CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

11020 Sun Center Drive, #200 Rancho Cordova, California 95670-6114
Phone (916) 464-3291 • Fax (916) 464-4645
http://www.waterboards.ca.gov/centralvalley

ORDER R5-2015-0075

NPDES NO. CA0084387

WASTE DISCHARGE REQUIREMENTS FOR THE LAZARUS MINING, LLC AND U.S. FOREST SERVICE, TAHOE NATIONAL FOREST KLONDIKE, DUTCH, AND TELEGRAPH TUNNEL MINES SIERRA COUNTY

The following Discharger is subject to waste discharge requirements (WDR's) set forth in this Order:

Table 1. Discharger Information

Discharger	Lazarus Mining, LLC and U.S. Forest Service, Tahoe National Forest
Name of Facility	Klondike, Dutch, and Telegraph Tunnel Mines
Facility Address	Saddleback Road
	Downieville, CA 95936 (nearest town)
	Sierra County

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude (North)	Discharge Point Longitude (West)	Receiving Water
001	Tunnel Drainage Water	39º 37' 07" N	120º 52' 05" W	Goodyears Creek
002	Tunnel Drainage Water	39º 36' 47" N	120º 52' 02" W	Goodyears Creek

Table 3. Administrative Information

This Order was adopted on:	**5 June 2015**
This Order shall become effective on:	**1 August 2015**
This Order shall expire on:	**31 July 2020**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of WDR's in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**2 February 2020**
The U.S. Environmental Protection Agency (U.S. EPA) and the California Regional Water Quality Control Board, Central Valley Region have classified this discharge as follows:	**Minor**

I, Pamela C. Creedon, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of the Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **5 June 2015**.

Original Signed By

PAMELA C. CREEDON, Executive Officer

CONTENTS

I. Facility Information ... 3
II. Findings ... 3
III. Discharge Prohibitions ... 4
IV. Effluent Limitations and Discharge Specifications ... 4
A. Effluent Limitations – Discharge Point 001 ... 4
1. Final Effluent Limitations – Discharge Point 001 ... 4
2. Interim Effluent Limitations – Not Applicable ... 5
B. Effluent Limitations – Discharge Point 002 ... 5
1. Final Effluent Limitations – Discharge Point 002 ... 5
2. Interim Effluent Limitations – Not Applicable ... 6
C. Land Discharge Specifications – Not Applicable ... 6
D. Recycling Specifications – Not Applicable ... 6
V. Receiving Water Limitations ... 6
A. Surface Water Limitations ... 6
B. Groundwater Limitations – Not Applicable ... 8
VI. Provisions ... 8
A. Standard Provisions ... 8
B. Monitoring and Reporting Program (MRP) Requirements ... 10
C. Special Provisions ... 10
1. Reopener Provisions ... 10
2. Special Studies, Technical Reports and Additional Monitoring Requirements ... 11
3. Best Management Practices and Pollution Prevention ... 12
4. Construction, Operation and Maintenance Specifications – Not Applicable ... 13
5. Special Provisions for Municipal Facilities (POTW's Only) – Not Applicable ... 13
6. Other Special Provisions ... 13
7. Compliance Schedules – Not Applicable ... 13
VII. Compliance Determination ... 14

TABLES

Table 1. Discharger Information ... 1
Table 2. Discharge Location ... 1
Table 3. Administrative Information ... 1
Table 4. Effluent Limitations – Discharge Point 001 ... 4
Table 5. Effluent Limitations – Discharge Point 002 ... 5

ATTACHMENTS

Attachment A – Definitions ... A-1
Attachment B – Map ... B-1
Attachment C – Flow Schematic – NOT APPLICABLE ... C-1
Attachment D – Standard Provisions ... D-1
Attachment E – Monitoring and Reporting Program ... E-1
Attachment F – Fact Sheet ... F-1
Attachment G – Summary Of Reasonable Potential Analysis ... G-1
Attachment H – Calculation of WQBEL'S ... H-1

I. FACILITY INFORMATION

Information describing the Klondike, Dutch, and Telegraph Tunnel Mines (Facility) is summarized in Table 1 and in sections I and II of the Fact Sheet (Attachment F). Section I of the Fact Sheet also includes information regarding the Facility's permit application.

II. FINDINGS

The California Regional Water Quality Control Board, Central Valley Region (hereinafter Central Valley Water Board), finds:

A. Legal Authorities. This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this facility to surface waters.

B. Background and Rationale for Requirements. The Central Valley Water Board developed the requirements in this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for the requirements in this Order, is hereby incorporated into and constitutes Findings for this Order. Attachments A through E and G through H are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections IV.C, IV.D, and V.B are included to implement state law only. These provisions/requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

D. Monitoring and Reporting. 40 C.F.R. section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Central Valley Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. The Monitoring and Reporting Program is provided in Attachment E.

The technical and monitoring reports in this Order are required in accordance with Water Code section 13267, which states the following in subsection (b)(1), *"In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports."*

The Discharger owns and operates the Facility subject to this Order. The monitoring reports required by this Order are necessary to determine compliance with this Order. The need for the monitoring reports is discussed in the Fact Sheet.

E. Notification of Interested Parties. The Central Valley Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of the notification are provided in the Fact Sheet.

F. Consideration of Public Comment. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet.

THEREFORE, IT IS HEREBY ORDERED that Order R5-2008-0029 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Valley Water Board from taking enforcement action for past violations of the previous Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of wastewater from the Facility, as the Facility is specifically described in the Fact Sheet in section II.B, in a manner different from that described in this Order is prohibited.

B. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Federal Standard Provisions I.G. and I.H. (Attachment D).

C. Neither the discharge nor its treatment shall create a nuisance as defined in section 13050 of the Water Code.

D. The Discharger shall not allow pollutant-free wastewater to be discharged into the treatment or disposal system in amounts that significantly diminish the system's capability to comply with this Order. Pollutant-free wastewater means rainfall, groundwater, cooling waters, and condensates that are essentially free of pollutants.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

The Discharger shall maintain compliance with the following effluent limitations for the discharge from the Telegraph Tunnel Mine at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the Monitoring and Reporting Program, Attachment E:

a. The Discharger shall maintain compliance with the effluent limitations specified in Table 4:

Table 4. Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.5	8.5
Priority Pollutants					
Lead, Total Recoverable	µg/L	0.6	1.7	--	--

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Nickel, Total Recoverable	µg/L	14	45	--	--
Non-Conventional Pollutants					
Settleable Solids	m/L	--	--	--	0.2[1]

[1] Effective upon the Executive Officer's written approval for the commencement of active mining operations (Special Provision IV.C.6.a).

b. **Average Dry Weather Flow**. During the period of May through October, the average dry weather discharge flow shall not exceed 0.30 MGD as a total from Discharge Points 001 and 002.

c. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70%, minimum for any one bioassay; and
ii. 90%, median for any three consecutive bioassays.

2. Interim Effluent Limitations – Not Applicable

B. Effluent Limitations – Discharge Point 002

1. Final Effluent Limitations – Discharge Point 002

The Discharger shall maintain compliance with the following effluent limitations for the combined discharge from the Klondike and Dutch Tunnel Mines at Discharge Point 002, with compliance measured at Monitoring Location EFF-002 as described in the Monitoring and Reporting Program, Attachment E:

a. The Discharger shall maintain compliance with the effluent limitations specified in Table 5:

Table 5. Effluent Limitations – Discharge Point 002

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.5	8.5
Priority Pollutants					
Cadmium, Total Recoverable	µg/L	1.3	2.6	--	--
Non-Conventional Pollutants					
Settleable Solids	m/L	--	--	--	0.2[1]

[1] Effective upon the Executive Officer's written approval for the commencement of active mining operations (Special Provision IV.C.6.a).

b. **Average Dry Weather Flow**. During the period of May through October, the average dry weather discharge flow shall not exceed 0.30 MGD as a total from Discharge Points 001 and 002.

c. **Acute Whole Effluent Toxicity.** Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70%, minimum for any one bioassay; and
ii. 90%, median for any three consecutive bioassays.

2. Interim Effluent Limitations – Not Applicable

C. Land Discharge Specifications – Not Applicable

D. Recycling Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

The discharges shall not cause the following in Goodyears Creek:

1. **Bacteria.** The fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, to exceed a geometric mean of 200 MPN/100 mL, nor more than 10 percent of the total number of fecal coliform samples taken during any 30-day period to exceed 400 MPN/100 mL.
2. **Biostimulatory Substances.** Water to contain biostimulatory substances which promote aquatic growths in concentrations that cause nuisance or adversely affect beneficial uses.
3. **Chemical Constituents.** Chemical constituents to be present in concentrations that adversely affect beneficial uses.
4. **Color.** Discoloration that causes nuisance or adversely affects beneficial uses.
5. **Dissolved Oxygen:**
   a. The monthly median of the mean daily dissolved oxygen concentration to fall below 85 percent of saturation in the main water mass;
   b. The 95 percentile dissolved oxygen concentration to fall below 75 percent of saturation; nor
   c. The dissolved oxygen concentration to be reduced below 7.0 mg/L at any time.
6. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
7. **Oil and Grease.** Oils, greases, waxes, or other materials to be present in concentrations that cause nuisance, result in a visible film or coating on the surface of the water or on objects in the water, or otherwise adversely affect beneficial uses.
8. **pH.** The pH to be depressed below 6.5 nor raised above 8.5.
9. **Pesticides:**
   a. Pesticides to be present, individually or in combination, in concentrations that adversely affect beneficial uses;
   b. Pesticides to be present in bottom sediments or aquatic life in concentrations that adversely affect beneficial uses;
   c. Total identifiable persistent chlorinated hydrocarbon pesticides to be present in the water column at concentrations detectable within the accuracy of analytical methods approved by U.S. EPA or the Executive Officer.

d. Pesticide concentrations to exceed those allowable by applicable antidegradation policies (see State Water Board Resolution No. 68-16 and 40 C.F.R. §131.12.);

e. Pesticide concentrations to exceed the lowest levels technically and economically achievable;

f. Pesticides to be present in concentration in excess of the maximum contaminant levels (MCL's) set forth in CCR, Title 22, division 4, chapter 15; nor

g. Thiobencarb to be present in excess of 1.0 µg/L.

10. **Radioactivity:**

a. Radionuclides to be present in concentrations that are harmful to human, plant, animal, or aquatic life nor that result in the accumulation of radionuclides in the food web to an extent that presents a hazard to human, plant, animal, or aquatic life.

b. Radionuclides to be present in excess of the MCL's specified in Table 64442 of section 64442 and Table 64443 of section 64443 of Title 22 of the California Code of Regulations.

11. **Suspended Sediments.** The suspended sediment load and suspended sediment discharge rate of surface waters to be altered in such a manner as to cause nuisance or adversely affect beneficial uses.

12. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial uses.

13. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.

14. **Taste and Odors.** Taste- or odor-producing substances to be present in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses.

15. **Temperature.** The natural temperature to be increased by more than 5°F. Compliance to be determined based on the difference in temperature at Monitoring Locations RSW-001 and RSW-003.

16. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.

17. **Turbidity:**

a. Shall not exceed 2 Nephelometric Turbidity Units (NTU) where natural turbidity is less than 1 NTU;

b. Shall not increase more than 1 NTU where natural turbidity is between 1 and 5 NTUs;

c. Shall not increase more than 20 percent where natural turbidity is between 5 and 50 NTUs;

d. Shall not increase more than 10 NTU where natural turbidity is between 50 and 100 NTUs; nor

e. Shall not increase more than 10 percent where natural turbidity is greater than 100 NTUs.

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D.
2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply:

   a. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to:

      i. violation of any term or condition contained in this Order;

      ii. obtaining this Order by misrepresentation or by failing to disclose fully all relevant facts;

      iii. a change in any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge; and

      iv. a material change in the character, location, or volume of discharge.

      The causes for modification include:

      i. *New regulations.* New regulations have been promulgated under section 405(d) of the CWA, or the standards or regulations on which the permit was based have been changed by promulgation of amended standards or regulations or by judicial decision after the permit was issued.

      ii. *Land application plans.* When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

      iii. *Change in sludge use or disposal practice.* Under 40 C.F.R. section 122.62(a)(1), a change in the Discharger's sludge use or disposal practice is a cause for modification of the permit. It is cause for revocation and reissuance if the Discharger requests or agrees.

      The Central Valley Water Board may review and revise this Order at any time upon application of any affected person or the Central Valley Water Board's own motion.

   b. If a toxic effluent standard or prohibition (including any scheduled compliance specified in such effluent standard or prohibition) is established under section 307(a) of the CWA, or amendments thereto, for a toxic pollutant that is present in the discharge authorized herein, and such standard or prohibition is more stringent than any limitation upon such pollutant in this Order, the Central Valley Water Board will revise or modify this Order in accordance with such toxic effluent standard or prohibition.

      The Discharger shall comply with effluent standards and prohibitions within the time provided in the regulations that establish those standards or prohibitions, even if this Order has not yet been modified.

   c. This Order shall be modified, or alternately revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the CWA, if the effluent standard or limitation so issued or approved:

i. Contains different conditions or is otherwise more stringent than any effluent limitation in the Order; or

ii. Controls any pollutant limited in the Order.

The Order, as modified or reissued under this paragraph, shall also contain any other requirements of the CWA then applicable.

d. The provisions of this Order are severable. If any provision of this Order is found invalid, the remainder of this Order shall not be affected.

e. The Discharger shall take all reasonable steps to minimize any adverse effects to waters of the State or users of those waters resulting from any discharge or sludge use or disposal in violation of this Order. Reasonable steps shall include such accelerated or additional monitoring as necessary to determine the nature and impact of the non-complying discharge or sludge use or disposal.

f. A copy of this Order shall be maintained at the discharge facility and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.

g. The Discharger, upon written request of the Central Valley Water Board, shall file with the Board a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. This report may be combined with that required under the Central Valley Water Board Standard Provision contained in section VI.A.2.i of this Order.

The technical report shall:

i. Identify the possible sources of spills, leaks, untreated waste by-pass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.

ii. Evaluate the effectiveness of present facilities and procedures and state when they became operational.

iii. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

The Central Valley Water Board, after review of the technical report, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions shall be incorporated as part of this Order, upon notice to the Discharger.

h. The Discharger shall submit technical reports as directed by the Executive Officer. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code, sections 6735, 7835, and 7835.1. To demonstrate compliance with Title 16, CCR, sections 415 and 3065, all technical reports must contain a statement of the qualifications of the responsible registered professional(s). As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.

i. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

j. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board.

To assume operation under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, address and telephone number of the persons responsible for contact with the Central Valley Water Board and a statement. The statement shall comply with the signatory and certification requirements in the federal Standard Provisions (Attachment D, section V.B) and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer shall be approved or disapproved in writing by the Executive Officer.

k. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

l. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, effluent limitation, or receiving water limitation of this Order, the Discharger shall notify the Central Valley Water Board by telephone (916) 464-3291 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Central Valley Water Board waives confirmation. The written notification shall state the nature, time, duration, and cause of noncompliance, and shall describe the measures being taken to remedy the current noncompliance and prevent recurrence including, where applicable, a schedule of implementation. Other noncompliance requires written notification as above at the time of the normal monitoring report.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E.

C. Special Provisions

1. Reopener Provisions

a. Conditions that necessitate a major modification of a permit are described in 40 C.F.R. section 122.62, including, but not limited to:

i. If new or amended applicable water quality standards are promulgated or approved pursuant to section 303 of the CWA, or amendments thereto, this permit may be reopened and modified in accordance with the new or amended standards.

ii. When new information, that was not available at the time of permit issuance, would have justified different permit conditions at the time of issuance.

b. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a numeric or narrative chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if the State Water Board revises the SIP's toxicity control provisions that would require the establishment of numeric chronic toxicity effluent limitations, this Order may be reopened to include a numeric chronic toxicity effluent limitation based on the new provisions.

d. **Water Effects Ratios (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total recoverable. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. **Toxicity Reduction Evaluation Requirements.** For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity (WET) testing, as specified in MRP section V. Furthermore, this Provision requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity. If the discharge exceeds the numeric toxicity monitoring trigger during accelerated monitoring established in this Provision, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE Work Plan, and take actions to mitigate the impact of the discharge and prevent recurrence of toxicity. A TRE is a site-specific study conducted in a stepwise process to identify the source(s) of toxicity and the effective control measures for effluent toxicity. TREs are designed to identify the causative agents and sources of whole effluent toxicity, evaluate the effectiveness of the toxicity control options, and confirm the reduction in effluent toxicity. This Provision includes procedures for accelerated chronic toxicity monitoring and TRE initiation.

i. **Accelerated Monitoring and TRE Initiation.** When the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring as required in the Accelerated Monitoring Specifications. The Discharger shall initiate a TRE to address effluent toxicity if any WET testing results exceed the numeric toxicity monitoring trigger during accelerated monitoring.

ii. **Numeric Toxicity Monitoring Trigger.** The numeric toxicity monitoring trigger to initiate a TRE is >1 TUc (where TUc = 100/NOEC). The monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to begin accelerated monitoring and initiate a TRE.

iii. **Accelerated Monitoring Specifications.** If the numeric toxicity monitoring trigger is exceeded during regular chronic toxicity testing, the Discharger shall initiate accelerated monitoring within 14-days of notification by the laboratory of the exceedance. Accelerated monitoring shall consist of four chronic toxicity tests conducted once every two weeks using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:

(a) If the results of four consecutive accelerated monitoring tests do not exceed the monitoring trigger, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring. However, notwithstanding the accelerated monitoring results, if there is adequate evidence of a pattern of effluent toxicity, the Executive Officer may require that the Discharger initiate a TRE.

(b) If the source(s) of the toxicity is easily identified (e.g., temporary plant upset), the Discharger shall make necessary corrections to the facility and shall continue accelerated monitoring until four consecutive accelerated tests do not exceed the monitoring trigger. Upon confirmation that the effluent toxicity has been removed, the Discharger may cease accelerated monitoring and resume regular chronic toxicity monitoring.

(c) If the result of any accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and begin a TRE to investigate the cause(s) of, and identify corrective actions to reduce or eliminate effluent toxicity. Within thirty (30) days of notification by the laboratory of any test result exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Central Valley Water Board including, at minimum:

(1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including a TRE WET monitoring schedule;

(2) Specific actions the Discharger will take to mitigate the impact of the discharge and prevent the recurrence of toxicity; and

(3) A schedule for these actions.

3. Best Management Practices and Pollution Prevention

a. **Best Management Practices (BMP's) for Active Mining Operations.** The following BMP's shall be implemented to the greatest extent applicable for active mining operations at the Telegraph Tunnel and/or Dutch Mine(s):

i. **Surface Water Diversion.** The flow of surface waters into the plant site shall be interrupted and these waters diverted around and away from incursion into the plant site.

ii. **Berm Construction.** Berms, including any pond walls, dikes, low dams, and similar water retention structures shall be constructed in a manner such that they are reasonably expected to reject the passage of water.

iii. **Pollutants Materials Storage.** Measures shall be taken to assure that pollutant materials removed from the process water and wastewater streams will be retained in storage areas and not discharged or released to waters of the United States.

iv. **New Water Control.** The amount of new water allowed to enter the plant site for use in ore processing shall be limited to the minimum amount required as make-up water for processing operations.

v. **Maintenance of Water Control and Solids Retention Devices.** All water control devices such as diversion structures and berms and all solids retention structures such as berms, dikes, pond structures, and dams shall be maintained to continue their effectiveness and to protect from unexpected and catastrophic failure.

4. Construction, Operation and Maintenance Specifications – Not Applicable

5. Special Provisions for Municipal Facilities (POTW's Only) – Not Applicable

6. Other Special Provisions

a. **Discharges from Active Mining Operations**. The Discharger may discharge wastewater from active mining operations at Discharge Points 001 and/or 002 from the Telegraph Tunnel and/or Dutch Mine(s) upon compliance with the following conditions:

i. **Approved Plan of Operations.** The Discharger shall submit to the Central Valley Water Board a copy of the Plan of Operations for the active mining operations at the respective mine, approved by the U.S. Forest Service.

ii. **Tailings Disposal Plan.** The Discharger shall submit to the Central Valley Water Board a copy of the initial Tailings Disposal Plan detailing the volume and type of gravels to be extracted and describe the disposal practices that are best suited to these materials, including on or off site storage location(s).

iii. **Request for Discharge.** The Discharger shall submit to the Central Valley Water Board a request to discharge wastewater from active mining operations for either Telegraph Tunnel or Dutch Mine, which demonstrates compliance with items i and ii of this provision. The discharge of wastewater from active mining operations shall not commence until the Executive Officer verifies compliance with Special Provision VI.C.6.a and approves the Discharger's request.

b. **Tailings Disposal**

i. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed of in a manner that is consistent with Title 27 of the California Code of Regulations and approved by the Executive Officer.

ii. Any proposed change in tailings use or disposal practice from a previously approved practice shall be reported to the Executive Officer and U.S. EPA Regional Administrator at least 90 days in advance of the change.

iii. An updated Tailings Disposal Plan shall be submitted by 1 February, annually, following the Executive Officer's written approval for the commencement of active mining operations (Special Provision IV.C.6.a). If the Discharger ceases active mining operations, the Discharger shall notify the Central Valley Water Board in writing at least 30 days following cessation of the discharge, and shall submit a final Tailings Disposal Plan within 30 days of receiving Executive Officer approval for the cessation of the active mining activities.

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

A. Average Dry Weather Flow Effluent Limitations (Section IV.A.1.b and IV.B.1.b). The average dry weather discharge flow represents the daily average flow when groundwater is at or near normal and runoff is not occurring. Compliance with the average dry weather flow effluent limitations will be determined annually based on the average daily flow between May and October.

B. Priority Pollutant Effluent Limitations. Compliance with effluent limitations for priority pollutants shall be determined in accordance with Section 2.4.5 of the SIP, as follows:

1. Dischargers shall be deemed out of compliance with an effluent limitation, if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).
2. Dischargers shall be required to conduct a Pollutant Minimization Program (PMP) in accordance with section 2.4.5.1 of the SIP when there is evidence that the priority pollutant is present in the effluent above an effluent limitation and either:
   a. A sample result is reported as detected, but not quantified (DNQ) and the effluent limitation is less than the RL; or
   b. A sample result is reported as non-detect (ND) and the effluent limitation is less than the method detection limit (MDL).
3. When determining compliance with an average monthly effluent limitation (AMEL) and more than one sample result is available in a month, the discharger shall compute the arithmetic mean unless the data set contains one or more reported determinations of DNQ or ND. In those cases, the discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
   a. The data set shall be ranked from low to high, reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
   b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
4. If a sample result, or the arithmetic mean or median of multiple sample results, is below the RL, and there is evidence that the priority pollutant is present in the effluent above an effluent limitation and the discharger conducts a PMP (as described in section 2.4.5.1), the discharger shall <u>not</u> be deemed out of compliance.

C. Settleable Solids Effluent Limitation (Section IV.A.1.a). If, as a result of precipitation (rainfall or snowmelt), the Discharger has an overflow or discharge of effluent which does not meet the effluent limitation for settleable solids, the Discharger may qualify for an exemption from the limitation if the following conditions are met:

1. The treatment system is designed, constructed, and maintained to contain the maximum volume of untreated process wastewater which would be discharged, stored, contained, and used or recycled by the beneficiation process into the treatment system during a 4-hour operating period without an increase in volume from precipitation or infiltration, plus the maximum volume of water runoff resulting from a 5-year, 6-hour precipitation event. In computing the maximum volume of water which would result from a 5-year, 6-hour

precipitation event, the Discharger must include the volume which would result from the plant site contributing runoff to the individual treatment facility.

2. The Discharger takes all reasonable steps to maintain treatment of the wastewater and minimize the amount of overflow.
3. The source is in compliance with the BMP's in Special Provision VI.C.3.a.
4. The Discharger complies with the notification requirements of 40 C.F.R. sections 122.41(m) and 122.41(n).

This exemption is designed to provide an affirmative defense to an enforcement action. Therefore, the Discharger has the burden of demonstrating to the Central Valley Water Board that the above conditions have been met.

ATTACHMENT A – DEFINITIONS

Active Mining Area
A place where work or other activity related to the extraction, removal, or recovery of metal ore is being conducted, except, with respect to surface mines, any area of land on or in which grading has been completed to return the earth to desired contour and reclamation work has begun.

Arithmetic Mean (μ)
Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL)
The highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL)
The highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Best Practicable Treatment or Control (BPTC)
BPTC is a requirement of State Water Resources Control Board Resolution No. 68-16 "*Statement of Policy with Respect to Maintaining High Quality of Waters in California*," (referred to as the "*Antidegradation Policy*"). BPTC is the treatment of control of a discharge necessary to assure that, "*(a) a pollution or nuisance will not occur and (b) the highest water quality consistent with maximum benefit to the people of the State will be maintained*." Pollution is defined in CWC Section 13050(l). In general, an exceedance of a water quality objective in the Basin Plan constitutes "*pollution*."

Bioaccumulative
Those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic
Pollutants are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)
CV is a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge
Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if 1 day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit
Dilution Credit is the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA)
ECA is a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in U.S. EPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays
Enclosed Bays means indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters included, but are not limited to, the Sacramento-San Joaquin Delta, as defined in Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
All surface waters of the state that do not include the ocean, enclosed bays, or estuaries.

Instantaneous Maximum Effluent Limitation
The highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation
The lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL)
The highest allowable daily discharge of a pollutant, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

Median
The middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the n/2 and n/2+1).

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in in 40 C.F.R. part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)
ML is the concentration at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method specified sample weights, volumes, and processing steps have been followed.

Mixing Zone
Mixing Zone is a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND)
Sample results which are less than the laboratory's MDL.

Ocean Waters
The territorial marine waters of the State as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent Pollutants
Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)
PMP means waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of

the public and businesses. The goal of the PMP shall be to reduce all potential sources of a priority pollutant(s) through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Central Valley Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State Water Resources Control Board (State Water Board) or Central Valley Water Board.

Reporting Level (RL)
The ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Central Valley Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, the additional factor must be applied to the ML in the computation of the RL.

Source of Drinking Water
Any water designated as municipal or domestic supply (MUN) in a Central Valley Water Board Basin Plan.

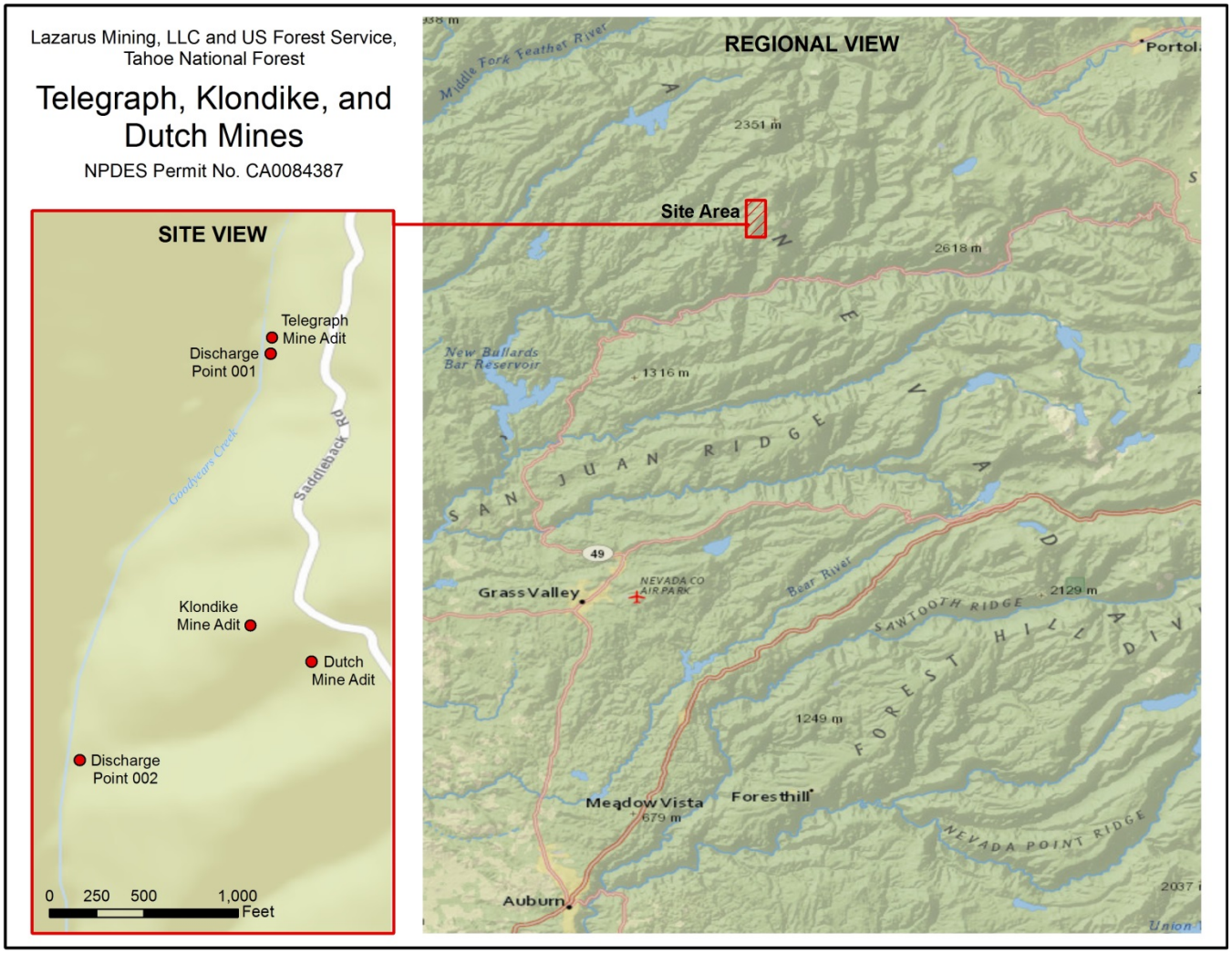
Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

$$\sigma = (\sum[(x - \mu)^2]/(n - 1))^{0.5}$$

where:
x is the observed value;
μ is the arithmetic mean of the observed values; and
n is the number of samples.

Toxicity Reduction Evaluation (TRE)
TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP



ATTACHMENT C – FLOW SCHEMATIC – NOT APPLICABLE

ATTACHMENT D – STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the terms, requirements, and conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action; permit termination, revocation and reissuance, or modification; denial of a permit renewal application; or a combination thereof. (40 C.F.R. § 122.41(a); Wat. Code, §§ 13261, 13263, 13265, 13268, 13000, 13001, 13304, 13350, 13385.)

2. The Discharger shall comply with effluent standards or prohibitions established under Section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under Section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 C.F.R. § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 C.F.R. § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 C.F.R. § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Central Valley Water Board, State Water Board, U.S. EPA, and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (33 U.S.C. § 1318(a)(4)(B); 40 C.F.R. § 122.41(i); Wat. Code, § 13267, 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (33 U.S.C § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(1); Wat. Code, §§ 13267, 13383);
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (33 U.S.C. § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(2); Wat. Code, §§ 13267, 13383);
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (33 U.S.C § 1318(a)(4)(B)(ii); 40 C.F.R. § 122.41(i)(3); Wat. Code, § 13267, 13383); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (33 U.S.C § 1318(a)(4)(B); 40 C.F.R. § 122.41(i)(4); Wat. Code, §§ 13267, 13383.)

G. Bypass

1. Definitions
   a. “Bypass” means the intentional diversion of waste streams from any portion of a treatment facility. (40 C.F.R. § 122.41(m)(1)(i).)
   b. “Severe property damage” means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 C.F.R. § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 C.F.R. § 122.41(m)(2).)
3. Prohibition of bypass. Bypass is prohibited, and the Central Valley Water Board may take enforcement action against a Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):
   a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 122.41(m)(4)(i)(A));
   b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 C.F.R. § 122.41(m)(4)(i)(B)); and
   c. The Discharger submitted notice to the Central Valley Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)
4. The Central Valley Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Valley Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 122.41(m)(4)(ii).)

5. Notice

   a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 C.F.R. § 122.41(m)(3)(i).)

   b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 C.F.R. § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 C.F.R. § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 C.F.R. § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 122.41(n)(3)(ii));

   c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 122.41(n)(3)(iv).)

3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 C.F.R. § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 C.F.R. § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Central Valley Water Board. The Central Valley Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 C.F.R. § 122.41(l)(3); 122.61.)

III. STANDARD PROVISIONS – MONITORING

A. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures approved under 40 C.F.R. part 136 for the analyses of pollutants unless another method is required under 40 C.F.R. subchapters N or O. In the case of pollutants for which there are no approved methods under 40 C.F.R. part 136 or otherwise required under 40 C.F.R. subchapters N or O, monitoring must be conducted according to a test procedure specified in this Order for such pollutants. (40 C.F.R. § 122.41(j)(4); 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

A. Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by 40 C.F.R. part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Central Valley Water Board Executive Officer at any time. (40 C.F.R. § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 C.F.R. § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Central Valley Water Board, State Water Board, or U.S. EPA within a reasonable time, any information which the Central Valley Water Board, State

Water Board, or U.S. EPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Central Valley Water Board, State Water Board, or U.S. EPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, §§ 13267, 13383.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Valley Water Board, State Water Board, and/or U.S. EPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)

3. All reports required by this Order and other information requested by the Central Valley Water Board, State Water Board, or U.S. EPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:

   a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 C.F.R. § 122.22(b)(1));

   b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.) (40 C.F.R. § 122.22(b)(2)); and

   c. The written authorization is submitted to the Central Valley Water Board and State Water Board. (40 C.F.R. § 122.22(b)(3).)

4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Central Valley Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 122.22(c).)

5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations." (40 C.F.R. § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 C.F.R. § 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Valley Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under 40 C.F.R. part 136, or another method required for an industry-specific waste stream under 40 C.F.R. subchapters N or O, the results of such monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Central Valley Water Board. (40 C.F.R. § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 C.F.R. § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 C.F.R. § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 C.F.R. § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):
   a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)
   b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Central Valley Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Central Valley Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 C.F.R. § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 C.F.R. § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in this Order nor to notification requirements under section 122.42(a)(1) (see Additional Provisions—Notification Levels VII.A.1). (40 C.F.R. § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during the permit application process or not reported pursuant to an approved land application plan. (40 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Central Valley Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with this Order’s requirements. (40 C.F.R. § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 C.F.R. § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Central Valley Water Board**,** State Water Board, or U.S. EPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Central Valley Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Central Valley Water Board as soon as they know or have reason to believe (40 C.F.R. § 122.42(a)):

1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 C.F.R. § 122.42(a)(1)):

    a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));

    b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));

    c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii)); or

    d. The level established by the Central Valley Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(1)(iv).)

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following “notification levels" (40 C.F.R. § 122.42(a)(2)):

    a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));

    b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

    c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or

    d. The level established by the Central Valley Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Contents

I. General Monitoring Provisions E-2
II. Monitoring Locations E-3
III. Influent Monitoring Requirements – Not Applicable E-3
IV. Effluent Monitoring Requirements E-3
A. Monitoring Location EFF-001 ..... E-3
B. Monitoring Location EFF-002 ..... E-4
V. Whole Effluent Toxicity Testing Requirements E-5
VI. Land Discharge Monitoring Requirements – Not Applicable E-7
VII. Recycling Monitoring Requirements – Not Applicable E-7
VIII. Receiving Water Monitoring Requirements E-7
A. Monitoring Locations RSW-001, RSW-002, and RSW-003 ..... E-7
IX. Other Monitoring Requirements E-8
A. Effluent Characterization (2018 or 2019) E-8
X. Reporting Requirements E-12
A. General Monitoring and Reporting Requirements E-12
B. Self-Monitoring Reports (SMR's) E-12
C. Discharge Monitoring Reports (DMR's) – Not Applicable E-14
D. Other Reports E-14

Tables

Table E-1. Monitoring Station Locations E-3
Table E-2. Effluent Monitoring at Monitoring Location EFF-001 ..... E-3
Table E-3. Effluent Monitoring at Monitoring Location EFF-002 ..... E-4
Table E-4. Chronic Toxicity Testing Dilution Series E-6
Table E-5. Receiving Water Monitoring Requirements E-8
Table E-6. Effluent Characterization Monitoring E-9
Table E-7. Monitoring Periods and Reporting Schedule E-13

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations (40 C.F.R. § 122.48) requires that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements that implement federal and California regulations.

I. GENERAL MONITORING PROVISIONS

A. Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and the approval of the Central Valley Water Board.

B. Effluent samples shall be taken downstream of the last addition of wastes to the treatment or discharge works where a representative sample may be obtained prior to mixing with the receiving waters. Samples shall be collected at such a point and in such a manner to ensure a representative sample of the discharge.

C. Chemical, bacteriological, and bioassay analyses of any material required by this Order shall be conducted by a laboratory certified for such analyses by the State Water Resources Control Board (State Water Board), Division of Drinking Water (DDW; formerly the Department of Public Health). Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Central Valley Water Board. In the event a certified laboratory is not available to the Discharger for any onsite field measurements such as pH, dissolved oxygen (DO), turbidity, temperature, and residual chlorine, such analyses performed by a noncertified laboratory will be accepted provided a Quality Assurance-Quality Control Program is instituted by the laboratory. A manual containing the steps followed in this program for any onsite field measurements such as pH, DO, turbidity, temperature, and residual chlorine must be kept onsite in the treatment facility laboratory and shall be available for inspection by Central Valley Water Board staff. The Discharger must demonstrate sufficient capability (qualified and trained employees, properly calibrated and maintained field instruments, etc.) to adequately perform these field measurements. The Quality Assurance-Quality Control Program must conform to U.S. EPA guidelines or to procedures approved by the Central Valley Water Board.

D. Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary, at least yearly, to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.

E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this Monitoring and Reporting Program.

F. Laboratories analyzing monitoring samples shall be certified by DDW, in accordance with the provision of Water Code section 13176, and must include quality assurance/quality control data with their reports.

G. The Discharger shall file with the Central Valley Water Board technical reports on self-monitoring performed according to the detailed specifications contained in this Monitoring and Reporting Program.

H. The results of all monitoring required by this Order shall be reported to the Central Valley Water Board, and shall be submitted in such a format as to allow direct comparison with the limitations and requirements of this Order. Unless otherwise specified, discharge flows shall be reported in terms of the monthly average and the daily maximum discharge flows.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	Downstream from the last connections through which wastes from the Telegraph Tunnel Mine can be admitted into the outfall, prior to discharge into Goodyears Creek. Latitude: 39° 37' 07" N Longitude: 120° 52' 05" W
002	EFF-002	Downstream from the last connections through which wastes from the Klondike and Dutch Tunnel Mines can be admitted into the outfall, prior to discharge into Goodyears Creek. Latitude: 39° 36' 47" N Longitude: 120° 52' 02" W
--	RSW-001	100 feet upstream from Discharge Point 001 in Goodyears Creek.
--	RSW-002	50 feet downstream from Discharge Point 001 in Goodyears Creek.
--	RSW-003	150 feet downstream from Discharge Point 002 in Goodyears Creek.

The North latitude and West longitude information in Table 1 are approximate for administrative purposes.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor tunnel drainage wastewater from the Telegraph Tunnel Mine at Monitoring Location EFF-001 as follows. If Monitoring Location EFF-001 is inaccessible due to unsafe conditions, monitoring is not required. If monitoring is not conducted due to unsafe conditions, the Discharger shall so state in the SMR. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-2. Effluent Monitoring at Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Grab	1/Quarter[1] 1/Week[2]	--
Conventional Pollutants				
pH	standard units	Grab[3]	1/Quarter[1] 1/Week[2]	[4]
Total Suspended Solids	mg/L	Grab	1/Quarter	[4]
Priority Pollutants				
Lead, Total Recoverable	µg/L	Grab	1/Quarter	[4,5]
Nickel, Total Recoverable	µg/L	Grab	1/Quarter	[4,5]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Priority Pollutants and Other Constituents of Concern	See Section IX.A	See Section IX.A	See Section IX.A	[4,5]
Non-Conventional Pollutants				
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Quarter	[4]
Iron, Total Recoverable	µg/L	Grab	1/Quarter	[4]
Settleable Solids	mL/L	Grab	1/Quarter	[4]
Temperature	°F	Grab[3]	1/Quarter[1] 1/Week[2]	[4]
Turbidity	NTU	Grab	1/Quarter[1] 1/Month[2]	[4]

[1] Effective immediately and until the Executive Officer's written approval for the commencement of active mining (Special Provision IV.C.6.a), quarterly monitoring is required.

[2] Effective upon the Executive Officer's written approval for the commencement of active mining (Special Provision IV.C.6.a). If the results of the first year of monitoring are consistent, the frequency may be reduced to quarterly, subject to preapproval by the Executive Officer.

[3] A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

[4] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[5] For priority pollutants, the reporting level shall be consistent with sections 2.4.2 and 2.4.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*. (See Attachment E, Section IX.A).

B. Monitoring Location EFF-002

1. The Discharger shall monitor tunnel drainage wastewater from the Klondike and Dutch Tunnel Mines at Monitoring Location EFF-002 as follows. If Monitoring Location EFF-002 is inaccessible due to unsafe conditions, monitoring is not required. If monitoring is not conducted due to unsafe conditions, the Discharger shall so state in the SMR. If more than one analytical test method is listed for a given parameter, the Discharger must select from the listed methods and corresponding Minimum Level:

Table E-3. Effluent Monitoring at Monitoring Location EFF-002

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	MGD	Grab	1/Quarter[1] 1/Week[2]	--
Conventional Pollutants				
pH	standard units	Grab[3]	1/Quarter[1] 1/Week[2]	[4]
Total Suspended Solids	mg/L	Grab	1/Quarter	[4]
Priority Pollutants				
Cadmium, Total Recoverable	µg/L	Grab	1/Quarter	[4,5]
Priority Pollutants and Other Constituents of Concern	See Section IX.A	See Section IX.A	See Section IX.A	[4,5]
Non-Conventional Pollutants				
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Quarter	[4]

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Settleable Solids	mL/L	Grab	1/Quarter	[4]
Temperature	°F	Grab[3]	1/Quarter[1] 1/Week[2]	[4]
Turbidity	NTU	Grab	1/Quarter[1] 1/Month[2]	[4]

[1] Effective immediately and until the Executive Officer's written approval for the commencement of active mining (Special Provision IV.C.6.a), quarterly monitoring is required.

[2] Effective upon the Executive Officer's written approval for the commencement of active mining (Special Provision IV.C.6.a). If the results of the first year of monitoring are consistent, the frequency may be reduced to quarterly, subject to preapproval by the Executive Officer.

[3] A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

[4] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

[5] For priority pollutants, the reporting level shall be consistent with sections 2.4.2 and 2.4.3 of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*. (See Attachment E, Section IX.A).

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity Testing. The Discharger shall conduct acute toxicity testing to determine whether the effluent is contributing acute toxicity to the receiving water. The Discharger shall meet the following acute toxicity testing requirements:

1. *Monitoring Frequency* – The Discharger shall perform annual acute toxicity testing effective upon Executive Officer approval for the commencement of active mining operations measured at Monitoring Location EFF-001 and/or EFF-002. After two consecutive sample results demonstrate compliance with acute toxicity effluent limits, the Discharger can cease annual acute toxicity testing, subject to Executive Officer approval.

2. *Sample Types* – The Discharger may use flow-through or static renewal testing. For static renewal testing, the samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001 and/or EFF-002.

3. *Test Species* – Test species shall be fathead minnows (*Pimephales promelas*).

4. *Methods* – The acute toxicity testing samples shall be analyzed using EPA-821-R-02-012, Fifth Edition. Temperature and pH shall be recorded at the time of sample collection. No pH adjustment may be made unless approved by the Executive Officer.

5. *Test Failure* – If an acute toxicity test does not meet all test acceptability criteria, as specified in the test method, the Discharger must re-sample and re-test as soon as possible, not to exceed 7 days following notification of test failure.

B. Chronic Toxicity Testing. The Discharger shall conduct three species chronic toxicity testing to determine whether the effluent is contributing chronic toxicity to the receiving water. The Discharger shall meet the following chronic toxicity testing requirements:

1. *Monitoring Frequency –* The Discharger shall perform three species chronic toxicity testing once during 2019 or within 6 months of start-up of active mining operations, whichever is sooner, at Monitoring Location EFF-001 and/or EFF-002.

2. *Sample Types* – Effluent samples shall be flow proportional 24-hour composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at Monitoring Location EFF-001 and/or EFF-002. The receiving water control shall be a grab sample obtained from Monitoring Location RSW-001, as identified in this Monitoring and Reporting Program.

3. *Sample Volumes* – Adequate sample volumes shall be collected to provide renewal water to complete the test in the event that the discharge is intermittent.

4. *Test Species* – Chronic toxicity testing measures sublethal (e.g., reduced growth, reproduction) and/or lethal effects to test organisms exposed to an effluent compared to that of the control organisms. The Discharger shall conduct chronic toxicity tests with:

   a. The cladoceran, water flea, *Ceriodaphnia dubia* (survival and reproduction test);

   b. The fathead minnow, *Pimephales promelas* (larval survival and growth test); and

   c. The green alga, *Selenastrum capricornutum* (growth test).

5. Methods – The presence of chronic toxicity shall be estimated as specified in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA/821-R-02-013, October 2002.

6. Reference Toxicant – As required by the SIP, all chronic toxicity tests shall be conducted with concurrent testing with a reference toxicant and shall be reported with the chronic toxicity test results.

7. *Dilutions* – For routine and accelerated chronic toxicity monitoring, it is not necessary to perform the test using a dilution series. The test may be performed using 100% effluent and one control. For TRE monitoring, the chronic toxicity testing shall be performed using the dilution series identified in Table E-4, below, unless an alternative dilution series is detailed in the submitted TRE Action Plan. A receiving water control or laboratory water control may be used as the diluent.

Table E-4. Chronic Toxicity Testing Dilution Series

Sample	Dilutions[1] (%)					Control
	100	75	50	25	12.5	
% Effluent	100	75	50	25	12.5	0
% Control Water	0	25	50	75	87.5	100

[1] Receiving water control or laboratory water control may be used as the diluent.

8. *Test Failure* – The Discharger must re-sample and re-test as soon as possible, but no later than fourteen (14) days after receiving notification of a test failure. A test failure is defined as follows:

   a. The reference toxicant test or the effluent test does not meet all test acceptability criteria as specified in the *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms, Fourth Edition*, EPA/821-R-02-013, October 2002 (Method Manual), and its subsequent amendments or revisions; or

   b. The percent minimum significant difference (PMSD) measured for the test exceeds the upper PMSD bound variability criterion in Table 6 on page 52 of the Method Manual. (A retest is only required in this case if the test results do not exceed the monitoring trigger specified in the Special Provision at section VI.2.a.iii. of the Order).

C. WET Testing Notification Requirements. The Discharger shall notify the Central Valley Water Board within 24-hours after the receipt of test results exceeding the monitoring trigger during regular or accelerated monitoring, or an exceedance of the acute toxicity effluent limitation.

D. WET Testing Reporting Requirements. All toxicity test reports shall include the contracting laboratory's complete report provided to the Discharger and shall be in accordance with the appropriate "*Report Preparation and Test Review*" sections of the method manuals. At a minimum, whole effluent toxicity monitoring shall be reported as follows:

1. **Chronic WET Reporting.** Regular chronic toxicity monitoring results shall be reported to the Central Valley Water Board with the annual SMR, and shall contain, at minimum:

   a. The results expressed in TUc, measured as 100/NOEC, and also measured as 100/LC50, 100/EC25, 100/IC25, and 100/IC50, as appropriate.

   b. The statistical methods used to calculate endpoints;

   c. The statistical output page, which includes the calculation of the percent minimum significant difference (PMSD);

   d. The dates of sample collection and initiation of each toxicity test; and

   e. The results compared to the numeric toxicity monitoring trigger.

   Additionally, the annual SMR shall contain an updated chronology of chronic toxicity test results expressed in TUc, and organized by test species, type of test (survival, growth or reproduction), and monitoring frequency, i.e., either quarterly, monthly, accelerated, or Toxicity Reduction Evaluation (TRE).

2. **Acute WET Reporting.** Acute toxicity test results shall be submitted with the annual SMR and reported as percent survival.

3. **TRE Reporting.** Reports for TRE's shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Workplan, or as amended by the Discharger's TRE Action Plan.

4. **Quality Assurance (QA).** The Discharger must provide the following information for QA purposes:

   a. Results of the applicable reference toxicant data with the statistical output page giving the species, NOEC, LOEC, type of toxicant, dilution water used, concentrations used, PMSD, and dates tested.

   b. The reference toxicant control charts for each endpoint, which include summaries of reference toxicant tests performed by the contracting laboratory.

   c. Any information on deviations or problems encountered and how they were dealt with.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECYCLING MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Monitoring Locations RSW-001, RSW-002, and RSW-003

1. The Discharger shall monitor Goodyears Creek at Monitoring Locations RSW-001, RSW-002, and RSW-003 as follows. If Monitoring Locations RSW-001, RSW-002, and/or RSW-003 are inaccessible due to unsafe conditions, monitoring is not required. If

monitoring is not conducted due to unsafe conditions, the Discharger shall so state in the SMR.

Table E-5. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Conventional Pollutants				
pH	standard units	Grab[1]	1/Quarter	[2]
Non-Conventional Pollutants				
Electrical Conductivity @ 25°C	µmhos/cm	Grab	1/Quarter	[2]
Hardness, Total (as $CaCO_3$)	mg/L	Grab	1/Quarter	[2]
Temperature	°F	Grab[1]	1/Quarter	[2]
Turbidity	NTU	Grab	1/Quarter	[2]

[1] A hand-held field meter may be used, provided the meter utilizes a U.S. EPA-approved algorithm/method and is calibrated and maintained in accordance with the manufacturer's instructions. A calibration and maintenance log for each meter used for monitoring required by this Monitoring and Reporting Program shall be maintained at the Facility.

[2] Pollutants shall be analyzed using the analytical methods described in 40 C.F.R. part 136 or by methods approved by the Central Valley Water Board or the State Water Board.

2. In conducting the receiving water sampling, a log shall be kept of the receiving water conditions throughout the reach bounded by Monitoring Locations RSW-001 and RSW-003. Attention shall be given to the presence or absence of:

    1. Floating or suspended matter;
    2. Discoloration;
    3. Bottom deposits;
    4. Aquatic life;
    5. Visible films, sheens, or coatings;
    6. Fungi, slimes, or objectionable growths; and
    7. Potential nuisance conditions.

    Notes on receiving water conditions shall be summarized in the monitoring report.

IX. OTHER MONITORING REQUIREMENTS

A. Effluent Characterization (2018 or 2019)

1. **Semi-annual Monitoring.** Semi-annual samples shall be collected from the effluent (Monitoring Location EFF-001 and EFF-002) and analyzed for the constituents listed in Table E-6 below. If active mining operations at the Telegraph Tunnel and/or Dutch Mine(s) have been initiated prior to 2018, semi-annual monitoring shall be conducted during 2018 (two samples, evenly distributed throughout the year) and the results of such monitoring be submitted to the Central Valley Water Board with the monthly self-monitoring reports. If active mining operations at the Telegraph Tunnel and/or Dutch Mine(s) have not been initiated by the end of 2018, semi-annual monitoring shall be conducted during 2019 (two samples, evenly distributed throughout the year) and the results of such monitoring be submitted to the Central Valley Water Board with the monthly self-monitoring reports. Each individual monitoring event shall provide representative sample results for the effluent.

2. **Sample type**. Effluent samples shall be taken as described in Table E-6 below.

Table E-6. Effluent Characterization Monitoring

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
2- Chloroethyl vinyl ether	µg/L	Grab	1
Acrolein	µg/L	Grab	2
Acrylonitrile	µg/L	Grab	2
Benzene	µg/L	Grab	0.5
Bromoform	µg/L	Grab	0.5
Carbon Tetrachloride	µg/L	Grab	0.5
Chlorobenzene	µg/L	Grab	0.5
Chloroethane	µg/L	Grab	0.5
Chloroform	µg/L	Grab	2
Chloromethane	µg/L	Grab	2
Dibromochloromethane	µg/L	Grab	0.5
Dichlorobromomethane	µg/L	Grab	0.5
Dichloromethane	µg/L	Grab	2
Ethylbenzene	µg/L	Grab	2
Hexachlorobenzene	µg/L	Grab	1
Hexachlorobutadiene	µg/L	Grab	1
Hexachloroethane	µg/L	Grab	1
Methyl bromide (Bromomethane)	µg/L	Grab	1
Naphthalene	µg/L	Grab	10
Parachlorometa cresol	µg/L	Grab	--
Tetrachloroethene	µg/L	Grab	0.5
Toluene	µg/L	Grab	2
trans-1,2-Dichloroethylene	µg/L	Grab	1
Trichloroethene	µg/L	Grab	2
Vinyl chloride	µg/L	Grab	0.5
Methyl-tert-butyl ether (MTBE)	µg/L	Grab	--
Trichlorofluoromethane	µg/L	Grab	--
1,1,1-Trichloroethane	µg/L	Grab	0.5
1,1,2-Trichloroethane	µg/L	Grab	0.5
1,1-dichloroethane	µg/L	Grab	0.5
1,1-dichloroethylene	µg/L	Grab	0.5
1,2-dichloropropane	µg/L	Grab	0.5
1,3-dichloropropylene	µg/L	Grab	0.5
1,1,2,2-tetrachloroethane	µg/L	Grab	0.5
1,2,4-trichlorobenzene	µg/L	Grab	1
1,2-dichoroethane	µg/L	Grab	0.5
1,2-dichlorobenzene	µg/L	Grab	0.5
1,3-dichlorobenzene	µg/L	Grab	0.5
1,4-dichlorobenzene	µg/L	Grab	0.5
1,2-Benzanthracene	µg/L	Grab	5
1,2-Diphenylhydrazine	µg/L	Grab	1
2-Chlorophenol	µg/L	Grab	5
2,4-Dichlorophenol	µg/L	Grab	5
2,4-Dimethylphenol	µg/L	Grab	2
2,4-Dinitrophenol	µg/L	Grab	5
2,4-Dinitrotoluene	µg/L	Grab	5
2,4,6-Trichlorophenol	µg/L	Grab	10
2,6-Dinitrotoluene	µg/L	Grab	5
2-Nitrophenol	µg/L	Grab	10

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
2-Chloronaphthalene	µg/L	Grab	10
3,3'-Dichlorobenzidine	µg/L	Grab	5
3,4-Benzofluoranthene	µg/L	Grab	10
4-Chloro-3-methylphenol	µg/L	Grab	5
4,6-Dinitro-2-methylphenol	µg/L	Grab	10
4-Nitrophenol	µg/L	Grab	10
4-Bromophenyl phenyl ether	µg/L	Grab	10
4-Chlorophenyl phenyl ether	µg/L	Grab	5
Acenaphthene	µg/L	Grab	1
Acenaphthylene	µg/L	Grab	10
Anthracene	µg/L	Grab	10
Benzidine	µg/L	Grab	5
Benzo(a)pyrene (3,4-Benzopyrene)	µg/L	Grab	2
Benzo(g,h,i)perylene	µg/L	Grab	5
Benzo(k)fluoranthene	µg/L	Grab	2
Bis(2-chloroethoxy) methane	µg/L	Grab	5
Bis(2-chloroethyl) ether	µg/L	Grab	1
Bis(2-chloroisopropyl) ether	µg/L	Grab	10
Bis(2-ethylhexyl) phthalate	µg/L	Grab	5
Butyl benzyl phthalate	µg/L	Grab	10
Chrysene	µg/L	Grab	5
Di-n-butylphthalate	µg/L	Grab	10
Di-n-octylphthalate	µg/L	Grab	10
Dibenzo(a,h)-anthracene	µg/L	Grab	0.1
Diethyl phthalate	µg/L	Grab	10
Dimethyl phthalate	µg/L	Grab	10
Fluoranthene	µg/L	Grab	10
Fluorene	µg/L	Grab	10
Hexachlorocyclopentadiene	µg/L	Grab	5
Indeno(1,2,3-c,d)pyrene	µg/L	Grab	0.05
Isophorone	µg/L	Grab	1
N-Nitrosodiphenylamine	µg/L	Grab	1
N-Nitrosodimethylamine	µg/L	Grab	5
N-Nitrosodi-n-propylamine	µg/L	Grab	5
Nitrobenzene	µg/L	Grab	10
Pentachlorophenol	µg/L	Grab	1
Phenanthrene	µg/L	Grab	5
Phenol	µg/L	Grab	1
Pyrene	µg/L	Grab	10
Aluminum	µg/L	Grab	--
Antimony	µg/L	Grab	5
Arsenic	µg/L	Grab	10
Asbestos	µg/L	Grab	--
Barium	µg/L	Grab	--
Beryllium	µg/L	Grab	2
Cadmium	µg/L	Grab	0.5
Chromium (III)	µg/L	Grab	10
Chromium (VI)	µg/L	Grab	10
Copper	µg/L	Grab	0.5
Cyanide[2]	µg/L	Grab	5

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
Iron[2]	µg/L	Grab	--
Lead[2]	µg/L	Grab	0.5
Mercury	µg/L	Grab	0.5
Manganese	µg/L	Grab	--
Nickel[2]	µg/L	Grab	5
Selenium	µg/L	Grab	5
Silver	µg/L	Grab	0.25
Thallium	µg/L	Grab	1
Zinc	µg/L	Grab	10
4,4'-DDD	µg/L	Grab	0.05
4,4'-DDE	µg/L	Grab	0.05
4,4'-DDT	µg/L	Grab	0.01
alpha-Endosulfan	µg/L	Grab	0.02
alpha-Hexachlorocyclohexane (BHC)	µg/L	Grab	0.01
Aldrin	µg/L	Grab	0.005
beta-Endosulfan	µg/L	Grab	0.01
beta-Hexachlorocyclohexane	µg/L	Grab	0.005
Chlordane	µg/L	Grab	0.1
delta-Hexachlorocyclohexane	µg/L	Grab	0.005
Dieldrin	µg/L	Grab	0.01
Endosulfan sulfate	µg/L	Grab	0.01
Endrin	µg/L	Grab	0.01
Endrin Aldehyde	µg/L	Grab	0.01
Heptachlor	µg/L	Grab	0.01
Heptachlor Epoxide	µg/L	Grab	0.02
Lindane (gamma-Hexachlorocyclohexane)	µg/L	Grab	0.5
PCB-1016	µg/L	Grab	0.5
PCB-1221	µg/L	Grab	0.5
PCB-1232	µg/L	Grab	0.5
PCB-1242	µg/L	Grab	0.5
PCB-1248	µg/L	Grab	0.5
PCB-1254	µg/L	Grab	0.5
PCB-1260	µg/L	Grab	0.5
Toxaphene	µg/L	Grab	--
2,3,7,8-TCDD (Dioxin)	µg/L	Grab	--
Ammonia (as N)	mg/L	Grab	--
Boron	µg/L	Grab	--
Chloride	mg/L	Grab	--
Flow[2]	MGD	Meter	--
Hardness (as $CaCO_3$)[2]	mg/L	Grab	--
Foaming Agents (MBAS)	µg/L	Grab	--
Mercury, Methyl	ng/L	Grab	--
Nitrate (as N)	mg/L	Grab	--
Nitrite (as N)	mg/L	Grab	--
pH[2]	Std Units	Grab	--
Phosphorus, Total (as P)	mg/L	Grab	--
Specific conductance (EC)[2]	µmhos/cm	Grab	--
Sulfate	mg/L	Grab	--
Sulfide (as S)	mg/L	Grab	--

Parameter	Units	Effluent Sample Type	Maximum Reporting Level[1]
Sulfite (as SO_3)	mg/L	Grab	--
Temperature[2]	^oC	Grab	--
Total Dissolved Solids (TDS)	mg/L	Grab	--

[1] The reporting levels required in this table for priority pollutant constituents are established based on Section 2.4.2 and Appendix 4 of the SIP.

[2] The Discharger is not required to conduct effluent monitoring for constituents that have already been sampled in a given quarter, as required in Tables E-2 and E-3, except for hardness, pH, and temperature, which shall be conducted concurrently with the effluent sampling.

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

2. Upon written request of the Central Valley Water Board, the Discharger shall submit a summary monitoring report. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year(s).

3. **Compliance Time Schedules.** For compliance time schedules included in the Order, the Discharger shall submit to the Central Valley Water Board, on or before each compliance due date, the specified document or a written report detailing compliance or noncompliance with the specific date and task. If noncompliance is reported, the Discharger shall state the reasons for noncompliance and include an estimate of the date when the Discharger will be in compliance. The Discharger shall notify the Central Valley Water Board by letter when it returns to compliance with the compliance time schedule.

4. The Discharger shall report to the Central Valley Water Board any toxic chemical release data it reports to the State Emergency Response Commission within 15 days of reporting the data to the Commission pursuant to section 313 of the "*Emergency Planning and Community Right to Know Act*" of 1986.

B. Self-Monitoring Reports (SMR's)

1. The Discharger shall electronically submit SMR's using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (http://www.waterboards.ca.gov/ciwqs/index.html). The CIWQS Web site will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMR's including the results of all required monitoring using U.S. EPA-approved test methods or other test methods specified in this Order. SMR's are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.

3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-7. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On…	Monitoring Period	SMR Due Date
1/Week	Permit effective date	Sunday through Saturday	Submit with monthly SMR
1/Month	Permit effective date	1st day of calendar month through last day of calendar month	First day of second calendar month following month of sampling
1/Quarter	Permit effective date	1 January through 31 March 1 April through 30 June 1 July through 30 September 1 October through 31 December	1 May 1 August 1 November 1 February of following year
2/Year	Permit effective date	1 January through 30 June 1 July through 31 December	1 August 1 February of following year
1/Year	Permit effective date	1 January through 31 December	1 February of following year
1/Permit Term	Permit effective date	All	Submit with monthly SMR

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable Reporting Level (RL) and the current laboratory's Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. part 136.

   The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

   a. Sample results greater than or equal to the RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

   b. Sample results less than the RL, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

      For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (± a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

   c. Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.

   d. Dischargers are to instruct laboratories to establish calibration standards so that the Minimum Level (ML) value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.

5. **Multiple Sample Data.** When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or more reported

determinations of "Detected, but Not Quantified" (DNQ) or "Not Detected" (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.

b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

6. The Discharger shall submit SMR's in accordance with the following requirements:

a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.

b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDR's; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

c. The Discharger shall attach all laboratory analysis sheets, including quality assurance/quality control information, with all its SMR's for which sample analyses were performed.

7. The Discharger shall submit in the SMR's calculations and reports in accordance with the following requirements:

a. **Average Dry Weather Flow.** The Discharger shall calculate and report the average dry weather flow for the effluent. The average dry weather flow shall be calculated as specified in Section VII.A and reported in the December SMR.

b. **Turbidity Receiving Water Limitations**. The Discharger shall calculate and report the turbidity increase in the receiving water applicable to the natural turbidity condition specified in Section V.A.17.a-e. of the Limitations and Discharge Requirements.

c. **Temperature Receiving Water Limitations**. The Discharger shall calculate and report the temperature increase in the receiving water based on the difference in temperature at Monitoring Locations RSW-001 and RSW-003.

C. Discharge Monitoring Reports (DMR's) – Not Applicable

D. Other Reports

1. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, or TRE/TIE required by Special Provisions – VI.C. The Discharger shall submit reports with the first monthly SMR scheduled to be submitted on or immediately following

the report due date in compliance with SMR reporting requirements described in subsection X.B above.

2. Within 60 days of permit adoption, the Discharger shall submit a report outlining reporting levels (RL's), method detection limits (MDL's), and analytical methods for the constituents listed in tables E-2, E-3, and E-5. In addition, no less than 6 months prior to conducting the effluent and receiving water characterization monitoring required in Section IX.A, the Discharger shall submit a report outlining RL's, MDL's, and analytical methods for the constituents listed in Table E-6. The Discharger shall comply with the monitoring and reporting requirements for CTR constituents as outlined in section 2.3 and 2.4 of the SIP. The maximum required reporting levels for priority pollutant constituents shall be based on the Minimum Levels (ML's) contained in Appendix 4 of the SIP, determined in accordance with Section 2.4.2 and Section 2.4.3 of the SIP. In accordance with Section 2.4.2 of the SIP, when there is more than one ML value for a given substance, the Central Valley Water Board shall include as RL's, in the permit, all ML values, and their associated analytical methods, listed in Appendix 4 that are below the calculated effluent limitation. The Discharger may select any one of those cited analytical methods for compliance determination. If no ML value is below the effluent limitation, then the Central Valley Water Board shall select as the RL, the lowest ML value, and its associated analytical method, listed in Appendix 4 for inclusion in the permit. Table E-6 provides required maximum reporting levels in accordance with the SIP.

3. **Annual Operations Report.** By 1 February of each year, the Discharger shall submit a written report to the Executive Officer containing the following:

   a. The names, certificate grades, and general responsibilities of all persons employed at the Facility.

   b. The names and telephone numbers of persons to contact regarding the plant for emergency and routine situations.

   c. A statement certifying when the flow meter(s) and other monitoring instruments and devices were last calibrated, including identification of who performed the calibration.

   d. A statement certifying whether the current operation and maintenance manual, and contingency plan, reflect the wastewater treatment plant as currently constructed and operated, and the dates when these documents were last revised and last reviewed for adequacy.

   e. The Discharger may also be requested to submit an annual report to the Central Valley Water Board with both tabular and graphical summaries of the monitoring data obtained during the previous year. Any such request shall be made in writing. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements.

ATTACHMENT F – FACT SHEET

Contents

I. Permit Information F-3
II. Facility Description F-4
A. Description of Wastewater and Biosolids Treatment and Controls F-4
B. Discharge Points and Receiving Waters F-5
C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data F-5
D. Compliance Summary F-7
E. Planned Changes F-7
III. Applicable Plans, Policies, and Regulations F-7
A. Legal Authorities F-7
B. California Environmental Quality Act (CEQA) F-7
C. State and Federal Laws, Regulations, Policies, and Plans F-7
D. Impaired Water Bodies on CWA 303(d) List F-9
E. Other Plans, Policies and Regulations – Not Applicable F-9
IV. Rationale For Effluent Limitations and Discharge Specifications F-10
A. Discharge Prohibitions F-11
B. Technology-Based Effluent Limitations F-11
1. Scope and Authority F-11
2. Applicable Technology-Based Effluent Limitations F-12
C. Water Quality-Based Effluent Limitations (WQBEL's) F-13
1. Scope and Authority F-13
2. Applicable Beneficial Uses and Water Quality Criteria and Objectives F-14
3. Determining the Need for WQBEL's F-22
4. WQBEL Calculations F-25
5. Whole Effluent Toxicity (WET) F-27
D. Final Effluent Limitation Considerations F-30
1. Mass-based Effluent Limitations F-30
2. Averaging Periods for Effluent Limitations F-30
3. Satisfaction of Anti-Backsliding Requirements F-30
4. Antidegradation Policies F-31
5. Stringency of Requirements for Individual Pollutants F-31
E. Interim Effluent Limitations – Not Applicable F-32
F. Land Discharge Specifications – Not Applicable F-32
G. Recycling Specifications – Not Applicable F-32
V. Rationale for Receiving Water Limitations F-33
A. Surface Water F-33
B. Groundwater – Not Applicable F-34
VI. Rationale for Provisions F-35
A. Standard Provisions F-35
B. Special Provisions F-35
1. Reopener Provisions F-35
2. Special Studies and Additional Monitoring Requirements F-35
3. Best Management Practices and Pollution Prevention F-39
4. Construction, Operation, and Maintenance Specifications – Not Applicable F-39
5. Special Provisions for Municipal Facilities (POTW's Only) – Not Applicable F-39
6. Other Special Provisions F-39
7. Compliance Schedules – Not Applicable F-39
VII. Rationale for Monitoring and Reporting Requirements F-39

A. Influent Monitoring – Not Applicable F-39
B. Effluent Monitoring F-39
C. Whole Effluent Toxicity Testing Requirements F-40
D. Receiving Water Monitoring F-41
1. Surface Water F-41
2. Groundwater – Not Applicable F-42
E. Other Monitoring Requirements – Not Applicable F-42
VIII. Public Participation F-42
A. Notification of Interested Parties F-43
B. Written Comments F-43
C. Public Hearing F-43
D. Reconsideration of Waste Discharge Requirements F-43
E. Information and Copying F-43
F. Register of Interested Persons F-44
G. Additional Information F-44

Tables

Table F-1. Facility Information F-3
Table F-2. Historic Effluent Limitations and Monitoring Data for Discharges from the Klondike and Dutch Tunnel Mines F-6
Table F-3. Historic Effluent Limitations and Monitoring Data from the Telegraph Tunnel Mine F-6
Table F-4. Basin Plan Beneficial Uses F-8
Table F-5. Summary of Technology-based Effluent Limitations – Discharge Points 001 and 002 ..... F-13
Table F-6. Lead Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001 ..... F-18
Table F-7. Lead Evaluation (Design Ambient Hardness = 37 mg/L) for Discharge Point 001 ..... F-18
Table F-8. Copper Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001 ..... F-19
Table F-9. Chromium III Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001 F-19
Table F-10. Cadmium (Chronic) Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001 ..... F-19
Table F-11. Cadmium (Acute) Evaluation (Design Ambient Hardness = 40 mg/L) for Discharge Point 001 ..... F-20
Table F-12. Nickel Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001 ..... F-20
Table F-13. Silver (Acute) Evaluation (Design Ambient Hardness = 31 mg/L) for Discharge Point 001. F-20
Table F-14. Zinc Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001 ..... F-21
Table F-15. Summary of Design Ambient Hardness and CTR Criteria for Hardness-dependent Metals for Discharge Point 001 ..... F-22
Table F-16. Summary of Design Ambient Hardness and CTR Criteria for Hardness-dependent Metals for Discharge Point 002 ..... F-22
Table F-17. Summary of Water Quality-Based Effluent Limitations – Discharge Point 001 ..... F-27
Table F-18. Summary of Water Quality-Based Effluent Limitations – Discharge Point 002 ..... F-27
Table F-19. Whole Effluent Chronic Toxicity Testing Results for Discharges from the Telegraph Tunnel Mine F-28
Table F-20. Whole Effluent Chronic Toxicity Testing Results for Discharges from Klondike and Dutch Tunnel Mines F-29
Table F-21. Summary of Final Effluent Limitations – Discharge Point 001 ..... F-32
Table F-22. Summary of Final Effluent Limitations – Discharge Point 002 ..... F-32
Table F-23. Revised Receiving Water Monitoring Location Nomenclature F-42

ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Central Valley Water Board incorporates this Fact Sheet as findings of the Central Valley Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	5A462034001	
CIWQS Facility Place ID	235118	
Discharger	Lazarus Mining, LLC and U.S. Forest Service, Tahoe National Forest	
Name of Facility	Klondike, Dutch, and Telegraph Tunnel Mines	
Facility Address	Saddleback Road	
	Downieville, CA 95936 (nearest town, south of Facility)	
	Sierra County	
Facility Contact, Title and Phone	Patrick Fagen, Chief Executive Officer (CEO), Lazarus Mining, LLC, (530) 416-0266	David Brown, U.S. Forest Service, Tahoe National Forest, (530) 288-3231
Authorized Person to Sign and Submit Reports	Patrick Fagen, CEO Lazarus Mining, LLC, (530) 416-0266	
Mailing Address	Lazarus Mining, LLC, P.O. Box 16187, South Lake Tahoe, CA 95161	
Billing Address	Same as Mailing Address	
Type of Facility	Industrial; SIC code 1041	
Major or Minor Facility	Minor	
Threat to Water Quality	2	
Complexity	C	
Pretreatment Program	Not Applicable	
Recycling Requirements	Not Applicable	
Facility Permitted Flow	0.30 million gallons per day (MGD), average dry weather flow	
Facility Design Flow	Not Applicable	
Watershed	Upper Yuba	
Receiving Water	Goodyears Creek	
Receiving Water Type	Inland Surface Water	

A. Lazarus Mining, LLC is the owner and operator of the Klondike, Dutch, and Telegraph Mines (hereinafter Facility), which are inactive placer gold mine sites. Lazarus Mining, LLC owns the unpatented mining claim for the mines and the U.S. Forest Service owns and manages the property on which the Facility is located. Lazarus Mining, LLC is considered the primary Discharger. However, the U.S. Forest Service is considered a secondary Discharger and is also responsible for compliance with this Order.

For the purposes of this Order, references to the "discharger" or "permittee" in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. The Facility discharges wastewater to Goodyears Creek, a water of the United States, tributary to the Yuba River. The Discharger was previously regulated by Order R5-2008-0029 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0084387 adopted on 14 March 2008 and expired on 1 March 2013. Attachment B provides a map of the area around the Facility.

Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Board, Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

C. Telegraph Gold, a previous owner, filed a report of waste discharge (ROWD) and submitted an application for reissuance of the WDR's and NPDES permit on 30 August 2012. On 25 March 2013, Lazarus Mining, LLC submitted a notification of change of ownership from Telegraph Gold to Lazarus Mining, LLC, and a revised ROWD. The application was deemed complete on 4 June 2014. A site visit was conducted on 25 June 2014 to observe operations and collect additional data to develop permit limitations and requirements for waste discharge. Lazarus Mining, LLC submitted a revised ROWD on 22 March 2015 indicating that active mining is scheduled to occur at the Dutch Tunnel during this permit term.

II. FACILITY DESCRIPTION

The Discharger discharges tunnel drainage water from three currently inactive underground placer gold mines.

A. Description of Wastewater and Biosolids Treatment and Controls

The Facility consists of three tunnel mines. Effluent from the Telegraph Tunnel Mine discharges directly into Goodyears Creek at Discharge Point 001. Effluent from the Klondike and Dutch Tunnel Mines is commingled and discharged to a swale which flows to Goodyears Creek at Discharge Point 002, approximately 2,500 feet downstream from the discharge from the Telegraph Tunnel Mine.

The previous mine claimant, the Klondike California Mining Corporation, initiated operations in 1992 and ceased operations at the site in 2002. The Klondike tunnel has since collapsed. The mine is still inactive and is no longer in operation. A site visit was performed by the Central Valley Water Board on 17 November 2004 to examine the conditions at the mine site subsequent to Klondike California Mining Corporation ceasing operations. The site visit confirmed that mining activities were no longer occurring, and that the U.S. Forest Service had almost completed restoration of the site. Portal discharges were still occurring to Goodyears Creek. Based on discussions with the U.S. Forest Service, the mine site had been restored after Klondike California Mining Corporation ceased operations. As part of their restoration efforts, all mining activity related areas (buildings, tailings ponds, etc.) were covered. However, discharges were still occurring from the Dutch and Telegraph mine portals.

Lazarus Mining, LLC purchased the unpatented mining claims on 12 June 2007, and submitted a Plan of Operation (POO) to the U.S. Forest Service. Revisions to the POO were submitted on 28 August 2010 and the U.S. Forest Service granted conditional approval on 22 September 2010. An updated POO was approved by the U.S. Forest Service on 19 September 2012 to include Telegraph Gold, Inc. Telegraph Gold Inc. terminated its option

with Lazarus Mining, LLC on 18 February 2013, and assigned all rights and interests in the claims to Lazarus Mining, LLC. A revised POO was submitted on 11 July 2013 and approved on 13 March 2014.

The current POO for Telegraph Tunnel Mine addresses the continuation of the initial phase of work needed for a feasibility study of reopening the Telegraph Tunnel Mine for production. The exploration and sampling program requires that the existing portal, landing, and underground workings be rehabilitated and the groundwater inside the mine drained. The underground workings will then be surveyed, mapped, and sampled, including underground core drilling. In the POO, Lazarus Mining, LLC anticipated that this work would occur within 36 months; however, Lazarus Mining, LLC indicated during the 25 June 2014 site visit that the timing for completing the feasibility and exploration activities is uncertain due to financial and weather-related factors. If Lazarus Mining, LLC determines that mining operations are favorable upon completion of the feasibility and exploration activities, then initial underground placer and hard rock gold mining and milling operations will be initiated. Lazarus Mining, LLC plans on submitting a revised POO for Dutch Mine to conduct rehabilitation work and determine if mining operations are feasible.

Drainage from the Telegraph Tunnel portal is currently directed to a collection tank that overflows by gravity to a series of three settling basins. After passing through the third settling basin, the drainage water flows to a metal weir box with a v-notch weir that flows into Goodyears Creek. When maintenance of settling ponds is required (removal of solids), the Facility utilizes a bypass valve that directs the discharge flow around the collection tank and settling ponds and directly to another metal weir box then into Goodyears Creek at Discharge Point 001. Drainage from the Klondike and Dutch Tunnel Mines are commingled at the Dutch Tunnel portal, then piped underground for approximately 100 yards until it upflows into a discharge channel. The effluent flows 15 feet to a metal weir box (with a v-notch weir) and then into a swale where it flows to Goodyears Creek at Discharge Point 002.

Order R5-2008-0029 regulated the drainage from the mine portals only, but allowed Lazarus Mining, LLC to conduct temporary exploration and sampling activities to determine feasibility of permanent mining at the Telegraph Tunnel Mine. In addition to these discharges, this Order also authorizes the discharge from active mining operations at the Telegraph Tunnel Mine and/or the Dutch Mine. This Order requires Lazarus Mining, LLC to inform the Central Valley Water Board prior to initiation of active mining operations at the Telegraph Tunnel and/or Dutch Mine(s), in accordance with an approved POO from the U.S. Forest Service.

B. Discharge Points and Receiving Waters

1. The Facility is located in Section 9, T20N, R10E, MDB&M, as shown in Attachment B, a part of this Order.
2. Tunnel drainage water is discharged from the Telegraph Tunnel Mine at Discharge Point 001 to Goodyears Creek, a water of the United States and a tributary to the Yuba River at a point latitude 39° 37’ 07” N and longitude 120° 52’ 05” W.
3. Tunnel drainage water is discharged from the Klondike and Dutch Tunnel Mines at Discharge Point 002 to Goodyears Creek, a water of the United States and a tributary to the Yuba River at a point latitude 39° 36’ 47” N and longitude 120° 52’ 02” W.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

1. Effluent limitations contained in Order R5-2008-0029 for discharges from the Klondike and Dutch Tunnel Mines and representative monitoring data from the term of Order R5-2008-0029 are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data for Discharges from the Klondike and Dutch Tunnel Mines

Parameter	Units	Effluent Limitation			Monitoring Data (June 2008 – December 2013)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Average Dry Weather Flow	MGD	--	--	0.30[1]	--	--	0.10
pH	standard units	--	--	6.5 – 8.5	--	--	7.3 – 8.2
Total Suspended Solids	mg/L	20	30	--	7	7	--
	lbs/day[2]	50	75	--	1	1	--
Settleable Solids	ml/L	0.1	5.0	--	0.1	0.1	--
Acute Toxicity	% Survival	--	--	70[3]/90[4]	--	--	95[5]

1 During the period from May through October, the average dry weather discharge flow shall not exceed 0.30 MGD.
2 Based on a design average dry weather flow of 0.30 MGD.
3 Minimum for any one bioassay.
4 Median for any three consecutive bioassays.
5 Represents the minimum reported percent survival.

2. Effluent limitations contained in Order R5-2008-0029 for discharges from the Telegraph Tunnel Mine and representative monitoring data from the term of Order R5-2008-0029 are as follows:

Table F-3. Historic Effluent Limitations and Monitoring Data from the Telegraph Tunnel Mine

Parameter	Units	Effluent Limitation			Monitoring Data (June 2008 – December 2013)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Average Dry Weather Flow	MGD	--	--	0.30[1]	--	--	0.20
pH	standard units	--	--	6.5 – 8.5	--	--	7.2 – 9.2
Total Suspended Solids	mg/L	20	30	--	10	10	--
	lbs/day[2]	50	75	--	8.1	8.1	--
Settleable Solids	ml/L	0.1	5.0	--	0.1	0.1	--
Acute Toxicity	% Survival	--	--	70[3]/90[4]	--	--	80[5]

Parameter	Units	Effluent Limitation			Monitoring Data (June 2008 – December 2013)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge

[1] During the period from May through October, the average dry weather discharge flow shall not exceed 0.30 MGD.
[2] Based on a design average dry weather flow of 0.30 MGD.
[3] Minimum for any one bioassay.
[4] Median for any three consecutive bioassays.
[5] Represents the minimum reported percent survival.

D. Compliance Summary

1. The Central Valley Water Board issued Administrative Civil Liability (ACL) Complaint No. R5-2012-0519 on 9 March 2012 which proposed to assess a civil liability of $9,000 against the Discharger for submitting their January 2010, April 2010, and April 2011 SMR's after the due date for each SMR. The Discharger paid the mandatory minimum penalty of $9,000.
2. A compliance inspection of the Facility was performed on 26 June 2008 where it was observed that the weir at the Telegraph tunnel discharge point required maintenance for accurate flow measurement.
3. A compliance inspection was performed on 23 May 2013 found that the Facility is in good operating condition and was generally complying with WDR's.

E. Planned Changes

As discussed further in section II.A of this Fact Sheet, the Discharger plans to continue to rehabilitate the Telegraph Tunnel Mine and perform exploratory mining activities to determine the feasibility of active mining operations. The Discharger plans to begin active mining of the Telegraph Tunnel Mine if determined to be feasible. The Discharger also plans on rehabilitating Dutch Mine and plans on beginning active mining if determined to be feasible.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in this Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order serves as WDR's pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. EPA and chapter 5.5, division 7 of the Water Code (commencing with section 13370). It shall serve as an NPDES permit for point source discharges from this Facility to surface waters.

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA, (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plans.** Requirements of this Order specifically implement the applicable Water Quality Control Plans.

a. **Basin Plan**. The Central Valley Water Board adopted a Water Quality Control Plan, Fourth Edition (Revised October 2011), for the Sacramento and San Joaquin River Basins (hereinafter Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. Requirements in this Order implement the Basin Plan.

The Basin Plan at II-2.00 states that the beneficial uses of any specifically identified water body generally apply to its tributary streams. The Basin Plan in Table II-1, Section II, does not specifically identify beneficial uses for Goodyears Creek, but does identify present and potential uses for the Yuba River from sources to Englebright Reservoir, to which Goodyears Creek, is tributary. In addition, the Basin Plan implements State Water Board Resolution 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, beneficial uses applicable to Goodyears Creek are as follows:

Table F-4. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001 and 002	Goodyears Creek	Existing: Municipal and domestic water supply (MUN); agricultural supply, including stock watering (AGR); hydropower generation (POW); water contact recreation (REC-1); non-contact water recreation (REC-2); cold freshwater habitat (COLD); cold spawning, reproduction, and early development (SPWN); and wildlife habitat (WILD).

2. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** U.S. EPA adopted the NTR on 22 December 1992, and later amended it on 4 May 1995 and 9 November 1999. About forty criteria in the NTR applied in California. On 18 May 2000, U.S. EPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on 13 February 2001. These rules contain federal water quality criteria for priority pollutants.

3. **State Implementation Policy.** On 2 March 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on 28 April 2000, with respect to the priority pollutant criteria promulgated for California by the U.S. EPA through the NTR and to the priority pollutant objectives established by the Central Valley Water Board in the Basin Plan. The SIP became effective on 18 May 2000, with respect to the priority pollutant criteria promulgated by the U.S. EPA through the CTR. The State Water Board adopted amendments to the SIP on 24 February 2005, that became effective on 13 July 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.

4. **Antidegradation Policy.** Federal regulation 40 C.F.R. section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution 68-16 ("Statement of Policy with Respect to Maintaining High Quality of Waters in California"). Resolution 68-16 is deemed to incorporate the federal antidegradation policy where the federal policy applies under federal law.

Resolution 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Central Valley Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of 40 C.F.R. section 131.12 and State Water Board Resolution 68-16.

5. **Anti-Backsliding Requirements.** Sections 402(o) and 303(d)(4) of the CWA and federal regulations at 40 C.F.R. section 122.44(l) restrict backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

6. **Domestic Water Quality.** In compliance with Water Code section 106.3, it is the policy of the State of California that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes. This Order promotes that policy by requiring discharges to meet maximum contaminant levels designed to protect human health and ensure that water is safe for domestic use.

7. **Endangered Species Act Requirements.** This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The Discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

8. **Storm Water Requirements.** U.S. EPA promulgated federal regulations for storm water on 16 November 1990 in 40 C.F.R. parts 122, 123, and 124. The NPDES Industrial Storm Water Program regulates storm water discharges from gold mining facilities. Gold mining facilities are applicable industries under the storm water program and are obligated to comply with the federal regulations. The Facility was notified of its coverage under the General Industrial Storm Water Permit on 6 February 2008.

D. Impaired Water Bodies on CWA 303(d) List

1. Under section 303(d) of the 1972 CWA, states, territories and authorized tribes are required to develop lists of water quality limited segments. The waters on these lists do not meet water quality standards, even after point sources of pollution have installed the minimum required levels of pollution control technology. On 11 October 2011 USEPA gave final approval to California's 2008-2010 section 303(d) List of Water Quality Limited Segments. The Basin Plan references this list of Water Quality Limited Segments (WQLSs), which are defined as "…*those sections of lakes, streams, rivers or other fresh water bodies where water quality does not meet (or is not expected to meet) water quality standards even after the application of appropriate limitations for point sources* (40 CFR Part 130, et seq.)." The Basin Plan also states, "*Additional treatment beyond minimum federal standards will be imposed on dischargers to [WQLSs]. Dischargers will be assigned or allocated a maximum allowable load of critical pollutants so that water quality objectives can be met in the segment*." Goodyears Creek is not listed in the 303(d) list as an impaired water body nor have any TMDL's been developed for Goodyears Creek.

E. Other Plans, Policies and Regulations – Not Applicable

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

Effluent limitations and toxic and pretreatment effluent standards established pursuant to sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the CWA and amendments thereto are applicable to the discharge.

The CWA mandates the implementation of effluent limitations that are as stringent as necessary to meet water quality standards established pursuant to state or federal law [33 U.S.C., §1311(b)(1)(C); 40 C.F.R. §122.44(d)(1)]. NPDES permits must incorporate discharge limits necessary to ensure that water quality standards are met. This requirement applies to narrative criteria as well as to criteria specifying maximum amounts of particular pollutants. Pursuant to federal regulations, 40 C.F.R. section 122.44(d)(1)(i), NPDES permits must contain limits that control all pollutants that "*are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any state water quality standard, including state narrative criteria for water quality*." Federal regulations, 40 C.F.R. section 122.44(d)(1)(vi), further provide that "*[w]here a state has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits*."

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: 40 C.F.R. section 122.44(a) requires that permits include applicable technology-based limitations and standards; and 40 C.F.R. section 122.44(d) requires that permits include WQBEL's to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water where numeric water quality objectives have not been established. The Basin Plan at page IV-17.00, contains an implementation policy, "*Policy for Application of Water Quality Objectives*," that specifies that the Central Valley Water Board "*will, on a case-by-case basis, adopt numerical limitations in orders which will implement the narrative objectives*." This Policy complies with 40 C.F.R. section 122.44(d)(1). With respect to narrative objectives, the Central Valley Water Board must establish effluent limitations using one or more of three specified sources, including: (1) U.S. EPA's published water quality criteria, (2) a proposed state criterion (i.e., water quality objective) or an explicit state policy interpreting its narrative water quality criteria (i.e., the Central Valley Water Board's "*Policy for Application of Water Quality Objectives*") (40 C.F.R. §122.44(d)(1)(vi)(A), (B) or (C)), or (3) an indicator parameter.

The Basin Plan includes numeric site-specific water quality objectives and narrative objectives for toxicity, chemical constituents, discoloration, radionuclides, and tastes and odors. The narrative toxicity objective states: "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*." (Basin Plan at III-8.00) The Basin Plan states that material and relevant information, including numeric criteria, and recommendations from other agencies and scientific literature will be utilized in evaluating compliance with the narrative toxicity objective. The narrative chemical constituents objective states that waters shall not contain chemical constituents in concentrations that adversely affect beneficial uses. At minimum, "…*water designated for use as domestic or municipal supply (MUN) shall not contain concentrations of chemical constituents in excess of the maximum contaminant levels (MCL's)*" in Title 22 of CCR. The Basin Plan further states that, to protect all beneficial uses, the Central Valley Water Board may apply limits more stringent than MCL's. The narrative tastes and odors objective states: "*Water shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to domestic or*

municipal water supplies or to fish flesh or other edible products of aquatic origin, or that cause nuisance, or otherwise adversely affect beneficial uses."

A. Discharge Prohibitions

1. **Prohibition III.A (No discharge or application of waste other than that described in this Order).** This prohibition is based on Water Code section 13260 that requires filing of a ROWD before discharges can occur. The Discharger submitted a ROWD for the discharges described in this Order; therefore, discharges not described in this Order are prohibited.

2. **Prohibition III.B (No bypasses or overflow of untreated wastewater, except under the conditions at C.F.R. part 122.41(m)(4)).** As stated in section I.G of Attachment D, Standard Provisions, this Order prohibits bypass from any portion of the treatment facility. Federal regulations, 40 C.F.R. section 122.41(m), define "bypass" as the intentional diversion of waste streams from any portion of a treatment facility. This section of the federal regulations, 40 C.F.R. section 122.41(m)(4), prohibits bypass unless it is unavoidable to prevent loss of life, personal injury, or severe property damage. In considering the Regional Water Board's prohibition of bypasses, the State Water Board adopted a precedential decision, Order No. WQO 2002-0015, which cites the federal regulations, 40 C.F.R. section 122.41(m), as allowing bypass only for essential maintenance to assure efficient operation.

3. **Prohibition III.C (No controllable condition shall create a nuisance).** This prohibition is based on Water Code section 13050 that requires water quality objectives established for the prevention of nuisance within a specific area. The Basin Plan prohibits conditions that create a nuisance.

4. **Prohibition III.D (No inclusion of pollutant free wastewater shall cause improper operation of the Facility's systems).** This prohibition is based on 40 C.F.R. section 122.41 et seq. that requires the proper design and operation of treatment facilities.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing U.S. EPA permit regulations at 40 C.F.R. section 122.44 require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Effluent Limitations Guidelines and Standards for the Gold Placer Mining Subcategory in 40 C.F.R. part 440, subpart M.

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

a. Best practicable treatment control technology (BPT) represents the average of the best existing performance by well-operated facilities within an industrial category or subcategory. BPT standards apply to toxic, conventional, and non-conventional pollutants.

b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and non-conventional pollutants.

c. Best conventional pollutant control technology (BCT) represents the control from existing industrial point sources of conventional pollutants including BOD, TSS, fecal coliform, pH, and oil and grease. The BCT standard is established after considering a two-part reasonableness test. The first test compares the relationship between the costs of attaining a reduction in effluent discharge and the resulting benefits. The second test examines the cost and level of reduction of pollutants from the discharge from publicly owned treatment works to the cost and level of reduction of such pollutants from a class or category of industrial sources. Effluent limitations must be reasonable under both tests.

d. New source performance standards (NSPS) represent the best available demonstrated control technology standards. The intent of NSPS guidelines is to set limitations that represent state-of-the-art treatment technology for new sources.

The CWA requires U.S. EPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and 40 C.F.R. section 125.3 authorize the use of best professional judgment (BPJ) to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the Central Valley Water Board must consider specific factors outlined in 40 C.F.R. section 125.3.

2. Applicable Technology-Based Effluent Limitations

a. **Inactive Mining**. Order R5-2008-0029 regulated the drainage from the mine portals only, but allowed Lazarus Mining, LLC to conduct temporary exploration and sampling activities to determine feasibility of permanent mining. Because discharges from active mining operations were not authorized, Order R5-2008-0029 did not apply the ELG's from 40 C.F.R. part 440, subpart M, and instead established technology-based effluent limitations for total suspended solids (TSS) and settleable solids limits based on BPJ because portal discharges over land may contain sediment that could contribute to levels of TSS and settleable solids that could affect beneficial uses. Order R5-2008-0029 included an average monthly effluent limitation (AMEL) and average weekly effluent limitation (AWEL) for TSS of 20 mg/L and 30 mg/L, respectively, and an AMEL and AWEL for settleable solids of 0.1 ml/L and 5.0 ml/L, respectively. Based on monitoring data collected between June 2008 and December 2013, the maximum effluent concentrations of TSS and settleable solids were 10 mg/L and 0.1 ml/L, respectively, from the Telegraph Tunnel Mine at Discharge Point 001 and 7 mg/L and 0.1 ml/L, respectively, from the Klondike and Dutch Tunnel Mines, which do not exceed the effluent limitations in Order R5-2008-0029. Based on monitoring data collected between June 2008 and December 2013, this Order does not retain effluent limitations for TSS and settleable solids for the tunnel mine drainage and discharges from temporary exploration and sampling activities. Removal of these effluent limitations is in accordance with federal anti-backsliding regulations (see section IV.D.3 of the Fact Sheet).

b. **Active Mining**. On 24 May 1988, ELG's for gold placer mines became effective, establishing effluent limitations for the single parameter of settleable solids. The ELG's applicable to gold placer mines are specified at 40 C.F.R. part 440, subpart M, and are applicable to 1) mines and dredges that produce gold or gold bearing ores from placer deposits, and 2) the beneficiation processes which use gravity separation methods for recovering gold from placer deposits. The applicability is further limited to mines or beneficiation processes which process

1,500 cubic yards of ore or more per year, or to dredges which process 50,000 cubic yards of ore or more per year, or dredges not located in open waters.

As discussed in sections II.A and II.E of this Fact Sheet, the Discharger plans to initiate underground placer and hard rock gold mining and milling operations if determined to be feasible. This Order authorizes active mining operations at the Telegraph Tunnel and/or Dutch Mine(s) in accordance with an approved POO from the U.S. Forest Service. Therefore, this Order includes an effluent limitation for settleable solids at Discharge Point 001 and 002 based on the ELG's, which are applicable upon commencement of active mining operations. The current POO for Telegraph Tunnel Mine does not indicate the production level for active mining operations, which will be specified in an updated POO for active mining operations. Production level for active mining operations at Dutch Mine will be included in the new POO. Although the production levels are not currently known, the settleable solids effluent limitation is applicable to the discharge regardless of production volume.

Summary of Technology-based Effluent Limitations
Discharge Points 001 and 002

Table F-5. Summary of Technology-based Effluent Limitations – Discharge Points 001 and 002

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Flow	MGD	--	0.30[1]	--	--
Non-Conventional Pollutants					
Settleable Solids	ml/L	--	--	--	0.2[2]

[1] During the period of May through October, the average dry weather discharge flow shall not exceed 0.30 MGD as a total from Discharge Points 001 and 002.

[2] Effective upon the Executive Officer's written approval for the commencement of active mining operations (Special Provision IV.C.6.a).

C. Water Quality-Based Effluent Limitations (WQBEL's)

1. Scope and Authority

CWA Section 301(b) and 40 C.F.R. section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) of 40 C.F.R. requires that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBEL's must be established using: (1) U.S. EPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state's narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

The process for determining reasonable potential and calculating WQBEL's when necessary is intended to protect the designated uses of the receiving water as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are

contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

The Basin Plan designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for all waters addressed through the plan. In addition, the Basin Plan implements State Water Board Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply.

The Basin Plan on page II-1.00 states: "*Protection and enhancement of existing and potential beneficial uses are primary goals of water quality planning…*" and with respect to disposal of wastewaters states that "...*disposal of wastewaters is [not] a prohibited use of waters of the State; it is merely a use which cannot be satisfied to the detriment of beneficial uses.*"

The federal CWA section 101(a)(2), states: "*it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife, and for recreation in and on the water be achieved by July 1, 1983*." Federal Regulations, developed to implement the requirements of the CWA, create a rebuttable presumption that all waters be designated as fishable and swimmable. Federal Regulations, 40 C.F.R. sections 131.2 and 131.10, require that all waters of the State regulated to protect the beneficial uses of public water supply, protection and propagation of fish, shell fish and wildlife, recreation in and on the water, agricultural, industrial and other purposes including navigation. Section 131.3(e), 40 C.F.R., defines existing beneficial uses as those uses actually attained after 28 November 1975, whether or not they are included in the water quality standards. Federal Regulation, 40 C.F.R. section 131.10 requires that uses be obtained by implementing effluent limitations, requires that all downstream uses be protected and states that in no case shall a state adopt waste transport or waste assimilation as a beneficial use for any waters of the United States.

a. **Receiving Water and Beneficial Uses.** The Facility discharges to Goodyears Creek, a water of the United States, tributary to the Yuba River. Goodyears Creek is a small ephemeral stream located in a canyon below the mine facilities, with the headwaters in close proximity to Discharge Point 001. According to the Discharger, Goodyears Creek does not typically contain flow during the summer months. Refer to section III.C.1.a of this Fact Sheet for a complete description of the receiving water beneficial uses.

b. **Effluent and Ambient Background Data.** The reasonable potential analysis (RPA), as described in section IV.C.3 of this Fact Sheet, was based on effluent data from June 2008 through December 2013, and background data for three sampling events in December 2008, June 2009, and December 2009 which includes data submitted in SMR's and the ROWD.

c. **Assimilative Capacity/Mixing Zone.** Based on the available information, the worst-case dilution is assumed to be zero to provide protection for the receiving water beneficial uses. The impact of assuming zero assimilative capacity within the receiving water is that the discharge limitations are end-of-pipe limitations with no allowance for dilution within the receiving water.

d. **Conversion Factors.** The CTR contains aquatic life criteria for arsenic, cadmium, chromium III, chromium VI, copper, lead, nickel, silver, and zinc which are

presented in dissolved concentrations. USEPA recommends conversion factors to translate dissolved concentrations to total concentrations. The default USEPA conversion factors contained in Appendix 3 of the SIP were used to convert the applicable dissolved criteria to total recoverable criteria.

e. **Hardness-Dependent CTR Metals Criteria.** The *California Toxics Rule* and the *National Toxics Rule* contain water quality criteria for seven metals that vary as a function of hardness. The lower the hardness the lower the water quality criteria. The metals with hardness-dependent criteria include cadmium, copper, chromium III, lead, nickel, silver, and zinc.

This Order has established the criteria for hardness-dependent metals based on the reasonable worst-case ambient hardness as required by the SIP[1] and the CTR[2]. The SIP and the CTR require the use of "receiving water" or "actual ambient" hardness, respectively, to determine effluent limitations for these metals. (SIP, § 1.2; 40 CFR § 131.38(c)(4)) The CTR requires that the hardness values used shall be consistent with the design discharge conditions for design flows and mixing zones.[3] Where design flows for aquatic life criteria include the lowest one-day flow with an average reoccurrence frequency of once in ten years (1Q10) and the lowest average seven consecutive day flow with an average reoccurrence frequency of once in ten years (7Q10).[4] The CTR also requires that when mixing zones are allowed the CTR criteria apply at the edge of the mixing zone, otherwise the criteria apply throughout the water body including at the point of discharge.[5] The CTR does not define whether the term "ambient," as applied in the regulations, necessarily requires the consideration of upstream as opposed to downstream hardness conditions.

The State Water Board provided direction regarding the selection of hardness in two precedential water quality orders; WQO 2008-0008 for the City of Davis Wastewater Treatment Plant and WQO 2004-0013 for the Yuba City Wastewater Treatment Plant. The State Water Board recognized that the SIP and the CTR do not discuss the manner in which hardness is to be ascertained, and, thus, Regional Water Boards have considerable discretion in determining ambient hardness. (Davis Order, p.10). The State Water Board explained that it is necessary that, "*The* [hardness] *value selected should provide protection for all times of discharge under varying hardness conditions*." (Yuba City Order, p. 8). The Davis Order also provides that, "*Regardless of the hardness used, the resulting limits must always be protective of water quality criteria under all flow conditions*." (Davis Order, p. 11).

The equation describing the total recoverable regulatory criterion, as established in the CTR[6], is as follows:

$$\text{CTR Criterion} = \text{WER} \times (e^{m[\ln(H)]+b}) \quad \text{(Equation 1)}$$

Where:

[1] The SIP does not address how to determine the hardness for application to the equations for the protection of aquatic life when using hardness-dependent metals criteria. It simply states, in Section 1.2, that the criteria shall be properly adjusted for hardness using the hardness of the receiving water.
[2] The CTR requires that, for waters with a hardness of 400 mg/L (as $CaCO_3$), or less, the actual ambient hardness of the surface water must be used.
[3] 40 C.F.R. 131.38 § (c)(4)(ii)
[4] 40 C.F.R. 131.38 § (c)(4)(iii) Table 4
[5] 40 C.F.R. 131.38 § (c)(2)(i)
[6] 40 CFR § 131.38(b)(2).

H = ambient hardness (as $CaCO_3$)[1]

WER = water-effect ratio

m, b = metal- and criterion-specific constants

The upstream receiving water hardness varied from 11 mg/L to 50 mg/L, based on four samples collected between June 2008 and December 2013. During portions of the year, however, Goodyears Creek is effluent dominated, so the downstream ambient hardness that is consistent with the design low flow conditions is equivalent to the effluent hardness, because the effluent is, in effect, the ambient surface water under these regularly occurring conditions. The effluent hardness at Discharge Point 001 varied from 43 mg/L to 74 mg/L, based on 16 samples from June 2008 to December 2013. The effluent hardness at Discharge Point 002 varied from 69 mg/L to 120 mg/L based on five samples from June 2008 to December 2013.

For calculating the CTR criteria the downstream ambient hardness has been used. The SIP, CTR, and State Water Board do not require use of the minimum observed ambient hardness in the CTR equations. The hardness used must be consistent with design conditions and protective of water quality criteria under all flow conditions. The minimum effluent hardness of 43 mg/L represents the downstream ambient hardness under the design condition and was considered for use in the CTR equations for Discharge Point 001. The minimum effluent hardness of 69 mg/L represents the downstream ambient hardness under the design condition and was considered for use in the CTR equations for Discharge Point 002.

A downstream ambient hardness of 43 mg/L for Discharge Point 001 and 69 mg/L for Discharge Point 002 results in CTR criteria that are protective of aquatic life under all flow conditions for copper, zinc, chromium III, nickel, and cadmium (chronic). However, for lead, silver, and cadmium (acute), using this hardness to calculate the CTR criteria is protective during the effluent dominated condition, but lower criteria are necessary to be fully protective of aquatic life under higher flow conditions in the receiving water.

The Facility discharges both hardness and metals, which must be considered in the downstream ambient receiving water to ensure the criteria are protective under all flow conditions. The tables below examine how the downstream ambient conditions change with varying mixtures of effluent and upstream receiving water. The calculations determine whether or not toxicity could result from one or more metals using the selected design ambient hardness to calculate the CTR criteria.

A simple mass balance (Equation 2) is used to model the ambient concentrations of hardness and metals in the receiving water downstream of the discharge for all possible mixtures of effluent and upstream receiving water under all flow conditions.

[1] For this discussion all hardness values are measured as $CaCO_3$.

$C_{downstream} = C_{upstream} \times (1\text{-}MIX) + C_{effluent} \times (MIX)$ (Equation 2)[1]

Where:

$C_{downstream}$ = Downstream receiving water concentration

$C_{upstream}$ = Upstream receiving water concentration

$C_{effluent}$ = Effluent concentration

MIX = Fraction of effluent in downstream ambient receiving water

For each of several downstream ambient mixtures of upstream receiving water and effluent, the potential for toxicity is examined. The hardness of the mixture is calculated, and the resultant water quality criterion is calculated from the CTR equation. The metals concentration is also calculated for the mixture of upstream receiving water and effluent. If the metals concentration complies with the CTR criterion for that mixture, the ambient mixture is not toxic, and "Yes" is indicated in the far right column. If the metals concentration exceeds the CTR criterion for that mixture, the ambient concentration is toxic, and "No" is indicated in the far right column. The results of these evaluations are summarized in Tables F-15 and F-16.

For this evaluation the following conservative assumptions have been made:

- Upstream receiving water at the lowest observed upstream receiving water hardness (i.e., 11 mg/L)
- No assimilative capacity for each metal in the upstream receiving water (i.e., metals concentration equal to CTR criteria calculated using a hardness of 11 mg/L).
- Effluent hardness at the lowest observed effluent hardness of 43 mg/L for Discharge Point 001 and 69 mg/L for Discharge Point 002.

Table F-6, below, is an example for lead at Discharge Point 001 where a design ambient hardness of 43 mg/L (i.e., downstream receiving water hardness at design low flow conditions) was used to calculate the CTR criteria. In this example, the mixed downstream ambient lead concentrations exceed the mixed CTR criteria at some mixtures. This example demonstrates that using a design ambient hardness of 43 mg/L for Discharge Point 001 to calculate the CTR criteria for lead is not fully protective under the reasonable worst-case conditions described above. The CTR criteria for silver and cadmium (acute) act in the same manner as lead. Tables are not provided in this discussion for these metals, but the results are similarly non-compliant with the CTR criteria. Based on the conservative assumptions discussed above, an iterative method was used to determine the applicable design ambient hardness that results in fully protective criteria for lead, silver, and cadmium (acute).

[1] USEPA NPDES Permit Writers' Manual, September 2010 (EPA-833-K-10-001)

Table F-6. Lead Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001

Assumed Upstream Receiving Water Lead Concentration					**0.19 µg/L[1]**
Lead Chronic Criterion[2]					**1.1 µg/L**
Mix[6]		**Mixed Downstream Ambient Concentration**			**Complies with CTR Criteria**
		Hardness [3] (mg/L)	**CTR Criteria [4] (µg/L)**	**Lead [5] (µg/L)**	
High Flow	1%	11	0.20	0.20	**Yes**
	5%	13	0.23	0.24	**No**
	15%	16	0.30	0.33	**No**
	25%	19	0.38	0.42	**No**
	50%	27	0.60	0.64	**No**
Low	75%	35	0.84	0.86	**No**
Flow	100%	43	1.1	1.1	**Yes**

The following tables (F-7 through F-14) demonstrate that the selected design ambient hardness used to calculate the CTR criteria result in protective criteria for all flow conditions (i.e., the mixed downstream ambient metals concentrations do not exceed the CTR criteria) for discharges at Discharge Point 001. A similar analysis was conducted for Discharge Point 002. Tables F-15 and F-16 summarize the design ambient hardness for each metal for both Discharge Points 001 and 002.

Table F-7. Lead Evaluation (Design Ambient Hardness = 37 mg/L) for Discharge Point 001

Assumed Upstream Receiving Water Lead Concentration					**0.19 µg/L[1]**
Lead Chronic Criterion[2]					**0.90 µg/L**
Mix[6]		**Mixed Downstream Ambient Concentration**			**Complies with CTR Criteria**
		Hardness [3] (mg/L)	**CTR Criteria [4] (µg/L)**	**Lead [5] (µg/L)**	
High Flow	1%	11	0.20	0.20	**Yes**
	5%	13	0.23	0.23	**Yes**
	15%	16	0.30	0.30	**Yes**
	25%	19	0.38	0.37	**Yes**
	50%	27	0.60	0.54	**Yes**
Low	75%	35	0.84	0.72	**Yes**
Flow	100%	43	1.1	0.90	**Yes**

Table F-8. Copper Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001

Assumed Upstream Receiving Water Copper Concentration					1.4 µg/L[1]
				Copper Chronic Criterion[2]	4.5 µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Copper[5] (µg/L)	
High Flow	1%	11	1.4	1.4	Yes
	5%	13	1.6	1.6	Yes
	15%	16	1.9	1.9	Yes
	25%	19	2.3	2.2	Yes
	50%	27	3.0	3.0	Yes
Low Flow	75%	35	3.8	3.8	Yes
	100%	43	4.5	4.5	Yes

Table F-9. Chromium III Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001

Assumed Upstream Receiving Water Chromium III Concentration					34 µg/L[1]
				Chromium III Chronic Criterion[2]	104 µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Chromium III[5] (µg/L)	
High Flow	1%	11	35	35	Yes
	5%	13	38	37	Yes
	15%	16	46	44	Yes
	25%	19	53	51	Yes
	50%	27	71	69	Yes
Low Flow	75%	35	88	86	Yes
	100%	43	104	104	Yes

Table F-10. Cadmium (Chronic) Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001

Assumed Upstream Receiving Water Cadmium Concentration					0.44 µg/L[1]
				Cadmium Chronic Criterion[2]	1.3 µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Cadmium[5] (µg/L)	
High Flow	1%	11	0.45	0.44	Yes
	5%	13	0.48	0.48	Yes
	15%	16	0.58	0.56	Yes
	25%	19	0.67	0.64	Yes
	50%	27	0.88	0.85	Yes
Low Flow	75%	35	1.1	1.1	Yes
	100%	43	1.3	1.3	Yes

Table F-11. Cadmium (Acute) Evaluation (Design Ambient Hardness = 40 mg/L) for Discharge Point 001

Assumed Upstream Receiving Water Cadmium Concentration					0.37 µg/L[1]
				Cadmium Acute Criterion[2]	1.6 µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Cadmium[5] (µg/L)	
High Flow	1%	11	0.39	0.39	Yes
	5%	13	0.44	0.44	Yes
	15%	16	0.56	0.56	Yes
	25%	19	0.69	0.68	Yes
	50%	27	1.0	0.99	Yes
Low Flow	75%	35	1.4	1.3	Yes
	100%	43	1.7	1.6	Yes

Table F-12. Nickel Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001

Assumed Upstream Receiving Water Nickel Concentration					8.1 µg/L[1]
				Nickel Chronic Criterion[2]	26 µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Nickel[5] (µg/L)	
High Flow	1%	11	8.3	8.2	Yes
	5%	13	9.0	8.9	Yes
	15%	16	11	11	Yes
	25%	19	13	12	Yes
	50%	27	17	17	Yes
Low Flow	75%	35	22	21	Yes
	100%	43	26	26	Yes

Table F-13. Silver (Acute) Evaluation (Design Ambient Hardness = 31 mg/L) for Discharge Point 001

Assumed Upstream Receiving Water Silver Concentration					0.091 µg/L[1]
				Silver Acute Criterion[2]	0.54 µg/L
Mix[6]		Mixed Downstream Ambient Concentration			Complies with CTR Criteria
		Hardness[3] (mg/L)	CTR Criteria[4] (µg/L)	Silver[5] (µg/L)	
High Flow	1%	11	0.10	0.10	Yes
	5%	13	0.12	0.11	Yes
	15%	16	0.17	0.16	Yes
	25%	19	0.23	0.20	Yes
	50%	27	0.43	0.32	Yes
Low Flow	75%	35	0.67	0.43	Yes
	100%	43	0.95	0.54	Yes

Table F-14. Zinc Evaluation (Design Ambient Hardness = 43 mg/L) for Discharge Point 001

Assumed Upstream Receiving Water Zinc Concentration					**18 µg/L[1]**
Zinc Chronic Criterion[2]					**59 µg/L**
Mix[6]		**Mixed Downstream Ambient Concentration**			**Complies with CTR Criteria**
		Hardness [3] (mg/L)	**CTR Criteria [4] (µg/L)**	**Zinc [5] (µg/L)**	
High Flow	1%	11	19	19	**Yes**
	5%	13	21	21	**Yes**
	15%	16	25	25	**Yes**
	25%	19	29	29	**Yes**
	50%	27	40	39	**Yes**
	75%	35	49	49	**Yes**
Low Flow	100%	43	59	59	**Yes**

Footnotes for CTR Hardness-dependent Metals Tables (F-7 through F-14)

1 Highest assumed upstream receiving water metals concentration calculated using CTR equation (Equation 1) for chronic/ acute criterion at a hardness of 11 mg/L.

2 CTR Criteria calculated using CTR equation (Equation 1) for chronic/acute criterion at the design ambient hardness for the particular metal (see Tables F-15 and F-16).

3 Mixed downstream ambient hardness is the mixture of the receiving water and effluent hardness at the applicable mixture using Equation 2.

4 Mixed downstream ambient criteria are the chronic/acute criteria calculated using the CTR equation (Equation 1) at the mixed hardness.

5 Mixed downstream ambient metals concentration is the mixture of the receiving water and effluent metals concentrations at the applicable mixture using Equation 2.

6 The mixture percentage represents the fraction of effluent in the downstream ambient receiving water. The mixture ranges from 1% at the high receiving water flow condition, to 100% at the lowest receiving water flow condition (i.e., effluent dominated).

The applicable design ambient hardness and CTR criteria for the hardness-dependent metals for which toxicity in ambient waters does not occur are as follows in Table F-15 for Discharge Point 001 and Table F-16 for Discharge Point 002.

Table F-15. Summary of Design Ambient Hardness and CTR Criteria for Hardness-dependent Metals for Discharge Point 001

CTR Metals	Design Ambient Hardness (mg/L)	CTR Criteria (µg/L, total recoverable)[1]	
		acute	chronic
Copper	43	6.3	4.5
Chromium III	43	870	100
Cadmium	40 (acute) 43 (chronic)	1.6	1.3
Lead	37	23	0.90
Nickel	43	230	26
Silver	31	0.54	--
Zinc	43	59	59

[1] Metal criteria rounded to two significant figures in accordance with the CTR.

Table F-16. Summary of Design Ambient Hardness and CTR Criteria for Hardness-dependent Metals for Discharge Point 002

CTR Metals	Design Ambient Hardness (mg/L)	CTR Criteria (µg/L, total recoverable)[1]	
		acute	chronic
Copper	69	9.9	6.8
Chromium III	69	1,300	150
Cadmium	61 (acute) 69 (chronic)	2.6	1.8
Lead	55	38	1.5
Nickel	69	340	38
Silver	42	0.91	--
Zinc	69	88	88

[1] Metal criteria rounded to two significant figures in accordance with the CTR.

3. Determining the Need for WQBEL's

a. **Constituents with No Data or Insufficient Data.** Reasonable potential cannot be determined for the following constituents because effluent data are limited or ambient background concentrations are not available. The Discharger is required to continue to monitor for these constituents in the effluent using analytical methods that provide the best feasible detection limits. When additional data become available, further analysis will be conducted to determine whether to add numeric effluent limitations or to continue monitoring.

i. **Iron (Discharge Point 001)**

(a) **WQO.** The Secondary MCL – Consumer Acceptance limit for iron is 300 µg/L, which is used to implement the Basin Plan's chemical constituent objective for the protection of municipal and domestic supply.

(b) **RPA Results.** For priority pollutants, the SIP dictates the procedures for conducting the RPA. Iron is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Due to

the site-specific conditions of the discharge, the Central Valley Water Board has used its judgment in determining the appropriate method for conducting the RPA for this non-priority pollutant constituent. The most stringent objective is the Secondary MCL, which is derived from human welfare considerations (e.g., taste, odor, laundry staining), not for toxicity. Secondary MCL's are drinking water standards contained in Title 22 of the California Code of Regulations. Title 22 requires compliance with these standards on an annual average basis, when sampling at least quarterly. To be consistent with how compliance with the standards is determined, the RPA was conducted based on the calendar year annual average effluent iron concentrations.

The Discharger collected 16 effluent iron samples between June 2008 and December 2013, 12 of which were non detect. The maximum concentration for iron in the effluent from Discharge Point 001 was 2,200 µg/L, which occurred on 6 November 2012. The Discharger indicated in a 10 February 2015 call that site restoration activity was occurring at the time of the 6 November 2012 sample collection, including storm water management upgrades and mine remediation and exploration activities. Sample results from the previous and subsequent months were non detect (less than 50 µg/L) while site activities were occurring. The next highest concentration of iron is 100 µg/L, which is over an order of magnitude less than 2,200 µg/L.

The 6 November 2012 effluent iron sample (2,200 µg/L) averaged with the seven other effluent iron samples collected in 2012, result in an annual average of 320 µg/L, slightly greater than the 300 µg/L Secondary MCL annual average. Calculated without this result, the maximum observed annual average effluent iron concentration at Discharge Point 001 was 56 µg/L for 2012, which does not exceed the Secondary MCL. Previous annual averages from 2008 to 2011 were non detect (less than 50 µg/L). Based on the weight of evidence, the Central Valley Water Board finds that the value of 2,200 µg/L reported for iron is not representative of the effluent from the Facility. Therefore, this Order does not establish an effluent limitation for iron, but requires quarterly effluent monitoring for iron. Should future monitoring results indicate that the discharge has the reasonable potential to cause or contribute to an exceedance of a water quality standard, this Order may be reopened and modified by adding appropriate effluent limitations.

b. **Constituents with Reasonable Potential.** The Central Valley Water Board finds that the discharge has a reasonable potential to cause or contribute to an in-stream excursion above a water quality standard for cadmium (Discharge Point 002), lead (Discharge Point 001), nickel (Discharge Point 001), and pH (Discharge Points 001 and 002). WQBEL's for these constituents are included in this Order. A summary of the RPA is provided in Attachment G, and a detailed discussion of the RPA for each constituent is provided below.

i. **Cadmium (Discharge Point 002)**

(a) **WQO**. The CTR includes hardness dependent criteria for the protection of freshwater aquatic life for cadmium. Using the conversion factors and hardness as described in section IV.C.2.e, the applicable acute (1-hour

average) and chronic (4-day average) criteria for the effluent at Discharge Point 002 are 2.6 µg/L and 1.8 µg/L, respectively, as total recoverable.

(b) **RPA Results**. The MEC for cadmium at Discharge Point 002 was 11 µg/L based on five samples collected between June 2008 and December 2013, which exceeds the applicable CTR criteria. Cadmium was not detected in the receiving water based on three samples collected between June 2008 and December 2013 (minimum MDL 0.051 µg/L). Based on the available data, cadmium in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life.

(c) **WQBELs**. This Order contains a final average monthly effluent limitation (AMEL) and maximum daily effluent limitation (MDEL) for cadmium of 1.3 µg/L and 2.6 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life at Discharge Point 002.

(d) **Plant Performance and Attainability**. The MEC of 11 µg/L exceeds the applicable WQBELs. Discharger has not constructed a discharge treatment system. Without mitigation, the discharge cannot comply with Final Effluent Limitations for cadmium.

ii. **Lead (Discharge Point 001)**

(a) **WQO**. The CTR includes hardness depended criteria for the protection of freshwater aquatic life for lead. Using the conversion factors and reasonable hardness as described in section IV.C.2.e, the applicable acute (1-hour average) and chronic (4-day average) criteria for the effluent at Discharge Point 001 are 23 µg/L and 0.90 µg/L, respectively, as total recoverable.

(b) **RPA Results**. The MEC for lead at Discharge Point 001 was 4 µg/L based on 16 samples collected between June 2008 and December 2013 which exceeds the CTR criteria. The maximum result of 4 µg/L occurred on 6 November 2012 during site remediation activities. Based on the remaining 15 samples, the maximum observed effluent lead concentration was 0.079 µg/L (j-flagged). Lead was not detected in the upstream receiving water based on three samples collected between June 2008 and December 2013 (minimum MDL 0.053 µg/L). Based on the available data, lead in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life. Furthermore, the Discharger is planning on commencing active mining activities which could increase effluent concentrations of lead.

(c) **WQBELs**. This Order contains a final AMEL and MDEL for lead of 0.6 µg/L and 1.7 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life at Discharge Point 001.

(d) **Plant Performance and Attainability**. The MEC of 4 µg/L exceeds the applicable WQBELs. Without new or modified control measures the discharge cannot comply with Final Effluent Limitations for lead.

iii. **Nickel (Discharge Point 001)**

(a) **WQO**. The CTR includes hardness depended criteria for the protection of freshwater aquatic life for nickel. Using the conversion factors and

reasonable hardness as described in section IV.C.2.e, the applicable acute (1-hour average) and chronic (4-day average) criteria for the effluent are 230 µg/L and 26 µg/L, respectively, as total recoverable.

(b) **RPA Results**. The MEC for nickel was 68 µg/L based on 16 samples collected between June 2008 and December 2013. The maximum result of 68 µg/L occurred on 6 November 2012 during site remediation activities. Based on the remaining 15 samples, the maximum observed effluent nickel concentration was 13 µg/L. Nickel was detected but not quantified in the upstream receiving water at a maximum estimated concentration of 1.9 µg/L based on three samples were collected between June 2008 and December 2013. Based on the available data, nickel in the discharge has a reasonable potential to cause or contribute to an in-stream excursion above the CTR criteria for the protection of freshwater aquatic life. The Discharger is planning on commencing active mining activities which could increase effluent concentrations of nickel.

(c) **WQBELs**. This Order contains a final AMEL and MDEL for nickel of 14 µg/L and 45 µg/L, respectively, based on the CTR criterion for the protection of freshwater aquatic life at Discharge Point 001.

(d) **Plant Performance and Attainability**. The MEC of 68 µg/L exceeds the applicable WQBELs. Without new or modified control measures the discharge cannot comply with Final Effluent Limitations for nickel.

iv. **pH (Discharge Points 001 and 002)**

(a) **WQO.** The Basin Plan includes a water quality objective for surface waters (except for Goose Lake) that the *"…pH shall not be depressed below 6.5 nor raised above 8.5.*"

(b) **RPA Results.** The effluent pH at Discharge Point 001 ranged from 7.2 to 9.2. The effluent pH at Discharge Point 002 ranged from 7.3 to 8.2. The upstream receiving water pH ranged from 7.2 to 8.4. The pH of the effluent varies due to the nature of the mine drainage, which provides the basis for the discharge to have a reasonable potential to cause or contribute to an in-stream excursion above the objective.

(c) **WQBEL's.** Effluent limitations for pH of 6.5 as an instantaneous minimum and 8.5 as an instantaneous maximum are included in this Order based on protection of the Basin Plan objectives for pH.

(d) **Plant Performance and Attainability.** Based on 177 samples taken between June 2008 and December 2013 at Discharge Point 001, and 174 samples taken between June 2008 and December 2013 at Discharge Point 002, the effluent pH exceeded the limitations only once at Discharge Point 001. Thus the Central Valley Water Board concludes that immediate compliance with these effluent limitations is feasible.

4. WQBEL Calculations

a. This Order includes WQBEL's for cadmium (Discharge Point 002), lead (Discharge Point 001), nickel (Discharge Point 001), and pH (Discharge Points 001 and 002). The general methodology for calculating WQBEL's based on the different criteria/objectives is described in subsections IV.C.4.b through e, below. See Attachment H for the WQBEL calculations.

b. **Effluent Concentration Allowance.** For each water quality criterion/objective, the ECA is calculated using the following steady-state mass balance equation from Section 1.4 of the SIP:

ECA = C + D(C – B) *where C>B, and*
ECA = C *where C≤B*

where:

ECA = effluent concentration allowance
D = dilution credit
C = the priority pollutant criterion/objective
B = the ambient background concentration.

According to the SIP, the ambient background concentration (B) in the equation above shall be the observed maximum with the exception that an ECA calculated from a priority pollutant criterion/objective that is intended to protect human health from carcinogenic effects shall use the arithmetic mean concentration of the ambient background samples. For ECA's based on MCL's, which implement the Basin Plan's chemical constituents objective and are applied as annual averages, an arithmetic mean is also used for B due to the long-term basis of the criteria.

c. **Basin Plan Objectives and MCL's.** For WQBEL's based on site-specific numeric Basin Plan objectives or MCL's, the effluent limitations are applied directly as the ECA as either an MDEL, AMEL, or average annual effluent limitations, depending on the averaging period of the objective.

d. **Aquatic Toxicity Criteria.** WQBEL's based on acute and chronic aquatic toxicity criteria are calculated in accordance with Section 1.4 of the SIP. The ECA's are converted to equivalent long-term averages (i.e. LTA_{acute} and $LTA_{chronic}$) using statistical multipliers and the lowest LTA is used to calculate the AMEL and MDEL using additional statistical multipliers.

e. **Human Health Criteria.** WQBEL's based on human health criteria, are also calculated in accordance with Section 1.4 of the SIP. The AMEL is set equal to ECA and a statistical multiplier was used to calculate the MDEL.

$$AMEL = mult_{AMEL}\left[\min\left(\overbrace{M_A ECA_{acute}}^{LTA_{acute}}, M_C ECA_{chronic}\right)\right]$$

$$MDEL = mult_{MDEL}\left[\min\left(M_A ECA_{acute}, \underbrace{M_C ECA_{chronic}}_{LTA_{chronic}}\right)\right]$$

$$MDEL_{HH} = \left(\frac{mult_{MDEL}}{mult_{AMEL}}\right) AMEL_{HH}$$

where:
$mult_{AMEL}$ = statistical multiplier converting minimum LTA to AMEL
$mult_{MDEL}$ = statistical multiplier converting minimum LTA to MDEL
M_A = statistical multiplier converting acute ECA to LTA_{acute}
M_C = statistical multiplier converting chronic ECA to $LTA_{chronic}$

Summary of Water Quality-Based Effluent Limitations
Discharge Points 001 and 002

Table F-17. Summary of Water Quality-Based Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.5	8.5
Priority Pollutants					
Lead, Total Recoverable	µg/L	0.6	1.7	--	--
Nickel, Total Recoverable	µg/L	14	45	--	--

Table F-18. Summary of Water Quality-Based Effluent Limitations – Discharge Point 002

Parameter	Units	Effluent Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Conventional Pollutants					
pH	standard units	--	--	6.5	8.5
Priority Pollutants					
Cadmium, Total Recoverable	µg/L	1.3	2.6	--	--

5. Whole Effluent Toxicity (WET)

For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct whole effluent toxicity testing for acute and chronic toxicity, as specified in the Monitoring and Reporting Program (Attachment E, section V). This Order also contains effluent limitations for acute toxicity and requires the Discharger to implement best management practices to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

a. **Acute Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at page III-8.00) The Basin Plan also states that, *"…effluent limits based upon acute biotoxicity tests of effluents will be prescribed where appropriate…*"

For priority pollutants, the SIP dictates the procedures for conducting the RPA. Acute toxicity is not a priority pollutant. Therefore, the Central Valley Water Board is not restricted to one particular RPA method. Acute whole effluent toxicity is not a priority pollutant. Therefore, due to the site-specific conditions of the discharge, the Central Valley Water Board has used professional judgment in determining the appropriate method for conducting the RPA. U.S. EPA's September 2010 NPDES Permit Writer's Manual, page 6-30, states, "*State implementation procedures might allow, or even require, a permit writer to determine reasonable potential through a qualitative assessment process without using available facility-specific effluent monitoring data or when such data are not available…A permitting authority might*

also determine that WQBEL's are required for specific pollutants for all facilities that exhibit certain operational or discharge characteristics (e.g., WQBEL's for pathogens in all permits for POTW's discharging to contact recreational waters)." Acute toxicity effluent limits are required to ensure compliance with the Basin Plan's narrative toxicity objective.

U.S. EPA Region 9 provided guidance for the development of acute toxicity effluent limitations in the absence of numeric water quality objectives for toxicity in its document titled "*Guidance for NPDES Permit Issuance*", dated February 1994. In section B.2. "*Toxicity Requirements*" (pgs. 14-15) it states that, "*In the absence of specific numeric water quality objectives for acute and chronic toxicity, the narrative criterion 'no toxics in toxic amounts' applies. Achievement of the narrative criterion, as applied herein, means that ambient waters shall not demonstrate for acute toxicity: 1) less than 90% survival, 50% of the time, based on the monthly median, or 2) less than 70% survival, 10% of the time, based on any monthly median. For chronic toxicity, ambient waters shall not demonstrate a test result of greater than 1 TUc*." Accordingly, effluent limitations for acute toxicity have been included in this Order as follows:

Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay ---------- 70%
Median for any three consecutive bioassays ---------- 90%

b. **Chronic Aquatic Toxicity.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life*." (Basin Plan at page III-8.00). As shown in the tables below, based on chronic WET testing performed by the Discharger from December 2008 through June 2013, the discharge does not have reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. The discharge from the Klondike and Dutch Tunnel Mines at Discharge Point 002 exhibited toxicity to *Ceriodaphnia dubia* reproduction in a 4 June 2013 testing event, with a result of 2 TUc. However, the Discharger did not perform subsequent accelerated monitoring to verify the presence of toxicity in the effluent, thus it is uncertain if toxicity was actually present in the sample. Chronic toxicity was not observed in the remaining six toxicity testing events. Therefore, this Order does not establish a narrative chronic toxicity effluent limitation for Discharge Point 002 at this time.

Table F-19. Whole Effluent Chronic Toxicity Testing Results for Discharges from the Telegraph Tunnel Mine

Date	Fathead Minnow *Pimephales promelas*		Water Flea *Ceriodaphnia dubia*		Green Algae *Selenastrum capricornutum*
	Survival (TUc)	Growth (TUc)	Survival (TUc)	Reproduction (TUc)	Growth (TUc)
10 December 2008	1	1	1	1	1
8 December 2009	1	1	1	1	1
16 November 2010	1	1	1	1	1
9 August 2011	1	1	1	1	1
12 June 2012	1	1	1	1	1
4 June 2013	1	1	1	1	1

Table F-20. Whole Effluent Chronic Toxicity Testing Results for Discharges from Klondike and Dutch Tunnel Mines

Date	Fathead Minnow *Pimephales promelas*		Water Flea *Ceriodaphnia dubia*		Green Algae *Selenastrum capricornutum*
	Survival (TUc)	Growth (TUc)	Survival (TUc)	Reproduction (TUc)	Growth (TUc)
10 December 2008	1	1	1	1	1
8 December 2009	1	1	1	1	1
16 November 2010	1	1	1	1	1
9 August 2011	1	1	1	1	1
12 June 2012	1	1	1	1	1
4 June 2013	1	1	1	**2**	1
30 July 2013	--	--	1	1	--

The Monitoring and Reporting Program of this Order requires once per permit term (at Discharge Point 001) chronic WET monitoring for demonstration of compliance with the narrative toxicity objective. In addition to WET monitoring, the Special Provision in section VI.C.2.a includes a numeric toxicity monitoring trigger, requirements for accelerated monitoring, and requirements for Toxicity Reduction Evaluation (TRE) initiation if toxicity is demonstrated.

Numeric chronic WET effluent limitations have not been included in this Order. The SIP contains implementation gaps regarding the appropriate form and implementation of chronic toxicity limits. This has resulted in the petitioning of a NPDES permit in the Los Angeles Region[1] that contained numeric chronic toxicity effluent limitations. To address the petition, the State Water Board adopted WQO 2003-012 directing its staff to revise the toxicity control provisions in the SIP. The State Water Board states the following in WQO 2003-012, "*In reviewing this petition and receiving comments from numerous interested persons on the propriety of including numeric effluent limitations for chronic toxicity in NPDES permits for publicly-owned treatment works that discharge to inland waters, we have determined that this issue should be considered in a regulatory setting, in order to allow for full public discussion and deliberation. We intend to modify the SIP to specifically address the issue. We anticipate that review will occur within the next year. We therefore decline to make a determination here regarding the propriety of the final numeric effluent limitations for chronic toxicity contained in these permits.*" The process to revise the SIP is currently underway. Proposed changes include clarifying the appropriate form of effluent toxicity limits in NPDES permits and general expansion and standardization of toxicity control implementation related to the NPDES permitting process. Since the toxicity control provisions in the SIP are under revision it is infeasible to develop numeric effluent limitations for chronic toxicity. Therefore, this Order requires that the Discharger meet best management practices for compliance with the Basin Plan's narrative toxicity objective, as allowed under 40 C.F.R. section 122.44(k).

To ensure compliance with the Basin Plan's narrative toxicity objective, the Discharger is required to conduct chronic WET testing at Discharge Point 001 as specified in the Monitoring and Reporting Program (Attachment E section V.). Furthermore, the

[1] In the Matter of the Review of Own Motion of Waste Discharge Requirements Order Nos. R4-2002-0121 [NPDES No. CA0054011] and R4-2002-0123 [NPDES NO. CA0055119] and Time Schedule Order Nos. R4-2002-0122 and R4-2002-0124 for Los Coyotes and Long Beach Wastewater Reclamation Plants Issued by the California Regional Water Quality Control Board, Los Angeles Region SWRCB/OCC FILES A-1496 AND 1496(a)

Special Provision contained at VI.C.2.a. of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE workplan. The numeric toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as, the threshold to initiate a TRE if effluent toxicity has been demonstrated.

D. Final Effluent Limitation Considerations

1. Mass-based Effluent Limitations

40 C.F.R. section 122.45(f)(1) requires effluent limitations be expressed in terms of mass, with some exceptions, and 40 C.F.R. section 122.45(f)(2) allows pollutants that are limited in terms of mass to additionally be limited in terms of other units of measurement. This Order does not include effluent limitations expressed in terms of mass and concentration. In addition, pursuant to the exceptions to mass limitations provided in 40 C.F.R. section 122.45(f)(1), some effluent limitations are not expressed in terms of mass, such as pH and temperature, and when the applicable standards are expressed in terms of concentration (e.g., CTR criteria and MCL's) and mass limitations are not necessary to protect the beneficial uses of the receiving water.

2. Averaging Periods for Effluent Limitations

40 CFR 122.45(d) requires maximum daily and average monthly discharge limitations for all dischargers other than publicly owned treatment works unless impracticable. The rationale for using alternative averaging periods for pH is discussed in section IV.C.3 of this Fact Sheet.

3. Satisfaction of Anti-Backsliding Requirements

The CWA specifies that a revised permit may not include effluent limitations that are less stringent than the previous permit unless a less stringent limitation is justified based on exceptions to the anti-backsliding provisions contained in CWA sections 402(o) or 303(d)(4), or, where applicable, 40 C.F.R. section 122.44(l).

The effluent limitations in this Order are at least as stringent as the effluent limitations in the Order R5-2008-0029, with the exception of effluent limitations for settleable solids and TSS. The effluent limitations for these pollutants are less stringent than those in Order R5-2008-0029. This relaxation of effluent limitations is consistent with the anti-backsliding requirements of the CWA and federal regulations.

a. **CWA section 402(o)(2).** CWA section 402(o)(2) provides several exceptions to the anti-backsliding regulations. CWA 402(o)(2)(B)(i) allows a renewed, reissued, or modified permit to contain a less stringent effluent limitation for a pollutant if information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance.

   As described further in section IV.C.2 of this Fact Sheet, updated information that was not available at the time Order R5-2008-0029 was issued indicates that effluent concentrations of settleable solids and TSS in mine drainage from the inactive mining operations are well below the effluent limitations established in Order R5-2008-0029. The updated information that supports the relaxation of effluent limitations for these constituents includes the following:

i. **Settleable Solids.** Effluent data collected between June 2008 and December 2013 indicate that effluent concentrations of settleable solids in mine drainage from the inactive mining operations are well below the limits established in Order R5-2008-0029 and are thus unnecessary for the inactive mining operations. This Order includes a more stringent effluent limitation for settleable solids for active mining operations at Discharge Point 001 and 002 pursuant to the ELG's at 40 C.F.R. part 440, subpart M upon commencement of active mining operations at the Telegraph Tunnel and/or Dutch Mine(s).

ii. **TSS.** Effluent data collected between June 2008 and December 2013 indicate that effluent concentrations of TSS in mine drainage from the inactive mining operations are well below the limits established in Order R5-2008-0029 and are thus unnecessary for the inactive mining operations.

Thus, removal or relaxation of the effluent limitations for settleable solids and TSS from Order R5-2008-0029 is in accordance with CWA section 402(o)(2)(B)(i), which allows for the removal of effluent limitations based on information that was not available at the time of permit issuance.

4. Antidegradation Policies

This Order does not allow for an increase in flow or mass of pollutants to the receiving water. Therefore, a complete antidegradation analysis is not necessary. The Order requires compliance with applicable federal technology-based standards and with WQBEL's where the discharge could have the reasonable potential to cause or contribute to an exceedance of water quality standards. The permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16. Compliance with these requirements will result in the use of best practicable treatment or control of the discharge. The impact on existing water quality will be insignificant.

5. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based effluent limitations and WQBEL's for individual pollutants. The technology-based effluent limitations consist of restrictions on flow and settleable solids. Restrictions on flow and settleable solids are discussed in section IV.B in this Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements.

WQBEL's have been derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBEL's were derived from the CTR, the CTR is the applicable standard pursuant to 40 C.F.R. section 131.38. The procedures for calculating the individual water quality-based effluent limitations for priority pollutants are based on the CTR implemented by the SIP, which was approved by U.S. EPA on 18 May 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by U.S. EPA prior to 30 May 2000. Any water quality objectives and beneficial uses submitted to U.S. EPA prior to 30 May 2000, but not approved by U.S. EPA before that date, are nonetheless "*applicable water quality standards for purposes of the CWA*" pursuant to 40 C.F.R. section 131.21(c)(1).

Summary of Final Effluent Limitations
Discharge Point 001 and 002

Table F-21. Summary of Final Effluent Limitations – Discharge Point 001

Parameter	Units	Effluent Limitations				Basis[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	MGD	--	0.30	--	--	PO
Conventional Pollutants						
pH	standard units	--	--	6.5	8.5	BP
Priority Pollutants						
Lead, Total Recoverable	µg/L	0.6	1.7	--	--	CTR
Nickel, Total Recoverable	µg/L	14	45	--	--	CTR
Non-Conventional Pollutants						
Settleable Solids	mg/L	--	--	--	0.2[2]	ELG

[1] PO – Based on effluent limitations in previous Order R5-2008-0029.
BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
ELG – Based on Effluent Limit Guidelines in 40 C.F.R. part 440, subpart M.

[2] Effective upon the Executive Officer's written approval for the commencement of active mining operations (Special Provision IV.C.6.a).

Table F-22. Summary of Final Effluent Limitations – Discharge Point 002

Parameter	Units	Effluent Limitations				Basis[1]
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum	
Flow	MGD	--	0.30	--	--	PO
Conventional Pollutants						
pH	standard units	--	--	6.5	8.5	BP
Priority Pollutants						
Cadmium, Total Recoverable	µg/L	1.3	2.6	--	--	CTR
Non-Conventional Pollutants						
Settleable Solids	mg/L	--	--	--	0.2[2]	ELG

[1] PO – Based on effluent limitations in previous Order R5-2008-0029.
BP – Based on water quality objectives contained in the Basin Plan.
CTR – Based on water quality criteria contained in the California Toxics Rule and applied as specified in the SIP.
ELG – Based on Effluent Limit Guidelines in 40 C.F.R. part 440, subpart M.

[2] Effective upon the Executive Officer's written approval for the commencement of active mining operations (Special Provision IV.C.6.a).

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Recycling Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

1. CWA section 303(a-c), requires states to adopt water quality standards, including criteria where they are necessary to protect beneficial uses. The Central Valley Water Board adopted water quality criteria as water quality objectives in the Basin Plan. The Basin Plan states that "[t]*he numerical and narrative water quality objectives define the least stringent standards that the Regional Water Board will apply to regional waters in order to protect the beneficial uses.*" The Basin Plan includes numeric and narrative water quality objectives for various beneficial uses and water bodies. This Order contains receiving surface water limitations based on the Basin Plan numerical and narrative water quality objectives for bacteria, biostimulatory substances, color, chemical constituents, dissolved oxygen, floating material, oil and grease, pH, pesticides, radioactivity, suspended sediment, settleable substances, suspended material, tastes and odors, temperature, toxicity, and turbidity.

   a. **pH**. Order R5-2008-0029 established a receiving water limitation for pH specifying that discharges from the Facility shall not cause the ambient pH to change by more than 0.5 units based on the water quality objective for pH in the Basin Plan. The Central Valley Water Board adopted Resolution R5-2007-0136 on 25 October 2007, amending the Basin Plan to delete the portion of the pH water quality objective that limits the change in pH to 0.5 units and the allowance of averaging periods for pH. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and U.S. EPA. Consistent with the revised water quality objective in the Basin Plan, this Order does not require a receiving water limitation for pH change

   In Finding No. 14 of Resolution R5-2007-0136 the Central Valley Water Board found that the change in the pH receiving water objective is consistent with the State Water Board Resolution No. 68-16, in that the changes to water quality objectives (i) consider maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR §131.12).

   The relaxation of the pH receiving water limitation will protect aquatic life and other beneficial uses and will not unreasonably affect present and anticipated beneficial uses nor result in water quality less than described in applicable policies. The relaxation of the receiving water limitation is not expected to cause other impacts on water quality. The Central Valley Water Board finds that the relaxation of the pH receiving water limitation (i) is to the maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR §131.12).

   The revised receiving water limitation for pH, which is based on the amendment to the Basin Plan's pH water quality objective, reflects current scientifically supported pH requirements for the protection of aquatic life and other beneficial uses. The revised receiving water limitation for pH is more consistent with the current U.S. EPA recommended criteria and is fully protective of aquatic life and the other beneficial uses listed in the Basin Plan. Changes in pH when pH is maintained within the range of 6.5 to 8.5 are neither beneficial nor adverse and, therefore, are not considered to be degradation in water quality. Attempting to restrict pH changes to 0.5 pH units would incur substantial costs without demonstrable benefits to

beneficial uses. Thus, any changes in pH that would occur under the revised pH limitation would not only be protective of beneficial uses, but also would be consistent with maximum benefit to people of the State. Therefore the proposed amendment will not violate antidegradation policies.

b. **Turbidity.** Order R5-2008-0029 established a receiving water limitation for turbidity specifying that discharges from the Facility shall not cause the turbidity to increase more than 1 NTU where natural turbidity is between 0 and 5 NTU based on the water quality objective for turbidity in the Basin Plan. The Central Valley Water Board adopted Resolution R5-2007-0136 on 25 October 2007, amending the Basin Plan to limit turbidity to 2 NTU when the natural turbidity is less than 1 NTU. The Basin Plan amendment has been approved by the State Water Board, the Office of Administrative Law, and U.S. EPA. Consistent with the revised water quality objective in the Basin Plan, this Order limits turbidity to 2 NTU when the natural turbidity is less than 1 NTU.

In Finding No. 14 of Resolution R5-2007-0136 the Central Valley Water Board found that the change in the turbidity receiving water objective is consistent with the State Water Board Resolution No. 68-16, in that the changes to water quality objectives (i) consider maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR §131.12).

The relaxation of the turbidity receiving water limitation will protect aquatic life and other beneficial uses and will not unreasonably affect present and anticipated beneficial uses nor result in water quality less than described in applicable policies. The relaxation of the receiving water limitation is not expected to cause other impacts on water quality. The Central Valley Water Board finds that the relaxation of the turbidity receiving water limitation (i) is to the maximum benefit to the people of the State, (ii) will not unreasonably affect present and anticipated beneficial use of waters, and (iii) will not result in water quality less than that prescribed in policies, and is consistent with the federal Antidegradation Policy (40 CFR §131.12).

The revised receiving water limitation for turbidity, which is based on the amendment to the Basin Plan's turbidity water quality objective, reflects current scientifically supported turbidity requirements for the protection of aquatic life and other beneficial uses and, therefore, will be fully protective of aquatic life and the other beneficial uses listed in the Basin Plan. Changes in turbidity allowed by the revised receiving water limitation, when ambient turbidity is below 1 NTU, would not adversely affect beneficial uses and would maintain water quality at a level higher than necessary to protect beneficial uses. Restricting low-level turbidity changes further may require costly upgrades, which would not provide any additional protection of beneficial uses. Thus, any changes in turbidity that would occur under the amended turbidity receiving water limitation would not only be protective of beneficial uses, but also would be consistent with maximum benefit to people of the State. Therefore, the relaxed receiving water limitations for turbidity will not violate antidegradation policies.

B. Groundwater – Not Applicable

VI. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The Discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

Sections 122.41(a)(1) and (b) through (n) of 40 C.F.R. establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. Section 123.25(a)(12) of 40 C.F.R. allows the state to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 122.41(j)(5) and (k)(2) because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387(e).

B. Special Provisions

1. Reopener Provisions

a. **Whole Effluent Toxicity.** This Order requires the Discharger to investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity through a TRE. This Order may be reopened to include a numeric chronic toxicity limitation, a new acute toxicity limitation, and/or a limitation for a specific toxicant identified in the TRE. Additionally, if a numeric or narrative chronic toxicity water quality objective is adopted by the State Water Board, this Order may be reopened to include a numeric chronic toxicity limitation based on that objective.

b. **Water Effects Ratio (WER) and Metal Translators.** A default WER of 1.0 has been used in this Order for calculating criteria for applicable inorganic constituents. In addition, default dissolved-to-total metal translators have been used to convert water quality objectives from dissolved to total. If the Discharger performs studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, this Order may be reopened to modify the effluent limitations for the applicable inorganic constituents.

2. Special Studies and Additional Monitoring Requirements

a. **Chronic Whole Effluent Toxicity Requirements.** The Basin Plan contains a narrative toxicity objective that states, "*All waters shall be maintained free of toxic substances in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.*" (Basin Plan at page III-8.00.) Based on whole effluent chronic toxicity testing performed by the Discharger from June 2008 through December 2013 at Discharge Points 001 and 002, the discharge doesn't have reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective.

This provision provides a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if toxicity has been demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of > 1 TUc (where TUc = 100/NOEC) is applied in the provision, because this Order does not allow any

dilution for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits toxicity at 100% effluent.

Accelerated Monitoring. The provision requires accelerated WET testing when a regular WET test result exceeds the monitoring trigger. The purpose of accelerated monitoring is to determine, in an expedient manner, whether there is toxicity before requiring the implementation of a TRE. Due to possible seasonality of the toxicity, the accelerated monitoring should be performed in a timely manner, preferably taking no more than 2 to 3 months to complete.

The provision requires accelerated monitoring consisting of four chronic toxicity tests in a six-week period (i.e., one test every two weeks) using the species that exhibited toxicity. Guidance regarding accelerated monitoring and TRE initiation is provided in the *Technical Support Document for Water Quality-based Toxics Control,* EPA/505/2-90-001, March 1991 (TSD). The TSD at page 118 states, "*EPA recommends if toxicity is repeatedly or periodically present at levels above effluent limits more than 20 percent of the time, a TRE should be required.*" Therefore, four accelerated monitoring tests are required in this provision. If no toxicity is demonstrated in the four accelerated tests, then it demonstrates that toxicity is not present at levels above the monitoring trigger more than 20 percent of the time (only 1 of 5 tests are toxic, including the initial test). However, notwithstanding the accelerated monitoring results, if there is adequate evidence of effluent toxicity (i.e. toxicity present exceeding the monitoring trigger more than 20 percent of the time), the Executive Officer may require that the Discharger initiate a TRE.

See the WET Accelerated Monitoring Flow Chart (Figure F-1), below, for further clarification of the accelerated monitoring requirements and for the decision points for determining the need for TRE initiation.

TRE Guidance. The Discharger is required to prepare a TRE Workplan in accordance with U.S. EPA guidance. Numerous guidance documents are available, as identified below:

i. *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*, EPA/833-B-99/002, August 1999.

ii. *Generalized Methodology for Conducting Industrial Toxicity Reduction Evaluations (TREs)*, EPA/600/2-88/070, April 1989.

iii. *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures*, Second Edition, EPA 600/6-91/003, February 1991.

iv. *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA/600/6-91/005F, May 1992.

v. *Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA/600/R-92/080, September 1993.

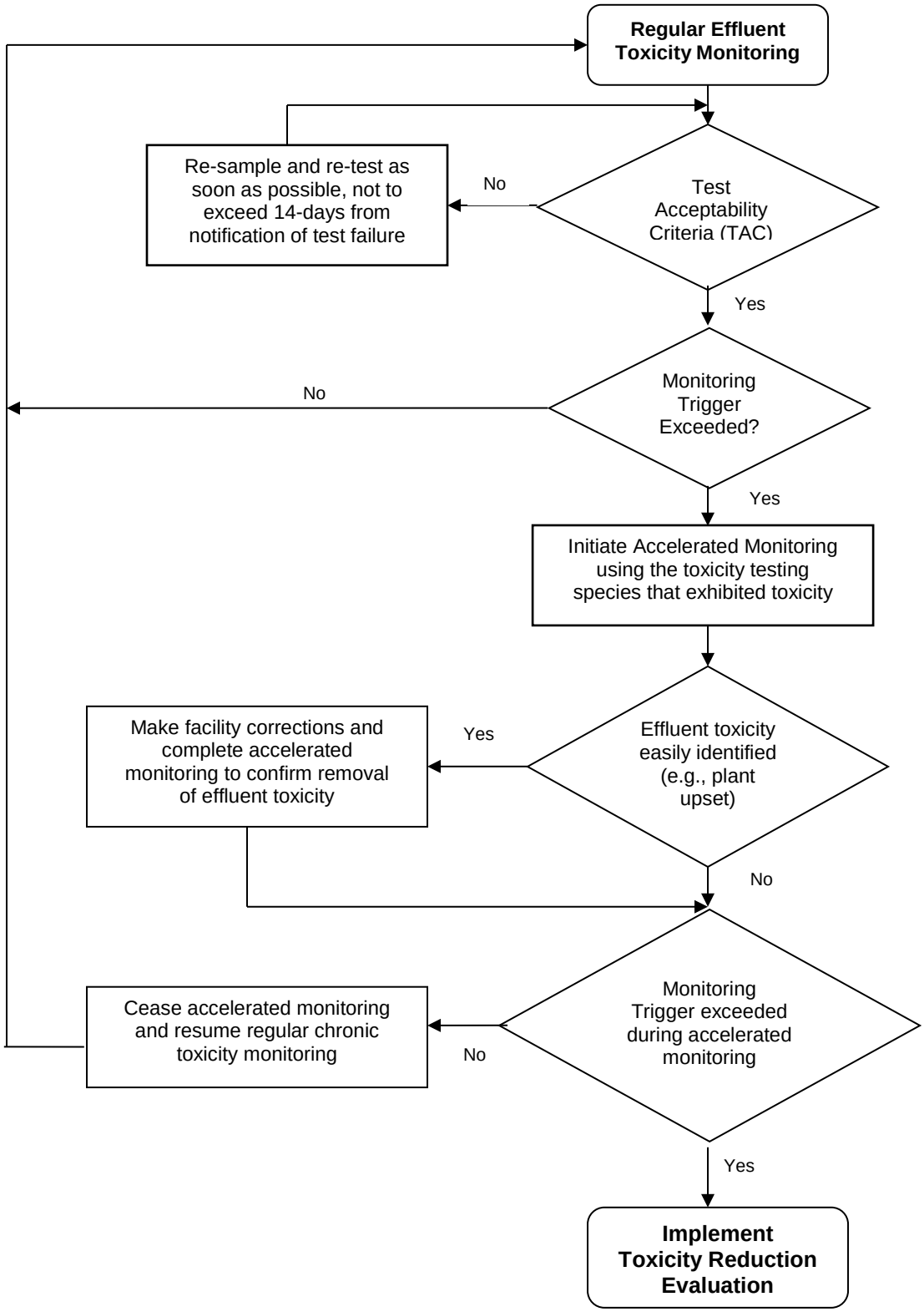
vi. *Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity*, Second Edition, EPA 600/R-92/081, September 1993.

vii. *Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms*, Fifth Edition, EPA-821-R-02-012, October 2002.

viii. *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, EPA-821-R-02-013, October 2002.

ix. *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991.

Figure F-1
WET Accelerated Monitoring Flow Chart



3. Best Management Practices and Pollution Prevention

a. **Best Management Practices (BMP's) for Active Mining Operations.** The ELG's at 40 C.F.R. section 440.148 require BMP's to be implemented for the Gold Placer Mine Subcategory. The ELG's specify BMP's for surface water diversion, berm construction, pollutant materials storage, new water control, and maintenance of water control and solids retention devices. In accordance with the ELG's, this Order requires implementation of BMP's for active mining operations at Telegraph Tunnel and/or Dutch Mine(s).

4. Construction, Operation, and Maintenance Specifications – Not Applicable

5. Special Provisions for Municipal Facilities (POTW's Only) – Not Applicable

6. Other Special Provisions

a. **Commencement of Active Mining**. This Order authorizes discharges from active mining operations upon compliance with the requirements listed in section VI.C.6.a of this Order.

b. **Tailing Disposal.** This Order requires collected screenings, sludges, and other solids removed from liquid wastes to be disposed of in a manner that is consistent with Title 27 of the California Code of Regulations and approved by the Executive Officer. A Tailings Disposal Plan is required prior to the extraction of minable gravels that will evaluate the volume and type of gravels extracted to determine the disposal practices that are best suited to these materials, followed by annual updates to the Tailings Disposal Plan.

7. Compliance Schedules – Not Applicable

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

CWA section 308 and 40 C.F.R. sections 122.41(h), (j)-(l), 122.44(i), and 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Central Valley Water Board to establish monitoring, inspection, entry, reporting, and recordkeeping requirements. The Monitoring and Reporting Program (MRP), Attachment E of this Order establishes monitoring, reporting, and recordkeeping requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this Facility.

A. Influent Monitoring – Not Applicable

B. Effluent Monitoring

1. Pursuant to the requirements of 40 C.F.R. section 122.44(i)(2) effluent monitoring is required for all constituents with effluent limitations. Effluent monitoring is necessary to assess compliance with effluent limitations, assess the effectiveness of the treatment process, and to assess the impacts of the discharge on the receiving stream and groundwater.

2. Order R5-2008-0029 established two effluent discharge points and monitoring locations, Discharge Point 001/Monitoring Location EFF-001 (Klondike and Dutch Tunnel Mines) and Discharge Point 002/Monitoring Location EFF-002 (Telegraph Tunnel Mine). The Discharger reported the effluent in reverse of the nomenclature, with Telegraph Tunnel Mine reported as Discharge Point 001/Monitoring Location EFF-001 and Klondike and Dutch Tunnel Mines reported as Discharge Point 002/Monitoring Location EFF-002. Per request of the Discharger, the nomenclature in this Order has been changed to be consisted with their reporting, that is, Telegraph Tunnel Mine is Discharge Point

001/Monitoring Location EFF-001 and Klondike and Dutch Tunnel Mines are Discharge Point 002/Monitoring Location EFF-002.

3. Effluent from inactive mining has been sufficiently characterized and therefore monitoring for all parameters has been reduced to quarterly, with the caveat that monitoring will increase with the commencement of active mining operations at the Telegraph Tunnel and/or Dutch Mine(s). Monitoring for flow, pH, and temperature will increase from quarterly to weekly during active mining operations; and monitoring for turbidity will increase from quarterly to monthly during active mining operations.

4. Monitoring data collected over the term of Order R5-2008-0029 at Discharge Point 002 (Klondike and Dutch Tunnel Mines) for cadmium demonstrated reasonable potential to exceed water quality objectives/criteria. Monitoring requirements (quarterly) for cadmium have been added to this Order for Monitoring Location EFF-002.

5. Monitoring data collected over the previous permit term at Discharge Point 001 (Telegraph Tunnel Mine) for lead and nickel demonstrated reasonable potential to exceed water quality objectives/criteria. Monitoring requirements (quarterly) for lead and nickel have been added to this Order for Monitoring Location EFF-001.

6. Monitoring requirements have been added (for both Monitoring Locations EFF-001 and EFF-002) for hardness (quarterly) to gather data necessary to adjust metals criteria.

7. In accordance with Section 1.3 of the SIP, periodic monitoring is required for priority pollutants for which criteria or objectives apply and for which no effluent limitations have been established. This Order requires semi-annual monitoring during 2018 or 2019 (depending whether active mining operations have been initiated) for priority pollutants and other constituents of concern. See section IX.A.1 of the Monitoring and Reporting Program (Attachment E) for more detailed requirements related to performing priority pollutant monitoring.

8. Water Code section 13176, subdivision (a), states: "*The analysis of any material required by [Water Code sections 13000-16104] shall be performed by a laboratory that has accreditation or certification pursuant to Article 3 (commencing with Section 100825) of Chapter 4 of Part 1 of Division 101 of the Health and Safety Code*." The DDW certifies laboratories through its Environmental Laboratory Accreditation Program (ELAP).

   Section 13176 cannot be interpreted in a manner that would violate federal holding time requirements that apply to NPDES permits pursuant to the CWA. (Wat. Code §§ 13370, subd. (c), 13372, 13377.) Section 13176 is inapplicable to NPDES permits to the extent it is inconsistent with CWA requirements. (Wat. Code § 13372, subd. (a).) The holding time requirements are 15 minutes for pH and immediate analysis is required for temperature. (40 C.F.R. § 136.3(e), Table II) Due to the location of the Facility, it is both legally and factually impossible for the Discharger to comply with section 13176 for constituents with short holding times.

C. Whole Effluent Toxicity Testing Requirements

1. **Acute Toxicity.** Order R5-2008-0029 required quarterly acute toxicity monitoring. Based on monitoring data collected during the term of Order R5-2008-0029, the minimum observed percent survival was 80% at Discharge Point 001 (Telegraph Tunnel Mine) and 95% at Discharge Point 002 (Klondike and Dutch Mines). Because the Discharger intends to continue to conduct temporary exploration and sampling activities at the Telegraph Tunnel and/or Dutch Mine(s), and may initiate active mining operations, this Order continues to require acute toxicity monitoring. However, based on the available data which did not exceed the effluent limitations, this Order only requires monitoring

upon commencement of active mining operations and reduces the monitoring frequency from quarterly to annually to demonstrate compliance with the effluent limitation for acute toxicity.

2. **Chronic Toxicity.** Order R5-2008-0029 required annual chronic toxicity monitoring. As discussed in section IV.C.5.b of this Fact Sheet, the discharges from Discharge Points 001 and 002 do not exhibit reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Because the Discharger intends to continue to conduct temporary exploration and sampling activities at the Telegraph Tunnel and/or Dutch Mine(s), and may initiate active mining operations, this Order continues to require chronic toxicity monitoring for Discharge Point 001 and 002. However, based on the available data which did not exceed the effluent limitations, this Order reduces the monitoring frequency from annually to once during the permit term.

D. Receiving Water Monitoring

1. Surface Water

a. Receiving water monitoring is necessary to assess compliance with receiving water limitations and to assess the impacts of the discharge on the receiving stream.

b. Order R5-2008-0029 established four receiving water monitoring locations, Monitoring Locations RSW-001 and RSW-002 that were in the swale discharging to Goodyears Creek, upstream and downstream of the discharge from Klondike and Dutch Tunnel Mines, respectively, and Monitoring Locations RSW-003 and RSW-004 that were in Goodyears Creek, upstream and downstream of the discharge from the Telegraph Tunnel Mine, respectively. The Discharger reported receiving water monitoring in reverse of the nomenclature, with Monitoring Locations RSW-001 and RSW-002 in Goodyears Creek, and Monitoring Locations RSW-003 and RSW-004 in the swale discharging to Goodyears Creek. The Discharger noted that the swale only consists of discharge from the Klondike and Dutch Tunnel Mines and has no upstream flow, but does flow downstream to meet Goodyears Creek. The Discharger requested that the receiving water monitoring locations be revised to reflect this information. Thus in this Order, Monitoring Location RSW-001 is in Goodyears Creek, upstream of Discharge Point 001 (Telegraph Tunnel Mine). Monitoring Location RSW-002 is downstream of Discharge Point 001 and upstream of Discharge Point 002 (Klondike and Dutch Tunnel Mines). Monitoring Location RSW-003 is downstream of Discharge Point 002. Monitoring Location RSW-002 serves as both the downstream monitoring location for Discharge Point 001 as well as the upstream monitoring location for Discharge Point 002. Monitoring location RSW-004 is no longer required and has been removed from this Order.

Table F-23. Revised Receiving Water Monitoring Location Nomenclature

Location	R5-2009-0029	Current Order
Telegraph Mine – Upstream Receiving Water	RSW-003	RSW-001
Telegraph Mine – Downstream Receiving Water	RSW-004	RSW-002[1]
Dutch and Klondike Mines – Upstream Receiving Water	RSW-001	RSW-002[2]
Dutch and Klondike Mines – Downstream Receiving Water	RSW-002	RSW-003[3]

[1] Monitoring location relocated closer to discharge point for health and safety reasons.
[2] Monitoring location relocated from swale to Goodyears Creek.
[3] Monitoring location relocated from swale to Goodyears Creek approximately 150 feet downstream of confluence.

c. Receiving water monitoring frequency for pH, electrical conductivity, temperature, and turbidity at Monitoring Locations RSW-001, RSW-002, and RSW-003 has been decreased from monthly to quarterly.

d. Monitoring requirements have been added (for Monitoring Locations RSW-001, RSW-002, and RSW-003) for hardness (quarterly) to gather data necessary to adjust metals criteria.

e. Section 1.3 of the SIP states, "*The RWQCB shall require periodic monitoring (at least once prior to the issuance and reissuance of a permit) for pollutants for which criteria or objectives apply and for which no effluent limitation have been established; however, the RWQCB may choose to exempt low volume discharges, determined to have no significant adverse impact on water quality, from this monitoring requirement*." The discharge is a minor discharge and is not expected to have a significant adverse impact on water quality. Therefore, consistent with section 1.3 of the SIP, this Order does not require the Discharger to collect upstream receiving water samples for analysis of priority pollutants.

2. Groundwater – Not Applicable

E. Other Monitoring Requirements – Not Applicable

VIII. PUBLIC PARTICIPATION

The Central Valley Water Board has considered the issuance of WDR's that will serve as an NPDES permit for the Klondike, Dutch, and Telegraph Tunnel Mines. As a step in the WDR adoption process, the Central Valley Water Board staff has developed tentative WDR's and has encouraged public participation in the WDR adoption process.

A. Notification of Interested Parties

The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDR's for the discharge and provided an opportunity to submit written comments and recommendations. Notification was provided through the following posting of the Notice of Public Hearing at the nearest city hall or county courthouse and the nearest post office (if allowed) to the Facility.

The public had access to the agenda and any changes in dates and locations through the Central Valley Water Board's website at:
http://www.waterboards.ca.gov/centralvalley/board_info/meetings/

B. Written Comments

Interested persons were invited to submit written comments concerning tentative WDR's as provided through the notification process. Comments were due either in person or by mail to the Executive Office at the Central Valley Water Board at the address on the cover page of this Order.

To be fully responded to by staff and considered by the Central Valley Water Board, the written comments were due at the Central Valley Water Board office by 5:00 p.m. on **27 April 2015**.

C. Public Hearing

The Central Valley Water Board held a public hearing on the tentative WDR's during its regular Board meeting on the following date and time and at the following location:

Date:	5 June 2015
Time:	8:30 a.m.
Location:	Regional Water Quality Control Board, Central Valley Region 11020 Sun Center Dr., Suite #200 Rancho Cordova, CA 95670

Interested persons were invited to attend. At the public hearing, the Central Valley Water Board heard testimony pertinent to the discharge, WDR's, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any aggrieved person may petition the State Water Board to review the decision of the Central Valley Water Board regarding the final WDR's. The petition must be received by the State Water Board at the following address within 30 calendar days of the Central Valley Water Board's action:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

For instructions on how to file a petition for review, see
http://www.waterboards.ca.gov/public_notices/petitions/water_quality/wqpetition_instr.shtml

E. Information and Copying

The Report of Waste Discharge, other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Valley Water Board by calling (916) 464-3291.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDR's and NPDES permit should contact the Central Valley Water Board, reference this Facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this order should be directed to Josh Palmer at (916) 464-4674.

ATTACHMENT G – SUMMARY OF REASONABLE POTENTIAL ANALYSIS

Summary of Reasonable Potential Analysis – Discharge Point 001

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Iron, Total Recoverable	µg/L	56[1]	<30	300	--	--	--	--	--	300	Inconclusive[2]
Lead, Total Recoverable	µg/L	4	<0.053	0.9	23	0.9	--	--	--	15	Yes
Nickel, Total Recoverable	µg/L	68	1.9	26	230	26	610	4,600	--	100	Yes

General Note: All inorganic concentrations are given as a total recoverable.
MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
NA = Not Available
ND = Non-detect

Footnotes:
(1) Represents the maximum observed average annual concentration for comparison with the MCL.
(2) See section IV.C.3 of the Fact Sheet (Attachment F) for a discussion of the RPA results.

Summary of Reasonable Potential Analysis – Discharge Point 002

Constituent	Units	MEC	B	C	CMC	CCC	Water & Org	Org. Only	Basin Plan	MCL	Reasonable Potential
Cadmium, Total Recoverable	µg/L	11	<0.05	1.8	2.6	1.8	--	--	--	5	Yes

General Note: All inorganic concentrations are given as a total recoverable.
MEC = Maximum Effluent Concentration
B = Maximum Receiving Water Concentration or lowest detection level, if non-detect
C = Criterion used for Reasonable Potential Analysis
CMC = Criterion Maximum Concentration (CTR or NTR)
CCC = Criterion Continuous Concentration (CTR or NTR)
Water & Org = Human Health Criterion for Consumption of Water & Organisms (CTR or NTR)
Org. Only = Human Health Criterion for Consumption of Organisms Only (CTR or NTR)
Basin Plan = Numeric Site-specific Basin Plan Water Quality Objective
MCL = Drinking Water Standards Maximum Contaminant Level
NA = Not Available
ND = Non-detect

ATTACHMENT H – CALCULATION OF WQBEL'S

Calculation of WQBEL's for Discharge Point 001

Parameter	Units	Most Stringent Criteria			HH Calculations[1]			Aquatic Life Calculations[1]									Final Effluent Limitations	
		HH	CMC	CCC	ECA_{HH} = $AMEL_{HH}$	AMEL/MDEL $Multiplier_{HH}$	$MDEL_{HH}$	ECA $Multiplier_{acute}$	LTA_{acute}	ECA $Multiplier_{chronic}$	$LTA_{chronic}$	Lowest LTA	AMEL $Multiplier_{95}$	$AMEL_{AL}$	MDEL $Multiplier_{99}$	$MDEL_{AL}$	Lowest AMEL	Lowest MDEL
Lead, Total Recoverable	µg/L	--	23	0.90	--	--	--	0.16	3.6	0.29	0.26	0.26	2.28	0.59	6.4	1.7	0.6	1.7
Nickel, Total Recoverable	µg/L	--	230	26	--	--	--	0.11	26	0.19	4.95	4.95	2.89	14	8.9	45	14	45

[1] As discussed in section IV.C.2.c of the Fact Sheet (Attachment F), calculation of effluent limitations for the protection of human health and aquatic life are determined without the allowance of dilution credits.

Calculation of WQBEL's for Discharge Point 002

Parameter	Units	Most Stringent Criteria			HH Calculations[1]			Aquatic Life Calculations[1]									Final Effluent Limitations	
		HH	CMC	CCC	ECA_{HH} = $AMEL_{HH}$	AMEL/MDEL $Multiplier_{HH}$	$MDEL_{HH}$	ECA $Multiplier_{acute}$	LTA_{acute}	ECA $Multiplier_{chronic}$	$LTA_{chronic}$	Lowest LTA	AMEL $Multiplier_{95}$	$AMEL_{AL}$	MDEL $Multiplier_{99}$	$MDEL_{AL}$	Lowest AMEL	Lowest MDEL
Cadmium, Total Recoverable	µg/L	--	2.6	1.8	--	--	--	0.32	0.83	0.53	0.95	0.83	1.55	1.3	3.11	2.6	1.3	2.6

[1] As discussed in section IV.C.2.c of the Fact Sheet (Attachment F), calculation of effluent limitations for the protection of human health and aquatic life are determined without the allowance of dilution credits.