer

Table 2. Water Quality Standards, Title 22

Constituent	Units	Maximum Contaminant Level	Recommended Analytical Method	Detection Limit for Reporting	CAS Registry Number
Primary Constituents (CCR § 64431)					
Aluminum	mg/L	1. [1]	EPA 200.7	0.05 [2]	7429-90-5
Antimony	mg/L	0.006 [1]	EPA 200.8	0.006 [2]	7440-36-0
Arsenic	mg/L	0.010 [1]	EPA 200.8	0.002 [2]	7440-38-2
Asbestos	MFL	7 [1]	EPA 100.2	0.2 MFL>10µm [2]	1332-21-4
Barium	mg/L	1. [1]	EPA 200.7	0.1 [2]	7440-39-3
Beryllium	mg/L	0.004 [1]	EPA 200.7	0.001 [2]	7440-41-7
Cadmium	mg/L	0.005 [1]	EPA 200.7	0.001 [2]	7440-43-9
Chromium	mg/L	0.05 [1]	EPA 200.7	0.01 [2]	7440-47-3
Cyanide	mg/L	0.15 [1]	EPA 335.4	0.1 [2]	57-12-5
Fluoride	mg/L	2.0 [1]	EPA 300.1	0.1 [2]	16984-48-8
Hexavalent chromium	mg/L	0.010 [1]	EPA 218.7	0.001 [2]	18540-29-9
Mercury	mg/L	0.002 [1]	EPA 245.1	0.001 [2]	7439-97-6
Nickel	mg/L	0.1 [1]	EPA 200.7	0.01 [2]	7440-02-0
Nitrate (as NO_3)	mg/L	45. [1]	EPA 300.1	0.4 [2]	7727-37-9
Nitrate + Nitrite (sum as nitrogen)	mg/L	10. [1]	EPA 353.2	[2]	14797-55-8
Nitrite (as nitrogen)	mg/L	1. [1]	EPA 300.1	0.4 [2]	14797-65-0
Perchlorate	mg/L	0.006 [1]	EPA 314/331/332	0.004 [2]	14797-73-0
Selenium	mg/L	0.05 [1]	EPA 200.8	0.005 [2]	7782-49-2

Constituent	Units	Maximum Contaminant Level	Recommended Analytical Method	Detection Limit for Reporting	CAS Registry Number
Thallium	mg/L	0.002 [1]	EPA 200.8	0.001 [2]	7440-28-0
Secondary Constituents (CCR § 64449)					
Aluminum	mg/L	0.2 [6]	EPA 200.7	0.05 [2]	7429-90-5
Chloride	mg/L	250/500/600 [7]	EPA 300.1		16887-00-6
Color	units	15 [6]	SM 2120 B		E-11712
Copper	mg/L	1.0 [6]	EPA 200.7	0.050 [10]	7440-50-8
Foaming Agents (MBAS)	mg/L	0.5 [6]	SM 5540 C		E-14562
Iron	mg/L	0.3 [6]	EPA 200.7		7439-89-6
Manganese	mg/L	0.05 [6]	EPA 200.7		7439-96-5
Methyl-*tert*-butyl ether (MTBE)	mg/L	0.005 [6]	EPA 524.2	0.003 [5]	1634-04-4
Odor – Threshold	Units	3 [6]	SM 2150 B		E-11734
Silver	mg/L	0.1 [6]	EPA 200.7		7440-22-4
Specific Conductance (EC)	µS/cm	900/1600/2200 [7]	SM 2510 B		E-10184
Sulfate	mg/L	250/500/600 [7]	EPA 300.1		14808-79-8
Thiobencarb	mg/L	0.001 [6]	EPA 525.2	0.001 [5]	28249-77-6
Total Dissolved Solids (TDS)	mg/L	500/1000/1500 [7]	SM 2540 C		E-10173
Turbidity	Units	5 [6]	EPA 190.1/SM2130B		E-10617
Zinc	mg/L	5.0 [6]	EPA 200.7		7440-66-6
Other Required Analyses (CCR § 64449 (b)(2); CCR § 64670; CCR § 64678)					
Bicarbonate	mg/L	[8]	SM 2320B		
Calcium	mg/L	[8,9]	SM3111B		7440-70-2
Carbonate	mg/L	[8]	SM 2320B		

Constituent	Units	Maximum Contaminant Level	Recommended Analytical Method	Detection Limit for Reporting	CAS Registry Number
Copper	mg/L	1.3 [12]	EPA 200.7	0.050 [10]	7440-50-8
Hardness	mg/L	[8]	SM 2340 B		E-11778
Hydroxide alkalinity	mg/L	[8,9]	SM 2320B		
Lead	mg/L	0.015 [11]	EPA 200.8	0.005 [10]	7439-92-1
Magnesium	mg/L	[8]	EPA 200.7		7439-95-4
Orthophosphate	mg/L	[9]	EPA 365.1		
pH	units	[8,9]	EPA 150.1		
Silica	mg/L	[9]	EPA 200.7		7631-86-9
Sodium	mg/L	[8]	EPA 200.7		7440-23-5
Temperature	degrees C	[9]	SM 2550		
Radiochemistry (CCR § 64442)					
Radioactivity, Gross Alpha	pCi/L	15 [3]	SM 7110C	3 [3]	12587-46-1
Microbiology					
Cryptosporidium	org/liter	No MCL, measure for presence (surface water only)			137259-50-8
Fecal Coliform	MPN/100ml	No MCL, measure for presence (surface water only)			E-761692
Giardia	org/liter	No MCL, measure for presence (surface water only)			137259-49-5
Total Coliform bacteria	MPN/100ml	No MCL, measure for presence (surface water only)			E-761700
Organic Chemicals (CCR § 64444)					
(a) Volatile Organic Chemicals (VOCs)					
Benzene	mg/L	0.001 [4]	EPA 524.2	0.0005 [5]	71-43-2
Carbon Tetrachloride	mg/L	0.0005 [4]	EPA 524.2	0.0005 [5]	56-23-5
1,2-Dichlorobenzene	mg/L	0.6 [4]	EPA 524.2	0.0005 [5]	95-50-1
1,4-Dichlorobenzene	mg/L	0.005 [4]	EPA 524.2	0.0005 [5]	106-46-7
1,1-Dichloroethane	mg/L	0.005 [4]	EPA 524.2	0.0005 [5]	75-34-3
1,2-Dichloroethane	mg/L	0.0005 [4]	EPA 524.2	0.0005 [5]	107-06-2

Constituent	Units	Maximum Contaminant Level	Recommended Analytical Method	Detection Limit for Reporting	CAS Registry Number
1,1-Dichloroethylene	mg/L	0.006 [4]	EPA 524.2	0.0005 [5]	75-35-4
cis-1,2-Dichloroethylene	mg/L	0.006 [4]	EPA 524.2	0.0005 [5]	156-59-2
trans-1,2-Dichloroethylene	mg/L	0.01 [4]	EPA 524.2	0.0005 [5]	156-60-5
Dichloromethane	mg/L	0.005 [4]	EPA 524.2	0.0005 [5]	75-09-2
1,2-Dichloropropane	mg/L	0.005 [4]	EPA 524.2	0.0005 [5]	78-87-5
1,3-Dichloropropene	mg/L	0.0005 [4]	EPA 524.2	0.0005 [5]	542-75-6
Ethylbenzene	mg/L	0.3 [4]	EPA 524.2	0.0005 [5]	100-41-4
Methyl-*tert*-butyl ether (MTBE)	mg/L	0.013 [4]	EPA 524.2	0.003 [5]	1634-04-4
Monochlorobenzene	mg/L	0.07 [4]	EPA 524.2	0.0005 [5]	108-90-7
Styrene	mg/L	0.1 [4]	EPA 524.2	0.0005 [5]	100-42-5
1,1,2,2-Tetrachloroethane	mg/L	0.001 [4]	EPA 524.2	0.0005 [5]	79-34-5
Tetrachloroethylene (PCE)	mg/L	0.005 [4]	EPA 524.2	0.0005 [5]	127-18-4
Toluene	mg/L	0.15 [4]	EPA 524.2	0.0005 [5]	108-88-3
1,2,4-Trichlorobenzene	mg/L	0.005 [4]	EPA 524.2	0.0005 [5]	120-82-1
1,1,1-Trichloroethane	mg/L	0.200 [4]	EPA 524.2	0.0005 [5]	71-55-6
1,1,2-Trichloroethane	mg/L	0.005 [4]	EPA 524.2	0.0005 [5]	79-00-5
Trichloroethylene (TCE)	mg/L	0.005 [4]	EPA 524.2	0.0005 [5]	79-01-6
Trichlorofluoromethane	mg/L	0.15 [4]	EPA 524.2	0.005 [5]	75-69-4
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/L	1.2 [4]	EPA 524.2	0.01 [5]	76-13-1
Vinyl Chloride	mg/L	0.0005 [4]	EPA 524.2	0.0005 [5]	75-01-4
Xylenes	mg/L	1.750[3] [4]	EPA 524.2	0.0005 [5]	1330-20-7

[3] MCL is for either a single isomer or the sum of the isomers.

Constituent	Units	Maximum Contaminant Level	Recommended Analytical Method	Detection Limit for Reporting	CAS Registry Number
(b) Non-Volatile Synthetic Organic Chemicals (SOCs)					
Alachlor	mg/L	0.002 [4]	EPA 508.1	0.001 [5]	15972-60-8
Atrazine	mg/L	0.001 [4]	EPA 508.1	0.0005 [5]	1912-24-9
Bentazon	mg/L	0.018 [4]	EPA 515	0.002 [5]	25057-89-0
Benzo(a)pyrene	mg/L	0.0002 [4]	EPA 508.1	0.001 [5]	15972-60-8
Carbofuran	mg/L	0.018 [4]	EPA 508.1	0.0005 [5]	1912-24-9
Chlordane	mg/L	0.0001 [4]	EPA 515	0.002 [5]	25057-89-0
2,4-D	mg/L	0.07 [4]	EPA 525.2	0.0001 [5]	50-32-8
Dalapon	mg/L	0.2 [4]	EPA 531.1-2	0.005 [5]	1563-66-2
Dibromochloropropane (DBCP)	mg/L	0.0002 [4]	EPA 505	0.0001 [5]	57-74-9
Di(2-ethylhexyl)adipate	mg/L	0.4 [4]	EPA 515.1-4	0.01 [5]	94-75-7
Di(2-ethylhexyl)phthalate	mg/L	0.004 [4]	EPA 515.1-4	0.01 [5]	75-99-0
Dinoseb	mg/L	0.007 [4]	EPA 504.1	0.00001 [5]	96-12-8
Diquat	mg/L	0.02 [4]	EPA 525.2	0.005 [5]	103-23-1
Endothall	mg/L	0.1 [4]	EPA 525.2	0.003 [5]	117-81-7
Endrin	mg/L	0.002 [4]	EPA 515.1-4	0.002 [5]	88-85-7
Ethylene Dibromide (EDB)	mg/L	0.00005 [4]	EPA 549.2	0.004 [5]	85-00-7
Glyphosate	mg/L	0.7 [4]	EPA 548.1	0.045 [5]	145-73-3
Heptachlor	mg/L	0.00001 [4]	EPA 505	0.0001 [5]	72-20-8
Heptachlor Epoxide	mg/L	0.00001 [4]	EPA 504.1	0.00002 [5]	206-93-4
Hexachlorobenzene	mg/L	0.001 [4]	EPA 547	0.025 [5]	1071-83-6
Hexachlorocyclopentadiene	mg/L	0.05 [4]	EPA 505	0.00001 [5]	76-44-8
Lindane (gamma-BHC)	mg/L	0.0002 [4]	EPA 505	0.00001 [5]	1024-57-3
Methoxychlor	mg/L	0.03 [4]	EPA 505	0.0005 [5]	118-74-1

Constituent	Units	Maximum Contaminant Level	Recommended Analytical Method	Detection Limit for Reporting	CAS Registry Number
Molinate	mg/L	0.02 [4]	EPA 505	0.001 [5]	77-47-4
Oxamyl	mg/L	0.05 [4]	EPA 505	0.0002 [5]	58-89-9
Pentachlorophenol	mg/L	0.001 [4]	EPA 505	0.01 [5]	72-43-5
Picloram	mg/L	0.5 [4]	EPA 525.2	0.002 [5]	2212-67-1
Polychlorinated Biphenyls (PCBs)	mg/L	0.0005 [4]	EPA 531.1-2	0.02 [5]	23135-22-0
Simazine	mg/L	0.004 [4]	EPA 515.1-4	0.0002 [5]	87-86-5
Thiobencarb	mg/L	0.07 [4]	EPA 515.1-4	0.001 [5]	1918-02-1
Toxaphene	mg/L	0.003 [4]	EPA 505	0.0005 [5]	1336-36-3
1,2,3-Trichloropropane (TCP)	mg/L	0.000005 [4]	EPA 508.1	0.001 [5]	122-34-9
2,3,7,8-TCDD (Dioxin)	mg/L	$3x10^{-8}$ [4]	EPA 525.2	0.001 [5]	28249-77-6
2,4,5-TP (Silvex)	mg/L	0.05 [4]	EPA 505	0.001 [5]	8001-35-2

Revised: 05/13/2021

Notes for Table 2:

Recommended Analytical Methods: https://www.nemi.gov/home/

Title 22. The Domestic Water Quality and Monitoring Regulations specified by the State of California Health and Safety Code (Sections 4010-4037), and Administrative Code (Sections 64401 et seq.), as amended.

[1] Title 22. Table 64431-A. Maximum Contaminant Levels, Inorganic Chemicals
[2] Title 22. Table 64432-A. Detection Limits for Purpose of Reporting (DLRs) for Regulated Inorganic Chemicals
[3] Title 22. Table 644442. Radionuclide Maximum contaminant Levels (MCLs) and Detection Levels for Reporting (DLRs)
[4] Title 22. Table 64444-A. Maximum Contaminant Levels, Organic Chemicals
[5] Title 22. Table 64445.1-A. Detection Limits for Reporting (DLRs) for Regulated Organic Chemicals
[6] Title 22. Table 64449-A. Secondary Maximum Contaminant Levels "Consumer Acceptance Levels"
[7] Title 22. Table 64449-B. Secondary Maximum Contaminant Levels "Consumer Acceptance Levels"
[8] Title 22. § 64449-B.(b)(2)
[9] Title 22. § 64670.(c)
[10] Title 22. Table 64678-A. DLRs for Lead and Copper
[11] Title 22. § 64678-A. (d) Lead Action Level
[12] Title 22. § 64678-A. (e) Copper Action Level

Abbreviations

MFL Million fibers per liter; MCL for fibers exceeding 10 µm in length
µg/L Micrograms per liter or parts per billion

Table 3. Approved Laboratory List for the Mid-Pacific Region Quality Assurance and Data Management Branch (MP-156) Environmental Monitoring and Hazardous Materials Branch (MP-157)

Alpha Analytical Laboratories, Inc.	Address	208 Mason Street, Ukiah, CA 95482
	Contact	Robbie Phillips
	P/F	916-686-5190
	Email	robbie@alpha-labs.com
	Methods	*Inorganics in Water, Organics in Water*

APPL Laboratory	Address	908 North Temperance Avenue, Clovis, CA 93611
	Contact	Chue Moua, Project Manager
	P/F	(559) 275-2175 /direct: (559) 862-2155
	Email	cmoua@applinc.com
	Methods	*Inorganics in Water/Soil, Organics in Water/Soil*

Basic Laboratory	Address	2218 Railroad Avenue Redding, CA 96001
	Contact	Josh Kirkpatrick, Nathan Hawley, Melissa Hawley
	P/F	(530) 243-7234 / (530) 243-7494
	Email	jkirkpatrick@basiclab.com (QAO and PM), nhawley@basiclab.com, mhawley@basiclab.com (invoices), poilar@basiclab.com (sample custody), khawley@basiclab.com (sample custody)
	Methods	*Inorganics in Water/Soil, Organics in Soil, Hazardous Waste in Water/Soil*

Brooks Applied Labs	Address	18804 North Creek Parkway, Bothell, WA 98011
	Contact	Jeremy Maute
	P/F	206-632-6206 / 206-632-6016
	Email	jeremy@brooksapplied.com
	Methods	*Selenium Speciation*

Calscience Environmental Laboratories (under Eurofins ownership)	Address	7440 Lincoln Way, Garden Grove, CA 92841
	Contact	Don Burley
	P/F	714-895-5494 (ext. 203)/714-894-7501
	Email	DBurley@calscience.com
	Methods	*Organics in Water*

Eurofins Eaton Analytical, Inc. (formerly MWH Laboratories)	Address	750 Royal Oaks Drive Ste. 100, Monrovia, CA 91016 180 Blue Ravine Rd., Folsom, CA 95630
	Contact	Rosalynn Dang
	P/F	(626) 386-1250, Linda - (626) 386-1163, Rita cell (916) 996-5929, Rick - (626) 386-1157
	Email	RosalynnDang@EurofinsET.com
	Methods	*Organics in Water*

Fruit Growers Laboratory	Address	853 Corporation Street, Santa Paula, CA 93060
	Contact	David Terz, QA Director
	P/F	(805) 392-2024 / (805) 525-4172
	Email	davidt@fglinc.com
	Methods	*Inorganics in Water (Gross Alpha)*

Oilfield Environmental & Compliance	Address	307 Roemer Way Ste 300, Santa Maria, CA 93454
	Contact	Will update when assigned a PM
	P/F	805-922-4772
	Email	info@oecusa.com
	Methods	*(Approval Pending) Hazardous Waste in Water/Soil*

Pacific EcoRisk	Address	2250 Codelia Road, Fairfield, CA 94534
	Contact	Stephen L. Clark
	P/F	(707) 207-7760 / (707) 207-7916
	Email	slclark@pacificecorisk.com
	Methods	*Toxicity in Water/Sediments*

Physis	Address	1904 East Wright Circle, Anaheim, CA 92806
	Contact	Will update when assigned a PM
	P/F	1-714-602-5320 ext 204
	Email	markbaker@physislabs.com
	Methods	*(Approval Pending) Inorganics in Soil*

South Dakota Agricultural Laboratories	Address	Brookings Biospace, 1006 32nd Avenue, Suites 103,105, Brookings, SD 57006-4728
	Contact	Regina Wixon, Annie Mouw (sample custodian)
	P/F	(605) 692-7325 / (605) 692-7326
	Email	regina.wixon@sdaglabs.com, annie.mouw@sdaglabs.com
	Methods	*Selenium in Water/Soil/Sediments/Tissue (Plant/Animal)*

Western Environmental Testing Laboratories	Address	475 East Greg Street # 119 Sparks, NV 89431
	Contact	Logan Greenwood (PM), Andy Smith (QA Manager)
	P/F	(775) 355-0202 / (775) 355-0817
	Email	logang@wetlaboratory.com, andy@wetlaboratory.com
	Methods	*Inorganics in Water*

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