

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION**

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**ORDER NO. R5-2008-0104
NPDES NO. CA0085286**

**WASTE DISCHARGE REQUIREMENTS
FOR THE
SOPER COMPANY
SPANISH MINE
NEVADA COUNTY**

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	Soper Company
Name of Facility	Spanish Mine
Facility Address	Spanish Mine Road
	Washington, 94986
	Nevada County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

The discharge by Soper Company from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Mine Adit 1	39°, 22', 56" N	120°, 47', 10" W	Poorman Creek
003	Mine Adit 3	39°, 24', 07" N	120°, 47', 28" W	Devils Canyon

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	31 July 2008
This Order shall become effective on:	20 September 2008
This Order shall expire on:	20 September 2013
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	<u>180 days prior to the Order expiration</u>

IT IS HEREBY ORDERED, that 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 federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Pamela C. Creedon, Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on **31 July 2008**.

Pamela C. Creedon, Executive Officer

Table of Contents

I. Facility Information.....	3
II. Findings.....	3
III. Discharge Prohibitions.....	9
IV. Best Management Practices and Application Specifications.....	9
V. Receiving Water Limitations.....	10
A. Surface Water Limitations.....	10
VI. Provisions.....	12
A. Standard Provisions.....	12
B. Monitoring and Reporting Program Requirements.....	16
C. Special Provisions.....	16
1. Re-opener Provisions.....	16
2. Special Studies.....	17
3. Best Management Practices.....	19
4. Construction, Operation and Maintenance Specifications.....	20
VII. Compliance Determination.....	20

List of Tables

Table 1. Discharger Information.....	Cover
Table 2. Discharge Location.....	Cover
Table 3. Administrative Information.....	Cover
Table 4. Facility Information.....	1
Table 5. Basin Plan Beneficial Uses.....	6
Table 6. Receiving Water Limits for Poorman Creek.....	12

List of Attachments

Attachment A – Definitions.....	A-1
Attachment B – Topographic Map.....	B-1
Attachment C – Flow Schematic.....	C-1
Attachment D – Federal Standard Provisions.....	D-1
Attachment E – Monitoring and Reporting Program (MRP).....	E-1
Attachment F – Fact Sheet.....	F-1

I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	Soper Company
Name of Facility	Spanish Mine
Facility Address	Spanish Mine Road
	Washington, 94986
	Nevada County
Facility Contact, Title, and Phone	Paul Violett, Vice-president, (530) 675-2343
Mailing Address	19855 Barton Hill Road Strawberry Valley, CA 95981
Type of Facility	Inactive Mine
Facility Design Flow	0.065 mgd

II. FINDINGS

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

A. Background. Soper Company (hereinafter Discharger) submitted a Report of Waste Discharge, dated 2 October 2006, and applied for a National Pollutant Discharge Elimination System (NPDES) permit authorization to discharge up to 0.12 mgd of wastewater from the Spanish Mine. The application was deemed complete on 7 December 2006.

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. Facility Description. The Discharger owns the historic, inactive Spanish Mine, a former gold and barite mine approximately 3 miles north of the town of Washington, Nevada County. Underground mining for gold ceased in 1942. The underground mine workings collect and discharge moderately acidic water containing metals from two mine adits designated Discharge Point 001 (Mine Adit 1) and Discharge Point 003 (Mine Adit 3) seasonally to Poorman Creek, waters of the United States, and tributaries to the South Fork Yuba River within the South Yuba Hydrologic Unit. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the mine and surface waters.

C. Legal Authorities. This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code

(commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

- D. Background and Rationale for Requirements.** The Regional Water Board developed the requirements in this Order based on information submitted as part of the application, and through monitoring data submitted by the Discharger, and other available information. The Fact Sheet (Attachment F), which contains background information and rationale for Order requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through F are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of the CEQA, Public Resources Code sections 21100-21177.
- F. Effluent Limitations.** NPDES permits for discharges to surface waters must meet all applicable provisions of sections 301 and 402 of the Clean Water Act (CWA). These provisions require controls that use best available technology economically achievable (BAT), best conventional pollutant control technology (BCT), and any more stringent controls necessary to reduce pollutant discharges and meet water quality standards. Pursuant to section 122.44(k)(3) of Title 40 of the Code of Federal Regulations (CFR), Best Management Practices (BMPs) may be required in NPDES permits in lieu of numeric effluent limits to control or abate the discharge of pollutants when numeric effluent limits are infeasible. Numeric effluent limitations are infeasible in this case for the reasons discussed below.

Numeric effluent limits for pollutant discharges associated with the control of drainage from abandoned, inactive mines in remote regions with limited seasonal access, no infrastructure (including electricity), and highly variable discharge rates and waste constituent concentrations are not feasible. Discharges from the Spanish Mine are highly variable and inconsistent both in volume and the concentration of waste constituents. This variability is due to the discharge being directly related to stormwater and rainfall events. Infrastructure, including electricity and regular access to the site in winter conditions, is not available at this site. Unlike typical industrial discharges, these discharges cannot be terminated simply by ending an industrial process.

Numeric limits have long been found to be infeasible for stormwater discharges, and the SIP explicitly excludes stormwater from coverage. The flows from this inactive, historic mine are similar to stormwater discharges in that the discharge from the mine portals are directly related to precipitation experienced at the site. The flow from the mine portals originates from the infiltration of precipitation into the subsurface where it is collected in the underground workings and discharged from the mine portal. Although the mine discharges are not stormwater discharges, in this case, their similarity supports regulating them in a similar manner using BMPs.

BMPs may include surface water diversions, installation of concrete seals in the mine portals, collection of the portal discharges and treatment in “passive” treatment systems. Such systems are commonly used in remote locations to handle mine drainage and do not require electricity or chemical feed stock. These systems are subject to variations in the influent quality and the effectiveness of its physical and biological processes used in each. These processes vary with changes in temperature, flow rates, and residence time.

Based on the above discussion and further information beginning on page F-7 of the Fact Sheet, this Order contains discharge limitations that are narrative, and does not contain numeric effluent limits. In place of effluent limits, the Order requires implementation of BMPs for source control (i.e. diversion of surface waters which may infiltrate into the underground mine workings,) concrete bulkhead seals to plug the mine adits, and passive biological or physical treatment systems.

This permit requires that the Discharger implement BMPs to control or abate pollutants discharged from the mine adits to the receiving waters (Poorman Creek) and comply with numeric receiving water limitations. The BMPs constitute BAT and BCT and will be implemented to minimize the impacts of the discharges. This approach will allow for the long-term maintenance of water quality and protection of the beneficial uses of the receiving waters.

The BMP requirements included in the permit were obtained from the Discharger’s application, other information provided to the Regional Water Board, and the *Water Quality Control Plan, Fourth Edition (Revised September 2004), for the Sacramento and San Joaquin River Basins*. The BMPs provide the flexibility necessary to establish controls to minimize the magnitude of the discharges adequately to prevent impacts to beneficial uses in the receiving waters. A detailed discussion of the BMP-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. Receiving Water Limits. Receiving Water Limits are required to protect the beneficial uses assigned to a waterbody. After the application of BMPs for the reduction and treatment of the mine drainage from the inactive mines, the water can be discharged to surface waters. Receiving Water Limits have been scientifically developed using appropriate criteria to protect the beneficial uses of Poorman Creek. Details on the development of the Receiving Water Limits can be found in the Fact Sheet (Attachment F). Current, but limited data indicates beneficial uses in Poorman Creek are not affected (see Sections II.B-C of the Fact Sheet, Appendix F); however, this Order requires a Mixing Zone study for confirmation.

H. Water Quality Control Plans. The Regional Water Board adopted the *Water Quality Control Plan, Fourth Edition (Revised September 2004), 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. The Basin Plan at page II-2.00 states that the “...beneficial uses of any specifically identified water body generally apply to its tributary streams.” The Basin Plan does not specifically identify

beneficial uses for Poorman Creek or Devils Canyon, but does identify present and potential uses for the Yuba River, to which Poorman Creek and Devils Canyon, via Poorman Creek, are tributary. These beneficial uses are as follows: municipal and domestic supply; agricultural supply, including stock watering; hydropower generation; water contact recreation, including canoeing and rafting; non-contact water recreation, including aesthetic enjoyment; cold freshwater habitat; cold spawning, reproduction, and/or early development; and wildlife habitat.

In addition, the Basin Plan implements State Water Resources Control Board (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. Thus, as discussed in detail in the Fact Sheet, beneficial uses applicable to Poorman Creek and Devils Canyon are as follows:

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001 and 003	Poorman Creek	<u>Existing:</u> Municipal and domestic supply (MUN), agriculture supply including stock watering (AGR), hydropower generation (POW), contact recreation including canoeing and rafting (REC1) and non-contact recreation including aesthetic enjoyment (REC-2, cold freshwater habitat (COLD), cold water spawning (SPWN), wildlife habitat (WILD).

Requirements of this Order implement the Basin Plan.

- I. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA 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 February 13, 2001. These rules contain water quality criteria for priority pollutants.
- J. State Implementation Policy.** On March 2, 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 April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 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.

- K. Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. This Order does not contain numeric effluent limits but instead relies on implementation of BMPs. Therefore, this Order **does not** include compliance schedules or interim effluent limitation(s) and discharge specifications. In place of a compliance schedule, a Cease and Desist Order with a time schedule for implementing BMPs will be issued concurrently with this Order.
- L. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes. (40 C.F.R. § 131.21; 65 Fed. Reg. 24641 (April 27, 2000).) Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.
- M. Stringency of Requirements for Individual Pollutants.** This Order contains BMPs for the reduction and treatment of mine drainage from inactive, abandoned mines. The appropriate BMPs are based on Best Professional Judgment to determine what is feasible and achievable in a remote area with limited seasonal access and no infrastructure. This Order contains both BMP based narrative discharge limits and water quality-based receiving water limits for individual pollutants to protect beneficial uses. The receiving water limits include restrictions on arsenic, cadmium, cobalt, copper, lead, manganese, nickel, and zinc which have been shown to have a reasonable potential for exceeding water quality objectives. .

The BMPs and water quality-based receiving water limits have been scientifically derived to implement to 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. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless "*applicable water quality standards for purposes of the [Clean Water] Act*" pursuant to 40 CFR section 131.21(c)(1). Collectively, this Order's restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

- N. Antidegradation Policy.** 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 No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific

findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies.

The discharge from the two mine adits at this site have been continuous since before November 28, 1975, the date of the implementation of the CWA. The federal antidegradation policy applies if a discharge or other activity, which began after 28 November 1975, will result in the degradation of surface water quality. Therefore any activity that maintains or reduces the amount of pollutants discharged to surface waters over that prior to implementation of the CWA is consistent of the Antidegradation provision. The requirements of this permit will reduce metals loading to Poorman Creek and are therefore consistent with the Antidegradation Policy.

- O. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may be relaxed. This is the first permit issued for this discharge, therefore the anti-backsliding requirements are not applicable.
- P. Endangered Species Act.** 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 sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 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.
- P. Monitoring and Reporting.** Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program establishes monitoring and reporting requirements to implement federal and State requirements. This Monitoring and Reporting Program is provided in Attachment E.
- Q. Standard and Special Provisions.** Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with 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. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.
- R. Provisions and Requirements Implementing State Law.** The provisions/requirements in subsections IV.B, IV.C, V.B, and VI.C. of this Order 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.

- S. Notification of Interested Parties.** The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet of this Order.
- T. Consideration of Public Comment.** The Regional 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 of this Order.

III. DISCHARGE PROHIBITIONS

- A. Discharge of wastewater at a location or in a manner different from that described in the Findings 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 California Water Code.
- D. The Discharger shall not allow pollutant-free wastewater to be discharged into the collection, treatment, and 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.
- E. The direct, discreet, discharge of acid mine drainage (AMD) from adits, fissures, waste rock piles, seeps, springs, or waste piles to surface water drainage courses is prohibited, except as provided in the Receiving Water Limitations below.

IV. BEST MANAGEMENT PRACTICES AND APPLICATION SPECIFICATIONS

- A. The Discharger must implement Best Management Practices (BMPs) to manage the discharge of AMD from the mine portals, and other point source discharges to surface waters or surface water drainage courses. BMPs may include, but are not limited to, installation of concrete bulkhead seals, passive biological or physical treatment systems (sulfate reducing bacteria reactors, anoxic limestone drains, etc), injection of neutralizing agents into underground workings, run-on and run-off controls, consolidation and capping of reactive waste rock, or other technologies,

including new technologies as they are developed.

- B. The Discharger shall continue to develop and implement additional BMPs as necessary until the concentrations of arsenic, cadmium, cobalt, copper, iron, lead, manganese, nickel, and zinc at Discharge Points 001 and 003, are at or below the Receiving Water Limits contained in Table 6, Receiving Water Limits for Poorman Creek, or until the Regional Water Board determines all appropriate BMPs have been implemented.
- C. Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted discharge from Discharge Points 001 and 003 shall be no less than:
 - i. 70%, minimum for any one bioassay; and
 - ii. 90%, median for any three consecutive bioassays

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order.

1. The Discharge shall not cause the concentrations or parameters to exceed the following in Poorman Creek at Monitoring Locations RSW-1D and RSW-3D:

Table 6. Receiving Water Limits for Poorman Creek

Parameter	Units	Receiving Water Limitations			
		Average Monthly	Maximum Daily	Instantaneous Minimum	Instantaneous Maximum
Arsenic	ug/l		10 ^{1,2}		
Cadmium	ug/l	0.9 ^{3,4}	1.0 ^{3,4}		
Cobalt	ug/l	50 ⁵			
Copper	ug/l	3.0 ^{3,4}	4.1 ^{3,4}		
Iron	ug/l	300 ⁶			
Lead	ug/l	0.6 ^{3,4}	15 ^{3,4}		
Manganese	ug/l	50 ⁶			
Nickel	ug/l	17 ^{3,4}	100 ²		
Zinc	ug/l	46 ^{3,4}	46 ^{3,4}		
pH	ug/l			6.5	8.5

¹Criteria from Basin Plan

²Primary MCL for drinking water supply

³Criteria from California Toxics Rule

⁴Listed criteria are based on a "worst case" hardness of 27 mg/l. Actual criteria shall be calculated after each sampling event using the California Toxics Rule formulas for Total Recoverable Metals for Criteria Continuous Concentration and Criteria Maximum Concentration.

⁵Agricultural Water Quality Objective

⁶Secondary MCL for drinking water supply

The discharge shall not cause the following in Poorman Creek or Devils Canyon:

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.
5. **Floating Material.** Floating material to be present in amounts that cause nuisance or adversely affect beneficial uses.
6. **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.
7. **pH.** The pH to be depressed below 6.5, or raised above 8.5.
8. **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 maximum contaminant levels specified in Table 4 (MCL Radioactivity) of Section 64443 of Title 22 of the California Code of Regulations.
9. **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.
10. **Settleable Substances.** Substances to be present in concentrations that result in the deposition of material that causes nuisance or adversely affects beneficial

uses.

11. **Suspended Material.** Suspended material to be present in concentrations that cause nuisance or adversely affect beneficial uses.
12. **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.
13. **Temperature.** The natural temperature to be increased by more than 5°F
14. **Toxicity.** Toxic substances to be present, individually or in combination, in concentrations that produce detrimental physiological responses in human, plant, animal, or aquatic life.
15. **Turbidity.** The turbidity to increase as follows:
 - a. More than 1 Nephelometric Turbidity Unit (NTU) where natural turbidity is between 0 and 5 NTUs.
 - b. More than 20 percent where natural turbidity is between 5 and 50 NTUs.
 - c. More than 10 NTU where natural turbidity is between 50 and 100 NTUs.
 - d. More than 10 percent where natural turbidity is greater than 100 NTUs.

VI. PROVISIONS

A. Standard Provisions

1. The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.
2. The Discharger shall comply with the following provisions:
 - a. If the Discharger's wastewater treatment plant is publicly owned or subject to regulation by California Public Utilities Commission, it shall be supervised and operated by persons possessing certificates of appropriate grade according to Title 23, CCR, Division 3, Chapter 26.
 - b. 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:

- *New regulations.* New regulations have been promulgated under Section 405(d) of the Clean Water Act, 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.

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

- c. 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 Regional 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.

- d. 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.

- e. 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.
- f. 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.

- g. A copy of this Order shall be maintained at the discharge facility or nearest office where personnel responsible for operating and/or maintaining the facility are headquartered, and be available at all times to operating personnel. Key operating personnel shall be familiar with its content.
- h. The Discharger, upon written request of the Regional 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 Regional Water Board Standard Provision VI.A.2.m.

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 Regional 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.

- i. 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.
- j. Laboratories that perform sample analyses must be identified in all monitoring reports submitted to the Regional Water Board and USEPA.

- k. The Discharger shall conduct analysis on any sample provided by USEPA as part of the Discharge Monitoring Quality Assurance (DMQA) program. The results of any such analysis shall be submitted to USEPA's DMQA manager.
- l. 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.
- m. All monitoring and analysis 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.
- n. The Discharger shall file with the Regional Water Board technical reports on self-monitoring performed according to the detailed specifications contained in the Monitoring and Reporting Program attached to this Order.
- o. The results of all monitoring required by this Order shall be reported to the Regional 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.
- p. The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the CWC, including, but not limited to, sections 13385, 13386, and 13387.
- q. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition, maximum daily effluent limitation, 1-hour average effluent limitation, or receiving water limitation contained in this Order, the Discharger shall notify the Regional Water Board by telephone (530) 224-4845 within 24 hours of having knowledge of such noncompliance, and shall confirm this notification in writing within five days, unless the Regional Water Board waives confirmation. The written notification shall include the information required by Attachment D, Section V.E.1 [40 CFR section 122.41(l)(6)(i)].
- r. 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.
- s. In the event the Discharger does not comply or will be unable to comply for any reason, with any prohibition or receiving water limitation of this Order, the Discharger shall notify the Regional Water Board by telephone (530) 224-4845 within 24 hours of having knowledge of such noncompliance, and shall confirm

this notification in writing within five days, unless the Regional 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 of this Order.

C. Special Provisions

1. Reopener Provisions

- a. This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant that was not previously detected, or if conditions are discovered during the implementation of BMPs that were not included in the application or could not have been foreseen and result in a significant change in character or volume of the discharge and/or may result in an increase of pollutants discharged surface waters beyond that in the historical data.
- b. **Mixing Zone and Dilution Study.** Although rapid and complete mixing is assumed, this Order requires the Discharger to complete an independent mixing zone and dilution study of the receiving water both upstream and downstream of Discharge Points 001 and 003. The study shall be completed and submitted to the Regional Water Board within twenty-four (24) months of the effective date of this Order. The mixing zone and dilution study shall be conducted in accordance with the procedures outlined in Appendix 5 of the SIP and provide adequate information for the Regional Water Board to determine if the conditions for Mixing Zones and Dilution Credits described in Section 1.4.2 of the SIP can be met. If after completion of the mixing zone and dilution study, it is determined that the receiving water limits cannot be met or beneficial uses may be affected by the discharge, then the Order may be reopened and the discharge requirements modified.
- c. **Whole Effluent Toxicity.** As a result of a Toxicity Reduction Evaluation (TRE), this Order may be reopened to include a 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, if the discharge has a reasonable potential for chronic toxicity. If the Mixing Zone and Dilution Study required by

Section VI.C.1.b. indicates a dilution ratio of less than 100:1, this Order will be reopened to require a Numeric Monitoring Trigger for Accelerated Monitoring and TRE initiation consistent with the new information provided by the Mixing Zone and Dilution Study pursuant to Provision VI.C.2.c.

- d. Additional requirements may be included in this Order as a result of information gathered during the investigations into the site characteristics and reducing the discharges to surface waters, and the evaluation of detailed data that may be included as a requirement in either this Order as described below or in a time schedule contained in a Cease and Desist Order for the site.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

- a. In order to determine if the BMPs are effective, baseline data are required on the current discharges, including calculation of the initial metal loading. Preferably the data can be collected over an extended time period. In order to develop such baseline data, the Discharger is required to sample the discharges from Mine Adit 1 and Mine Adit 3 monthly, as physical access allows, for the first year for the CAM 17 metals and flow rates. Any available historical data can also be incorporated into the pre-remedial activities data, provided it can be appropriately validated. A report containing this data must be submitted to the Regional Water Board no later than **18 months** from the adoption of this Order.
- b. The Discharger is required to develop detailed topographic maps of the area showing affected drainages, mine adits, seeps, springs, roads, waste rock, tailings, and any other features that may contribute to the discharge of AMD to surface waters or aid in the implementation of BMPs. The maps shall be submitted to the Regional Board **within one year** of the adoption of this Order.
- c. Chronic Whole Effluent Toxicity. For compliance with the Basin Plan's narrative toxicity objective, this Order requires the Discharger to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, 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 toxicity numeric monitoring trigger 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 reoccurrence 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 requirements for the Discharger to develop and submit a TRE Work Plan and includes procedures for accelerated chronic toxicity monitoring and TRE initiation."

- i. Initial Investigative Toxicity Reduction Evaluation (TRE) Work Plan. Within one year of the effective date of this Order, the Discharger shall submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer. This should be a one to two page document including, at minimum:
 - a. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of effluent toxicity, effluent variability, and treatment system efficiency;
 - b. A description of the facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in operation of the facility; and
 - c. A discussion of who will conduct the Toxicity Identification Evaluation, if necessary (i.e. an in-house expert or outside contractor).
- ii. 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. WET testing results exceeding the monitoring trigger during accelerated monitoring demonstrates a pattern of toxicity and requires the Discharger to initiate a TRE to address the effluent toxicity.
- iii. Numeric Monitoring Trigger. The numeric toxicity monitoring trigger is 100 TUc (where TUc = 100/NOEC). This number is based on the expected dilution with the receiving waters. 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.
- iv Accelerated Monitoring Specifications. If the monitoring trigger is exceeded during regular chronic toxicity testing, within 14-days of notification by the laboratory of the test results, the Discharger shall initiate accelerated monitoring. Accelerated monitoring shall consist of one (1) chronic toxicity test in a six-week period using the species that exhibited toxicity. The following protocol shall be used for accelerated monitoring and TRE initiation:
 - a. If the results of the single accelerated monitoring test does 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 (i.e. temporary plant upset), the Discharger shall make necessary corrections to the facility and shall conduct an additional accelerated monitoring. 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 the accelerated toxicity test exceeds the monitoring trigger, the Discharger shall cease accelerated monitoring and initiate 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 the test results exceeding the monitoring trigger during accelerated monitoring, the Discharger shall submit a TRE Action Plan to the Regional Water Board including, at minimum:
 - 1) Specific actions the Discharger will take to investigate and identify the cause(s) of toxicity, including 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.

Within sixty (60) days of notification by the laboratory of the test results, the Discharger shall submit to the Regional Water Board a TRE Work Plan for approval by the Executive Officer. The TRE Work Plan shall outline the procedures for identifying the source(s) of, and reducing or eliminating effluent toxicity. The TRE Work Plan must be developed in accordance with EPA guidance.

3. Best Management Practices and Pollution Prevention

Pursuant to section 122.44(k)(3) of Title 40 of the Code of Federal Regulations (CFR), BMPs may be required in NPDES permits in lieu of numeric effluent limits to control or abate the discharge of pollutants when numeric effluent limits are infeasible. Numeric effluent limits for pollutant discharges associated with the control of drainage from abandoned, inactive mines in remote regions with limited seasonal access and no infrastructure (including electricity) are not feasible. The concentration and loading of waste constituents discharged from inactive mines can vary widely with changes in season, temperature and precipitation. The volume and concentration of waste constituents in the drainage from the mine adits can change dramatically with changes in precipitation and the infiltration of water into the underground workings. "Passive" treatment systems typical used in remote locations to handle mine drainage do not have access to electricity or chemical feed stock and are subject to variations in the influent quality and the effectiveness of its physical and biological processes. These processes vary with changes in temperature flow rates and residence time.

This permit requires that the Discharger implement BMPs to control or abate pollutants discharged from the mine adits to the receiving waters (Poorman Creek or Devils Canyon) and comply with receiving water limitations. The BMPs constitute BAT and BCT and will be implemented to minimize the impacts of the discharges. This approach will allow for the long-term maintenance of water quality and

protection of beneficial uses of the receiving waters.

The BMPs provide the flexibility necessary to establish controls to minimize the magnitude of the discharges adequately to prevent impacts to beneficial uses in the receiving waters. Such BMPs may include construction of surface water diversions to reduce the quantity of precipitation that infiltrates into the underground workings, installation of bulkhead seals in the mine adits to prevent the discharge of mine drainage from the adit and reduce the availability of oxygen to the reactive rock required for the release of metals into solution, development of treatment systems to remove metals from the adit discharges, and removal or capping of waste rock or tailings that may generate metals etc.

4. Construction, Operation and Maintenance Specifications

Construction of water diversion structures, concrete bulkhead seals in the mine adits, conveyance pipelines, containment and treatment systems, and discharge structures shall be under the direct supervision of a California Professional Engineer or Certified Engineering Geologist, as appropriate. Design plans shall be submitted to the Regional Water Board for review and shall bear the signature and stamp of the supervising engineer or engineering geologist.

An Operation and Maintenance Plan (OMP) shall be developed and made available for operating personnel who oversee any of the BMPs developed and installed to reduce the discharges of mine drainage. The OMP shall be updated as BMPs are implemented.

5. Other Special Provisions

Not Applicable

6. Compliance Schedules

Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the discharge limitations contained in section IV of this Order will be determined as specified below:

A. General.

1. Best Management Practices. Compliance with implementation of BMPs shall be determined based on the effectiveness, maintenance, and sustainability of the specific BMP.

2. Receiving Water Limitations. Compliance with the Receiving Water Limitations for metals shall be determined using sample reporting protocols defined in the MRP of this

Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with receiving water limitations if the sample results exceed the limits provided in Table 6 above. Compliance shall be determined during each sampling event. Compliance for cadmium, copper, lead, nickel, and zinc will be based on a receiving water hardness of 27 mg/l which represents the most likely worst case scenario based on historical data.

ATTACHMENT A – DEFINITIONS

Acid Mine Drainage (AMD), AMD is formed when water infiltrates into mine workings and contacts exposed sulfide deposits. The ensuing chemically and bio-chemically mediated reactions produce sulfuric acid and lower the pH of the water. As the water moves through the mine workings, it leaches metals from the ore body. The resultant discharge, commonly from mine adits, may be toxic to aquatic organisms, including fish and cause exceedances of water quality objectives in the receiving waters.

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.

Bioaccumulative pollutants are 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) 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) are those sample results less than the RL, but greater than or equal to the laboratory's MDL.

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) 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 USEPA guidance (Technical Support Document For Water Quality-based Toxics Control, March 1991, second printing, EPA/505/2-90-001).

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

Inland Surface Waters are 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) means 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 is 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) 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 title 40 of the Code of Federal Regulations, Part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (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 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) are those sample results less than the laboratory's MDL.

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

Pollutant Minimization Program (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 Regional 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 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 or Regional Water Board.

Reporting Level (RL) is 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 Regional 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, this additional factor must be applied to the ML in the computation of the RL.

Source of Drinking Water is any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ) 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;

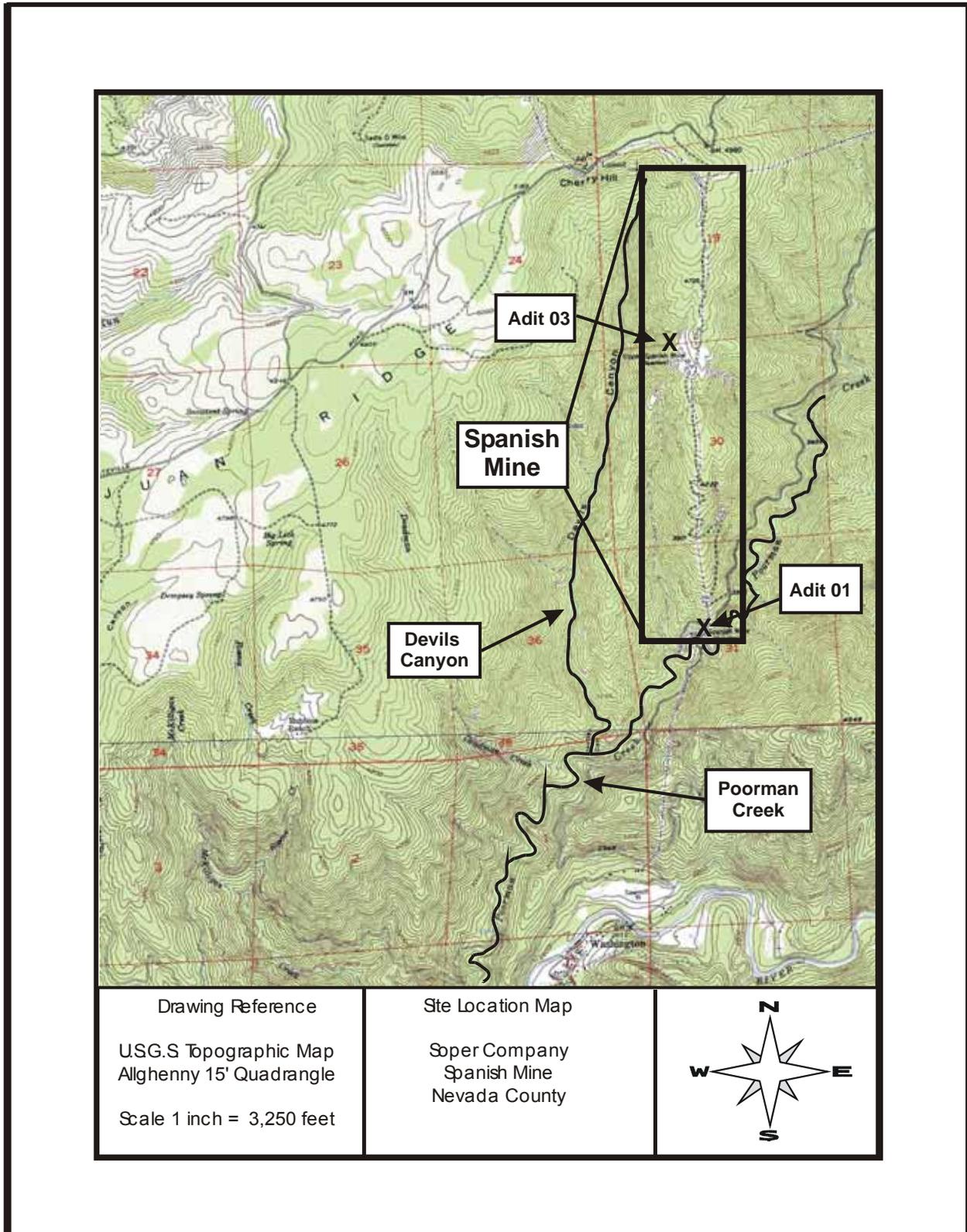
μ is the arithmetic mean of the observed values; and

n is the number of samples.

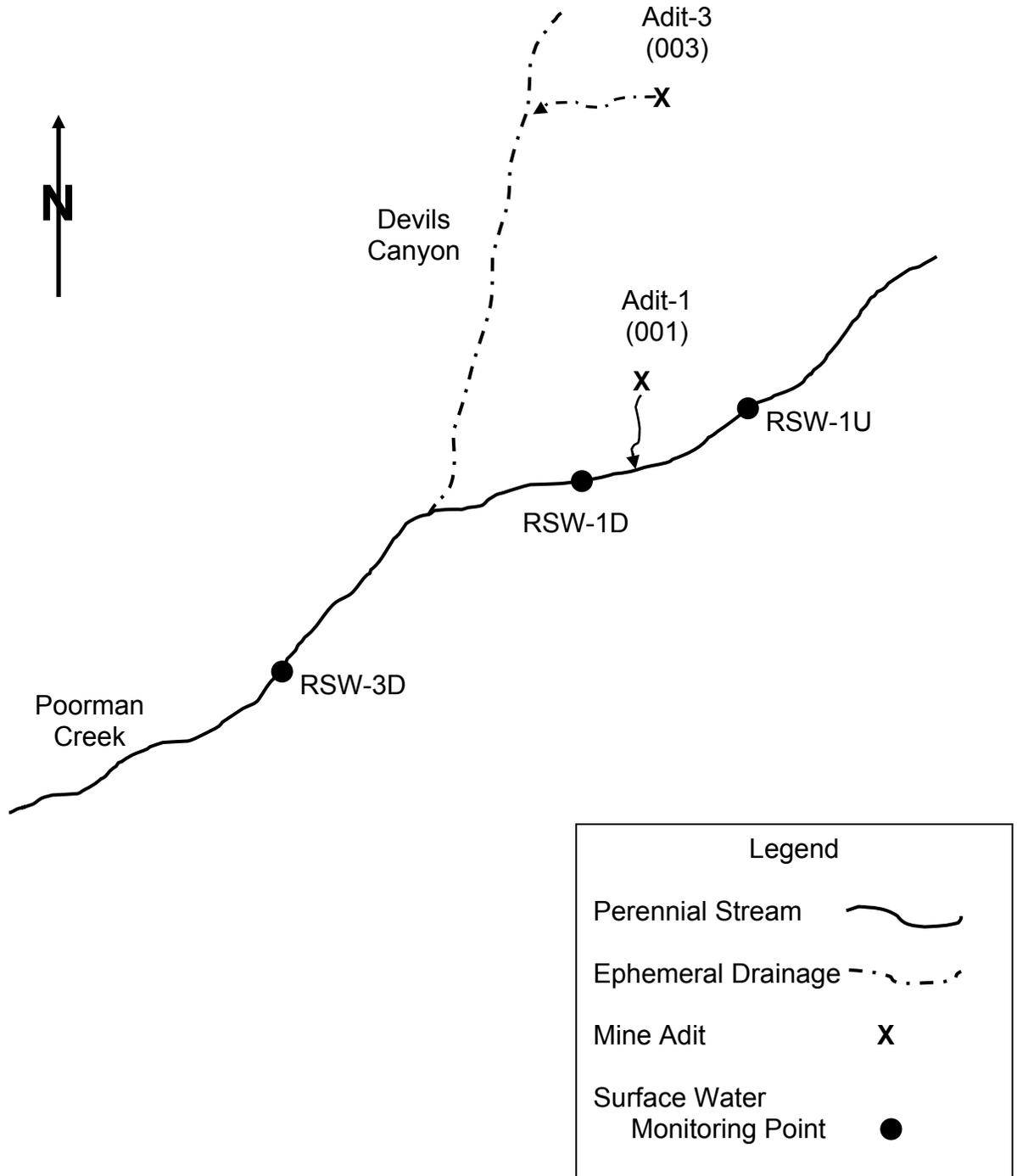
Toxicity Reduction Evaluation (TRE) is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity.

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 SPANISH MINE



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the 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, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 C.F.R. § 122.41(a).)
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 Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), 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 (40 C.F.R. § 122.41(i); Water Code, § 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 (40 C.F.R. § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 C.F.R. § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 C.F.R. § 122.41(i)(3)); 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. (40 C.F.R. § 122.41(i)(4).)

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 Regional 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 Regional 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 Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional 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 Regional Water Board. The Regional 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 under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (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 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 Regional 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 Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA 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 Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Water Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA 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 Regional Water Board, State Water Board, or USEPA 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 Regional 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 Regional 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. § 122.22(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional 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 Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional 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 Regional 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 Regional 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 Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order 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 Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A. The Regional 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 Regional 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 ($\mu\text{g/L}$) (40 C.F.R. § 122.42(a)(1)(i));
 - b. 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ 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 Regional 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 ($\mu\text{g/L}$) (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 Regional Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Content

I. General Monitoring Provisions.....	2
II. Monitoring Locations.....	2
III. Mine Adit Discharge Monitoring Requirements.....	3
IV. Influent Monitoring Requirements.....	3
V. Discharge Monitoring Requirements.....	4
VI. Whole Effluent Toxicity Testing Requirements.....	5
VI. Land Discharge Monitoring Requirements.....	5
VIII. Reclamation Monitoring Requirements.....	Not Applicable
IX. Receiving Water Monitoring Requirements.....	9
A. Surface Water monitoring Locations.....	9
X. Other Monitoring Requirements.....	9
XI. Reporting Requirements.....	10
A. General Monitoring and Reporting Requirements.....	10
B. Self Monitoring Reports (SMRs).....	10
C. Discharge Monitoring Reports (DMRs).....	12
D. Other Reports.....	12

List of Tables

Table E-1 Monitoring Station Locations.....	3
Table E-2 Mine Adit Discharge Monitoring.....	3
Table E-3 Influent Monitoring INF-01 and INF-03.....	4
Table E-4 Discharge Monitoring DIS-01 and DIS-03.....	4
Table E-4.1 Chronic Toxicity Testing Dilution Series.....	7
Table E-5 Land Discharge Monitoring Requirements.....	9
Table E-6 Receiving Water Monitoring.....	9
Table E-7 Monitoring Periods and Reporting Schedule.....	10

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations section 122.48 requires that all NPDES permits specify monitoring and reporting requirements. Water Code Sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the 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 this Regional Water Board.
- B. Chemical, bacteriological, and bioassay analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. In the event a certified laboratory is not available to the Discharger, 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 must be kept in the laboratory and shall be available for inspection by Regional Water Board staff. The Quality Assurance-Quality Control Program must conform to USEPA guidelines or to procedures approved by the Regional Water Board.
- C. All analyses shall be performed in a laboratory certified to perform such analyses by the California Department of Health Services. Laboratories that perform sample analyses shall be identified in all monitoring reports.
- 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 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. Due to the physical location of portions of the site up to elevations of 4,800 feet in a remote, heavily forested area of the Sierra Nevada's, access is often limited for extended periods due to deep snow or flooding conditions. If access to a given monitoring location for monthly monitoring under such conditions cannot be achieved or poses a threat to the safety of sampling personnel, it shall not be deemed a violation of

this Order. Sampling shall resume as soon as safety allows. The Discharger shall make a note in the Monitoring Report describing why the scheduled monitoring was not conducted.

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	ADIT-01	Discharge from Mine Adit 1
001	INF-01	Influent to treatment system if different from ADIT-01
001	DIS-01	Discharge from treatment system for Mine Adit 1
003	ADIT-03	Discharge from Mine Adit 3
003	INF-03	Influent to treatment system if different from ADIT-03
003	DIS-03	Discharge from treatment system for Mine Adit 3
	RSW-1U	Poorman Creek 50 feet upstream of discharge from Mine Adit 1
	RSW-1D	Poorman Creek 100 feet downstream of discharge from Mine Adit 1
	RSW-3D	Poorman Creek bridge 1 mile downstream from confluence with Devils Canyon

III. MINE ADIT DISCHARGE MONITORING REQUIREMENTS

1. The Discharger shall monitor the drainage from Mine Adit 1 and Mine Adit 3 at ADIT-01 and ADIT-03 as follows:

Table E-2. Mine Adit Discharge Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	gpm	Grab	1/ month ¹	Meter
pH	pH Units	Grab	1/ month ¹	Meter
Specific Conductance	umhos/cm	Grab	1/ month ¹	Meter
Arsenic ²	ug/l	Grab	1/ month ¹	EPA 6010B
Cadmium ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Copper ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Iron ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Lead ²	ug/l	Grab	1/ month ¹	EPA 1669/1631
Manganese ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Nickel ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Zinc ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8

Priority Pollutant Metals	ug/l	Grab	1/quarter ³	
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¹Sampling shall be monthly for the first year and quarterly thereafter

²Metals shall be analyzed for total recoverable.

³Sampling shall be quarterly for the first year and annually thereafter

IV. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-01 and INF-03

1. If the influent to any given treatment system, if implemented, differs significantly from the adit discharge, the Discharger shall monitor the influent as follows:

Table E-3. Influent Monitoring INF-01 and INF-03

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	gpm	Grab	1/ month ¹	Meter
pH	pH Units	Grab	1/ month ¹	Meter
Specific Conductance	umhos/cm	Grab	1/ month ¹	Meter
Arsenic ²	ug/l	Grab	1/ month ¹	EPA 6010B
Cadmium ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Copper ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Iron ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Lead ²	ug/l	Grab	1/ month ¹	EPA 1669/1631
Manganese ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Nickel ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Zinc ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Priority Pollutant Metals ³	ug/l	Grab	1/quarter ⁴	

¹Samples shall be obtained monthly for the first year and quarterly thereafter

²Metals shall be analyzed for total recoverable.

³Priority Pollutant Metals are those listed in the State Implementation Policy (SIP)

⁴Sampling shall be quarterly for the first year and annually thereafter

V. DISCHARGE MONITORING REQUIREMENTS

A. Treatment System Monitoring-Location DIS-01 and DIS-03

1. If a treatment system is employed as part of the BMPs to reduce the discharge of the mine drainage to surface waters, the Discharger shall monitor the discharge from each treatment system, at DIS-01 and DIS-03 as follows. 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-4. Discharge Monitoring DIS-01 and DIS-03

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
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Flow	gpm	Grab	1/ month ¹	Meter
pH	pH Units	Grab	1/ month ¹	Meter
Specific Conductance	umhos/cm	Grab	1/ month ¹	Meter
Arsenic ²	ug/l	Grab	1/ month ¹	EPA 6010B
Cadmium ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Copper ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Iron ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Lead ²	ug/l	Grab	1/ month ¹	EPA 1669/1631
Manganese ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Nickel ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Zinc ²	ug/l	Grab	1/ month ¹	EPA 1620/200.8
Priority Pollutant Metals	ug/l	Grab	1/quarter ⁴	

¹Samples shall be obtained monthly for the first year and quarterly thereafter

²Metals shall be analyzed for total recoverable.

³Priority Pollutant Metals are those listed in the State Implementation Policy (SIP)

⁴Sampling shall be quarterly for the first year and annually thereafter

VI 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 one acute toxicity testing during the five year cycle of this permit (in either year three, four or five), to be conducted when applicable BMPs have been implemented.
2. *Sample Types* – For static non-renewal and static renewal testing, the samples shall be 24-hour, flow-proportional composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring locations DIS-01 and DIS-03.
3. *Test Species* – Test species shall be larval stage (0 to 14 days old) rainbow trout (*Oncorhynchus mykiss*) or fathead minnows (*Pimephales promelas*).
4. *Methods* – The acute bioassays tests shall be conducted in accordance with EPA-821-R-02-012, Fifth Edition, or later amendment with Executive Officer approval. Temperature, total residual chlorine, ammonia, and pH shall be recorded at the time of sample collection.
5. No pH adjustment may be made unless approved by the Executive Officer.
6. *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 seven (7) business 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 the five year cycle of this permit (in either years three, four, or five) when applicable BMPs have been implemented.
2. *Sample Types* – Effluent samples shall be 24-hour, flow-proportional composites and shall be representative of the volume and quality of the discharge. The effluent samples shall be taken at the effluent monitoring locations specified in the MRP. The receiving water control shall be a grab sample obtained from the RSW-1U sampling location, as identified in this MRP.
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, or later amendment with Executive Officer approval.
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* – The chronic toxicity testing shall be performed using the dilution series identified in Table E-4.1, below. The receiving water control shall be used as the diluent (unless the receiving water is toxic).

Table E-4.1 Chronic Toxicity Testing Dilution Series

Sample	Dilutions (%)					Controls	
	100	75	50	25	1	Receiving Water	Laboratory Water
% Effluent	100	75	50	25	1	0	0
% Receiving Water	0	25	50	75	99	100	0
% Laboratory Water	0	0	0	0	0	0	100

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.

C. WET Testing Notification Requirements

The Discharger shall notify the Regional 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, WET monitoring shall be reported as follows:

1. Chronic WET Reporting. Regular chronic toxicity monitoring results shall be reported to the Regional Water Board within 30 days following completion of the test, 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 monthly discharger self-monitoring reports 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 TRE.

2. Acute WET Reporting. Acute toxicity test results shall be submitted with the monthly discharger self-monitoring reports and reported as percent survival.
3. TRE Reporting. Reports for Toxicity Reduction Evaluations shall be submitted in accordance with the schedule contained in the Discharger's approved TRE Work 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.

VII LAND DISCHARGE MONITORING REQUIREMENTS

Any discharge of wastes to land generated from the rehabilitation of mine portals, spent media from treatment systems, or other wastes produced from remedial activities shall be disposed pursuant to Title 27 of the California Code of Regulations. The type, quantity, and location of the wastes shall be reported to the Regional Board in the next regular scheduled monitoring report.

A. Discharge of Wastes to Land Monitoring

1. The Discharger shall monitor all mining wastes, spent treatment media, and sludges disposed to land as follows:

Table E-5. Land Discharge Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Moisture Content	percent by weight	Grab	1/disposal event	
CAM 17 Metals	mg/l	Grab	1/disposal event	

VII. RECLAMATION MONITORING REQUIREMENTS

Not Applicable

IX. RECEIVING WATER MONITORING REQUIREMENTS

A. Surface Water Monitoring Locations

1. The Discharger shall monitor the surface receiving waters upstream and downstream of each discharge point at RSW-1U, RSW-1D, RSW-3D as follows:

Table E-6. Receiving Water Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Flow	gpm	Grab	1/Monthly ¹	Meter
pH	pH Units	Grab	1/Monthly ¹	Meter
Specific Conductance	umhos/cm	Grab	1/Monthly ¹	Meter
Arsenic ²	ug/l	Grab	1/Monthly ¹	EPA 6010B
Cadmium ²	ug/l	Grab	1/Monthly ¹	EPA 1620/200.8
Copper ²	ug/l	Grab	1/Monthly ¹	EPA 1620/200.8
Lead ²	ug/l	Grab	1/Monthly ¹	EPA 1669/1631
Nickel ²	ug/l	Grab	1/Monthly ¹	EPA 1620/200.8
Zinc ²	ug/l	Grab	1/Monthly ¹	EPA 1620/200.8
Iron ²	ug/l	Grab	quarterly ⁴	
Manganese ²	ug/l	Grab	quarterly ⁴	
All Priority Pollutant Metals ³	ug/l	Grab	quarterly ⁴	

¹Sampling shall be monthly for the first year and quarterly thereafter.

²Samples shall be analyzed for total recoverable

³Priority Pollutant Metals are those listed in the State Implementation Policy (SIP)

⁴Sampling shall be quarterly for the first year and annually thereafter

X. OTHER MONITORING REQUIREMENTS

- A. The Discharger shall submit a report to the Regional Board by 30 January of each year. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. In addition, the Discharger shall discuss the

compliance record and the corrective actions taken or planned, which may be needed to bring the discharge into full compliance with the waste discharge requirements.

XI. 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.

B. Self Monitoring Reports (SMRs)

1. At any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). Until such notification is given, the Discharger shall submit hard copy SMRs. The CIWQS Web site will provide additional directions for SMR submittal in the event there will be 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 quarterly, semiannual, and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. 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
Quarterly	January 1, April 1, July 1, and October 1	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	30 days from the end of the monitoring period
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 through June 30 July 1 through December 31	30 days from the end of the monitoring period
Annually	January 1 following (or on) permit effective date	January 1 through December 31	30 days from the end of the monitoring period
1 / Discharge Event	Prior to transport of metal sludges or spent treatment media to disposal site		15 days prior to initiating of disposal event.

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in 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 reported ML 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 as well as the words "Estimated Concentration" (may be shortened to "Est. Conc."). 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 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. The Discharger shall submit SMRs 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 WDRs; 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. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Regional Water Quality Control Board
Central Valley Region
415 Knollcrest Drive
Redding, CA 96003

C. Discharge Monitoring Reports (DMRs)

- 1. As described in Section X.B.1 above, at any time during the term of this permit, the State or Regional Water Board may notify the Discharger to electronically submit SMRs that will satisfy federal requirements for submittal of Discharge Monitoring Reports (DMRs). If such notification is given, the Discharger shall submit DMRs in accordance with the requirements described below
- 2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to the address listed below:

STANDARD MAIL	FEDEX/UPS/ OTHER PRIVATE CARRIERS
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15 th Floor Sacramento, CA 95814

- 3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1). Forms that are self-generated will not be accepted unless they follow the exact same format of EPA Form 3320-1.

D. Other Reports

- 1. The results of the monitoring requirements described in Section C.2.a **Special Studies, Technical Reports and Additional Monitoring Requirements** above shall be submitted within 18 months of the date of adoption of this Order.
- 2. The topographic maps showing the affected drainages, mine adits, seeps, springs, roads, waste rock, etc described in Section C.2.b. **Special Studies, Technical Reports and Additional Monitoring Requirements** above shall be submitted within one year of the date of adoption of this Order.

ATTACHMENT F. FACT SHEET

Table of Contents

Attachment F – Fact Sheet.....	1
I. Permit Information.....	1
II Facility Description.....	2
A. Description of Wastewater Treatment or Controls.....	2
B. Discharge Points and Receiving Waters.....	3
C. Summary of Historic Water Quality Data.....	3
D. Compliance Summary.....	Not Applicable
E. Planned Changes.....	6
III. Applicable Plans, Policies, and Regulations.....	6
A. State and Federal Regulations, Policies, and Plans.....	6
1. Title 27, California Code of Regulations.....	6
2. Resolution No. 79-149.....	6
B. Impaired Water Bodies on CWA 303(d) List.....	Not Applicable
C. Other Plans, Policies and Regulations.....	7
IV. Rational For Discharge Prohibitions.....	7
V. Rational For Discharge Limitations And Specifications.....	7
A. Best Management Practices Based Discharge Limitations.....	7
B. Water Quality-Based Effluent Limitations (WQBELs).....	Not Applicable
C. Satisfaction of Antidegradation Policy.....	9
D. Stringency of Requirements for Individual Pollutants.....	Not Applicable
E. Land Discharge Specifications.....	Not Applicable
F. Reclamation Specifications.....	Not Applicable
VI. Rationale For Receiving Water Limitations.....	9
A. Applicable Beneficial Uses and Water Quality Criteria and Objectives.....	9
B. Reasonable Potential Analyses.....	10
C. Assimilative Capacity/Mixing Zone.....	11
VII Rationale For Monitoring And Reporting Requirements.....	13
A. Influent Monitoring.....	13
B. Discharge Monitoring.....	13
C. Whole Effluent Toxicity Testing Requirements.....	13
D. Receiving Water Monitoring.....	14
E. Other Monitoring Requirements.....	14
VIII Rationale For Provisions.....	14
A. Standard Provisions.....	14
B. Special Provisions.....	15
1. Re-opener Provisions.....	15
2. Special Studies and Additional Monitoring Requirements.....	15
3. Construction, Operation, and Maintenance Specifications.....	17
4. Compliance Schedules.....	17
IX Public Participation.....	17
A. Notification of Interested Parties.....	17
B. Written Comments.....	17
C. Public Hearing.....	18

D. Waste Discharge Requirements Petitions.....	18
E. Information and Copying.....	19
F. Register of Interested Persons	19
G. Additional Information	19

List of Tables

Table F-1 Facility Information	F-1
Table F-2 Adit 1-Historic Discharge Data	F-3
Table F-3 Adit 3-Historic Discharge Data	F-4
Table F-4 Surface Water Quality Data Downstream of Mine Drainage and Water Quality Objectives	F-5
Table F-5 Adit Discharge, Receiving Water Quality and Water Quality Objectives	F-11

ATTACHMENT F – FACT SHEET

As described in section II 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	
Discharger	Soper Company
Name of Facility	Spanish Mine
Facility Address	Spanish Mine Road
	Washington, CA 94986
	Nevada County
Facility Contact, Title and Phone	Paul Violet, Vice-President, (530) 675-2343
Authorized Person to Sign and Submit Reports	Paul Violet, Vice-President, (530) 675-2343
Mailing Address	Soper Company 19855 Barton Hill Road Strawberry Valley, CA 95981-9700
Billing Address	SAME
Type of Facility	Inactive Mine
Major or Minor Facility	Minor
Threat to Water Quality	2
Complexity	B
Pretreatment Program	N
Reclamation Requirements	not applicable
Facility Permitted Flow	0.065 mgd
Facility Design Flow	0.065 mgd
Watershed	Yuba River
Receiving Water	Poorman Creek, Devils Canyon
Receiving Water Type	inland surface water

- A. Soper Company is the owner of the Spanish Mine, an inactive gold and barite mine. 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 mine drainage to Poorman Creek and Devils Canyon, waters of the United States.
- C. The Discharger filed a report of waste discharge and submitted an application for Waste Discharge Requirements (WDRs) and a National Pollutant Discharge Elimination System (NPDES) permit on 2 October 2006. Supplemental information was requested on 9 November 2006 and received on 7 December 2006. A site visit was conducted on 31 May 2006, to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

The Spanish Mine is an inactive underground and open pit mine. Gold, silver, copper, lead, and zinc were extracted from the underground workings from pre-1905 until 1942. Open pit mining for barite ceased in 1988 and the pit was reclaimed and closed. The current discharges of acid mine drainage (AMD) are from the underground workings.

AMD is formed when water infiltrates into the mine workings and contacts exposed sulfide deposits. The ensuing chemically and bio-chemically mediated reactions produce sulfuric acid and lower the pH of the water. As the water moves through the mine workings, it leaches metals from the ore body. The resultant discharge, commonly from mine adits, may be toxic to aquatic organisms, including fish and cause exceedances of water quality objectives in the receiving waters. However, an evaluation of the water chemistry in Poorman Creek shown in Table F-4 below, shows the chemical constituents discharging from the mine do not cause the receiving waters to exceed water quality objectives.

AMD is discharged from two mine adits designated Discharge Point 001 (Mine Adit 1) and Discharge Point 003 (Mine Adit 3) to Poorman Creek, waters of the United States, and tributaries to the South Fork Yuba River within the South Yuba Hydrologic Unit. Attachment B provides a map of the area around the Facility.

Soper Company obtained the property in 1996 for its timber values and did not conduct any mining operations.

A. Description of Wastewater Treatment or Controls

Currently there are no treatment or controls on the mine discharge which contains arsenic, cadmium, cobalt, copper, lead, manganese, nickel, and zinc in concentrations above water quality objectives. The discharge may also contain a low pH. This Order requires Soper Company to implement BMPs to reduce the quantity of mine drainage discharged from the adits and develop treatment systems as necessary to reduce the concentrations of metals in the discharges. Sludge and precipitated metals from the treatment systems are required to be disposed in accordance with the regulations contained in Title 27, California Code of Regulations.

B. Discharge Points and Receiving Waters

There are currently two discharge points of mine drainage, Mine Adit 1 from the Lower Spanish Mine at 39°, 22', 56" N, 120°, 47', 10" W and Mine Adit 3 from the Upper Spanish Mine at 39°, 24', 07" N, 120°, 47', 28" W. Flows from Mine Adit 1 enter Poorman Creek and Mine Adit 3 enter Devils Canyon. Devils Canyon is tributary to Poorman Creek downstream of the discharge from Mine Adit 1. Poorman Creek and Devils Canyon are tributaries to the South Fork Yuba River within the South Yuba Hydrologic Unit. The discharge appears to have little impact on aquatic life and water quality in Poorman Creek due to the high dilution factor. Flows from Mine Adit 1 range between 13 and 30 gpm, and flows from Mine Adit 3 range between 7 and 50 gpm as presented in data obtained between October 2003 and September 2005. By comparison, average monthly flows in Poorman Creek between 1961 and 1971 ranged between 5,376 and 53,312 gpm – a minimum dilution ratio of 100:1.

C. Summary of Historic Water Quality Data

Historic water quality data provided by the Discharger is presented in Table 2, 3, and 4 below. Tables 2 and 3 contain data on the quality of the discharge from the mine adits 1 and 3 respectively and range in date from 1/2003 to 11/2005. Loading rates are presented for pollutants that have a reasonable potential to exceed water quality objectives. Table 4 contains data on the receiving waters in Poorman Creek and Devils Canyon, along with the applicable water quality objectives for each constituent.

Table F-2. Adit 1-Historic Discharge Data

Constituent	10/9/2003	5/4/2004	8/13/2004	11/24/2004	5/12/2005	9/11/2005	11/22/2005	Average Loading (lbs/day)
Antimony (ug/l)	<5	<5	<5	<5	5			
Arsenic (ug/l)	<1	<1	<1	<1	1.3			
Barium (ug/l)	19	28	26	29	27			
Beryllium (ug/l)	0.84	<1	<1	<1	<1			
Cadmium (ug/l)	7.2	6.2	3.3	2.2	10	4.8	4.2	0.001
Chromium (Total) (ug/l)	0.34	<2	<2	<2	3.2			
Cobalt (ug/l)	74	52	27	24	80	49	33	
Copper (ug/l)	270	670	240	100	1400	390	240	0.014
Iron (ug/l)	35000	6400	2300	4300	15000	11000	7700	2.77
Lead (ug/l)	24	88	42	21	120	65	52	0.02
Manganese (ug/l)						2100	1900	
Mercury (ug/l)	<.2	0.0048	<.2	0.0044	0.0049			
Molybdenum (ug/l)	<20	<20	<20	<20	<20			
Nickel (ug/l)	110	75	54	42	140	72	78	0.02
Selenium (ug/l)	2.9	<5	<5	<5	<5			

Silver (ug/l)	<1	<1	<1	<1	<1			
Thallium (ug/l)	0.68	<1	<1	<1	<1			
Vanadium (ug/l)	<20	<20	<20	<20	<20			
Zinc (ug/l)	3200	2900	1400	1300	4300	2100	1500	0.63
Total Hardness (mg/l)	260	200	200	180	220	190	200	
Sulfate (mg/l)	370	270	240	210	360	260	260	
pH	4.1	7.2	5.7	5.3	3.6	8	4.2	
Specific Conductance (umhos/cm)	620	373	450	300	525	389	344	
Flow (gpm)	15	26	25	15	25	30	13	

Table F-3. Adit 3-Historic Discharge Data

Constituent	10/9/2003	5/4/2004	8/13/2004	11/24/2004	5/12/2005	9/11/2005	11/22/2005	Average Loading (lbs/day)
Antimony (ug/l)	1	<5	5.5	5.5	<5			
Arsenic (ug/l)	50	43	40	48	56			0.01
Barium (ug/l)	35	34	30	35	36			
Beryllium (ug/l)	<1	<1	<1	<1	<1			
Cadmium (ug/l)	0.84	1.2	0.82	0.95	1.4	1.1	0.84	0.0003
Chromium (Total) (ug/l)	0.9	<2	<2	<2	<1			
Cobalt (ug/l)	37	52	33	35	53	52	47	
Copper (ug/l)	2.1	13	1.5	9.8	59	2.8	1	0.01
Iron (ug/l)	14000	15000	13000	13000	12000	16000	116000	6.84
Lead (ug/l)	46	61	34	41	100	47	14	0.02
Manganese (ug/l)						3100	3000	
Mercury (ug/l)	<.2	0.0056	<0.005	0.0057	0.0067			
Molybdenum (ug/l)	<20	<20	<20	<20	<20			
Nickel (ug/l)	26	28	23	25	56	31	36	0.01
Selenium (ug/l)	1.8	<5	<5	<5	<5			
Silver (ug/l)	<1	<1	<1	<1	<1			
Thallium (ug/l)	<1	<1	<1	<1	<1			
Vanadium (ug/l)	<20	<20	<20	<20	<20			
Zinc (ug/l)	430	530	360	380	520	460	430	0.12
Total Hardness (mg/l)	64	58	63	58	44	64	66	
Sulfate (mg/l)	40	47	43	41	48	47	45	
pH	6.1	7	5.8	7.17	6.5	7.9	5.9	
SC (umhos/cm)	190	102	160	134	378	124	131	

Flow (gpm)	20	18	17	7.5	50	20	19	
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Table F-4. Surface Water Quality Data Downstream of Mine Drainage and Water Quality Objectives

Constituent	Poorman Creek Upstream of Mine Discharge	Poorman Creek Downstream of Mine Adit 1 Discharge	Poorman Creek Downstream of Adits 1 and 3	Water Quality Objective	Source of Objective
Antimony (ug/l)	<0.1	<0.1	<0.1	6	Primary MCL
Arsenic (ug/l)	0.3	0.6	0.6	10	Primary MCL
Barium (ug/l)	-	-		1,000	Primary MCL
Beryllium (ug/l)	<0.1	<0.1	<0.1	4	Primary MCL
Cadmium (ug/l)	<0.05	0.05	0.05	0.9	CTR
Chromium (Total) (ug/l)	0.6	0.5		11.43	CTR
Cobalt (ug/l)	-	-		50	Agricultural Water Quality Goal
Copper (ug/l)	0.7	2.1	2.1	3.5	CTR
Iron (ug/l)	16	12	-	300	Secondary MCL
Lead (ug/l)	<0.1	<0.1	<0.1	0.7	CTR
Manganese (ug/l)	-	-		50	Secondary MCL
Mercury (ug/l)	<0.1	<0.1	<0.1	0.05	Fish Consumption
Molybdenum (ug/l)	<0.1	-		10	Agricultural Water Quality Goal
Nickel (ug/l)	0.3	0.9	1.2	20	CTR
Selenium (ug/l)	<0.4	0.4	<0.4	5	CTR
Silver (ug/l)	<0.12	<0.12	<0.12	0.51	CTR
Thallium (ug/l)	<0.2	<0.2	<0.2	1.70	Fish and Water Consumption
Vanadium (ug/l)				100	Agricultural Water Quality Goal
Zinc (ug/l)	3.1	11.1	8.3	46	CTR
Total Hardness (mg/l)	27	32	36		
Sulfate (ug/l)	3.17	5.95	4.62	250,000	Taste and Odor
pH	6.2	7.6	7.73	6.6-8.5	Basin Plan
SC (umhos/cm)	85	130	130		
Flow (gpm)	5900	5900	5900		

¹Data from 1991 contained in report titled Report of Waste Discharge/NPDES Application, Spanish Mine, Nevada County, California, dated October 26, 1999. Laboratory data sheets not available and information is questionable.

D. Compliance Summary

Not Applicable

E. Planned Changes

The Discharger is required, as part of this Order, to implement BMPs to reduce the metal discharges from the mine adits to surface waters. Such BMPs may include construction of surface water diversions to reduce the quantity of precipitation that infiltrates into the underground workings, installation of passive treatment systems to remove metals from the adit discharges, removal of waste rock or tailings that may generate metals etc. It is the intent of the Discharger to eliminate all discharges of mine drainage to surface waters by the implementation of BMPs.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in Section II of the Findings of this Order and in this section.

A. State and Federal Regulations, Policies, and Plans

Most Applicable Regulations, Policies, and Plans are discussed in Section II of the Findings in the beginning of this Order. The following are additional Regulations, Policies and Plans that are applicable to the discharge.

- 1. Title 27, California Code of Regulations.** These regulations contain State requirements for the disposal of wastes to land and include specific regulations that pertain to active mines. These regulations are applicable to the disposal of any solids or metal precipitates that may be generated during the remediation or treatment of mine drainage.
- 2. Resolution No 79-149.** *Amendment to Water Quality Control Plan and Action plan for Mining.* Includes BMPs available for control of acid mine drainage from abandoned mines. Listed BMPs include surface water controls (regrading, revegetation, hydraulic works) to control infiltration, and mine drainage control, including collection and reuse of mine drainage, sealing underground mines to prevent discharges, and treatment of the mine discharge. These BMPs and other BMPs developed more recently, including the use of biological treatment systems to reduce the metals in solution to insoluble precipitates, can significantly reduce the amount of metals entering surface and ground water.

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

Not Applicable

C. Other Plans, Policies and Regulations

Other applicable regulations, policies, and plans are fully discussed in Section II of the Findings in the beginning of this Order.

IV. RATIONALE FOR DISCHARGE PROHIBITIONS

The Discharge Prohibitions are specifically designed for discharges of AMD to surface waters. AMD may be generated in underground workings and discharge from the mine adit. Commonly the bedrock around the mine may have been significantly affected by the mining activity, resulting in fissures, seeps, or springs which convey the AMD to the surface, where it enters surface waters. Waste rock piles, tailings or other wastes may also generate AMD which enters surface waters. These prohibitions are designed to address all sources of AMD discharging to surface waters.

V. RATIONALE FOR DISCHARGE LIMITATIONS AND SPECIFICATIONS

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: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. If numeric effluent limitations are not feasible, then BMPs may be applied to protect beneficial uses meet water quality objectives.

A. Best Management Practices Based Discharge Limitations

Resolution No. 79-149, *Amendment to Water Quality Control Plan and Action Plan for Mining*, includes BMPs available for control of AMD from abandoned mines. Listed BMPs include surface water controls (regrading, revegetation, hydraulic works) to control infiltration of precipitation and surface water into the underground workings, mine drainage control such as the installation of concrete bulkheads to reduce the availability of oxygen to the reactive rock necessary for the generation of acid and the release of metals into solution, and treatment of the mine discharge. These BMPs and other BMPs developed more recently, including the use of “passive” biological and physical treatment systems suitable for handling the highly variable discharge rates and constituent concentrations typical at abandoned mines are capable of reducing the metals in solution to insoluble precipitates, and significantly reducing the amount of metals entering surface and ground water.

“Active” treatment processes that require pumps, motors, chemical feeds, etc. are generally not suitable at remote abandoned mine sites such as the Spanish Mine where there is no access to electricity, physical access to the site is seasonally restricted by snow and impassable roads in the winter and spring, transportation of chemical feedstocks can pose a significant risk of spillage, and such treatment systems require the constant presence of operating personnel.

Section 122.44(k)(3) of Title 40 of the Code of Federal Regulations (CFR) allows that BMPs may be required in NPDES permits in lieu of numeric effluent limits to control or abate the discharge of pollutants when numeric effluent limits are infeasible.

Discharges from the Spanish Mine are highly variable and inconsistent both in volume and the concentration of waste constituents. This variability is due to the discharge being directly related to stormwater and rainfall events. Recent State Water Board decisions have interpreted 'infeasible' to mean 'inappropriate' or improper. The State Water Board, in Order WQ 2006-0012, has made clear that "infeasibility" refers to "the ability or propriety of establishing" numeric limits.

Numeric limits have long been found to be infeasible for stormwater discharges, and the SIP explicitly excludes stormwater from coverage. The flows from this inactive, historic mine are similar to stormwater discharges in that the discharge from the mine portals are directly related to precipitation experienced at the site. The flow from the mine portals originates from the infiltration of precipitation into the subsurface where it is collected in the underground workings and discharged from the mine portal. Although the mine discharges are not stormwater discharges, in this case, their similarity supports regulating them in a similar manner using BMPs.

BMPs include passive treatment systems that use biological and physical reactions to treat the drainage (sulfate reducing bacteria bioreactors, anoxic limestone drain etc.) have been developed that work well under such conditions

Based on the limitations of the available options for control of mine drainage, the discharge limitations are narrative, do not contain specific numeric effluent limits, and rely on implementation of BMPs for source control (i.e. diversion of surface waters which may infiltrate into the underground mine workings) and treatment of mine portal discharges.

This permit requires that the Discharger implement BMPs to control or abate pollutants discharged from the mine portals to the receiving waters (Poorman Creek) and comply with receiving water limitations. The BMPs constitute BAT and BCT and will be implemented to minimize the impacts of the discharges. This approach will allow for the long-term maintenance of water quality and protection of beneficial uses of the receiving waters.

The BMP requirements included in the permit were obtained from the Discharger's application, other information provided to the Regional Water Board, and in the Basin Plan. The BMPs provide the flexibility necessary to establish controls to minimize the magnitude of the discharges adequately to prevent impacts to beneficial uses in the receiving waters.

B. Water Quality-Based Effluent Limitations (WQBELs)
Not Applicable

C. Satisfaction of Antidegradation Policy

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 No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing quality of waters be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the state and federal antidegradation policies.

The discharge from the two mine adits at this site have been continuous since before November 28, 1975, the date of the implementation of the CWA. The federal antidegradation policy applies if a discharge or other activity, which began after 28 November 1975, will lower surface water quality. Therefore any activity that maintains or reduces the amount of pollutants discharged to surface waters over that prior to implementation of the CWA is consistent of the Antidegradation provision. The requirements of this permit will reduce metals loading to Poorman Creek and Devils Canyon and are therefore consistent with the Antidegradation Policy.

D. Stringency of Requirements for Individual Pollutants

Not applicable

E. Land Discharge Specifications

Not applicable

F. Reclamation Specifications

Not Applicable

VI. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Applicable Beneficial Uses and Water Quality Criteria and Objectives

1. Surface Waters

The beneficial uses of Poorman Creek and Devils Canyon are, under application of the tributary rule in the Basin Plan, the same as those identified for the Yuba River and include: Municipal and domestic supply (MUN), agriculture supply including stock watering (AGR), hydropower generation (POW), contact recreation including canoeing and rafting (REC-1) and non-contact recreation including aesthetic enjoyment (REC-2), cold freshwater habitat (COLD), cold water spawning (SPWN), wildlife habitat (WILD).

Receiving Water Limitations are based on protecting the beneficial uses assigned to the receiving waters in the Basin Plan, and the water quality objectives contained in the Basin Plan and the CTR. The waste constituents that have a reasonable potential of exceeding water quality objectives are discussed below.

Since no numeric effluent limits have been established for the discharges and the discharge of pollutants from the mine adits is to be reduced by implementation of

BMPs, the Receiving Water Limitations are the numeric standards which will protect the beneficial uses.

The waste constituents and their concentrations which have been monitored discharging from the mine adit, along with the discharge flow rates are contained in Tables 2 and 3. Table 4 includes the concentration of waste constituents found in Poorman Creek and Devils Canyon, along with flow rates and the applicable water quality objectives.

2. Groundwater

Groundwater outside the mineralized area of the Spanish Mine is believed to be of high quality. In the mineralized area where mining activities have been undertaken, groundwater seeps into mineralized rocks through fractures in the bedrock where it may dissolve waste constituents. This groundwater may discharge from the mine portal where it is referred to as acid mine drainage and can be collected and treated. Groundwater that is not discharged from the mine portal cannot be collected or controlled. This groundwater may eventually enter the streams in the area as part of the baseline flow.

The Basin Plan identifies the beneficial uses of the ground water, unless otherwise designated, as suitable for municipal and domestic supply, industrial service supply, industrial process supply, and agricultural supply. Groundwater in the area of the Spanish Mine is not utilized for any of the designated uses. The area around the mine is forest land used for silvicultural. Much of the surrounding land is administered by the U.S. Forest Service as forest land. There is no possibility that groundwater in the area of the mine will be utilized for any purposes in the foreseeable future. The application of BMPs should result in the reduction of potential impacts to groundwater by reducing the amount of surface water percolating through the mineralized zone and mine workings through surface water diversions.

- B. **Reasonable Potential Analyses.** Waste constituents which have a reasonable potential to exceed water quality objectives in the receiving water have been determined from the discharge. The constituents include the priority pollutants listed in the CTR: arsenic, cadmium, copper, lead, nickel, and zinc. Other constituents that may also have a potential to cause an exceedance above water quality objectives include cobalt, iron, and manganese.

Hardness. While no receiving water limitation for hardness is necessary in this Order, hardness is critical to the assessment of the need for, and the development of, receiving water limitations for certain metals. The California Toxics Rule, at (c)(4), states the following:

“Application of metals criteria. (i) For purposes of calculating freshwater aquatic life criteria for metals from the equations in paragraph (b)(2) of this section, for waters with a hardness of 400 mg/L or less as calcium carbonate, the actual ambient hardness of the surface water shall be used in those equations.” [emphasis added]

The State Water Board, in footnote 19 to Water Quality Order No. 2004-0013, stated: “We note that...the Regional Water Board...applied a variable hardness value whereby effluent limitations will vary depending on the actual, current hardness values in the receiving water. We recommend that the Regional Water Board establish either fixed or seasonal effluent limitations for metals, as provided in the SIP, rather than ‘floating’ effluent limitations.”

While the State Water Board addressed “effluent limitations” and not “receiving water limitations” the rationale is to protect the beneficial uses of the receiving water for all discharge conditions. In an effort for consistency in the regulation of dischargers, condition-dependent, “floating” receiving water limitations that are reflective of actual conditions at the time of discharge are replaced with receiving water limitations using a reasonable worst-case condition in order to protect beneficial uses for all discharge conditions. The Receiving Water Limitations in this Order reflect a hardness of 27 mg/l.

Table F-5 Adit Discharge, Receiving Water Quality and Water Quality Objectives

Constituent	Maximum Discharge Concentration (Adit 1)	Maximum Discharge Concentration (Adit 3)	Poorman Creek Downstream of Discharges	Water Quality Objective
Arsenic (ug/l)	1.3	56	0.6	10
Cadmium (ug/l)	7.2	1.2	0.05	0.9
Cobalt (ug/l)	80	52	-	50
Copper (ug/l)	1400	59	2.1	3.5
Iron (ug/l)	35,000	16,000	16	300
Lead (ug/l)	120	100	<0.1	0.6
Manganese (ug/l)	2,100	3,100	-	50
Nickel (ug/l)	140	56	20	20
Zinc (ug/l)	4,300	530	11.1	46

C. Assimilative Capacity/Mixing Zone.

USEPA established numeric criteria for priority toxic pollutants in the California Toxics Rule (CTR). The State Water Resources Control Board adopted the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) to implement the CTR. The Regional Water Board’s Basin Plan allows mixing zones provided the Discharger has demonstrated that the mixing zone will not adversely impact beneficial uses. The Basin Plan further requires that in determining the size of a mixing zone, the Regional Water Board will consider the applicable procedures in USEPA’s Water Quality Standards Handbook and the Technical Support Document for Water Quality Based Toxics Control (TSD). It is the Regional Water Board’s discretion whether to allow a mixing zone. The SIP, in part, states that mixing zones shall not:

- Compromise the integrity of the entire water body.
- Cause acutely toxic conditions to aquatic life passing through the mixing zone.
- Restrict passage of aquatic life.
- Adversely impact biologically sensitive or critical habitats, including but not limited to, habitat of species listed under Federal or State endangered species laws.
- Dominate the receiving water body.
- Overlap a mixing zone from a different outfall.

USEPA's Water Quality Standards Handbook (WQSH) states that States may, at their discretion, allow mixing zones. The WQSH recommends that mixing zones be defined on a case-by-case basis after it has been determined that the assimilative capacity of the receiving stream can safely accommodate the discharge. This assessment should take into consideration the physical, chemical, and biological characteristics of the discharge and the receiving stream; the life history of and behavior of organisms in the receiving stream; and the desired uses of the waters. Mixing zones should not be allowed where they may endanger critical areas (e.g., drinking water supplies, recreational areas, breeding grounds and areas with sensitive biota). USEPA's TSD states, in part in Section 4.3.1, that mixing zones should not be permitted where they may endanger critical areas.

The Basin Plan, the SIP and USEPA's TSD state that allowance of a mixing zone is discretionary on the part of the Regional Board. Mixing zones will be limited to the amount of assimilative capacity necessary to comply with discharge limitations. There are no water intakes downstream of the discharge point within a distance that could be impacted by the proposed mixing zone. Additionally, the receiving waters are a shallow, high energy, turbulent stream where adequate mixing to prevent impacts to aquatic life occurs within feet of the discharge point.

Table 4 contains data on the receiving waters downstream of the discharges. Under current conditions, with no BMPs implemented, the limited data indicates the receiving waters do not exceed any water quality objectives, however they do approach the limits for copper and zinc. Given an ultimate worst case dilution ratio of 100:1 in Poorman Creek, based on flow data obtained by the U.S. Geological Survey immediately downstream of the discharge point, receiving water objectives are not expected to be exceeded in Poorman Creek after implementation of BMPs. However, to verify better quantify the data, this Order requires the Discharger to conduct a mixing zone and dilution study for the priority pollutant metals.

VII. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorizes the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements to 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

Influent Monitoring for metals is required if the Discharger elects to implement treatment systems as part of the BMPs. Influent Monitoring is necessary to determine the effectiveness of the treatment system. The monitoring must include the metals of concern as well as pH, sulfate, and flow to assure the systems are not overloaded.

B. Discharge Monitoring

Discharge Monitoring for metals is required to demonstrate their effectiveness of the BMPs.

C. Whole Effluent Toxicity Testing Requirements

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 investigate the causes of, and identify corrective actions to reduce or eliminate effluent toxicity.

- a. Acute Toxicity: The Basin Plan further states that "...*effluent limits based upon acute biotoxicity tests of effluents will be prescribed...*" Effluent limitations for acute toxicity are included in this Order. One 96-hour bioassay test is required during the five year cycle of this permit, to be conducted when applicable BMPs have been implemented, to demonstrate compliance with the effluent limitation for acute toxicity.
- 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 III-8.00.) One chronic whole effluent toxicity test is required during the five year cycle of this permit, in order to demonstrate compliance with the Basin Plan's narrative toxicity objective

A dilution factor of 100:1 is expected for the chronic condition. Therefore, chronic toxicity testing results exceeding 100 chronic toxicity unit (TUc) demonstrates the discharge has a reasonable potential to cause or contribute to an exceedance of the Basin Plan's narrative toxicity objective.

Chronic WET effluent limitations have not been included in this order because there is inadequate data and to determine a reasonable potential. However, to ensure compliance with the Basin Plan's narrative toxicity objective, the Discharger is required to conduct chronic whole effluent toxicity testing, as specified in the Monitoring and Reporting Program (Attachment E, Section V.). Furthermore, Special Provisions VI.C.2.c 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 a pattern of toxicity exceeding the numeric toxicity monitoring trigger, the Discharger is required to initiate a Toxicity Reduction Evaluation (TRE), in accordance with an approved TRE work plan. 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 a pattern of effluent toxicity has been demonstrated.

D. Receiving Water Monitoring

1. Surface Water

Monitoring upstream and downstream of the discharge points on Poorman Creek is required to assure the water quality objectives in each watercourse are not exceeded. The monitoring includes the metals that have the potential to exceed water quality objectives, hardness, pH and flow.

2. Groundwater

Not Applicable

E. Other Monitoring Requirements

In an effort to establish a baseline of pollutants discharging from the mine portals and current surface water quality, the Discharger is required to monitoring monthly for waste constituents for a period of one year. This information allows for the incorporation of storm surges and other periodic events that may not be detected or monitoring during the standard quarterly monitoring. This information is useful in designing BMPs that will not be destroyed by periodic high storm events and in sizing treatment systems and surface water diversion structures.

VIII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with 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.

Section 122.41(a)(1) and (b) through (n) 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) allows the state to omit or modify conditions to impose more stringent requirements. In accordance with section 123.25, this Order omits federal conditions that address enforcement authority specified in 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. **New Standards.** Upon adoption of any applicable water quality standard for receiving waters by the Regional Water Board or the State Water Board pursuant to the CWA and regulations adopted thereunder, this permit may be reopened and limitation based on the new standard added.

b. **Mixing Zone and Dilution Study.** This Order requires the Discharge to perform a Mixing Zone and Dilution Study to define the extent of any mixing zone and the dilution present for the discharges from the two mine adits. If after completion of the mixing zone and dilution study, it is determined that the receiving water limits cannot be met or beneficial uses may be affected by the discharge, then the Order may be reopened and the discharge requirements modified

2. Special Studies and Additional Monitoring Requirements

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 III-8.00.) Adequate WET data is not available to determine if the discharge has reasonable potential to cause or contribute to an in-stream excursion above of the Basin Plan's narrative toxicity objective. Due to the source of pollutants from an abandoned mine being consistent in the identity of waste constituents present, there is not expected to be any waste constituents present beyond those analyzed to contribute to toxicity.. Attachment E of this Order requires one chronic WET monitoring after implementation of BMPs during the five year cycle of the permit for demonstration of compliance with the narrative toxicity objective.

In addition to WET monitoring, this provision requires the Discharger to submit to the Regional Water Board an Initial Investigative TRE Work Plan for approval by the Executive Officer, to ensure the Discharger has a plan to immediately move forward with the initial tiers of a TRE, in the event effluent toxicity is encountered in the future. The provision also includes a numeric toxicity monitoring trigger and requirements for accelerated monitoring, as well as, requirements for TRE initiation if a pattern of toxicity is demonstrated.

Monitoring Trigger. A numeric toxicity monitoring trigger of 100 TUc (where TUc = 100/NOEC) is applied in the provision, because this Order allows for dilution of 100:1 in the receiving water for the chronic condition. Therefore, a TRE is triggered when the effluent exhibits a pattern of toxicity at 1% 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 a pattern of 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 one additional chronic toxicity test 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). There is not expected to be any waste constituents present beyond those analyzed to contribute to toxicity. Therefore, one accelerated monitoring test is required in this provision. However, notwithstanding the accelerated monitoring results, if there is adequate evidence effluent toxicity based on data gathered as part of the Monitoring and Reporting Program of this permit or any other data developed from the site, the Executive Officer may require that the Discharger initiate a TRE.

TRE Guidance. The Discharger is required to prepare a TRE Work Plan in accordance with USEPA guidance. Numerous guidance documents are available, as identified below:

- Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, (EPA/833B-99/002), August 1999.
- Generalized Methodology for Conducting Industrial TREs, (EPA/600/2-88/070), April 1989.
- *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures*, Second Edition, EPA 600/6-91/005F, February 1991.
- *Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I*, EPA 600/6-91/005F, May 1992.
- *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.
- *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.

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

3. Construction, Operation, and Maintenance Specifications

Construction of water diversion structures, concrete bulkhead seals in the mine adits, conveyance pipelines, containment and treatment systems, and discharge structures shall be under the direct supervision of a California Professional Engineer. Design plans shall be submitted to the Regional Water Board for review and shall bear the signature and stamp of the supervising engineer.

4. Compliance Schedules

A compliance schedule as described in the SIP can be contained in a NPDES permit providing the discharge is not a new discharge and the permit contains interim effluent limits. Since this Order does not contain numeric effluent limits, a compliance schedule is not appropriate. Instead a Cease and Desist Order with a compliance schedule to implement BMPs and meet the conditions of the permit is planned for adoption at the same time this Order is adopted.

IX. PUBLIC PARTICIPATION

The California Regional Water Quality Control Board, Central Valley Region (Regional Water Board) is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for the Spanish Mine. As a step in the WDR adoption process, the Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through physical (including local newspaper announcement) and Internet posting.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Regional Water Board at the address above on the cover page of this Order.

To be fully responded to by staff and considered by the Regional Water Board, written comments must be received at the Regional Water Board offices by 5:00 p.m. on **23 June 2008**.

C. Public Hearing

The Regional Water Board will hold a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: 31 July/1 August 2008
Time: 8:30 am
Location: Regional Water Quality Control Board, Central Valley Region
11020 Sun Center Dr., Suite #200
Rancho Cordova, CA 95670

Interested persons are invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit. Oral testimony will be heard; however, for accuracy of the record, important testimony should be in writing.

Please be aware that dates and venues may change. Our Web address is <http://www.waterboards.ca.gov/rwqcb5/> where you can access the current agenda for changes in dates and locations.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

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

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information 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 Regional Water Board by calling (530) 224-4845.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional 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 Philip Woodward at (530) 224-4853.