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CENTRAL VALLEY REGION

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[TENTATIVE] WASTE DISCHARGE REQUIREMENTS ORDER R5-2025-XXXX

ORDER INFORMATION

Order Type(s):	Waste Discharge Requirements (WDRs)
Status:	TENTATIVE
Program:	Mines
Region 5 Office:	Sacramento
Discharger(s):	Jamestown Trust II, County of Tuolumne, Whiskey Lake LP, Jamestown Property Development LLC, David and Susan Kaslin, John and Amy Curtin, Mike and Amber Doescher, Joshua and Misty Wilson
Facility:	Jamestown Mine
Address:	17855 High School Road, Jamestown, CA 95327
County:	Tuolumne County
Parcel Nos.:	058-050-007; 058-060-002, -004 & -007; 058-200-023 &-027, -030, -031, -032, -033, -034 & -035; 058-210-019, -061, -079, -080, -081, -082, -083, -084, -085, -086 & 087; 058-560-001 &-003; 058-080-042 & -055
WDID / GeoTracker ID:	5C552014001 / L10001486140
Prior Order(s):	97-082, R5-2006-0048, R5-2007-0083

CERTIFICATION

I, PATRICK PULUPA, Executive Officer, hereby certify that the following is a full, true, and correct copy of the order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 24/25 April 2025.

PATRICK PULUPA,
Executive Officer

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GLOSSARY

Antidegradation Policy .....Statement of Policy with Respect to Maintaining High Quality Waters in California, State Water Board Resolution 68-16

amsl.....above mean sea level

Basin Plan.....*Water Quality Control Plan for the Sacramento and San Joaquin River Basins*

Beneficiary.....Central Valley Regional Water Quality Control Board

bgs.....Below Ground Surface

CAP.....Corrective Action Program

CAMP.....Corrective Action Monitoring Program

CEQA.....California Environmental Quality Act

CEQA Guidelines.....California Code of Regulations, Title 14, section 15000 et seq.

C.F.R......Code of Federal Regulations

COCs .....Constituents of Concern

Completion Date.....Defined in the 2006 Stipulated Judgement as the earlier of (a) twenty (20) years from the Effective Date; or, (b) the Regional Water Board and the County mutually agreeing to transfer O&M responsibility from the Trusts to the County; or, (c) the Trust II is terminated due to depletion of assets; or, (d) a written determination by the Regional Water Board that the remediation of the Jamestown Mine Site is complete and that the purposes of the Trusts have been fully satisfied.

CQA .....Construction Quality Assurance

CVRWQCB .....Central Valley Regional Water Quality Control Board

GLOSSARY

Designated Waste .....(a) Hazardous Waste subject to variance from management requirements per Health and Safety Code section 25143; and (b) Nonhazardous Waste containing pollutants that, under ambient conditions, could be released in concentrations exceeding applicable WQOs, or that could reasonably be expected to affect beneficial uses of water. (Wat. Code, § 13173.)

Dischargers .....As of the date of this Order, Landowners plus the Jamestown Trust II are Dischargers hereunder. As of the Termination Date, theTrust II will no longer be a Discharger and will no longer have to comply with any Discharger-specific requirements set forth in this Order.

DMP .....Detection Monitoring Program

EC .....Electrical Conductivity

Effective Date .....The date that the Judge of the Superior Court approved and entered the Stipulated Judgment to become final and non-appealable (7 June 2006).

EIR .....Environmental Impact Report

EMP .....Evaluation Monitoring Plan

FEMA .....Federal Emergency Management Agency

gpm.....gallons per minute

HP .....Harvard Mine Pit or Harvard Pit

Hazardous Waste .....Wastes which, pursuant to Title 22, section 66261.3 et seq., are required to be managed in accordance with Division 4.5 of Title 22. (Title 27, § 20164; Title 23, § 2521(a).)

Landowners .....Jamestown Mine property owners, as set forth in Table 1, and any successors, assigns, and transferees thereof as set forth in Section 9.J. of the Stipulated Judgement.

GLOSSARY

LCRS .....Leachate Collection and Removal System

LEA .....Local Enforcement Agency

Leachate.....Liquid formed by the drainage of liquids from waste or by the percolation or flow of liquid through waste. Leachate includes any constituents extracted from the waste and dissolved or suspended in the fluid. (Title 27, § 20164.)

Litigation .....The Complaint for Injunctive Relief filed by the Attorney General's Office in Tuolumne County Superior Court on December 12, 2001 (Complaint), and the First Amended Complaint for Injunctive Relief filed by the Attorney General's Office in Stanislaus County Superior Court on June 10, 2004 (FAC).

MCE .....Maximum Credible Earthquake

MDB&M .....Mount Diablo Base and Meridian

MDL .....Method Detection Limit

µg/L.....Micrograms per Liter

mg/L.....Milligrams per Liter

Mining Unit (MU).....Waste management unit for the treatment, storage, or disposal of mining waste.

Mining Waste .....All waste materials (solid, semi-solid, and liquid) from the mining and processing of ores and minerals including soil, waste rock, and other forms of overburden as well as tailings, slag, and other processed mining wastes (Title 27, § 20164.)

MIW.....Mining-influenced water – any water with chemical composition altered by mining

MPE .....Maximum Probable Earthquake

MRP .....Monitoring and Reporting Program

Mt.....million tons

GLOSSARY

MU.....Mining Waste Management Unit

MW.....Monitoring Well

O&M.....Operations and Maintenance

PCMP.....Post-Closure Maintenance Plan

PWRP .....Process Water Retention Pond

RWQCB .....Regional Water Quality Control Board

Related Parties .....Defined in the 2006 Stipulated Judgement as party's successors and assigns, past and present, parent, subsidiaries or departments and its past, present and future officers, directors, board or other governing body members, shareholders, attorneys, employees, contractors, and agents and any Settling Party's past, present-and future spouses and trusts/trustees.

ROWD.....Report of Waste Discharge

RSA.....Rock Storage Area

Settlement Documents .....Settlement Documents are the documents agreed to and signed by the parties and Stanislaus County Superior Court to settle the Litigation on 7 June 2006. Settlement Documents include the Stipulated judgment and related documents by and among the Central Valley Water Board and the other parties to the Litigation, and any amendments thereto.

SPRRs .....Standard Provisions and Reporting Requirement**Stipulated Judgement** The Stipulated Judgement by and Between Plaintiffs and Landowner Defendants (7 June 2006)

GLOSSARY

Termination Date	Defined in the Trust II Agreement section X.2.(a): "on the earlier of (i) depletion of assets held by Trust II (ii) a written determination by the Beneficiary, in its sole and unreviewable discretion, that the remediation of the Jamestown Mine Site is complete and that the purposes of the Trust have been fully satisfied; or (iii) the transfer of assets to a successor trust pursuant to the terms of the Landowner Stipulated Judgment."
TDS	Total Dissolved Solids
Title 22	California Code of Regulations, Title 22
Title 23	California Code of Regulations, Title 23
Title 27	California Code of Regulations, Title 27
TMF	Tailings Management Facility
USEPA	United States Environmental Protection Agency
WDRs	Waste Discharge Requirements
WQOs	Water Quality Objectives
WQPS	Water Quality Protection Standard

FINDINGS

The Central Valley Regional Water Quality Control Board (Central Valley Water Board) hereby finds as follows:

Introduction

1. The County of Tuolumne, Whiskey Lake LP, Jamestown Property Development LLC, David and Susan Kaslin, John and Amy Curtin, Mike and Amy Doescher, Joshua and Misty Wilson (hereafter jointly referred to as Landowners) own the Jamestown Mine properties as shown in Table 1. Jamestown Trust I and Trust II were established during litigation between the Central Valley Regional Water Quality Control Board (hereafter Central Valley Water Board) and landowners and former operators of the Jamestown Mine. The detailed descriptions of Jamestown Trusts I and II are in a 2006 Stipulated Judgment and settlement agreements, and are briefly described below in the Litigation Background section. The Facility is currently operated and managed by Jamestown Trust II (hereafter referred to as Trust) through its Trustee.

2. The Facility is located approximately 2 miles southwest of Jamestown in Tuolumne County, Sections 9 and 16, Township T01 North, Range R14 East, Mount Diablo Base and Meridian (MDB&M). The address associated with the Facility is 17855 High School Road, Jamestown, California 95327. The Facility's location is depicted on the Site Location Map in **Attachment A**.

3. The Facility is situated on a 733-acre property comprised of Assessor's Parcel Numbers (APNs) shown in **Table 1**. County of Tuolumne owns 326 acres which include the south part of Tailings Management Facility (TMF) and the TMF infrastructure including Process Water Retention Pond (PWRP), Rock Storage Area, and the DP-5 pond area east of the Harvard Pit. David and Susan Kaslin, the successors to Robert Cameron, own 272 acres, which include the north half of TMF, the Crystal Pit, and the area between TMF and the Rock Storage Area (RSA). Whiskey Lake LP, a successor to Gary Wilson, owns 85 acres which include the Harvard Pit. Jamestown Property Development LLC, John and Amy Curtin, Mike and Amy Doescher, Joshua and Misty Wilson, are successors to Gary Wilson and own properties along the edge of Harvard Pit.

Table 1: List of Assessor Parcel Numbers (APN) with Landowner, Size, and Mining Unit Information

APN	Landowner	Size (acres)	Mining Unit
058-050-007	Justin and Stephanie Seufert	26	Rock Storage Area
058-060-002	David and Susan Kaslin	193	TMF
058-060-004	David and Susan Kaslin	5	Crystalline Pit
058-060-007	David and Susan Kaslin	70	Crystalline Pit
058-200-023	David and Susan Kaslin	4	E from TMF
058-200-027	Tuolumne County	7	S from PWRP
058-200-030	Tuolumne County	33	W from TMF
058-200-031	Tuolumne County	14	TMF
058-200-032	Tuolumne County	82	TMF
058-200-033	Tuolumne County	40	PWRP
058-200-034	Tuolumne County	2	PWRP
058-200-035	Tuolumne County	18	TMF
058-210-019	Whiskey Lake LP	2	Harvard Pit
058-210-061	Whiskey Lake LP	20	Harvard Pit
058-210-079	Whiskey Lake LP	30	Harvard Pit
058-210-080	John and Amy Curtin	3	Harvard Pit
058-210-081	John and Amy Curtin	4	Harvard Pit
058-210-082	Mike and Amber Doescher	8	Harvard Pit

APN	Landowner	Size (acres)	Mining Unit
058-210-083	Whiskey Lake LP	28	Harvard Pit
058-210-084	Whiskey Lake LP	3	Harvard Pit
058-210-085	Whiskey Lake LP	1	Harvard Pit
580-210-086	Whiskey Lake LP	1	Harvard Pit
058-210-087	Jamestown Property Development LLC	1	Harvard Pit
058-560-001	Tuolumne County	112	Rock Storage Area
058-560-003	Tuolumne County	17	DP-5 Pond Area
059-080-042	Tuolumne County	1	DP-5 Pond Area
059-080-055	Joshua and Misty Wilson	8	Harvard Pit
Total		733	

4. As Facility owners and/or operators, Jamestown Trust II through its Trustee, and the County of Tuolumne, David and Susan Kaslin, Whiskey Lake LP, Jamestown Property Development LLC, John and Amy Curtin, Mike and Amber Doescher, Joshua and Misty Wilson (collectively, Dischargers) are responsible for compliance with this Order, which prescribes Waste Discharge Requirements (WDRs) regulating monitoring and post-closure maintenance of the mining waste management units (Mining Units; MUs) listed in **Table 2.** Classification of mining waste is described in the Waste Classification section below.

Table 2—Summary of Mining Units

Mining Unit	Size (acres)	Volume and Type of Mining Waste/Classification	Liner/Cover Components	Status
Tailings Management Facility (TMF)	120	16.6 million Tons (Mt) of tailings; Group B solids (tailings) and liquids (leachate)	Liner: LCRS, clay liner, spine/underdrains; Cover: one foot top soil, one foot of low permeability cover, two feet of foundation layer	Closed
Rock Storage Area (former mining pit)	100	30 MT of overburden and waste rock; Group B solids	Cover: 2-5 feet of combined soil and low permeability layer	Reclaimed except approximately 10.5 acres
Harvard Mine Pit	72	Former 520 ft deep mining pit filled with mining-influenced water; Group B liquid	Unlined former mining pit partially filled with waste rock/ engineered alternative surface impoundment	Operating
Process Water Retention Pond (PWRP)	4	Surface impoundment, mostly dry; Non-contact water	Double geosynthetic liner with LCRS. Liner partially detached.	Closure Pending

See Glossary for definitions of terms and abbreviations in table.

5. Since the previous WDRs were adopted in 2007, the following activities funded by Jamestown Trusts I and II and managed by their Trustee were completed at the site:

   a. In 2007, TMF was closed as described in the Unit Construction Section. Parts of TMF Dam were re-graded, TMF Dam was delisted from the jurisdiction of the Department of Water Resources, Division of Dam Safety. Stormwater detention pond DP-5 was investigated, dewatered, and closed.

   b. In 2009, Phase I Remediation included TMF closure and the preparation of the Phase I Investigative Report for the Facility.

   c. In 2011, parts of Rock Storage Area were graded to prevent ponding.

   d. In 2012-2013, ten spray evaporators were installed in Harvard Pit to manage MIW level in the pit. One evaporator was installed in PWRP.

   e. In 2013, the area north of Harvard Pit was graded to prevent ponding and infiltration of stormwater. At the same time, the stormwater conveyance from Crystal Pit to DP-5 retention pond was modified to reduce the infiltration of stormwater into the fill and preventing it from recharging the Harvard Pit.

   f. In 2018, a potential extraction well up gradient from the Harvard Pit was drilled. The well yield was not sufficient for the well to perform as an extraction well.

   g. In 2019, following PWRP liner failure; TMF leachate, dam filter leachate, and subdrain liquids were redirected from PWRP directly to the Harvard Pit.

   h. In 2021, Seismic Analysis for the Facility was conducted.

   i. In 2022-2023, after the failure of the Harvard Pit evaporator system, a high-capacity nozzle evaporation system was installed in the pit.

   j. In 2023, an evaluation of sources of non-contact water flowing to PWRP was conducted in efforts to divert them from PWRP.

   k. In 2023-24, the PWRP was sampled to characterize sediments and determine pathway to PWRP closure.

6. On 19 July 2023, Jamestown Trust II submitted an Amended Report of Waste Discharge (ROWD). The information in this ROWD was used in the development of this Order. The Amended ROWD proposed the following significant actions:

   a. Continued active management of Harvard Pit water level.

   b. Post-closure operations, maintenance and monitoring of the Facility.

Materials Accompanying Order

7. The following materials are attached to this Order, and incorporated herein:

   ATTACHMENT A—FACILITY LOCATION
   ATTACHMENT B—MINING UNITS AND MONITORING NETWORK
   ATTACHMENT C—GROUNDWATER ELEVATIONS
   ATTACHMENT D—REGIONAL GEOLOGY
   ATTACHMENT E—MINE INFRASTRUCTURE BY OWNER

   Standard Provisions & Reporting Requirements for Waste Discharge Requirements for Discharges of Mining Wastes Regulated by Title 27, February 2009 (SPRRs or Standard Provisions)

   Information Sheet for [TENTATIVE] Waste Discharge Requirements Order (Information Sheet)

8. This Order is also accompanied by the concurrently adopted **Monitoring & Reporting Program R5-2025-XXXX (MRP)**, the provisions of which are incorporated as part of this Order. Each time the operative MRP is modified by the Central Valley Water Board or its Executive Officer, the revised version shall become the operative MRP (superseding the prior version) and be incorporated as part of this Order (i.e., in lieu of the prior version).

9. To the extent there are any material inconsistencies between the provisions of this Order, the operative MRP, and the SPRRs, the provisions of this Order shall be controlling. However, to the extent a revised MRP contains new or different factual findings reflecting changed conditions or circumstances at the Facility, the revised MRP findings shall be controlling.

10. Additional information about the Facility is set forth in the **Information Sheet**, which is incorporated as part of these findings.

Litigation Background

11. On 18 December 1998, the Central Valley Water Board issued Cleanup and Abatement Order (CAO) No. 98-735 requiring the mine property owners to complete several tasks to investigate the extent of pollution and propose its cleanup. The CAO also required the closure of TMF in compliance with Title 27. The property owners failed to comply and on 17 September 1999, the Central Valley Water Board adopted Resolution No. 99-129 for referral of the case to the Attorney General's Office for Civil Liability. On 12 December 2001, the Attorney General's Office filed a Complaint for Injunctive Relief (Complaint) in Tuolumne County Superior Court; and on 10 June 2004 the Attorney General's Office filed a First Amended Complaint (FAC) in Stanislaus County Superior Court. The Complaint and FAC (the Litigation) named the County of Tuolumne, Robert Cameron and Gary Wilson, among others, as Defendants.

12. The parties to the Litigation settled the matter in June 2006. Order R5-2007-0083 was partially based on the 7 June 2006 Settlement Documents agreed to and signed by the parties and the Court to settle the Litigation. Settlement Documents include the Stipulated Judgment and related documents by and among the Central Valley Water Board and the other parties to the Litigation.

13. Because of subdivision and changes in parcel ownership, this Order is issued to several Landowners who are not named in the Settlement Documents but are Related Parties as defined in the Stipulated Judgement: "*party's successors and assigns, past and present, parent, subsidiaries or departments and its past, present and future officers, directors, board or other governing body members, shareholders, attorneys, employees, contractors, and agents and any Settling Party's past, present-and future spouses and trusts/trustees".*

14. The Settlement Documents established two trusts: one to implement near and medium-term remediation – Phase I, (Jamestown Trust I), and another to implement longer-term response actions – Phase II (Jamestown Trust II).

15. The Jamestown Trust I was funded solely by the private settling defendants for the purposes of the completion of Phase I remediation work and investigations leading to the Phase II remediation work. In 2016, upon completion of Phase I remediation work and investigative reports, the remaining assets from Jamestown Trust I were transferred to Jamestown Trust II and Trust I was terminated.

16. Phase II or Jamestown Trust II (Trust II) is funded by the County of Tuolumne. The funds are to be utilized for the Future Phases, i.e. any investigation, cap,

closure, ground or surface water remediation and monitoring, evaluation, operation, maintenance, or abatement to respond to releases from the Site. According to the Stipulated Judgement, the County's annual contributions, which started in 2007, are to end at the Completion Date.

17. The Stipulated Judgement defines the Completion Date as the earlier of

    a. Twenty (20) years from the Effective Date which is the date when the Judge of the Superior Court approved and entered the Stipulated Judgment and it became final and non-appealable (7 June 2006); or,

    b. The Regional Water Board and the County mutually agreeing to transfer of operations and management (O&M) responsibility from the Trusts to the County; or,

    c. Trust II is terminated due to depletion of assets; or,

    d. A written determination by the Regional Water Board that the remediation of the Jamestown Mine Facility is complete and that the purposes of the Trusts have been fully satisfied.

18. According to the Stipulated Judgment, at the Completion Date, the responsibility for operation and maintenance (O&M) transfers from Trust II to the Landowners. Stipulated Judgment defines Landowner O&M as: "*O&M after the Completion Date, but only to the extent such O&M is substantially similar in cost (adjusted for inflation) and scope to the type of O&M being performed prior to the Effective Date. Landowner O&M shall include activities such as monitoring wells, management of storm water, erosion controls, site security, and similar activities associated with ownership of their respective property. Landowner O&M shall also include standard post-closure operation and maintenance activities on the cap on the TMF for each respective owner of the TMF."*
The Stipulated Judgement excluded any active off-site pump and treat ground water remediation and operation of evaporation ponds from Landowner O&M.

19. To the extent there is an inconsistency between the Settlement Documents and these WDRs, the Settlement Documents will control the rights and obligations of the parties to those documents until the WDR is revised

Facility

20. The Jamestown Mine is a former gold mine located in the foothills of the Sierra Nevada Mountains near Jamestown, California in Tuolumne County as shown on the **Attachment A.** Gold mining operations were conducted between 1986 and

1994. As shown on the **Attachment B** and summarized in **Table 2**, the facility consists of the following features and mining units:

a. Three former mining pits (the Crystalline Pit, the south Crystalline Pit, and the Harvard Mine Pit). All pits are partially filled with mining waste. Crystalline and South Crystalline Pits are dry. Harvard Pit is filled with mining-influenced water (MIW) and operated as engineered alternative surface impoundment for the management of Group B mining waste as defined in California Code of Regulations Title 27 section 22480.

b. Tailings Management Facility (TMF) is a closed Group B mining waste management unit containing mining waste, primarily tailings.

c. Rock Storage Area contains overburden and waste rocks.

d. Process Water Retention Pond was used for management of process water during the active life of the mine, and the management of TMF underdrain and leachate liquids after TMF closure. The liner slid downslope in 2018. Repairs have been unsuccessful therefore the use of the impoundment is limited. The TMF drain liquids are no longer managed in the PWRP.

e. Diversion channels and storm-water retention ponds.

Waste Classification

21. On 22 June 2007, the Central Valley Water Board adopted R5-2007-0083, classifying the Facility's mining units as Title 27 Group B mining waste units. This Order continues these classifications, which are set forth in **Table 2**. This classification is pursuant to Title 27, section 22480, which states, in part:

***"Group B** – mining waste of Group B are either:*

(a) mining wastes that consist of or contain hazardous wastes, that qualify for a variance under Chapter 11 of Division 4.5, of Title 22 of this code, provided that the [regional water quality control board] finds that such mining wastes pose a low risk to water quality;

(b) or mining wastes that consist of or contain nonhazardous soluble pollutants of concentrations which exceed water quality objectives for, or could cause, degradation of waters of the state;"

Site Conditions

22. The Jamestown Mine is located in the low rolling foothills of the Sierra Nevada Mountains on the USGS Sonora Quadrangle 7.5 minute topographic map. The

Facility is located in an area that is bordered by Table Mountain to the north and west and by Highway 108 to the east and southeast. Prior to the commencement of open pit mining, the terrain consisted of a series of grassy valleys and moderately-steep to steep rocky slopes of low relief.

23. The stratigraphic section across the site trends generally from younger on the west to older on the east. The oldest recognized rocks in the area are those of the lower Triassic to upper Permian Calaveras Formation. Between August 1979 and December 1981, 1,137 exploratory holes were drilled in the Jamestown district. The description of the local geology provided below is based on data from the exploratory holes drilled in the vicinity of the Jamestown Mine and Geology Map provided in **Attachment D**.

24. The course of the Mother Lode vein system was marked by a series of erosion-resistant, silica-rich knobs. The quartz-rich veins (Bull Quartz) occupy the main trace of the Melones Fault, which prior to open pit mining, outcropped along the former ridge-top of the Harvard and Crystalline Hills. The principal mineral zone in the Jamestown district closely follows the contact between the western serpentinite footwall and the eastern phyllite hanging wall of the Melones Fault.

    The hanging wall (east side of the Melones Fault) consists of meta-sedimentary and meta-volcanic rocks composed of slates, phyllites, and schists. The footwall rocks to the west are collectively called “serpentine” and consist of chlorite-actinolite schists, crystalline greenstones, talc-tremolite schists, meta-diorites, and meta-gabbros.

    Of the two major faults in the Jamestown Mine area, the Melones and the West Rawhide, only the Melones is associated with gold deposits. The surface expression of the Melones Fault was associated with a ridge that formally extended northwest to southeast across the site, coincident with the mineralized zone, which includes highly fractured rocks containing mariposite and ankerite. The rocks are found in both the Harvard and Crystalline pits. Gold-bearing pyrite was known to be a major constituent in both the quartz veins and footwall rocks adjacent to the ore zone. Other sulfide minerals reported from the ore include arsenopyrite, sphalerite, galena, chalcopyrite and tetrahedrite.

25. The Dischargers' site-specific seismic analysis indicates that an earthquake, occurring along the Foothill Fault System (Fault 26 Section D), at a closest rupture distance of 13.3 miles, would result in the events summarized in **Table 3**.

Table 3—Seismic Analysis

Earthquake	Magnitude	Peak Ground Acceleration	Return Period	Distance to Rupture miles
Max Credible (MCE)	6.1	0.167 g	2,475 Years	13.3
Max Probable (MPE)	5.2	0.01 g	100 Years	57.0

See Glossary for definitions of terms and abbreviations in table.

26. Land uses within one mile of the Facility are agricultural, rural residential, public/open space, commercial-business, and light industrial.

27. Based on data from the nearest weather station New Melones Dam (046172), the Facility has an annual average precipitation of 24.3 inches and a mean pan evaporation of 71.6 inches per year. The nearest weather station is reflective of conditions at the Facility.

28. According to National Oceanic and Atmospheric Administration's (NOAA) Precipitation Frequency Atlas 14, Volume 6 (rev. 2014), the Facility's 10-year, 24-hour and 100-year, 24-hour rainfall events are estimated to result in 3.9 and 6 inches of precipitation, respectively. Source: NOAA Precipitation Frequency Data Server (https://hdsc.nws.noaa.gov/hdsc/pfds).

29. The Facility is covered under the State Water Board's operative Industrial Storm Water General Permit Order 2014-0057-DWQ (Industrial Stormwater Permit). The areas subject to the Industrial Stormwater Permit include the roads at the site, the TMF, and the retention ponds. All other areas have been reclaimed (covered with topsoil and vegetated). Therefore, in accordance with the Industrial Stormwater Permit requirements, runoff from these areas is categorized as unclassified. Stormwater retention basins discharge to Woods Creek.

30. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (https://msc.fema.gov/portal) Map No 06109C0850C, the Facility is not located within a 100-year floodplain.

31. There are 47 domestic, industrial and agricultural supply wells within one mile of the Facility.

Surface and Groundwater Conditions

32. Surface water from the Facility drains to Woods Creek, a tributary to the Tuolumne River, which drains to the San Joaquin River. According to the Central Valley Water Board's *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan), the beneficial uses of Tuolumne River include: potential municipal and domestic use (MUN); agricultural supply (AGR); water contact recreation (REC-1); non-water contact recreation (REC-2); warm freshwater habitat (WARM); wildlife habitat (WILD); migration of aquatic organisms (MIGR); and warm water spawning, reproduction and/or early development (SPAWN).

33. Groundwater underneath the Facility is first encountered between approximately 7 and 130 feet below ground surface (bgs). As shown on **Attachment C**, groundwater elevations range between 1328 and 1578 feet above mean sea level (amsl) (2nd Semester and Annual 2024 Monitoring Report).

34. Groundwater in the area is primarily present in fractured bedrock, although in some areas, groundwater is present in the overlying alluvium and zone of weathered bedrock. Over much of the area, bedrock is exposed at the surface. Alluvium and weathered bedrock are only present in localized areas at the site, particularly beneath the southern portion of the TMF embankment. Where present, the weathered zone is reported to confine groundwater in the underlying fractured-zone aquifer.

35. The 1998 Report of Waste Discharge refers to a highly weathered and clay-rich zone at a depth of 30 to 50 feet. This correlates with data reported in the Phase I Investigative Report which suggest that the uppermost 10 to 40 feet of material in RSA are highly weathered rock mixed with clay rich material.

36. Groundwater storage and movement in the bedrock at the site are controlled by the rock type and fractures. The unfractured bedrock generally has low permeability. Small-scale fractures within the bedrock impart a higher, secondary permeability to the bedrock. These fractures may result in relatively isotropic permeability conditions in rocks such as gabbro, diorite and serpentinite (the bedrock underlying the TMF at the site). However, the permeability of rocks such as slate and schist (the bedrock underlying the RSA and adjacent to the east side of HP) may be highly anisotropic with the high-permeability direction parallel to the parting planes and the low-permeability direction perpendicular to the parting planes of these rocks.

37. Large-scale fracturing associated with the faults in the area creates localized areas of relatively high secondary permeability that is anisotropic, with the direction of highest permeability parallel to the main fracture system and the direction of lowest permeability perpendicular to the main fracture system. As a result, groundwater primarily flows parallel to the dominant fracture orientation (approximately N30W).

38. Mine features also influence the occurrence and movement of groundwater in the area. The three main mining units are the TMF, the RSA, and the mined portions of the mineralized zone. The mined portions include the open Harvard Pit, the filled-in Crystalline and South Crystalline Pits, and the mine shafts, stopes and drifts that were dug within the mineralized zone between the pits and on either side of the pits. The amount of groundwater in storage near the pits is limited by the presence of relatively low-permeability rock units on either side of the mineralized zone. A black slate unit effectively limits groundwater yield on the northeast side of the fault; and a serpentine unit effectively limits groundwater yield on the southwest side of the fault.

39. According to the Basin Plan, the designated beneficial uses of groundwater at the Facility are municipal and beneficial use (MUN), agricultural supply (AGR) and industrial process supply (PRO).

40. As of the date of this Order, the Facility's groundwater monitoring network consists of the existing monitoring wells listed in **Table 4**.

Table 4—Groundwater Monitoring Well Network

Well	Program	Monitored Unit	Water-Bearing Zone
TDWM-4	Detection	TMF	Shallow
TDWM-6	Detection	TMF	Shallow
TDWM-12	Detection	TMF	Shallow
TDWM-15	Elevation	TMF	Shallow
TDWM-19	Elevation	TMF	Deep
TDWM-22	Background	TMF	Deep
TDWM-23	Elevation	TMF	Deep

Well	Program	Monitored Unit	Water-Bearing Zone
TDWM-24	Elevation	TMF	Shallow
TDWM-26	Elevation	TMF	Shallow
TDWM-27	Detection	TMF	Shallow
RSMW-4	Elevation	RSA	Shallow
RSMW-5A	Background	RSA	Deep
RSMW-6	Detection	RSA	Shallow
RSMW-8	Detection	RSA	Shallow
RSMW-9A	Elevation	RSA	Deep
RSMW-10	Detection	RSA	Shallow
Harvard-7	Elevation	Harvard Pit	Shallow
Harvard -4	Elevation	Harvard Pit	Shallow
Harvard -8	Detection	Harvard Pit, TMF	Shallow

See Glossary for definitions of terms and abbreviations in table.

41. As of the date of this Order, the Facility's surface water monitoring network consists of monitoring points listed in **Table 5**.

Table 5—Surface Water Monitoring Network

Monitoring Point	Location	Program	Monitored Unit
WC-1	Wood Creek	Background/upstream	Harvard Pit
WC-2	Wood Creek	Detection	Harvard Pit

See Glossary for definitions of terms and abbreviations in table.

42. As of the adoption of this Order, the above-described networks comply with the monitoring requirements of Title 27. (See Title 27, §§ 20415–20435.) Subsequent changes to these networks will be reflected in a Revised Monitoring & Reporting Program issued by the Executive Officer.

Water Quality Protection Standard

43. A Water Quality Protection Standard (WQPS) is the analytical framework through which MUs are individually monitored for releases and impacts to water quality. (Title 27, § 20390, subd. (a).)

44. In accordance with Title 27, this Order, by virtue of its incorporation of **Monitoring & Reporting Program R5-2025-XXXX (MRP)** and subsequent revisions thereto, establishes a WQPS for each MU at the Facility.

Unit Construction

Tailings Management Facility (TMF)

45. The TMF is an approximately 120-acre large tailings impoundment containing about 16.6 million tons of tailings. The TMF is classified as a Group B mine waste containment unit. The major structural features of the TMF include an earth/rockfill embankment (Tailings Dam). The floor of the impoundment has a clay liner with a leachate collection and recovery system (LCRS). Beneath the clay liner a system of spine drains intercept surfacing groundwater and maintain separation of groundwater from the impoundment liner.

46. Mining-influenced water (MIW) collected from the tailings dam filter-drainage network, the LCRS, and the spine drains, is transferred to the Harvard Mine Pit. The tailings dam filter-drainage network is a system of drainage media and pipe to collect and drain leachate from the tailings side of the dam. The LCRS is a system of drainage media and perforated pipe installed above the liner to collect and drain away leachate percolating downward through the tailings. The spine drain system is a system of perforated pipe to collect and drain groundwater collected below the liner.

47. In 2007, the closure of TMF was completed with a cover consisting of (from bottom to top) a minimum two feet thick foundation layer composed of reworked and compacted tailings, a minimum one-foot compacted clay low-permeability layer with a permeability less than 1×10^{-6} cm/sec, and minimum one-foot vegetative soil layer.

48. As an engineered alternative to the prescriptive standard, the final cover was graded with a minimum slope of one percent pursuant to the Title 27 Section 21090(b)(1)(B) which states in part: "*The RWQCB can allow portions of the*

final cover to be built of less than three percent if the discharger proposes an effective system for diverting surface drainage from laterally-adjacent areas and preventing ponding in the allowed flatter portion." The one percent grade was justified due the following facts:

a. All stormwater from the surrounding area is captured and diverted away from this unit by a perimeter stormwater collection and drainage ditch.

b. The tailings have been largely dewatered and have a relatively high-density.

c. The tailings are not expected to undergo any significant settlement or subsidence. Therefore, no run-on stormwater from surrounding area and no subsidence are expected that would cause ponding.

49. Title 27 CCR Section 20080(b) allows the Central Valley Water Board to consider the approval of an engineered alternative to the prescriptive standard. To approve an engineered alternative in accordance with Title 27 CCR Sections 20080(c)(1) and (2), the Discharger must demonstrate that the prescriptive design is unreasonably and unnecessarily burdensome and will cost substantially more than an alternative which will meet the criteria contained in Title 27 CCR Section 20080(b), or would be impractical and would not promote attainment of applicable performance standards. The Discharger must also demonstrate that the proposed engineered alternative cover system is consistent with the performance goal addressed by the prescriptive standard and provides protection against water quality impairment equivalent to the prescriptive standard in accordance with Title 27 CCR Section 20080(b)(2). California Water Code, Section 13360(a)(1) allows the Central Valley Water Board to specify the design, type of construction, and/or particular manner in which compliance must be met in waste discharge requirements or orders for the discharge of waste at solid waste disposal facilities.

50. The Discharger adequately demonstrated that the construction of the prescriptive standard cover with three percent grade, as described in Title-27, would be unreasonable and unnecessarily burdensome when compared to the proposed engineered alternative and that the alternative affords equivalent protection against water quality impairment. The Discharger has demonstrated that the proposed engineered alternative is consistent with the performance goals for closure of a Group B mining waste management unit.

51. Surface water runoff from the top deck drains to an engineered channel and discharges to the existing stormwater drainage system. The storm water drainage system is designed for flows from a 100-year, 24-hour storm event.

Process Water Retention Pond (PWRP)

52. The PWRP has been utilized as Group B mining waste containment unit to hold MIW from the Spine Drain system, the Tailings Dam filter-drain system, and the LCRS, prior to their transfer to the Harvard Pit.

53. In 2018, portions of the liner detached from the anchor trench and slid downslope. Attempts to repair it were not successful and the pond was drained. After a burst underdrain pipe, the liquids collected from TMF were again directed to PWRP; however, the level of MIW was kept below the failed liner. To maintain MIW level below the damaged liner, a sump was installed on the southside of the PWRP that allowed the transfer of water from the PWRP to the HP.

54. Since then, the infrastructure has been reengineered to convey the collected MIW draining from the TMF directly to the Harvard Pit.

55. The Trust has been exploring final closure options for PWRP which may potentially consist of removing or folding in the liner, closure of the sumps and drains with cement grout or similar, and regrading and final contouring with cover vegetation. Prior to final closure of the PWRP, a detailed PWRP closure plan and design prepared by a registered professional shall be submitted for review and approval.

Waste Rock Storage Area (RSA)

56. The RSA is located east of the Crystalline Pit and Northeast of the Harvard Pit. Overburden and non-mineral-bearing rock from the Harvard and Crystalline Pits were placed in the RSA. Approximately 30 million tons of material consisting of a wide range of rock types and particle sizes were placed in the RSA during the operation of the mine. According to mine records, the material consisted of a wide range of rock types including serpentinite, bull quartz, quartz-ankerite-mariposite schist, greenstone, black and gray slates, and metasedimentary hanging wall rocks.

57. By the end of 1994, the RSA had been substantially reclaimed as per 1984 Reclamation Plan. Reclamation measures conducted on the RSA have consisted of surface and slope re-grading and shaping, covering with topsoil, and vegetating the surface of the topsoil cover.

58. The average overall slope of the RSA, from crest to toe, is approximately 3 to 1. In most areas, 20-foot-wide benches have been left in place around the perimeter, at 50-foot vertical increments, which is the height of each lift. According to the mine records, the foundation area under the RSA was stripped of soil to a competent weathered rock surface prior to placing the overburden material from the two pits in the RSA.

59. The 2009 Phase I Investigation concluded that the existing final cover of two to five feet of combined soil and low permeability clay on the RSA meets the standard of Title 27 and should be maintained in its present condition. This order continues this requirement.

Harvard Pit (HP)

60. The excavation of Harvard Pit began in 1988. The HP was excavated to a maximum depth of roughly 620 feet below ground surface to the elevation of 840 feet amsl. The original northern portion of the HP was only excavated to a depth of about 200 feet (an elevation of 1,260 feet amsl), then backfilled in 1991. The southern portion of the HP remains open. More than 500 vertical feet had to be dewatered during the active mining of the HP.

61. Due to previous dewatering activities, the pit has acted as a groundwater sink for the majority of the post-closure period. When the water level inside HP exceeds an elevation of 1,330 feet msl, water from the Harvard Pit Lake could potentially flow through fractures in the bedrock downgradient and into the nearby Woods Creek. The Order R5-2007-0083 required that water levels in the Harvard Pit Lake not exceed 1,320 feet msl.

62. In March 2017, MIW level in the pit exceeded the regulatory level 1,320 feet amsl. Since June 2019, the pit MIW elevation has been at or below 1,330 feet amsl, following a brief rise to almost 1,335 feet amsl during the winter of 2018/19. As a result of the elevated pit level, the CVRWQCB staff, in a letter dated 11 June 2019, directed the Jamestown Trust to initiate creek monitoring and water sampling to assess the potential impacts of mine-impacted waste (MIW) on Woods Creek water. The creek monitoring and sampling program was to be performed as a part of the semi-annual detection monitoring program while the HP Level remains above 1,320 feet amsl. Samples are collected from a location upstream from the HP near the crossing of Harvard Mine Road and downstream from the crossing of Bell Mooney Road.

63. The Monitoring and Reporting Program R5-2025-XXXX incorporates Woods Creek sampling locations into the permanent detection monitoring program. The

sampling shows increased concentrations of several parameters including total dissolved solids, sulfate and arsenic in downstream Woods Creek samples compared to upstream samples. The causes for these trends continue to be under investigation. In addition to the potential impact of seepage of Harvard Pit MIW, the creek flows through the mineralized zone. Also, other facilities are located along this stretch of Woods Creek.

64. The Harvard Pit is operated as a Group B impoundment for MIW and requires active management of water level to prevent overtopping and uncontrolled discharge. The 2008 HP Refilling Model, which seems to be accurate compared to subsequent water level data, predicted that, without any intervention, the pit would overflow at the elevation 1,358 ft amsl in 2029. The model also predicted the exceedance of the 1320 ft amsl regulatory level in 2015; however, the actual exceedance occurred in March 2017.

65. The MIW in the HP contains relatively high dissolved concentrations of arsenic and sulfate and total dissolved solids because it is in contact with the mineralized zone and receives MIW from TMF drains. The concentrations of total dissolved solids (TDS), sulfate and arsenic concentrations exceed Water Quality Objectives (**Table 6**).

Table 6—Harvard Pit MIW Concentrations of Selected Constituents of Concern (from 2008-2023)

Constituent of Concern	pH Std. Unit	TDS mg/l	Sulfate mg/l	Arsenic µg/L
Average	7.8	2,596	1,713	313
Min/Max	7.2-8.3	2,000-3,000	1,400-3,000	220-440
Water Quality Objective	6.5-8.5	500	250	10

66. To manage the HP MIW level, ten floating spray evaporators were installed in 2012 and 2013 and operated until October 2022. Before liner failure, one evaporator was installed and operated in PWRP.

67. Several management alternatives summarized below were evaluated in the 2009 Phase I Investigation, which also provided estimates for average HP recharge as 120 gpm of groundwater and 60 gpm of MIW transferred from the TMF drains.

a) Reverse Osmosis/Microfiltration: The treatment and discharge of treated effluent to the Woods Creek per an appropriate permit was suggested to be the most effective. However, the initial investment and operation costs would rapidly deplete the remaining Trust funds.

b) Groundwater Extraction: Installation of extraction wells upgradient from the HP was proposed to remove some of the groundwater recharge from the HP. In 2018, an exploratory extraction well was drilled between the Crystal Pit and the HP, however, the well yield was too low (10 gpm) to have an impact.

c) Tree Cultivation in the Crystal Pit: Cultivation of fast-growing trees on the bottom of Crystal Pit was expected to remove some of the non-contact water by evapotranspiration and reduce groundwater recharge of HP. According to the model which estimated the uptake by trees to 20 gpm, the exceedance of the regulatory level would be delayed by only 11 months and the proposal was not implemented.

d) Dry Season Evaporation Ponds: These evaporation ponds were proposed to be operated with or without MIW treatment. The accumulated salts would be flushed back to the HP. The proposed pre-treatment consisted of GeoBIND® and magnesium oxide to remove heavy metals. At the time, this option was ruled out for being too costly.

e) Enhanced Spray Evaporation without or with Pre-treatment (GeoBIND® and magnesium oxide): The Discharger operated 10 floating evaporators in Harvard Pit from 2012-2022 without pre-treatment. In 2022, the system was damaged by excessive heat and was replaced by a single high capacity nozzle which continues to operate. One floating evaporator was operating in PWRP from 2012 until liner failure in 2018. Pre-treatment was not implemented because the MIW vapors are kept within the Harvard Pit.

f) Wet Season Discharge to the Woods Creek with Pre-treatment (GeoBIND® and magnesium oxide): This option would require National Pollutant Discharge Elimination System permit.

68. In 2019, the discharge of HP MIW to the Jamestown Sanitary District (JSD) water treatment plant was explored. However, despite a planned expansion, the JSD did not have capacity to accept additional discharge.

69. Because most explored water management strategies have been found to be either infeasible or too costly, the Trust submitted a ROWD in 2021 which proposed to manage HP MIW level by spray irrigation of unspecified commercial crops with untreated MIW. A solar powered center pivot irrigation system was proposed to apply up to 1,000 gpm of extracted Harvard Pit water over about 50-acre circular portion of TMF surface. ROWD provided calculations that a

partial operation of the system throughout the year would provide a Harvard Pit level drawdown of 4 ft/year.

70. The review of the proposal established that the proposal was not in compliance with State Water Board Resolution No. 68-16 (*Antidegradation Policy*) which prohibits the Central Valley Water Board from authorizing the degradation of waters of the state. It was also not in compliance with sections of Title 27 as described below:

    a. The system, as proposed, did not provide full containment for Group B mining waste which is not in compliance with the Antidegradation Policy. Application 1,000 gpm of MIW would cause high salt loading of TMF surface. Some of the salts would be removed by stormwater to surface waters. Currently, the stormwater from TMF discharges into a tributary channel draining toward the Woods Creek about a mile away. Capture of stormwater was considered to be infeasible. Moreover, the high salt loading of the one foot thick TMF vegetative/soil layer could cause soil, vegetation, and liner degradation.

    b. Title 27 Section 21090 (a)(3)(a) (d) requires that suitable vegetation needs to have a rooting depth not exceeding the depth to the top of the low-hydraulic-conductivity layer. The depth to the low permeability layer on TMF is about one foot which precludes cultivation of most commercial crops.

71. Because of the lack of containment and the threats to the TMF low permeability cover, the spray irrigation of TMF surface, as proposed, was not in compliance with applicable regulations and the Trustee was asked to explore other management strategies. The Trust continues to search suitable alternatives which, long term, would require less power and long-term investment and maintenance than the current evaporative system.

72. In response, the Trust submitted an amended ROWD in 2023 which removed the spray irrigation proposal. At the time of preparation of this Order, the Trust was managing MIW level in Harvard Pit with a single high capacity evaporation nozzle. MIW level in the pit is monitored remotely. In October 2024, the elevation of MIW in the pit fluctuated between 1328 and 1328.6 feet amsl.

Reclamation, Post-Closure Maintenance & Financial Assurances

73. Title 27 section 22212 requires the Discharger to establish financial assurances for post-closure maintenance. Former surface mining operations at the Facility are subject to the California Surface Mining and Reclamation Act (SMARA, 1975;

Mine ID#91-55-0001). For the purposes of SMARA, Tuolumne County is the lead agency. The Discharger's Reclamation Plan (1984) and the use of the Trust II funds as financial assurance for the cost of reclaiming all disturbed areas have been approved by the lead agency. The Reclamation Plan is designed to minimize water degradation, control soil erosion and other adverse effects from the surface mining operation, and return the mined land to a usable condition. The amount of 2023 SMARA Financial Assurance Estimate was **$442,628** in 2023 dollars.

74. Title 27 California Code of Regulations section 22510(c) requires the Regional Water Quality Control Boards to issue WDRs which incorporate the relevant provisions of an approved mining and reclamation plan (see California Surface Mining and Reclamation Act, Public Resources Code, section 2770, et seq.) and prescribe additional conditions as necessary to prevent water quality degradation and ensure that there will be no significant increase in the concentration of indicator parameters or waste constituents in ground or surface water, unless requirements are waived.

75. The Facility Reclamation Plan may not be equivalent to the Closure and Post-Closure Maintenance Plan required by Title 27 section 22510(b). The Dischargers' Final Post-Closure Maintenance Plan shall be updated and submitted for review and approval to become the operative document governing post-closure maintenance of TMF, Harvard Pit, Rock Storage Area, and associated infrastructure for the entire post-closure maintenance period of at least 30 years, or until it is demonstrated that the Facility no longer poses a threat to the public health and safety and the environment. (See Title 27, §§ 20950(a)(1), 21180(a).

76. These WDRs are being issued to regulate the closure of PWRP and post-closure of Jamestown Mine with continued operation of the Harvard Mine Pit. The remaining funds of Trust II are expected to provide the financial assurances for these activities until the Completion Date or the Termination Date, whichever is earlier.

77. The Jamestown Trust Agreement II Article V requires submittal of an accounting report **by 1 March of each year.** This Order continues this requirement until Trust's Termination Date.

78. At Completion Date, the responsibility for post-closure financial assurances reverts to the Landowners for their respective shares of post-closure maintenance costs established in the Post-Closure Maintenance Plan.

79. This Order allows the Discharger to utilize Financial Assurances established in compliance with SMARA regulations to cover a part of their Financial Assurance requirement if Central Valley Water Board is named as a beneficiary, and establish a separate second Financial Assurance mechanism to fulfill any remaining requirements as specified in section C Financial Assurances.

California Environmental Quality Act

80. The issuance of this Order, which prescribes requirements and monitoring of waste discharges at an **existing facility**, with negligible or no expansion of its existing use, is exempt from the procedural requirements of the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq., pursuant to California Code of Regulations, title 14, section 15301 (CEQA Guidelines). The discharges authorized under this Order are substantially within parameters established under prior Orders, particularly with respect to character and volume of discharges.

81. Previously the Tuolumne County Board of Supervisors certified the final **Environmental Impact Report** (EIR) for the mining operation on 24 February 1986. The Central Valley Water Board reviewed the EIR at the time. This Order provides protection to water quality equal to or more effective than the mitigation measures in the EIR relating to water quality. Compliance with this WDR Order will mitigate or avoid significant impacts on water quality by requiring post-closure maintenance of the TMF and RSA, setting a regulatory level for elevation of MIW in the Harvard Pit, waste discharge prohibitions and specifications, closure and post-closure maintenance specifications, and monitoring and reporting requirements.

Other Regulatory Matters

82. This Order is issued in part pursuant to Water Code section 13263, subdivision (a), which provides as follows:

> The regional board, after any necessary hearing, shall prescribe requirements as to the nature of any proposed discharge, existing discharge, or material change in an existing discharge…, with relation to the conditions existing in the disposal area … into which, the discharge is made or proposed. The requirements shall implement any relevant water quality control plans that have been adopted, and shall take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that

> purpose, other waste discharges, the need to prevent nuisance, and the provisions of [Water Code] Section 13241.

83. This Order implements the Central Valley Water Board's Sacramento and San Joaquin Basin Plan, which designates beneficial uses for surface water and groundwater and establishes water quality objectives (WQOs) necessary to preserve such beneficial uses.[1] (Wat. Code, § 13241 et seq.)

84. The State Water Board's *Statement of Policy with Respect to Maintaining High Quality Waters in California*, Resolution 68-16 (*Antidegradation Policy*) prohibits the Central Valley Water Board from authorizing degradation of "high quality waters" unless it is shown that such degradation: (1) will be consistent with the maximum benefit to the people of California; (2) will not unreasonably affect beneficial uses, or otherwise result in water quality less than as prescribed in applicable policies; and (3) is minimized through the discharger's best practicable treatment or control.

85. Consistent with Title 27, this Order requires the Dischargers to maintain the Facility to contain waste within mining units, thereby preventing degradation of water quality. To the extent that there are releases from Facility MUs, the Dischargers will be required to address such releases through a Corrective Action Program. (See Title 27, §§ 20385, 20415, 20430.) Because this Order does not authorize any degradation in water quality, it complies with the *Antidegradation Policy*.

86. For the purposes of California Code of Regulations, title 23 (Title 23), section 2200, the Facility has a threat-complexity rating of **2**-**B**, where:

    a. Threat Category "2" reflects waste discharges that can impair receiving water beneficial uses, cause short-term water quality objective violations, cause secondary drinking water standard violations, and cause nuisances; and

    b. Complexity Category "B" reflects any discharger not included in Category A, with either (1) physical, chemical or biological treatment systems

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[1] Designated beneficial uses surface water and groundwater are discussed in Finding 0 and 0, respectively.

(except for septic systems with subsurface disposal), or (2) any Class II or Class III Waste Management Units.

Reporting Requirements

87. This Order is also issued in part pursuant to Water Code section 13267, subdivision (b)(1), which provides that:

> *The regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region … shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.*

88. The technical reports required under this Order, as well as those required under the separately issued MRP, are necessary to ensure compliance with prescribed WDRs and the provisions of Title 27. Additionally, the burdens associated with such reports are reasonable relative to the need for their submission.

89. Failure to comply with the reporting requirements under this Order and the MRP may result in enforcement action pursuant to Water Code section 13268.

Procedural Matters

90. The Dischargers interested agencies and interested persons were notified of the Central Valley Water Board's intent to prescribe the WDRs in this Order, and provided an opportunity to submit their written views and recommendations at a public hearing. (Wat. Code, § 13167.5; Title 27, § 21730.)

91. At a public meeting, the Central Valley Water Board heard and considered all comments pertaining to the discharges regulated under this Order.

92. The Central Valley Water Board will review and revise the WDRs in this Order as necessary.

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code sections 13263 and 13267, that the Order R5-2007-0083 is rescinded, except for the purposes of enforcement, and that the Dischargers and their agents, employees, successors and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

Except as otherwise expressly directed below, the Dischargers shall comply with all Standard Prohibitions (SPRRs, § V), which are incorporated herein, as well as the following.

1. The discharge of ‘hazardous waste’, ‘designated waste’, ‘Group A’ and ‘Group B’ mining waste is prohibited unless otherwise specified in this Order. For the purposes of this Order, the terms ‘hazardous waste’, designated waste’, ’Group A’ and ‘Group B’ mining waste are as defined in Title 23, § 2510 et seq. and Division 2 of Title 27 of the CCR.

2. The discharge of solid waste or liquid waste to surface waters, surface water drainage courses, or groundwater is prohibited unless otherwise specified in this Order.

3. The discharge of wastes outside of a waste management unit or portions of a waste management unit specifically designed for their containment is prohibited.

4. The discharge or transfer of waste, other than TMF drain liquids to the Harvard Pit, is prohibited.

B. Discharge Specifications

General Specifications

Except as otherwise expressly directed below, the Discharger shall comply with all Standard Discharge Specifications (SPRRs, § III), which are incorporated herein, as well as the following.

1. The discharge shall not cause a condition of pollution or nuisance as defined by the Water Code § 13050.

2. Wastes shall only be discharged into, and shall be confined to, the mining units (MUs) specifically permitted for their containment.

3. The Discharger shall maintain site security throughout the closure and post-closure period. Perimeter fences, locked gates and signs shall be maintained to exclude public entry to the site. Locks, gates, signs, and fences shall be inspected quarterly; damaged security features shall be repaired or replaced immediately.

4. Signs shall be repaired or replaced as needed to maintain their visibility. Vegetation that encroaches on or obscures signs shall be cut back or removed.

5. Annually, prior to the anticipated rainy season, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the site.

6. The Dischargers shall perform periodic monitoring of site security systems, final soil cover, drainage system, vegetative cover, final grading, and groundwater monitoring system in compliance with Monitoring and **Reporting Program No. R5-2025-XXXX.**

Facility Specifications

The Dischargers shall comply with all Standard Facility Specifications (SPRRs, §VI) which are incorporated herein, as well as the following.Jamestown Trust II and Landowner Operations and Maintenance

7. Pursuant to the 2006 Settlement Documents, Jamestown Trust II is responsible for the management of the Facility until the Completion Date or Termination Date, whichever is earlier. On Completion Date, the responsibility for operations and maintenance reverts to Landowners (Landowner O&M) for mining units or parts of mining units and associated infrastructure on their respective properties shown on Attachment E as described in Finding 17. Between Completion Date and Termination Date, the Jamestown Trust II shall continue to manage environmental remediation activities not included in Landowner O&M.

   Landowner O&M includes but may not be limited to:

   a. Monitoring and reporting as specified in associated Monitoring and Reporting Program R5-2025-XXXX.

   b. Operations and maintenance of mining units and associated infrastructure.

c. Operations and maintenance of TMF dewatering infrastructure.

d. Maintenance of stormwater conveyance systems.

e. Stormwater permitting, sampling, and reporting, as required by the General Industrial Stormwater Permit [General Permit] Order 2014-0057-DWQ, or the Inactive Mine exemption provided the Facility meets the conditions in Section XIII of the General Permit.f. Operations and maintenance of site security measures such signs, fences, and security cameras.

g. Electrical infrastructure and electrical consumption for non-active remedy activities.

h. Road maintenance.

i. Permitting and compliance with Surface Mining and Reclamation Act of 1975 (SMARA annual financial assurance updates and annual inspections) and associated fees.

j. Waste Discharge Requirement fees.

k. Establishment and annual updates of post-closure of CVRWQCB financial assurance instruments as specified in sections C and F.

l. Administrative and legal fees.

Protection from Storm Events for All Units

8. Waste management units shall be designed, constructed, and operated to prevent inundation or washout due to flooding events with a 100-year return period.

9. The Dischargers shall maintain coverage under the *Statewide General Permit for Stormwater Discharges Associated with Industrial Activities, Order 2014-0057-DWQ*, or retain all storm water on-site.

10. Precipitation and drainage control systems shall be designed, constructed, and maintained to accommodate the anticipated volume of and peak flows from surface runoff under 100-year, 24-hour precipitation conditions.

Group B Surface Impoundments

11. The Harvard Mine Pit shall continue to operate as Group B mining waste surface impoundment. Group B liquid mine waste from the TMF dam filter-drainage network, the Leachate Collection and Recovery System, the spine drain system, and, if necessary, contact water from stormwater ponds, may be discharged to the Harvard Mine Pit.

12. In order to continue to operate as a groundwater sink, Harvard Mine Pit water levels shall be kept below 1325 feet amsl. No municipal or private groundwater wells which could interfere with the operation of the pit as a groundwater sink shall be constructed near the Harvard Pit.

13. The discharge of MIW from the Harvard Pit shall only be confined to potential treatment /evaporation systems approved for pit dewatering activities.

14. Until closure, if MIW is stored in PWRP, the level of MIW in PWRP shall be kept below the level of liner damage.

15. Group B surface impoundments must be constructed to accommodate the anticipated volume and peak flows from surface runoff of 24-hour precipitation events with a return period of 10 years. Additionally, the design and construction must protect from 24-hour precipitation events with a return period of 100 years for (See Title 27, § 22490.). The impoundments shall be designed to contain the 100-year wet season precipitation.

16. Any direct-line discharge to a surface impoundment shall have fail-safe equipment or operating procedures to prevent overfilling.

17. The surface impoundments shall be operated and maintained to prevent scouring and/or erosion of the containment features or impoundment walls at points of discharge to the impoundment and by wave action at the water line.

18. TMF and Harvard Pit dewatering infrastructure such as pipes, valves and pumps shall be inspected and maintained regularly. Leaks or other identified issues shall be repaired or replaced in a timely manner.

19. The Dischargers shall submit PWRP closure plan including the Construction Quality Assurance Plan for review and approval prior to the start of closure activities.

20. After closure, the PWRP Construction Quality Assurance Report shall be submitted for review and approval.

Post-Closure Maintenance of the TMF and RSA

21. On Completion Date, the responsibility for post-closure operation and maintenance as specified below transfers to the respective TMF and RSA Landowners.

22. Prior to any major repairs, the Dischargers shall submit design plans and specifications for any on-site construction or major repairs to TMF or RSA structures.

23. For any use of TMF or RSA surface that is not non-irrigated open space, pursuant to Title 27 Section 21769 (c)(2)(H), the Discharger is required to submit detailed technical documentation for review and approval. In addition to the detailed technical specifications regarding the project, the report shall include water balance evaluations, plans and design for water penetration monitoring system, and final cover protection plan.

24. The Discharger shall perform periodic visual inspections to identify and address cover problems, including at least:

    a. Areas of the vegetative cover requiring replanting;

    b. Eroded portions of the erosion-resistant layer requiring regrading, repair, or increased erosion resistance;

    c. Eroded portions of the low-hydraulic conductivity layer needing repair or replacement;

    d. Areas lacking free drainage;

    e. Areas damaged by equipment operation or grazing.

25. The Discharger shall repair forthwith any breach or other soil and/or low-permeability cover problem discovered by periodic monitoring inspections.

26. Annually, prior to 30 October, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding and to prevent surface drainage from contacting or percolating through wastes.

27. The Discharger shall maintain the vegetative cover, including fertilization and replanting. Species whose roots would be expected to damage the low conductivity layer (trees and deep-rooted shrubs and crops) shall be eliminated before they can cause damage to the low conductivity layer.

28. Prior to conducting any periodic grading operations on the closed TMF of RSA, the Discharger shall note on a map of the unit the approximate location and outline of any areas where differential settlement is visually obvious.

29. Any major repairs shall proceed only after all applicable construction quality assurance plans have been approved by the Central Valley Water Board.

30. Following the completion of any major repair construction, the final documentation required in §20324(d)(1)(C) of Title 27 shall be submitted. The report shall be certified by a registered civil engineer or a certified engineering geologist. It shall contain sufficient information and test results to verify that construction was in accordance with the design plans and specifications, and with the prescriptive standards and performance goals of Title 27.

Closure & Post-Closure Maintenance Specifications

31. Except as otherwise directed below, the Dischargers shall comply with all Standard Closure and Post-Closure Specifications (SPRRs, §XI. D) and closure-related Standard Construction Specifications (SPRRs, §XI. F).

32. The Dischargers shall submit an Final Post-Closure Maintenance Plan (PCMP) for the facility, in accordance with section E of the SPRRs, 90 days after PWRP closure. The PCMP shall include cost estimates for monitoring and maintenance for at least 30 years from the date of PCMP.

33. On Completion Date, the responsibility for post-closure maintenance as specified in approved PCMP is transferred to Landowners for mining units and infrastructure on their respective properties.

C. Financial Assurances

Except as otherwise directed below, the Dischargers shall comply with all Standard Financial Assurance Provisions (SPRRs, §IV), as well as the following.

1. These WDRs are being issued to regulate closure and post-closure of the Facility and continued operation of Harvard Pit. Jamestown Trust II is to

provide financial assurances for these activities until the **Completion Date** or the **Termination Date**, whichever is earlier.

2. At **Completion Date**, the responsibility for financial assurances in the amounts specified in the Final Post-Closure Maintenance plan and adjusted for inflation are to transfer to the Landowners for their respective shares of post-closure activities.

3. The Landowners shall establish irrevocable financial mechanisms for their respective shares of the cost of post-closure maintenance **90 days after the Completion Date**. They may utilize Financial Assurances established in compliance with SMARA regulations to cover a part of their Financial Assurance requirement and establish a separate second Financial Assurance to fulfill any remaining requirements. The financial assurances mechanism shall be one listed in Title 27 § 22228 for which the Discharger is eligible.

4. Following one full year after the approval of Post-Closure Maintenance Plan, by **1 June** of each year, the Dischargers shall submit annual financial assurance update reports to the Central Valley Water Board that reports the balance closure and post-closure funds or the amounts of the Guarantees and the adjustments to account for inflation in accordance with Title 27 section 22236.

D. Monitoring Requirements

Except as otherwise directed below, the Dischargers shall comply with all applicable Provisions for Monitoring (SPRRs, § IX) and Standard Response to Release Specifications (SPRRs, § X), as well as the following:

1. The Discharger shall comply with all provisions of the separately issued Monitoring and Reporting Program R5-2025-XXXX and any subsequent revisions thereto (operative MRP).

2. The Dischargers shall implement the Water Quality Protection Standard (WQPS) set forth in the operative MRP (see also Title 27, § 20390); and shall verify the compliance of each MU with each subsequent monitoring event.

3. For all MUs, the Discharger shall implement a groundwater and surface water detection monitoring program (DMP) in accordance the operative MRP and Title 27, § 20385, 20415 and 20420.

4. For each MU subject to corrective action, the Discharger shall implement a corrective action monitoring program (CAMP) in accordance with Title 27, § 20385, 20415 and 20430, and Section I of the SPRRs.

E. Reporting Requirements

In addition to those operative MRP and Standard Provisions pertaining to notification and reporting obligations (see, e.g., § IX), the Discharger shall comply with the following provisions.

1. Reports shall be submitted electronically via the State Water Board's GeoTracker Database (https://geotracker.waterboards.ca.gov). After report upload, the Dischargers shall notify Central Valley Water Board staff via email centralvalleysacramento@waterboards.ca.gov and with a cc to the compliance staff e-mail specified in the Order transmittal letter.

   The following information shall be included in the body of the email:

Attention:	Title 27 Mining/Staff Name
Report Title:	[Enter Report Title]
GeoTracker Upload ID:	[Number]
Facility:	Jamestown Mine
County:	Tuolumne County
CIWQS Place ID:	233454
Geotracker ID:	L10001486140

2. All technical reports submitted under this Order shall be prepared by, or under the direct supervision of, a California-licensed civil engineer or engineering geologist. For the purposes of this section, a "technical report" is a report incorporating the application of scientific or engineering principles.

F. Time Schedule

The Dischargers shall complete the tasks listed in Table 7 in accordance with the specified deadlines.

Table 7—Time Schedule

Item No.	Category	Task	Deadline
1.	PWRP Closure	Submit PWRP closure design plan and Construction Quality Assurance plan for review and approval, in accordance with Section XI. of the SPRRs.	60 days prior to the start of closure
2.	PWRP Closure	Submit Construction Quality Assurance Report demonstrating construction was completed in accordance with approved construction plans (see Standard Construction Specifications in Section VII of the SPRRs).	60 days after closure
3.	Post-closure	Submit the Final Post-Closure Maintenance Plan (PCMP) including operation, inspection, and maintenance of the Facility with cost estimates for a minimum of 30 years or until the waste no longer poses a threat to water quality, whichever is greater. The Final Post-Closure plan shall provide a list of post-closure activities with cost estimates per individual Landowner.	90 days after closure of PWRP
4.	Operations and Maintenance	Pursuant to the 2006 Settlement Documents or as specified within any other subsequent settlement, the Landowners assume operations and monitoring for their respective properties. TMF and RSA owners also assume responsibility for the integrity of unit cover.	Completion Date

Item No.	Category	Task	Deadline
5.	Financial Assurances	Landowners establish and submit a financial assurance mechanism, in accordance with Section F of this Order and Section IV of the SPRRs	90 days after Completion Date
6.	Financial Assurances	Annual financial assurance estimate update	**1 June** of each year starting at least one full year after approval of Post-Closure Maintenance Plan
7.	Covenant and Environmental Restriction	Proof that a covenant and Environmental restriction has been placed on properties underlying mining units (Table 1).	90 days after adoption of this Order

G. Other Provisions

1. The Dischargers shall maintain copies of this Order (including all attachments), the operative Monitoring & Reporting Program (i.e., MRP R5-2025-XXXX and any revisions thereto), and the SPRRs. These materials shall be made available to all operating personnel, who shall be familiar with the contents of such materials.

2. Pursuant to Title 27, § 20515(a)(4) and §21170, the Trust shall provide proof to the Regional Water Board within **ninety days** after adoption of this Order that the deed or some other instrument that is normally examined during title search, has been modified to include, in perpetuity, a notation to any potential purchaser of the property underlying Tailings Management Facility, Harvard Pit, and Rock Storage Area stating that:

    a. the parcel has been used for disposal of mine wastes;

    b. land use options for the parcel are restricted in accordance with the post- closure land uses set forth in the post-closure plan and in WDR Order; and

    c. in the event that the Discharger defaults on carrying out either the activities specified in the Post- Closure Maintenance Plan or any

corrective action needed to address a release, then the responsibility for carrying out such work falls to the property owner.

3. The Dischargers shall comply with all applicable provisions of Title 27 (including those provisions not specifically referenced herein).

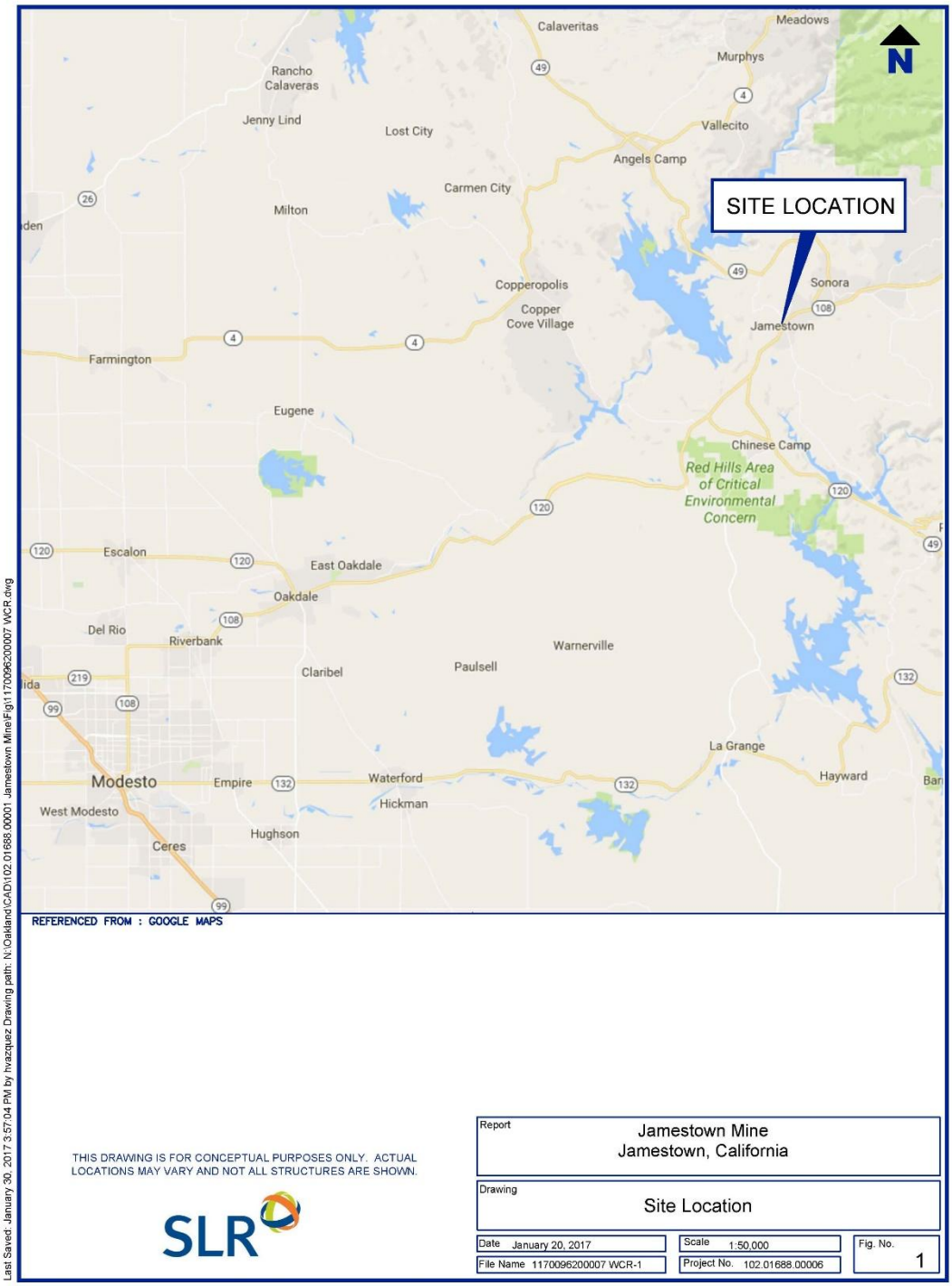
ENFORCEMENT

If, in the opinion of the Executive Officer, the Dischargers fail to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement, may issue a complaint for administrative civil liability, or may take other enforcement actions. Failure to comply with this Order may result in the assessment of Administrative Civil Liability of up to $10,000 per violation, per day, depending on the violation, pursuant to the Water Code, including sections 13268, 13350 and 13385. The Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

ADMINISTRATIVE REVIEW

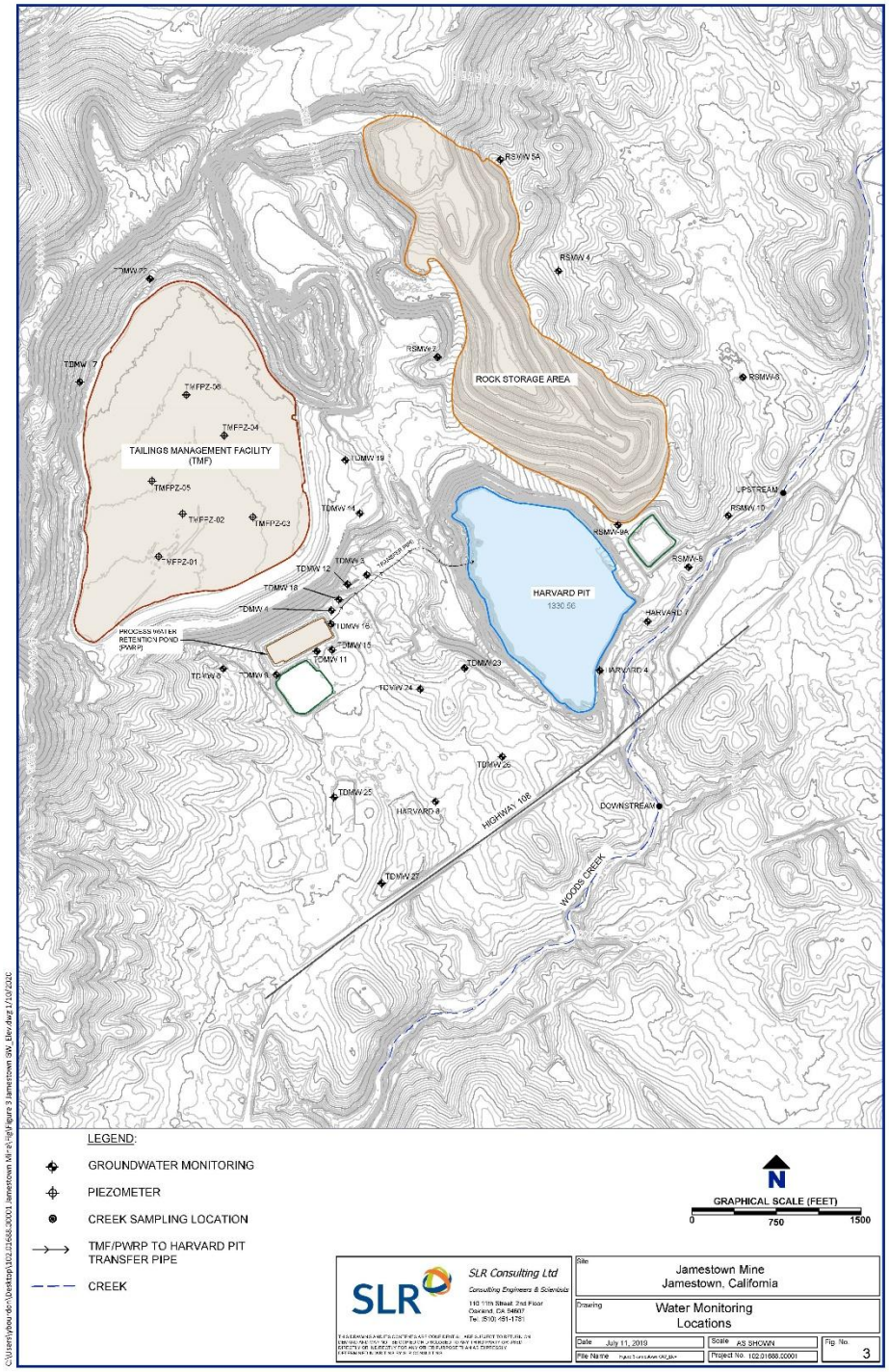
Any person aggrieved by this Central Valley Water Board action may petition the State Water Board for review in accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050 et seq. To be timely, the petition must be received by the State Water Board by 5:00 pm on the 30th day after the date of this Order; if the 30th day falls on a Saturday, Sunday or state holiday, the petition must be received by the State Water Board by 5:00 pm on the next business day. The law and regulations applicable to filing petitions are available on the State Water Board website (http://www.waterboards.ca.gov/public_notices/petitions/water_quality). Copies will also be provided upon request.

ATTACHMENT A—FACILITY LOCATION



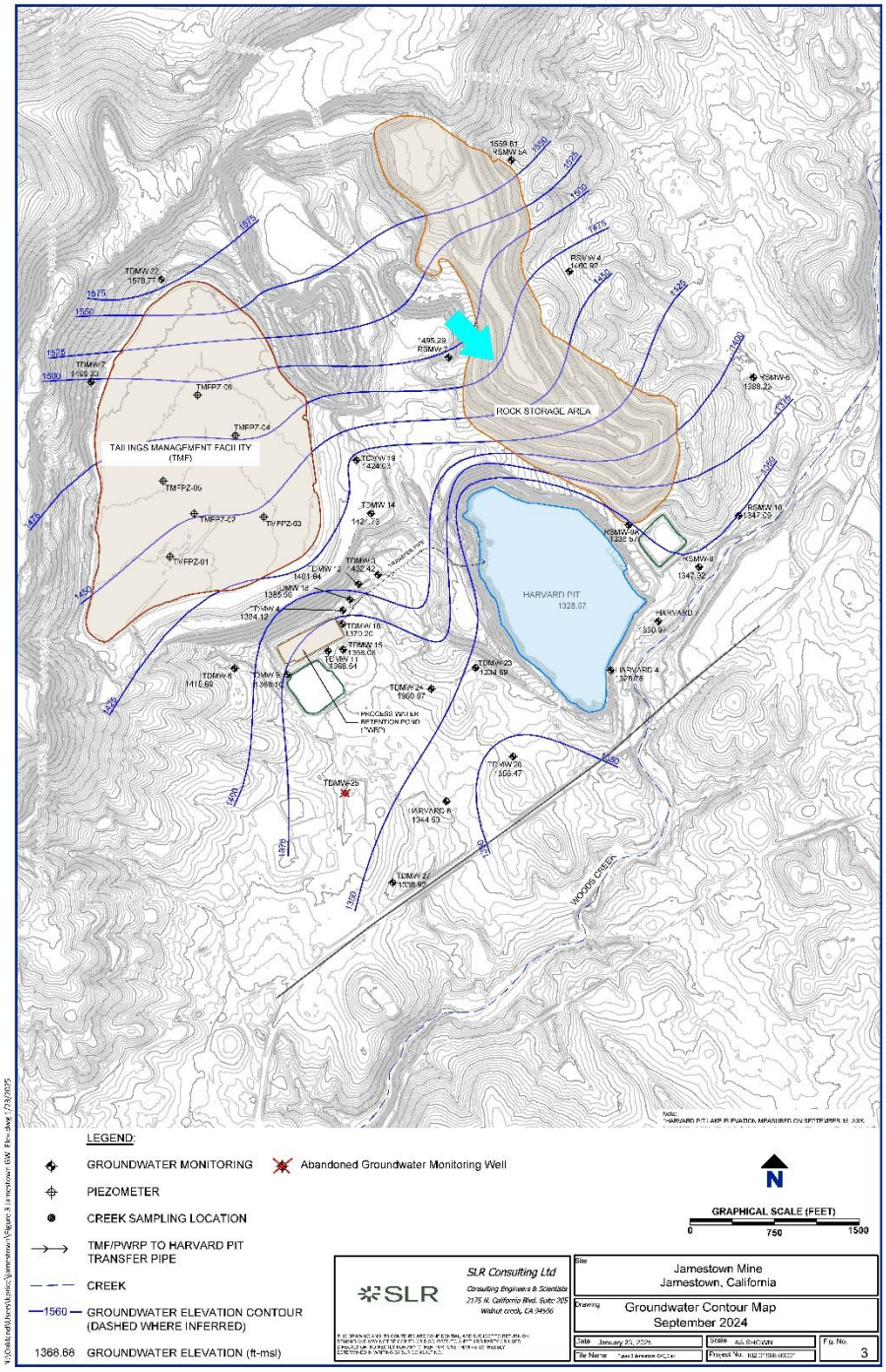
Facility Location. Drawing Reference: 2021 ROWD, Figure 1.

ATTACHMENT B—MINING UNITS AND MONITORING NETWORK



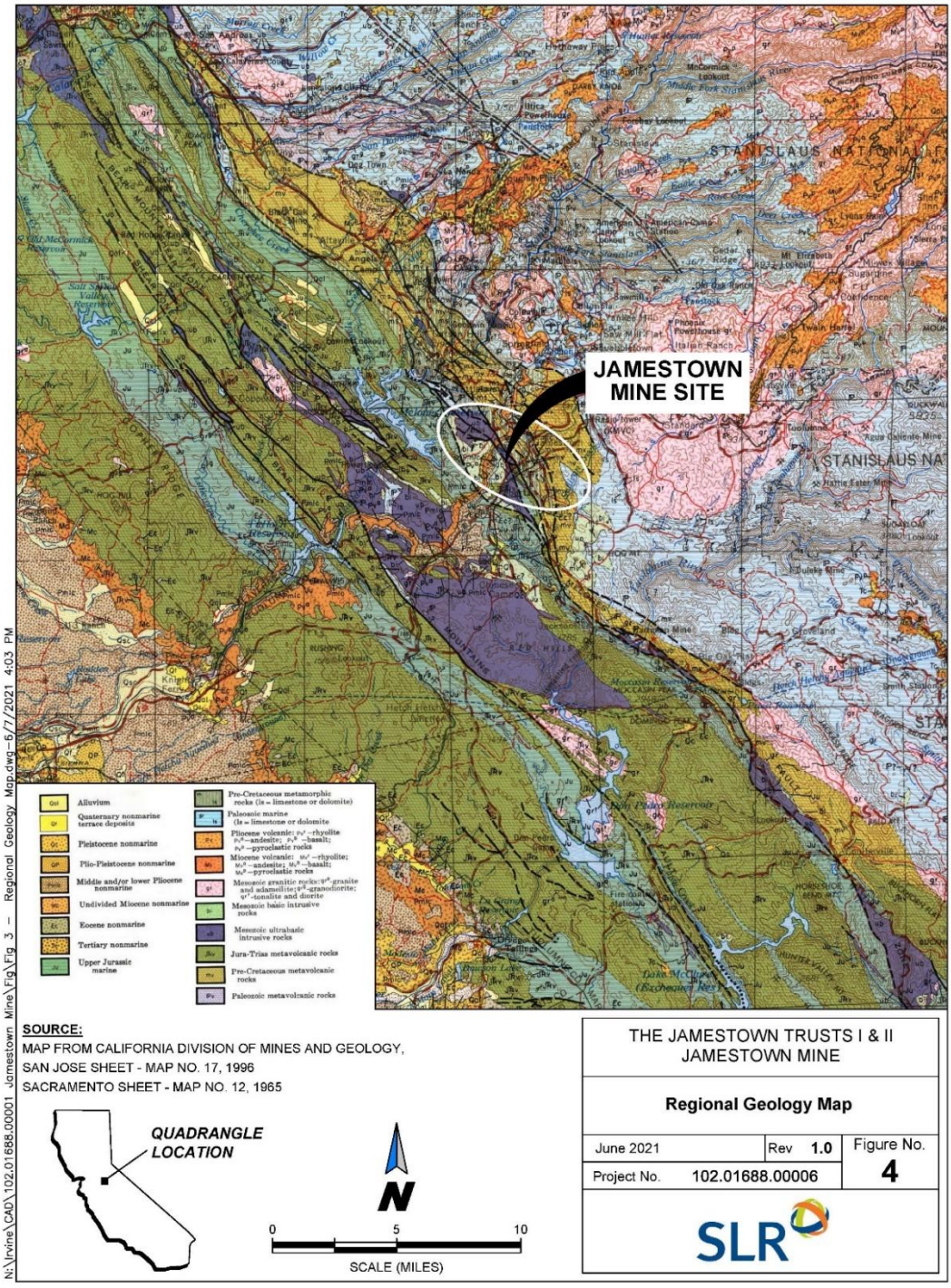
Mining Units and Monitoring Network. Drawing Reference 2023 ROWD.

ATTACHMENT C—GROUNDWATER ELEVATIONS



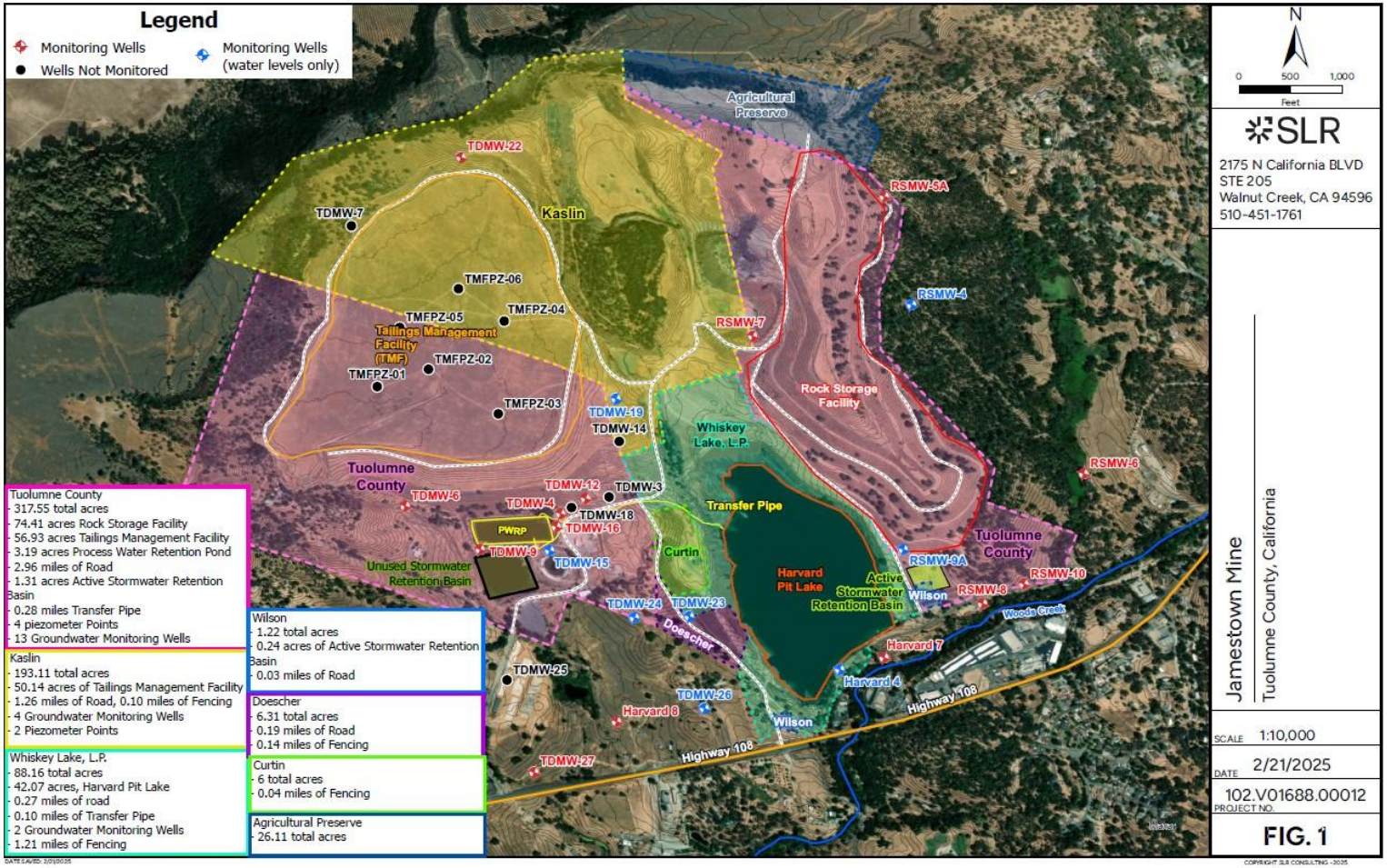
September 2024 Groundwater Elevations. Drawing Reference: 2024 Annual SMR

ATTACHMENT D—REGIONAL GEOLOGY



Regional Geology. Drawing Reference: 2021ROWD.

ATTACHMENT E—MINE INFRASTRUCTURE BY OWNER



Facility infrastructure by owner. Drawing Reference: Trust II Response to Comments.

STANDARD PROVISIONS AND REPORTING REQUIREMENTS FOR WASTE DISCHARGE REQUIREMENTS FOR DISCHARGES OF MINING WASTES REGULATED BY TITLE 27

(27 CCR §20005 et seq.)
MINING FACILITIES

FEBRUARY 2009

I. APPLICABILITY

A. These Standard Provisions and Reporting Requirements are applicable to “mining waste” disposal sites that are regulated pursuant to the provisions of the California Code of Regulations, title 27 section 20005 et seq. (27 CCR or Title 27). The term “Mining waste” is defined in title 27 section 22480.

B. For this document, WMU is defined as a waste management unit containing mining waste.

C. “Order,” as used throughout this document, means the Waste Discharge Requirements to which these Standard Provisions and Reporting Requirements are incorporated.

D. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, and do not protect the Discharger from liabilities under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.

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

F. If there is any conflicting or contradictory language between the Waste Discharge Requirements (WDRs), the Monitoring and Reporting Program (MRP), or the Standard Provisions and Reporting Requirements (SPRR), then language in the WDRs shall govern over either the MRP or the SPRR, and language in the MRP shall govern over the SPRR.

G. Unless otherwise stated, all terms are as defined in California Water Code (CWC) section 13050 and in title 27 section 20164.

STANDARD PROVISIONS & REPORTING REQUIREMENTS

II. TERMS AND CONDITIONS

A. Failure to comply with any waste discharge requirement, monitoring and reporting requirement, or Standard Provisions and Reporting Requirement, or other order or prohibition issued, reissued, or amended by the Central Valley Water Board or the State Water Resources Control Board, or intentionally or negligently discharging waste, or causing or permitting waste to be deposited where it is discharged into the waters of the state and creates a condition of pollution or nuisance, is a violation of these waste discharge requirements and the California Water Code, which can result in the imposition of civil liability [CWC §13350(a)]

B. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to [CWC §13381]:

1. Violation of any term or condition contained in this Order;
2. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;
3. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge; or
4. A material change in the character, location, or volume of discharge.

C. Before initiating a new discharge or making a material change in the character, location, or volume of an existing discharge, the Discharger shall file a new report of waste discharge, or other appropriate joint technical document, with the Central Valley Regional Water Quality Control Board (hereafter Central Valley Water Board) [CWC §13260(c) and §13264(a)]. A material change includes, but is not limited to, the following:

1. An increase in area or depth to be used for solid waste disposal beyond that specified in waste discharge requirements;
2. A significant change in disposal method, location, or volume (e.g., change from land disposal to land treatment); or
3. A change in the type of waste being accepted for disposal.

D. Representatives of the Central Valley Water Board may inspect the facilities to ascertain compliance with the waste discharge requirements. The inspection shall be made with the consent of the owner or possessor of the facilities or, if the consent is refused, with a duly issued warrant. However, in the event of an emergency affecting the public health or safety, an inspection may be made without consent or the issuance of a warrant [CWC §13267(c)].

E. The Central Valley Water Board will review this Order periodically and will revise these waste discharge requirements when necessary [CWC §13263(e) and 27 CCR §21720(b)].

F. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Central Valley Water Board [CWC §13267(b)]. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.

G. The Discharger shall submit to the Central Valley Water Board for review and approval a closure and post-closure maintenance plan prepared in accordance with Closure and Post-Closure Requirements for Mining WMUs [27 CCR §22510].

III. GENERAL PROVISIONS

A. The discharge shall neither cause nor contribute to the contamination, degradation, or **pollution of groundwater** via the release of waste constituents in either liquid or gaseous phase.

B. Wastes shall not be discharged to any surface water body without a Stormwater Permit or a NPDES permit.

C. The discharge shall neither cause nor contribute to any **surface water pollution**, contamination, or nuisance, including, but not limited to:

1. floating, suspended, or deposited macroscopic particulate matter or foam;

2. increases in bottom deposits or aquatic growth;

3. an adverse change in temperature, turbidity, or apparent color beyond natural background levels;

4. the creation or contribution of visible, floating, suspended, or deposited oil or other products of petroleum origin;

5. the introduction or increase in concentration of toxic or other pollutants/contaminants resulting in unreasonable impairment of beneficial uses of waters of the State.

D. The discharge shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the waste management unit (WMU) if such waste constituents could migrate to waters of the State—in either the liquid or the gaseous phase—and cause **a condition of contamination, pollution, degradation, or nuisance**.

E. The discharge shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of contamination, pollution, degradation, or nuisance to occur, as indicated by the most appropriate statistical or non-statistical data analysis method and retest method listed in the Monitoring and Reporting Program.

F. The Discharger shall take **all reasonable steps to minimize any adverse impact** to the waters of the state resulting from noncompliance with this Order. (“Order,” as used throughout this document, means the Waste Discharge Requirements). Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.

G. In the event of any change of ownership or responsibility for construction, operation, closure, or post-closure maintenance of the waste discharge facilities described in this Order, the Discharger shall notify the Central Valley Water Board prior to the effective date of the change and shall include a statement by the new Discharger that construction, operation, closure, or post-closure maintenance will be in compliance with this Order and any revisions thereof [27 CCR §21710(c)(1)].

H. The Discharger shall notify the Central Valley Water Board of a material change in; the types, quantity, or concentrations of wastes discharged; site operations and features; or proposed closure procedures, including changes in cost estimates. This notification shall be given a reasonable time before the changes are made or become effective. No changes shall

be made without Central Valley Water Board approval following authorization for closure pursuant to the site Notification of Closure [27 CCR §21710(a)(4)].

I. The Discharger shall maintain legible records of the volume and type of each waste discharged at each WMU or portion of a WMU, and the manner and location of discharge. These records shall be on forms approved by the State Water Resources Control Board or Central Valley Water Board and shall be maintained at the waste management facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the State Water Resources Control Board or Central Valley Water Board at any time during normal business hours. At the beginning of the post closure maintenance period, copies of these records shall be sent to the Central Valley Water Board. [27 CCR §21720(f)].

J. All WMUs shall be protected from flooding as required in title 27 section 22490(b).

K. Diversion and drainage facilities shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff as follows [27 CCR §22490(h)(1)]:

1. Group A – one 25 year, 24 hour storm;
2. Group B – one 10 year, 24 hour storm; and
3. Group C – one 10 year, 24 hour storm.

L. Precipitation on Group A and B waste piles that is not diverted by containment structures shall be collected and managed through the leachate collection and removal system (LCRS). The Central Valley Water Board can make exemptions to this requirement if the collected fluid does not contain indicator parameters or waste constituents in excess of applicable water quality objectives [27 CCR §22490(h)(2)].

M. Dischargers shall comply with special requirements for surface impoundments given in title 27 section 20375. Nevertheless, for Mining Units, Dischargers shall use the precipitation conditions in title 27 section 22490(h)(1).

IV. FINANCIAL ASSURANCE PROVISIONS

A. The Discharger shall establish an irrevocable fund for closure and post-closure maintenance to ensure closure and post-closure maintenance of each classified WMU in accordance with an approved closure and post-closure maintenance plan [27 CCR §22510(f)].

B. If a lead agency acting under the authority of §2774(a) of the Public Resources code requires assurances of financial responsibility, these assurances can be used to fulfill all comparable requirements provided that:

1. the Central Valley Water Board approves the assurance; and

2. the Central Valley Water Board is named as alternate payee. [27 CCR §22510(g)]

V. DISCHARGE SPECIFICATIONS

A. The Discharger is responsible for accurate characterization of wastes, including a determination of whether or not wastes will be compatible with containment features and other wastes at the WMU and whether or not the wastes are required to be managed as a Group A, Group B or Group C mining waste [27 CCR §22480]

B. Group B and Group C WMUs contained with liners shall be designed, constructed, and operated to ensure that wastes will be a minimum of 5 feet above the highest anticipated elevation of underlying groundwater [27 CCR §20240(c), §20330(a), and §22490(f)(6)], including the capillary fringe.

C. The Discharger shall submit operations plans and any amended operation plans describing those WMU operations which could affect water quality, including, but not limited to [27 CCR §21760(b)]:

1. A description of proposed treatment, storage, and disposal methods;

2. Contingency plans for the failure or breakdown of waste handling facilities or containment systems, including notice or any such failure, or any detection of waste or leachate in monitoring facilities, to the Central Valley Water Board, local governments, and water users downgradient of the WMU(s); and

3. A description of inspection and maintenance programs which will be undertaken regularly during disposal operations and the post-closure maintenance period.

VI. FACILITY SPECIFICATIONS

A. Surface and subsurface drainage from outside of a WMU shall be diverted from the WMU [27 CCR §20365(e)].

B. Collection and holding facilities associated with precipitation and drainage control systems shall be emptied immediately following each storm or otherwise managed to maintain the design capacity of the system [27 CCR §20365(d)].

C. The Discharger shall promptly notify the Central Valley Water Board of any slope failure occurring at a WMU. Any failure which threatens the integrity of containment features or the WMU shall be promptly corrected in accordance with an approved method [27 CCR §21710(c)(2)].

VII. CONSTRUCTION SPECIFICATIONS

A. All containment structures shall be designed by a California registered civil engineer, and construction shall be supervised and certified by a California registered civil engineer or a certified engineering geologist as meeting the prescriptive standards, or approved engineered alternative design, in accordance with this Order prior to waste discharge. WMUs shall receive a final inspection and approval of the construction by Central Valley Water Board staff before use of the WMU commences [27 CCR §22490(d)].

B. Any report, or any amendment or revision of a report, that proposes a design or design change that might affect a WMU's containment features or monitoring systems shall be approved by a registered civil engineer or a certified engineering geologist, as appropriate [27 CCR §21710(d)].

C. Materials used in containment structures shall have appropriate chemical and physical properties to ensure that such structures do not fail to contain waste because of pressure gradients, physical contact with waste or leachate, chemical reactions with soil or rock, climatic conditions, the stress of installation, or because of the stress of daily

operations [27 CCR §22490(e) and §20320(a)].

D. WMU liners shall be designed and constructed to contain the fluid, including gas, waste, and leachate [27 CCR §20330(a)].

E. Hydraulic conductivities shall be determined primarily by appropriate field test methods in accordance with accepted civil engineering practice. The results of laboratory tests with both water and leachate, and field tests with water, shall be compared to evaluate how the field permeabilities will be affected by leachate. It is acceptable for the Discharger to use appropriate compaction tests in conjunction with laboratory hydraulic conductivity tests to determine field permeabilities as long as a reasonable number of field hydraulic conductivity tests are also conducted [27 CCR §20320(c)].

F. Hydraulic conductivities specified for containment structures other than the final cover shall be relative to the fluids (leachate) to be contained. Hydraulic conductivities for the final cover shall be relative to water [27 CCR §20320(b)].

G. Leachate collection and removal systems shall be designed and operated to function without clogging through the scheduled closure of the WMU and during the post-closure maintenance period. The systems shall be tested at least annually to demonstrate proper operation. The results of the tests shall be compared with earlier tests made under comparable conditions [27 CCR §20340(d)].

H. Leachate collection and removal systems shall be designed and constructed to ensure that there is no buildup of hydraulic head on the liner. The depth of fluid in the collection sump shall be kept at the minimum needed to ensure efficient pump operation [27 CCR §20340(c)].

I. For Units constructed (or reconstructed) after July 18, 1997, all construction of liner systems and final cover systems shall be performed in accordance with a Construction Quality Assurance Plan certified by a registered civil engineer or a certified engineering geologist [27 CCR §20323] and approved by the Executive Officer.

VIII. REPORTING REQUIREMENTS

A. General Requirements

STANDARD PROVISIONS & REPORTING REQUIREMENTS

1. In the event the Discharger does not comply or will be unable to comply with any prohibition or limitation of this Order for any reason, the Discharger shall **notify the Central Valley Water Board by telephone** as soon as it or its agents have knowledge of such noncompliance or potential for noncompliance, and shall confirm this notification in writing within two weeks. The written notification shall state the nature, time, and cause of **noncompliance**, and shall describe the measures being taken to prevent recurrences and shall include a timetable for corrective actions.

2. The Discharger shall **immediately notify the Central Valley Water Board** of any **evidence of a release**, or of any flooding, equipment failure, slope failure, or other **change in site conditions** which could impair the integrity of waste or leachate containment facilities or of precipitation and drainage control structures.

3. The Discharger shall **mail a copy of each** monitoring **report** and any other reports required by this Order to the appropriate office or the current address if an office relocates. Addresses for each office as of November 2008 are:

   California Regional Water Quality Control Board
   Central Valley Region
   11029 Sun Center Drive #200
   Rancho Cordova, CA 95670

   California Regional Water Quality Control Board
   Central Valley Region
   1685 “E” Street
   Fresno, CA 93706-2007

   California Regional Water Quality Control Board
   Central Valley Region
   415 Knollcrest Drive, Suite 100
   Redding, CA 96002

4. The Discharger shall **retain records of all monitoring information**, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and

records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Central Valley Water Board Executive Officer.

Such records shall show the following for each sample:

a. Identity of sample and of the Monitoring Point or Background Monitoring Point from which it was taken, along with the identity of the individual who obtained the sample;

b. Date, time, and manner of sampling;

c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;

d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;

e. Calculation of results; and

f. Results of analyses, and the method detection limit (MDL) and practical quantitation limit (PQL) for each analysis.

Such records shall also include legible records of the volume and type of each waste discharged at each WMU and the manner and location of discharge. These waste discharge records shall be maintained at the facility until the beginning of the post-closure maintenance period, at which time copies of these records shall be sent to the Central Valley Water Board.

5. **All reports and transmittal letters shall be signed** by persons identified below:

a. *For a corporation:* by a principal executive officer of at least the level of senior vice-president.

b. *For a partnership or sole proprietorship:* by a general partner or the proprietor.

c. *For a municipality, state, federal or other public agency:* by

either a principal executive officer or ranking elected or appointed official.

d. A duly authorized representative of a person designated in a, b or c above if;

i. the authorization is made in writing by a person described in a, b, or c of this provision;

ii. 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 WMU, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and

iii. the written authorization is submitted to the Central Valley Water Board.

Any person signing a document under this Section shall make the following certification:

> "I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment."

6. In reporting the monitoring data, the Discharger shall arrange the **data in tabular form** so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to clearly illustrate the compliance with waste discharge requirements or lack thereof.

7. The results of any monitoring done more frequently than required at the locations specified herein shall be reported to the Central Valley Water Board.

B. Reports to be Filed with the Central Valley Water Board

1. A transmittal **letter** explaining the essential points in each report shall accompany each report. Such a letter shall include a discussion of any violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations. If the Discharger has previously submitted a detailed time schedule for correcting the violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal.

2. Each monitoring report (e.g., Detection Monitoring Report, Constituents of Concern 5-Year Report) shall include a **compliance evaluation summary**. The summary shall contain at least:

    a. For each monitored ground water body, a description and graphical presentation of the gradient and direction of **ground water flow** under/around the WMU, based upon water level elevations taken during the collection of the water quality data submitted in the report.

    b. For each monitoring well addressed by the report, a description of the method and time of water level measurement, the type of pump used for **purging** and the placement of the pump in the well, and the method of purging (pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of pH, temperature, conductivity, and turbidity testing, well recovery time, and method of purge water disposal).

    c. For each Monitoring Point and Background Monitoring Point addressed by the report, a description of the type of pump (or other device) used and its placement for **sampling**, and a detailed description of the sampling procedure (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples,

and any other observations).

d. A **map or aerial photograph** showing the locations of observation stations, Monitoring Points, and Background Monitoring Points.

e. **Laboratory** statements of results of all analyses evaluating compliance with requirements.

f. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.

g. A summary and certification of completion of all Standard Observations for the WMU, for the perimeter of the WMU, and for the receiving waters. The terms 'Standard Observations' and 'receiving waters' as used in this document are defined below in section **XII. Definitions**.

h. The quantity and types of wastes discharged and the locations in the WMU where waste has been placed since submittal of the last such report.

3. The Discharger shall report by telephone concerning any **seepage from the disposal area** immediately after it is discovered. A written report shall be filed with the Central Valley Water Board within seven days, containing at least the following information:

a. a map showing the location(s) of seepage;

b. an estimate of the flow rate;

c. description of the nature of the discharge (e.g., all pertinent observations and analyses); and

d. corrective measures underway or proposed, and corresponding time schedule.

See RESPONSE TO A RELEASE below.

4. The Discharger shall submit an **Annual Monitoring Summary Report** to the Central Valley Water Board summarizing the monitoring results from the previous year. This report shall contain:

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a. For each Monitoring Point and Background Monitoring Point, submit in **graphical format** the laboratory analytical data for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents for the period of record for a given Monitoring Point or Background Monitoring Point, at a scale appropriate to show trends or variations in water quality.

   The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.

b. Unless otherwise exempted by the Executive Officer, all monitoring analytical data obtained during the previous two six-month Reporting Periods, presented in tabular form as well as on computer disk, either in EXCEL format or in another file format acceptable to Central Valley Water Board staff. Data may be submitted in commonly available compressed format. The Central Valley Water Board regards the submittal of data in hard copy and electronic format as "...the form necessary for..." statistical analysis (27 CCR §20420(h)), in that this facilitates periodic review by the Central Valley Water Board's statistical consultant.

c. A **comprehensive discussion of the compliance record**, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.

d. A **map** showing the area and elevations in which filling has been completed during the previous calendar year.

e. A **written** summary of the monitoring results, indicating any changes made or observed since the previous annual report.

f. An evaluation of the effectiveness of the leachate monitoring/control facilities.

IX. PROVISIONS FOR MONITORING

A. General

1. The Discharger shall maintain a **written sampling and analysis plan** sufficient to assure compliance with the terms of this Order. Anyone performing sampling on behalf of the Discharger shall be familiar with the sampling and analysis plan.

2. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and regularly **calibrated** to ensure their continued accuracy.

3. The Discharger shall construct or abandon all **monitoring wells** to meet or exceed the standards stated in the State Department of Water Resources Bulletin 74-81 and subsequent revisions, and shall comply with the reporting provisions for wells required by Water Code Sections 13750 through 13755.

4. All sample analyses shall be conducted at a **laboratory accredited** for such analyses by the State Department of Health Services. The **Quality Assurance-Quality Control Program** must conform to EPA guidelines (e.g., “Laboratory Documentation Requirements for Data Validation,” January 1990, USEPA Region 9) or to procedures approved by the Central Valley Water Board.

5. The director **of the laboratory** whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Central Valley Water Board.

6. Unless samples are from water supply wells or unless otherwise specified by Central Valley Water Board staff, all ground water samples to be analyzed for **metals** shall be field-filtered. Filtration methods shall minimize the entrainment of air into the sample (by using, for example, in-line pressure filtration).

B. Sampling and Analytical Methods

1. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the

data analysis requirements for a given reporting period shall all be taken within a span not to exceed 30 days, unless the Executive Officer approves a longer time period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible. Specific methods of collection and analysis must be identified. Sample collection, storage, and analysis shall be performed according to the most recent version of USEPA Methods, such as the latest editions, as applicable, of: (1) Methods for the Analysis of Organics in Water and Wastewater (USEPA 600 Series), (2) Test Methods for Evaluating Solid Waste (SW-846, latest edition), and (3) Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79- 020), and in accordance with the approved Sample Collection and Analysis Plan.

2. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology shall be submitted for review and approval by the Executive Officer prior to use.

3. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., “trace” or “ND”) in data from background monitoring points for that medium, the analytical method having the lowest MDL shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.

4. **“Trace” results** - results falling between the MDL and the PQL - shall be reported as such, and shall be accompanied by both the estimated MDL and PQL values for that analytical run.

5. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs

and PQLs.

6. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. **The MDL shall always be calculated such that it represents the lowest achievable concentration associated with a** 99**% reliability of a nonzero result.** The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent's actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.

7. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.

8. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recoveries. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.

9. The statistical method shall account for data below the PQL with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to §20415(e)(7) of Title 27 that is used in the statistical method shall be **the lowest concentration (or value) that can be reliably**

achieved within limits of precision and accuracy specified in the WDRs for routine laboratory operating conditions that are available to the facility. The Discharger's technical report, pursuant to §20415(e)(7) of Title 27, shall consider the PQLs listed in Appendix IX to Chapter 14 of Division 4.5 of Title 22, California Code of Regulations, for guidance when specifying limits of precision and accuracy. For any given constituent monitored at a background or downgradient monitoring point, an indication that falls between the MDL and the PQL for that constituent (hereinafter called a "trace" detection) shall be identified and used in appropriate statistical or nonstatistical tests. Nevertheless, for a statistical method that is compatible with the proportion of censored data (trace and ND indications) in the data set, the Discharger can use the laboratory's concentration estimates in the trace range (if available) for statistical analysis, in order to increase the statistical power by decreasing the number of "ties".

10. Background for water samples shall be represented by the data from all samples taken from applicable background monitoring points during that reporting period (at least one sample from each background monitoring point). The Discharger may propose an alternate statistical method [to the methods listed under 27 CCR §20415(e)(8)(A-D)] in accordance with §20415(e)(8)(E) of Title 27, for review and approval by the Executive Officer.

11. The Discharger may propose an alternate statistical method [to the methods listed under title 27 section 20415(e)(8)(A-D)] in accordance with title 27 section 20415(e)(8)(E), for review and approval by the Executive Officer. Upon receiving written approval, alternate statistical procedures may be used for determining the significance of analytical results for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Central Valley Water Board staff.

12. The Discharger shall use the following non-statistical method for all analytes that are detected in less than 10% of the background

samples. The non-statistical method shall be implemented as follows:

a. From the constituent of concern or monitoring parameter list, identify each analyte in the **current** sample that exceeds either its respective MDL or PQL. The Discharger shall conclude that the exceedance provides a preliminary indication of a release or a change in the nature or extent of the release, at that monitoring point, if ***either:***

   i. The data contains two or more analytes that are detected in less than 10% of background samples that equal or exceed their respective MDLs; or

   ii. The data contains one or more analyte that equals or exceeds its PQL.

b. **Discrete Retest** [27 CCR §20415(e)(8)(E)]:

   i. In the event that the Discharger concludes (pursuant to paragraph 12.a., above) that there is a preliminary indication of a release, then the Discharger shall immediately notify Central Valley Water Board staff by phone or e-mail and, within 30 days of such indication, shall collect two new (retest) samples from the monitoring point where the release is preliminarily indicated.

   ii. For any given retest sample, the Discharger shall include, in the retest analysis, **only the laboratory analytical results for those analytes detected in the original sample**. As soon as the retest data are available, the Discharger shall conclude that there is measurably significant evidence of a release if two or more analytes equal or exceed their respective MDLs or if one or more analyte equals or exceeds its PQL and shall:

      a. **Immediately** notify the Central Valley Water Board about any constituent or constituents verified to be present at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of validation; and

b. Comply with section **IX.B.**14 of this document**, Sampling and Analytical Methods**, if any constituent or constituents were verified to be present.

iii. Any analyte that triggers a discrete retest per this method shall be added to the monitoring parameter list such that it is monitored during each regular monitoring event.

13. If the Executive Officer determines, after reviewing the submitted report in 12.b. above, that the detected constituent most likely originated from the WMU(s), the Discharger shall **immediately** implement the requirements of section **X.C., Release Has Been Verified,** of this document.

14. If the Discharger determines that there is measurably significant evidence of a release from the WMU at any monitoring point, the Discharger shall **immediately** implement the requirements of section **X.C., Release Has Been Verified**, of this document.

X. RESPONSE TO A RELEASE

A. Monitoring Point Evidence of a Release

If the Discharger determines that there is “measurably significant” evidence of a release from the WMU (i.e. the initial statistical comparison or nonstatistical comparison indicates, for any constituent of concern or monitoring parameter, that a release is tentatively identified), the Discharger shall [27 CCR §20420(j)]:

a. **Notification** — **immediately notify Central Valley Water Board staff verbally** of the finding and **provide** written notification by certified mail **within seven days** of such determination. The notification shall, for each affected monitoring point, identify the monitoring parameters and constituents of concern that have indicated “measurably significant” evidence of a release from the WMU [27 CCR §20420(j)(1)];

b. **Retest Optional** — can immediately initiate the verification (retest) procedure pre-approved by the Central Valley Water

Board [pursuant to §20415(e)(8)(E) of Title 27] to verify that there is "measurably significant" evidence of a release from the WMU for a parameter or constituent which has indicated a release at a monitoring point [27 CCR §20420(j)(2)]; and

c. **Next Step** — immediately following detection of a release [or after completing the retest pursuant to b) above and confirming the existence of a release], shall comply with the requirements of C. (Release Has Been Verified) below [27 CCR §20420(j)(3)].

B. Physical Evidence of a Release

If the Discharger determines there is significant **physical** evidence of a release, the Discharger shall notify the Central Valley Water Board **by certified mail within 7 days** of such determination, and within 90 days shall submit an amended report of waste discharge to make any appropriate changes to the detection monitoring program [27 CCR §20420(l)(1) & (2)].

C. Release Has Been Verified

1. If the detection was made based upon sampling and analysis for monitoring parameters, **immediately** sample all monitoring points in the affected medium at that WMU and determine the concentration of all constituents of concern. Because this constituent of concern scan does not involve statistical testing, the Discharger need collect and analyze only a single water sample from each monitoring point in the affected medium [27 CCR §20420(k)(1)].

2. The Discharger, **within 90 days** of determining "measurably significant" evidence of a release, shall submit an amended report of waste discharge to establish an evaluation monitoring program meeting the requirements of §20425 of Title 27 [27 CCR §20420(k)(5)].

3. The Discharger, **within 180 days** of determining "measurably significant" evidence of a release, shall submit to the Central Valley Water Board an initial engineering feasibility study for a corrective action program necessary to meet the requirements of

§20430 of Title 27. At a minimum, the engineering feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern [27 CCR §20420(k)(6)].

4. If the Discharger determines that there is "measurably significant" evidence of a release from the WMU at any monitoring point, the Discharger may demonstrate that a source other than the WMU caused the evidence of a release or that the evidence is an artifact caused by an error in sampling, analysis, or statistical evaluation or by natural variation in groundwater, surface water, or the unsaturated zone. The Discharger may make a demonstration pursuant to §20420(k)(7) of Title 27 in addition to or in lieu of submitting both an amended report of waste discharge or an engineering feasibility study; however, the Discharger is not relieved of the requirements of §20420(k)(6) & (7) of Title 27 unless the demonstration successfully shows that a source other than the WMU caused the evidence of a release or that the evidence resulted from error in sampling, analysis, or statistical evaluation or from natural variation in groundwater, surface water, or the unsaturated zone. In making this demonstration, the Discharger shall notify the Central Valley Water Board by certified mail of the intent to make the demonstration **within seven days** of determining "measurably significant" evidence of a release. The report shall be submitted to the Central Valley Water Board **within 90 days** of determining "measurably significant" evidence of a release demonstrating that a source other than the WMU caused the evidence [27 CCR §20420(k)(7)].

5. The Discharger, **within 90 days** of establishing an Evaluation Monitoring Program, shall conduct an evaluation monitoring program to assess the nature and extent of the release from the WMU and to design a corrective action program meeting the requirements of §20430 of Title 27. At a minimum, an evaluation monitoring program for a WMU shall include:

    a. An assessment of the nature and extent of the release from the WMU. This assessment shall include a determination of the distribution and concentration of each constituent of

concern throughout the zone affected by the release. The Discharger shall submit this assessment to the Central Valley Water Board **within 90 days** of establishing an evaluation monitoring program [27 CCR §20425(b)].

b. Update the initial engineering feasibility study for corrective action based on the data collected to delineate the release and from the ongoing monitoring program. The Discharger shall submit this updated engineering feasibility study to the Central Valley Water Board **within 90 days** of establishing an evaluation monitoring program [27 CCR §20425(c)

c. Submit an amended report of waste discharge to establish a corrective action program meeting the requirements of §20430 of Title 27 based on the data collected to delineate the release and on the updated engineering feasibility study. The Discharger shall submit this report to the Central Valley Water Board **within 90 days** of establishing an evaluation monitoring program [27 CCR §20425(d)].

D. Release Beyond Facility Boundary

1. Any time the Discharger concludes that a release from the WMU has proceeded beyond the facility boundary, the Discharger shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).

2. Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the Discharger's current knowledge of the nature and extent of the release.

3. Subsequent to initial notification, the Discharger shall provide updates to all Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.

4. Each time the Discharger sends a notification to Affected Persons, the Discharger shall provide the Central Valley Water Board, within seven days of sending such notification, with both a copy of the notification and a current mailing list of Affected Persons.

XI. STANDARD CONDITIONS

A. Supervision and Certification

1. All WMUs shall be **designed and constructed** under the direct supervision of a California registered civil engineer or a certified engineering geologist, as appropriate, and shall be certified by that individual as meeting the prescriptive standards, or approved engineered alternative design, and performance goals of Title 27 prior to waste discharge.

2. Designs of WMUs shall include a **Construction Quality Assurance Plan**, which shall:

   a. be submitted for review and approval by the Central Valley Water Board prior to construction;

   b. demonstrate that the WMU has been constructed according to the specifications and plans as approved by the Central Valley Water Board; and

   c. provide quality control on the materials and construction practices used to construct the WMU and prevent the use of inferior products and/or materials which do not meet the approved design plans or specifications.

3. **Closure** of each WMU shall be performed under the direct supervision of a California registered civil engineer or California certified engineering geologist.

B. Operations

1. The Discharger shall maintain in **good working order** and operate as efficiently as possible any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.

2. For any **electrically** operated equipment at the site, the **failure** of which could cause loss of control or containment of waste materials, or violation of this Order, the Discharger shall employ safeguards to prevent loss of control over wastes. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.

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3. The fact that it would have been necessary to halt or reduce the permitted activity in Order to maintain compliance with this Order shall not be regarded as a defense for the Discharger's violations of the Order.

4. The discharge shall remain within the designated disposal area at all times.

5. By the effective date of waste discharge requirements, the Discharger shall have a plan for preventing and controlling **accidental discharges**, and for minimizing the effect of such events. This plan shall:

    a. Identify the possible sources of accidental loss or leakage of wastes from each waste storage, treatment, or disposal unit.

    b. Evaluate the effectiveness of present WMUs and operational procedures, and identify needed changes or contingency plans.

    c. Predict the effectiveness of the proposed changes in waste management facilities and procedures and provide an implementation schedule containing interim and final dates when changes will be implemented.

    The Central Valley Water Board, after review of the plan, may establish conditions that it deems necessary to control leakage and minimize its effects.

6. Any direct-line discharge to a surface impoundment shall have fail-safe equipment or operating procedures to prevent overfilling.

7. Surface impoundments shall be designed, constructed, and maintained to prevent scouring and/or erosion of the liners and other containment features at points of discharge to the impoundments and by wave action at the waterline.

8. Leachate removed from a surface impoundment LCRS shall be discharged to the impoundment from which it originated.

9. Solids which accumulate in a surface impoundment shall be periodically removed to maintain minimum freeboard requirements and to maintain sufficient capacity for the surface impoundment

leachate and for the discharge of wastes. Prior to removal of these solids, sufficient samples shall be taken for their characterization and classification pursuant to Article 2, Subchapter 2 of Title 27. The rationale for the sampling protocol used, the results of this sampling, and a rationale for classification of the solids shall be submitted to the Central Valley Water Board for review. The solids will be discharged to an appropriate WMU based on characterization.

10. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control.

C. Siting

93. New WMUs for Group A and B wastes shall not be located on Holocene faults. Units for Group C wastes may be located on Holocene faults if displacement will not allow escape of wastes or cause irreparable damage to containment structures [27 CCR §22490(a)(1)].

94. New WMUs shall be outside areas of rapid geologic change. Exemptions may be allowed by the RWQCB if containment structures are designed and constructed to preclude failure [27 CCR §22490(a)(2)].

95. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes, and shall either be contained on-site or be discharged in accordance with applicable storm water regulations.

D. Closure

1. New and existing WMUs shall be closed so that they no longer pose a threat to water quality. No post closure land uses shall be permitted that might impair the integrity of containment structures [27 CCR §22510(a)].

2. WMUs shall be closed according to an approved closure and post closure maintenance plan which provides for continued compliance with applicable standards for waste containment, precipitation and drainage controls and monitoring throughout closure and the post closure maintenance period [27 CCR §22510(b)].

3. Closed WMUs shall be provided with at least two **permanent monuments**, installed by a licensed land surveyor or by a registered civil engineer authorized to perform land surveying, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period [27 CCR §20950(d)].

4. Final cover slopes for Group A and Group B waste piles shall not be steeper than a horizontal to vertical ratio of one and three quarters to one, and shall have minimum of one fifteen-foot wide bench for every fifty feet of vertical height [27 CCR §21090(a)].

E. Post-Closure

1. WMUs shall be closed so that they no longer pose a threat to water quality. No post closure land uses shall be permitted that might impair the integrity of containment structures [27 CCR §22510(a)].

2. The post-closure maintenance period shall end when the Central Valley Water Board determines that water quality aspects of reclamation are complete and waste no longer poses a threat to water quality [27 CCR §22510(h)].

3. The owner of the mine shall have the continuing responsibility to assure protection of usable waters from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and post-closure maintenance period of the WMUs and during subsequent use of the property for other purposes.

XII. DEFINITIONS

Unless otherwise stated, all terms are as defined in Chapter 2, Division 7, of the California Water Code (Section 13050 et.seq.), in Article 2, Chapter 2, Division 2, Title 27 of the California Code of Regulations (27 CCR §20005 et seq.), and in Section 258.2, and elsewhere in Part 258, Title 40 of the Code of Federal Regulations.

The following additional definitions apply to the Order:

A. “**Affected Persons**” means all individuals who either own or occupy land outside the boundaries of the parcel upon which the WMU is

located that has been or may be affected by the **release** of leachate or waste constituents (in gas or liquid phase) from a WMU.

B. "**Background Monitoring Point**" means a device (e.g., well) or location (e.g., a specific point along a lakeshore), upgradient or side gradient from the WMU, or as otherwise approved by the Executive Officer, where water quality samples are taken that are not affected by any release from the WMU and that are used as a basis of comparison against samples taken from downgradient Monitoring Points.

C. "**Composite liner**" means a liner that consists of two or more components, which include a Synthetic Liner in direct and uniform contact with an underlying layer of prepared, low-permeability soil such that the net permeability of the resulting combination is significantly less than would be expected by reference to the permeability of the individual components layers.

D. Unless otherwise specified, "**composite sample**" means a combination of individual samples either collected over a specified sampling period or collected over an area at one time (synoptically):

1. at equal time intervals,

2. at varying time intervals so that each sample represents an equal portion of the media to be sampled.

The duration of the sampling period shall be specified in the Monitoring and Reporting Program. The method of compositing shall be reported with the results. **"Constituents of Concern (COC)**" means those constituents which are likely to be in the waste in the WMU or which are likely to be derived from waste constituents in the event of a release.

E. "**Daily maximum concentration**" means the highest measurement made on any single discrete sample or composite sample.

F. "**Grab sample**" means a discrete sample collected in less than 15 minutes.

G. "**Matrix effect**" means any change in the method detection limit or practical quantitation limit for a given analyte as a result of the presence of other constituents - either of natural origin or introduced **by** humans as a result of a release or spill - that are present in the sample of water or

soil-pore gas being analyzed.

H. "**Method detection limit** (**MDL**)" means the lowest constituent concentration associated with a 99% reliability of a "non-zero" analytical result. The MDL shall reflect the detection capabilities of the specific analytical procedure and equipment used by the laboratory. MDLs reported by the laboratory shall not simply be restated from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs are expected to closely agree with published USEPA MDLs. If the lab suspects that, due to matrix or other effects, the detection limit for a particular analytical run differs significantly from the laboratory-derived MDL, the results should be flagged accordingly, along with an estimate of the detection limit achieved.

I. "**Monitoring Parameters**" means the short list of constituents and parameters used for the majority of monitoring activity at a given WMU. Monitoring for the short list of Monitoring Parameters constitutes "indirect monitoring," in that the results are used to indicate indirectly the success or failure of adequate containment for the longer list of Constituents of Concern.

J. "**Monitored Media**" means those water-, solid-, or gas-bearing media that are monitored pursuant to the Monitoring and Reporting Program. The Monitored Media may include:

1. Ground water in the uppermost aquifer, in any other portion of the zone of saturation in which it would be reasonable to anticipate that waste constituents migrating from the WMU could be detected, and in any perched zones underlying the WMU,
2. Any bodies of surface water that could be measurably affected by a release,
3. Soil pore liquid beneath and/or adjacent to the WMU, and
4. Soil pore gas beneath and/or adjacent to the WMU.

K. "**Monitoring Point**" means a device (e.g., well) or location (e.g., a specific point along a lakeshore), downgradient from the WMU and that is assigned in this Order, at which samples are collected for the purpose of detecting a release by comparison with samples collected at Background Monitoring Points.

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L. "**Monthly** average **concentration**" means the arithmetic mean of measurements made during the month.

M. "**Monthly average discharge**" means the total discharge by volume during a calendar month divided by the number of days in the month that the facility was discharging (e.g. gallons per day, cubic feet per day).
Where less than daily sampling is required by this Order, the monthly average shall be determined by the summation of all the measured discharges divided by the number of days during the month when the measurements were made.

N. "**Order**," as used throughout this document, means the Waste Discharge Requirements. The Monitoring and Reporting Program and Standard Provisions and Reporting Requirements are incorporated by reference into the Waste Discharge Requirements.

O. "**Practical quantitation limit** (**PQL**)" means the lowest constituent concentration at which a numerical concentration can be assigned with reasonable certainty that its value represents the constituent's actual concentration in the sample. Normally PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure. The PQL shall reflect the quantitation capabilities of the specific analytical procedure and equipment used by the laboratory. PQLs reported by the laboratory shall not simply be restated from U.S. EPA analytical method manuals. In relatively interference-free water, laboratory-derived PQLs are expected to closely agree with published U.S. EPA PQLs. If the lab suspects that, due to matrix or other effects, the quantitation limit for a particular analytical run differs significantly from the laboratory-derived PQL, the results should be flagged accordingly, along with an estimate of the quantitation limit achieved.

P. "**Reporting Period**" means the time interval during which samples are collected and analyzed, and the results then reported to the Central Valley Water Board, to comply with a specified monitoring and reporting frequency. The maximum reporting period for analysis of all Constituents of Concern is five years; for Monitoring Parameters it is six months (generally, Spring/Summer = April 1 to September 30, and Fall/Winter = October 1 to March 31). The Reporting Period for the Annual Summary Report extends from April 1 of the previous year to March 31 of the

current year. The due date for the submittal of any given report will be 15 days after the end of its Reporting Period, unless otherwise stated.

Q. "**Receiving Waters**" refers to any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils.

R. "**Sample size**":

1. For Monitoring Points, means the number of data points obtained from a given Monitoring Point during a given Reporting Period used for carrying out the statistical or non-statistical analysis of a given analyte during a given Reporting Period; or

2. For Background Monitoring Points, means the number of new and existing data points collected under §20415(e)(11 and 12) from all applicable Background Monitoring Points in a given monitored medium—used to collectively represent the background concentration and variability of a given analyte in carrying out statistical or non-statistical analysis of that analyte during a given Reporting Period.

S. "**Standard Observations**" means:

1. For Receiving Waters:

   a. Floating and suspended materials of waste origin: presence or absence, source, and size of affected area;

   b. Discoloration and turbidity: description of color, source, and size of affected area;

   c. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;

   d. Evidence of water uses: presence of water-associated wildlife;

   e. Flow rate; and

   f. Weather conditions: wind direction and estimated velocity, total precipitation during recent days and on the day of observation;

2. Along the perimeter of the WMU:

    a. Evidence of liquid leaving or entering the WMU, estimated size of affected area, and flow rate (show affected area on map);

    b. Evidence of odors: presence or absence, characterization, source, and distance of travel from source; and

    c. Evidence of erosion and/or of daylighted refuse.

3. For the WMU:

    a. Evidence of ponded water at any point on the waste management facility (show affected area on map);

    b. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;

    c. Evidence of erosion and/or of daylighted refuse; and

T. "**Standard Analysis and Measurements**" means:

1. Turbidity, in NTU;

2. Water elevation to the nearest 1/100th foot above mean sea level; and

3. Sampling and statistical/non-statistical analysis of the Monitoring Parameters.

U. "**Synthetic Liner**" means a layer of flexible, man-made material that is installed in accordance with the standard of the industry over an area of land prior to the discharge of waste there.

V. "**VOC_{water}**" (Volatile Organics Monitoring Parameter for Water) means the composite monitoring parameter encompassing all VOCs that are detectable in less than ten percent of applicable background samples from a monitored water-bearing medium (e.g., the unsaturated zone, the uppermost aquifer, a zone of perched groundwater, or a surface water body). This parameter is analyzed via the non-statistical analytical method described elsewhere in this Order to identify a release to waters of the state of VOCs whose presence in background water is detected too infrequently to allow statistical analysis.

W. "**VOC_{spg}**" (Volatile Organics Monitoring Parameter for Soil Pore Gas) means Monitoring Parameters addressing all volatile organic constituents detectable in a sample of soil pore gas.

X. "**Volatile** organic **constituents** (**VOCs**)" means the suite of organic constituents having a high vapor pressure. The term includes at least the 47 organic constituents listed in Appendix I to 40 CFR Part 25

INFORMATION SHEET

Dischargers and Completion Date

The Jamestown Mine is an inactive gold mine approximately one mile southwest of Jamestown in Tuolumne County. Active mining took place from 1986 to 1994. The County of Tuolumne, Whiskey Lake LP, Jamestown Property Development LLC, David and Susan Kaslin, John and Amy Curtin, Mike and Amber Doescher, and Joshua and Misty Wilson (Landowners) currently own the Jamestown Mine. The Jamestown Trust II through its Trustee holds the remaining monies from a litigation settlement to fund closure, post-closure operations and maintenance, and remedial activities. However, at the Completion Date defined in the 2006 settlement between Landowners and the Central Valley Water Board, the responsibility for operation and maintenance of the Facility transfers from the Trust to Landowners, but only to the extent similar to that predating the settlement. The Completion Date is defined in the 2006 Stipulated Judgement as the earlier of (a) twenty (20) years from the Effective Date; or, (b) the Regional Water Board and the County mutually agreeing to transfer O&M responsibility from the Trusts to the County; or, (c) the Trust II is terminated due to depletion of assets; or, (d) a written determination by the Regional Water Board that the remediation of the Jamestown Mine Site is complete and that the purposes of the Trusts have been fully satisfied.

Mining Units

This Order prescribes Waste Discharge Requirements (WDRs) for operation, monitoring. and post-closure maintenance of the mining waste management units and associated infrastructure. The main mining units are the active impoundment Harvard Pit, the closed Tailings Management Facility, the closed and reclaimed Rock Storage Facility, and the filled and closed Crystalline and South Crystalline Pit.

Harvard Pit

The Harvard Pit is a former mining pit partially filled with waste rock and permitted as an engineered alternative Group B mining waste surface impoundment. The pit is filled with mining-influenced water and is used for discharge of Tailings Management Facility drain liquids. This Order provides requirements for management of Harvard Pit and MIW and sets the regulatory Harvard Pit MIW level at 1325 feet amsl.

The pit MIW level requires active management to prevent overtopping and uncontrolled discharge. The 2008 HP Refilling Model which seems to be accurate compared to

subsequent water level data, predicted that, without any intervention, the pit would overflow at the elevation 1,358 ft amsl in 2029. Water in the Harvard Mine Pit is polluted by interaction with the shattered mineralized wall rock and discharges from Tailings Maintenance Facility drains. Pit MIW contains elevated concentrations of arsenic, total dissolved solids, and sulfate; therefore, the pit is classified and operated as Group B mining waste impoundment.

Despite a decade of active evaporative management, the MIW level in the pit exceeded its regulatory level of 1320 feet above mean sea level (amsl) in March 2017 and continues to remain above the regulatory level. At the time of adoption of this Order, MIW level in the pit was at approximately 1328 ft amsl and is managed using a single high-capacity nozzle.

Tailings Management Facility

This Order requires post-closure maintenance and monitoring of Tailings Management Facility (TMF) and the closure of the associated Process Water Retention Pond. On Completion Date, the responsibility for post-closure operation and maintenance requirements transfers to the respective TMF Landowners.

The TMF is an approximately 120-acre lined tailings impoundment containing about 16.6 million tons of tailings. The unit is classified as a Group B mine waste containment unit. The floor of the impoundment has a clay liner with a leachate collection and recovery system (LCRS). Beneath the clay liner a system of spine drains intercepts surfacing groundwater and maintains separation of groundwater from the impoundment liner. Mining-influenced water (MIW) collected from the tailings dam filter-drainage network, the LCRS, and the spine drains, is transferred to the Harvard Mine Pit.

In 2007, the closure of TMF was completed with a cover consisting of (from bottom to top) a minimum two feet thick foundation layer composed of reworked and compacted tailings, a minimum one-foot compacted clay low-permeability layer with a permeability less than 1 X 10-6 cm/sec, and minimum one foot vegetative soil layer. As an engineered alternative, the final cover was graded with a minimum slope of one percent compared to the prescriptive standard slope of three percent.

For any use of TMF surface other than non-irrigated open space, the Dischargers are required to submit detailed technical documentation to the Central Valley Water Board for review and approval. In addition to the detailed technical specifications regarding the project, the report shall include water balance evaluations, plans and design for water penetration monitoring system, and final cover protection plan.

INFORMATION SHEET

Waste Rock Storage Facility

The RSA is located east of the Crystalline Pit and Northeast of the Harvard Pit. Overburden and non-mineral-bearing rock from the Harvard and Crystalline Pits were placed in the RSA. Approximately 30 million tons of Group B mining waste consisting of a wide range of rock types and particle sizes were placed in the RSA during the operation of the mine. The existing final cover of two to five feet of combined soil and low permeability clay on the RSA meets the standard of Title 27. This Order requires that the Discharger maintain and protect the integrity of unit cover.