CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

73-720 Fred Waring Dr. #100
Palm Desert, CA 92260
(760) 346-7491
Regional Board Website (https://www.waterboards.ca.gov/coloradoriver)

WASTE DISCHARGE REQUIREMENTS ORDER R7-2025-0005

ORDER INFORMATION

Order Type(s):	Waste Discharge Requirements (WDRs)
Status:	Adopted
Program:	Title 27
Discharger(s):	Western Mesquite Mines, Inc., Equinox Gold Corp. and Los Angeles County Sanitation District No. 2
Facility:	Western Mesquite Mines
Address:	6502 East Highway 78, Brawley, California, 92227
County:	Imperial County
APN(s):	(See Footnote 2 for Listing)
GeoTracker ID:	L10002722293
WDID:	7A132140003
Prior Order(s):	WDRs Order R7-2014-0032, 95-016, 89-034

CERTIFICATION

I, Michael Placencia, 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, Colorado River Basin Region, on March 4, 2025.

Original signed by
MICHAEL PLACENCIA
Executive Officer

GeoTracker ID: L10002722293
WDID: 7A132140003

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE INDEX

FIGURE INDEX

GLOSSARY

ADR Plant .....Adsorption-Desorption and Recovery Plant

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

Basin Plan.....Water Quality Control Plan for Colorado River Basin Region (inclusive of all amendments)

BAT.....Best Available Technology Economically Achievable

BCT.....Best Conventional Pollutant Control Technology

bgs.....Below Ground Surface

BLM .....Bureau of Land Management

BPTC .....Best Practicable Treatment and Control

Ca.....Calcium

CEQA.....California Environmental Quality Act

Cl.....Chlorine

CFR.....Code Federal of Regulations

CWC.....California Water Code

DDW.....Division of Drinking Water

EIR .....Environmental Impact Report

EIS .....Environmental Impact Statement

ft/day.....Feet per Day

HCO3 .....Bicarbonate

HLP .....Heap Leach Pad

GLOSSARY

K.....Potassium

LCRS ..... Leachate Collection and Recovery System

MB.....megabytes

MCL[s] .....Maximum Contaminant Level[s] for Drinking Water under Title 22

MDL ..... Method Detection Limit

mg/L.....Milligrams per Liter

Mg .....Magnesium

Mining Units..... Mining Waste Management Units

ml/L.....Milliliters per Liter

MRP .....Monitoring and Reporting Program

MSL.....Above Mean Sea Level

MW.....Monitoring Wells

Na.....Sodium

ND ..... Non-Detect

NOD ..... Notice of Determination

NPDES.....National Pollutant Discharge Elimination System

OES.....Office of Emergency Services

pH .....potential or power of hydrogen

PQL..... Practical Quantitation Limit

QA/QC ..... Quality Assurance and Quality Control

ROWD.....Report of Waste Discharge

GLOSSARY

SMRs .....Self-Monitoring Reports

SO4.....Sulfate

State Water Board .....State Water Resources Control Board

Title 22.....California Code of Regulations, Title 22

Title 23.....California Code of Regulations, Title 23

Title 27.....California Code of Regulations, Title 27

TDS.....Total Dissolved Solids

USEPA.....United States Environmental Protection Agency

VOC ..... Volatile Organic Constituent

WDRs.....Waste Discharge Requirements

WMU .....Waste Management Unit

WQO[s].....Water Quality Objective[s]

µg/L.....micrograms per Liter

(findings begin on next page)

FINDINGS

The California Regional Water Quality Control Board, Colorado River Basin (Regional Water Board) hereby finds as follows:

Introduction

1. This Order prescribes Waste Discharge Requirements (WDRs) for a portion of the Western Mesquite Mines in Imperial County, further described in Finding 3, which is operated by Western Mesquite Mines, Inc. (WMMI) and Equinox Gold Corporation (Equinox) (collectively, Operators), on land leased from Los Angeles County Sanitation District No. 2 (Sanitation District).[1] For purposes of this Order, "Facility" refers to the portion of Western Mesquite Mines occupied by Mining Units and regulated by the Regional Water Board; "Mesquite Mine" refers to the larger area associated with the overall mining operation, including excavation.

2. The Facility's regulated waste pile is located on portions of 18 different Imperial County assessor's parcels[2] and has a physical address of 6502 East Highway 78, Brawley, California, 92227. The Facility is situated in the southeastern area of the greater Imperial Valley Groundwater Basin along the flanks of the Chocolate Mountains, approximately 6 miles to the northeast of the Imperial Sand Dunes Recreation Area (Glamis Dunes). The Facility's location is also depicted on the map in **Attachment B, Figure 1**.

---

[1] Consistent with standard practices, the Sanitation District is named as a "discharger" (i.e., co-permittee) under this Order due to its ownership of and responsibility for the conditions of the land on which the regulated Mining Units are situated. Such responsibility extends to any releases from Mining Units to groundwater or the unsaturated zone. However, WMMI and Equinox (collectively, Operators) are responsible for the Facility's day-to-day operations. For this reason, certain provisions under this Order are applicable only to the Operators. Additionally, other provisions will be applicable to the Sanitation District only upon the Operators' default on their obligations and written notice to the Sanitation District.

[2] Mining Units APNs: 039-260-001, 039-260-002, 039-260-003, 039-260-004, 039-260-005, 039-260-006, 039-260-007, 039-260-008, 039-260-009, 039-260-010, 039-260-0011, 039-260-0012, 039-330-058, 039-330-057, 039-330-044, 039-330-043,039-330-059, and 039-340-022.

3. Regulatory coverage under this Order is strictly limited in scope to those waste discharges, activities and processes described and expressly authorized herein, including but not limited to:

    a. Operation and Maintenance of the 721-acre[3] of Heap Leach Pad (HLP) (including the new composite lined 87-acre HLP 8);

    b. Limiting the height of mined ore at 400 feet above the uppermost layer of the composite liner system (primary liner)[4];

    c. Operation and Maintaining of the various surface impoundments that are used to temporarily store the leaching solution while it is processed, chemically (re)balanced, and stormwater that drains from the HLPs during storm events; and

4. The Facility's HLPs, Surface Impoundments and Stockpiles, as described in Findings 16-25 are used for the storage, treatment and disposal of "Mining Waste,"[5] and are therefore considered "Mining Units" for the purposes of California Code of Regulations, title 27 (Title 27), section 22470 et seq.[6]

5. Pursuant to Water Code section 13264, subdivision (a), the Discharger is prohibited from initiating the discharge of new wastes (i.e., other than those described herein), or making material changes to the character, volume and

---

[3] The acreage for each heap leach pads (HLPs) overlies prior HLPs (e.g., Pad 2-3 and 1-4 infill, Pad 4 (new) and Pad 7). Total overall acreage for all pads, excluding Vista and North Vista which have been reclaimed is 721 acres.

[4] WMMI submitted this request in a letter dated October 27, 2022, and a technical report titled "Design Report Pad Raise Analysis". The Regional Water Board approved the request in a letter dated March 8, 2023. Imperial County also approved this vertical expansion on March 29, 2023.

[5] "Mining Waste" is defined as "all 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, § 22480, subd. (a).)

[6] "Mining Units" are generally excluded from the prescriptive standards for solid waste management units (WMUs) under Title 27, section 20005 et seq., except where otherwise provided. (Title 27, § 22470, subd. (a).)

timing of waste discharges authorized herein, without filing a new Report of Waste Discharge (ROWD) per Water Code section 13260. Failure to file a new ROWD before initiating material changes to the character, volume or timing of discharges authorized herein, will constitute an independent violation of these WDRs.

6. This Order is also strictly limited in applicability to those individuals and/or entities specifically designated above as "Discharger," subject only to the discretion to designate or substitute new parties in accordance with this Order.

7. The Facility was previously regulated under Order 95-016 and Order R7-2014-0032.

8. On January 29, 2024, WMMI submitted a Report of Waste Discharge (ROWD). WMMI is proposing construction of:

   a. A new composite lined heap leach pad (HLP), HLP 8;

   b. A new composite lined Event Pond for HLP 8;

   c. An extension of the solution-conveyance channel; and

   d. Other new supportive infrastructure (access roads and utilities).

Facility and Operations

9. The Mesquite Mine currently encompasses approximately 5,200 acres, of which 4,962 acres of disturbance is permitted and approved under existing County and Bureau of Land Management (BLM) permits and approvals. The total acreage that has been disturbed to date is approximately 3,838.8 acres. The larger footprint of the Mesquite Mine has a mix of land ownership, including land owned by the Sanitation District, as well as land owned by the federal (BLM), and the California State Lands Commission. For the purposes of this Order, all existing HLPs, solution conveyance system, and surface impoundments are entirely within land leased by the Operators from the Sanitation District.

10. The Mesquite Mine is situated within the Mesquite Mining District, at the southern end of the Chocolate Mountains; mining activity has occurred in some form in the area for over 150 years. The Mesquite Mine is approximately 35 miles to the east of Brawley, California, and about 52 miles northwest of Yuma, Arizona. The property is at Latitude 33° 03' North and Longitude 114° 59' West and includes Township 13 South, Range 19 East, and include Sections 8, 16, 17, 18, and 19.

Access to the property is from California State Highway 78, and then north along a paved private road into the Mesquite Mine. The property is approximately 24 miles north of the border with Mexico and 16 miles west of the border with the State of Arizona. The unincorporated community of Palo Verde is located approximately 35 miles to the northeast. The mine is bordered to the north by the United States Department of the Navy (USN) Chocolate Mountains Aerial Gunnery Range and to the east and south by California State Highway 78. The permanent Glamis Beach Store and the seasonal Boardman Store are located approximately 4.3 and 3.2 miles to the southwest of the Mine property, respectively.

11. Gold was first discovered at the Mesquite Mine by Southern Pacific Railroad track crews around 1876. The first gold production at the Mesquite Mine project dates to the late 1800s. The mining was mostly small-placer mining from 1800s to 1930s, and then larger placer and lode mining from 1930s through to the mid-1970s. Extensive exploration was performed in the 1970s-80s. Mesquite Mine began commercial mining operations in 1985. Since that time, several modifications to permits and expansion of operations have taken place through amendments to the Mesquite Mine Consolidated Plan of Operations approved by the BLM and amendments to the Conditional Use Permit and consolidated reclamation plan by Imperial County. The mine has produced more than four million ounces of gold since it commenced operations in 1985 with an average annual gold production of approximately 130,000-ounces over the last 10 years.

12. The Operators conduct surface mining at the Mesquite Mine using a cyanide leaching process to produce precious metals. Existing and permitted facilities at the Mesquite Mine include several surface mines, overburden stockpile areas, haul roads, HLPs and associated drainage collection network and surface impoundments, process facilities for the recovery of precious metals, and ancillary facilities including administrative offices, warehouse, maintenance shops, laboratory and gold plant, and limited land disturbances associated with permitted exploration activities.

13. Processing the gold-bearing ore will involve the following steps:

    a. **Mining and Stacking.** Run-of-mine ore (unprocessed material),[7] which is classified as "Group B" mining waste,[8] is delivered to heap leach pads (HLPs) from the open pits in mine trucks. Lime is added for pH control before being dumped onto the pad. Both the oxide ore and the non-oxide ore are leached with a dilute cyanide solution on the HLPs. The Operators are permitted by Imperial County to mine up to 75 tons per year, with thirty-seven (37) million tons of ore permitted for processing.

    b. **Overburden Storage.** Overburden rock from the mining operations, which is classified as "Group C" mining waste,[9] is deposited in Overburden Piles and/or used as backfill for the open mine pits.

    c. **Heap Leaching Pads (HLPs).** A dilute sodium cyanide leaching solution of, which is classified as "Group B" mining waste, is applied to the HLPs to dissolve gold from the ore. The HLPs are segmented into cells with internal berms to better control the application and collection of the leaching solution. Gold-impregnated solution (Pregnant Solution) is collected from HLPs through collection pipes and transported for processing via the Solution Conveyance System (see below).

    d. **Solution Conveyance System.** "Group B" mining waste is transported in the within a 24-inch diameter closed pipe that acts as primary containment and a ditch that is lined with impermeable geomembrane liner that acts as secondary containment for the Pregnant Solution. From the Solution Conveyance System, Pregnant Solution is collected in a series of flume

[7] The Facility ceased crushing ore in 2007.

[8] "Group B" Mining Waste are wastes that contain either: (1) hazardous waste subject to a variance per California Code of Regulations, title 22, division 4.5, chapter 11, and are determined to be a low risk to water quality; or (2) nonhazardous, water-soluble pollutants in concentrations which exceed water quality objectives or could cause degradation of waters of the state. (Title 27, § 22480, subd. (b)(2).)

[9] "Group C" Mining Waste are wastes that may be discharged in compliance with the operative Water Quality Control Plan. In other words, such wastes do not need to be contained within a Mining Unit.

boxes to be sent to either Process Ponds or the “pregnant” surface impoundment. The gold bearing solution is then pumped to the ADR Plant.

e. **Carbon Adsorption.** From the Pregnant-solution-pump box, the Pregnant Solution (“Group B” mining waste) is pumped to the Carbon-in-Column Units (CICs), which are arranged in series. Gold is recovered from the Pregnant Solution by piping it through activated carbon. The leaching solution is now considered “barren.”

f. **Desorption and Gold Recovery**. Loaded carbon from the CIC Unit circuit is transported to the desorption circuit located at the existing ADR Plant. There it is stripped in a conventional pressure strip circuit. Electrowinning cells are used to recover gold precipitate. The precipitate is dried and then placed in a high temperature induction furnace to produce gold ore.

Alternatively, loaded carbon from the CIC Unit circuit can be transported off-site for stripping and refining of the gold by other facilities. In this case, loaded carbon from the CIC Unit is pumped to storage tanks adjacent to the CIC Unit circuit, then periodically pumped into a transport vessel and shipped. Stripped/barren carbon from the off-site stripping facility is periodically returned to site and pumped back to the carbon storage tanks.

g. **Reagents and Utilities.** Leaching solution from the last CIC overflows to the “barren” surface impoundment where liquid sodium cyanide, fresh makeup water, liquid caustic and anti-scalant are added (as necessary) to make up fresh leach solution, which is then recycled to the HLP for additional leaching. Caustic soda, solid or liquid sodium cyanide, anti-scalant, hydrochloric acid and lime are received in bulk quantities at the Facility and stored in tanks or bins. Storage and containment facilities are provided for all the reagents and all acids are stored separately from all cyanide mixing and distribution areas.

h. **Water Supply Services.** The industrial water supply for this project is derived from three deep wells drilled into the alluvium, approximately three miles southeast of the processing facilities. Potable water at the mine is obtained by treating the local ground water with a reverse osmosis method to reduce naturally high constituents to acceptable drinking water

standards.[10] The reverse osmosis waste stream gets discharged into the Pregnant Solution Pond, then it's pumped to the CIC plant for reuse with the barren solution on the Heap Leach Pads.

14. Apart from undeveloped public lands, the only land use in the vicinity is the Sanitation District's Mesquite Regional Landfill (Mesquite Landfill), which is currently regulated under Order R7-2017-0021.

15. The Facility is continuously operated (24 hrs/day) throughout the year. Based on the remaining capacity of the HLPs, the Facility's is expected to remain in operation for another 25 years.

Mining Units

16. The Facility contains eight existing and planned Heap Leach Pads (HLPs), which constitute cells of a single "Mining Unit" for the purposes of Title 27.[11]

17. The Facility's HLPs are functionally equivalent to a single "waste pile" for purposes of Title 27. Each HLP has a secondary liner (bottom) and primary liner (top) separated by a Leachate Collection and Removal System (LCRS).

    a. Geotextile Cushion (Top): There is a 12 to 16-ounce geotextile cushion on top of the primary liner to protect the liner system from damage.

    b. Primary Liner: The primary liner sits below the geotextile cushion. For HLPs 1-6, the liner consists of a 40-mil polyvinyl chloride (PVC). For HLP 7, the liner consists of 80-mil Low Linear Density Polyethylene (LLDPE) geomembrane. Once constructed, HLP 8 will have the same liner as HLP 7. Solution collection pipes sit on top of the primary liner.

    c. LCRS: The LCRS is a geonet situated between the primary and secondary liner. There is a dedicated pump for the removal of leachate

[10] Groundwater quality in the project area is sodium chloride in character with a total dissolved solids (TDS) concentration of approximately 1,700 mg/L. This value was the average TDS value of samples taken from four ground water monitoring wells at the processing site prior to commencement of leaching operations.

[11] The Facility previously contained two additional HLPs (North Vista and Vista) to the north of the current ones. These HLPs no longer exist due to clean-closure.

that uses a high-level float and a low-level float. The float levels function in a similar manner as water-level sensors. High-float level means that the that the leachate sump is full, and it is pumped until the low-level float is reached. The pump requires a manual start every two hours due to an automatic shut-off feature. Pond leachate is pumped onto the corresponding primary liner of the pond until leachate levels reach the low-level float at which point, the pump shuts off. All liquid wastes make their way back to the CIC plant to be reused with barren solution on the Heap Leach Pads.

d. Secondary Liners (bottom): All

e. HLPs have a 12-inch layer of compacted clay as their secondary liner.

18. The Imperial County Planning and Development Services Department previously authorized construction of HLP 7 on February 21, 2013, via Conditional Use Permit #09-0020. Construction was finished in 2015. HLP 7 was a lateral expansion of the existing Mining Unit.

19. Previously, HLPs 1-4 and HLPs 5-6 were regulated as two separate Mining Units. However, HLP 7 was constructed between HLPs 1-4 and HLPs 5-6, forming one contiguous Mining Unit. HLP 7 also covers the majority of the footprint of HLPs 1-4.

20. This Order further authorizes construction of HLP 8, which is a further lateral expansion of the existing Mining Unit (i.e., comprised of HLPs 1-7). HLP 8 will extend eastward from the current boundary of HLP 6.

21. The composite liner system for the HLPs is designed to be effective throughout the processing life of each pile or segment. The process facility design includes specification and regulation of:

a. The size of the ore particles in the initial lift, against the liner;

b. Maximum pile height;

c. Subgrade preparation and/or over-liner procedures; and

d. Provisions for controlling the hydraulic head of the solution on the liner.

22. New ore placed on a heap leach pad undergoes “leaching” once-through, continuously for a given number of days (e.g., 90 days). After it is leached, it is considered “spent ore.” In 2022, the Discharger re-leached sections of the HLPs,

under the Pilot Project, by injecting leaching solution into cased boreholes at pressures higher than lithostatic pressure. The ore in the heap leach pad used for the Pilot Project had already undergone its once-through leaching. WMMI conducted the Pilot Project to evaluate the efficiency and effectiveness of its leaching procedures and determine if another leaching cycle would economically yield more gold.

23. The Facility also contains surface impoundment-type Mining Units, covering a total of 16.2 acres. All of the impoundments are lined, and most contain a composite liner system comprised of two geosynthetic liners with a leachate collection and removal system (LCRS) in between. Each surface impoundment serves a specific purpose, such as for containment or emergency management of cyanide solution or stormwater.

24. The Facility's surface impoundments are as follows (Attachment A provides Title 27 relevant information):

    a. Old Event Pond.

    b. Intermediate Pond.

    c. Pregnant Solution Pond.

    d. Pad 7 Event Pond.

    e. Pads 5 and 6 North Stormwater Pond.

    f. Proposed Pad 8 Event Pond.

25. The Facility also contains various "Group C" Mining Units, which are exempt from liner requirements. (Title 27, § 22470, subd. (c)(3).) These types are as follows:

    a. **Overburden Piles.** Group C mining waste in the form overburden rock from the mining operations, are deposited in Overburden Piles and/or used as backfill within the open mine pits.

Description of Wastes

26. Per Title 27, section 22480, mining wastes are classified as "Group "A," "B" or "C" based on an assessment of the potential risk of water quality degradation. These classifications are summarized in the table below.

Table 1. Summary of Mining Waste Classifications

Classifications	Description
"Group A"	Wastes that must be managed as "hazardous waste" pursuant to of Title 22, Division 4.5, Chapter 11, and have been determined by the Regional Water Board to pose a significant threat to water quality.
"Group B"	Either of the following: (i) Wastes consisting of or containing "hazardous wastes" that qualify for a variance per Title 22, Division 4.5, Chapter 11, and have been determined by the Regional Water Board to pose a low risk to water quality. (ii) Wastes consisting of or containing nonhazardous, soluble pollutants of concentrations exceeding applicable WQOs, or could otherwise cause water quality degradation.
"Group C"	Wastes from which any discharge complies with Basin Plan WQOs (excluding turbidity).

27. Per Title 27, section 22480, subdivision (c), determinations as to the classification of mining waste as "Group B" or "Group C" are made based on the following considerations:

    a. Whether the waste contains hazardous constituents only at low concentrations;

    b. Whether the waste has no or low acid-generating potential; and

    c. Whether, because of its intrinsic properties, the waste is readily containable by less stringent measures.

28. Waste discharge to the environment is not permitted from the Mining Units containing "Group A" and "Group B" Mining Wastes; all fluids and solid wastes are contained within a closed system. The composite-lined HLPS, solution conveyance system, and Surface Impoundment will provide full containment of operational solutions and the design storm event (any stormwater that contacts the "Group B" mining waste will also be treated as waste and contained within the closed system). Stormwater contacting "Group B" Mining Waste is controlled and directed via lined installations such as berms, ditches, and culverts to lined collection ponds.

29. The discharge from the entire site consists of natural surface runoff (stormwater) from surfaces and materials that has not contacted the “Group B” Mining Waste and are therefore not anticipated to degrade water quality.

30. The ore that will be placed on the leach pad is classified as “Group B” Mining Waste.

31. Runoff from raw ore placed in the Overburden Piles is not likely to contain pollutants in concentrations which exceed WQOs or likely to cause degradation of waters of the state. The overburden has relatively no acid-generating potential, contains no hazardous constituent concentrations, and has not been chemically altered in the stockpiling or harvesting process. This waste stream is therefore classified as a “Group C.”

32. Wastes associated with the HLPs pose a more significant risk to areal water quality, because the ore that will be stacked on the HLP will also be leached with dilute amounts of cyanide solution that will contain anti-scalant and other chemicals used in the gold leaching process. If the cyanide solution leaked or otherwise is discharged from the closed loop system, water quality objectives would be exceeded. The raw, unleached ore also contains higher levels of soluble metals than the overburden. Accordingly, the waste streams associated with the leaching process are classified as “Group B.”

33. Within the Closed System and upon completion of the leaching process, each pile or segment will be flushed with fresh water or otherwise treated after completion of leaching operations to reduce cyanide concentrations to an acceptable level which would result in a mining waste classification of “Group C.” The pile would then be closed in place, removed, or otherwise closed in accordance with the approved Closure Plan at that time for the facility.

34. The Discharger reports that the following chemicals are used in the Facility’s process and stored in containment facilities separately from all cyanide mixing and distribution areas: solid sodium cyanide briquettes, anti-scalant, hydrochloric acid, and caustic soda.

Proposed Changes at Facility

35. The Operators are proposing to increase the Facility’s horizontal footprint of the by the construction of HLP-8, to extend the solution conveyance system, and to construct a new Surface Impoundment to contain excess infiltration to HLP-8 during storm events. WMMI submitted a technical report that included

specifications and engineering drawings to the Regional Water Board on October 27, 2022.

36. Additionally, the Operators submitted an updated Report of Waste Discharge (ROWD) on January 29, 2024. The proposed disturbance and activity associated with HLP-8, and the new Surface Impoundment was previously described and evaluated under California Environmental Quality Act (CEQA) for the original 1989 approval, and again covered in the 2002 EIR and Environmental Impact Statement (EIS).

Geology, Hydrogeology, Surface Water, and Climate

37. The Mesquite Mine is situated in the southeastern area of the greater Imperial Valley Groundwater Basin, approximately six miles to the northeast of the Imperial Sand Dunes Recreation Area (Glamis Dunes). The Mesquite Mine lies at the southern end of the Chocolate Mountains at an elevation between 500 and 1000 feet. The site is located on the alluvium-veneered pediment slope that descends west-southwest from the base of the Chocolate Mountains. Formations exposed within the Chocolate Mountains include igneous and metamorphic crystalline basement rocks consisting of Precambrian through Mesozoic age gneiss, schist and granitics overlain by Tertiary through Quaternary age volcanic and non-marine sedimentary rocks exposed along both flanks of the mountains.

38. The following geological units are located beneath the site:

    a. Artificial Fill comprised mostly of granular materials generated from mining activities used for berms, road fill, and other miscellaneous uses.

    b. Mine Run Material includes the ore stacked on the various HLP.

    c. Young Alluvium lacks significant concentrations of clay, is not well cemented, and is present mostly in active wash channels or in the alluvial fans.

    d. Intermediate-Age Alluvium has clay concentrations and cementation in between the Young and Old Alluvium.

39. Old Alluvium is a Tertiary through Quaternary age volcanic and non-marine sedimentary rocks exposed along both flanks of the mountains that consists of a variably cemented by calcium-carbonates and has higher concentrations of clay than the Younger or Intermediate Alluvium.

40. Bear Canyon Conglomerate consisting of poorly to well stratified conglomerate, sandstone, silty sandstone, sandy siltstone, siltstone, sandy claystone and claystone and occurs overlying basement rock, on the tops of low hills, and underlying alluvium.

41. Basement Rock is a basement complex consisting of gneisses, schist, and granitics of Precambrian through Mesozoic age (or older). The Basement Rock and Bear Canyon Conglomerate are separated by an unconformity of an unknown amount of time.

42. Two prominent fault sets have been mapped on surface and were identified in mineral exploration drilling and in the Mesquite Mine pits. A fault of Oligocene age trends northwest to north and a fault set that "reportedly cut middle Miocene and Pliocene rocks as well as the older northwest to north trending faults" trends in the northeast direction. These faults are left lateral, oblique slip faults. There are no known active faults in the areas near/under the Mining Units.

43. The Mesquite Mine overlies a minor sub-basin in which low permeability basement rock and conglomerate bedrock are present at shallow depths. Only minor amounts of groundwater are found. The lack of an onsite aquifer required the mine to develop a groundwater source for production purposes outside of the sub-basin, approximately three miles south of the mine area. The Groundwater reportedly is of a sodium chloride type with a total dissolved solids (TDS) concentration of approximately 1,700 mg/L. The static depth to the limited ground water is approximately 200 feet below ground surface (bgs) but can range from 50 feet (GW-7A) to over 300 feet (GW-4A) as the distance from the hard rock of the Chocolate Mountains increases. On-site pump tests and in-place permeability testing indicate permeabilities of 10^{-4} to 10^{-6} cm/sec. for basement rock. Groundwater velocity is estimated to be in the range of 4.5 feet per year and flows to the southwest.

44. There are no domestic wells within the boundaries of the Mesquite Mine .

45. The beginning of the alluvium basin (Amos-Ogilby Hydrologic Unit) is approximately one mile from the maximum limits of the processing facilities.

46. The Mesquite Mine is located within the Salton Sea drainage basin. This is a closed hydrological basin which encompasses the Imperial, Coachella, and Mexicali valleys, each of which drains into the Salton Sea. Surface drainage from the Mesquite Mine area is further closed because of the relatively small drainages that traverse the site drain toward the Sand Hills. There, the infrequent surface flows infiltrate into the ground or evaporate. The regional drainage channels originate in the Chocolate Mountains immediately north of the mine and

drain to the southwest. They are normally dry, carrying flow only during infrequent precipitation events. Since there are no surface waters other than temporary pooling, which occurs during a few occasional periods of precipitation each year, available water in the vicinity of the project site consists solely of ground water.

47. A Jurisdictional Delineation found that the Unit contains 38.18 acres of ephemeral braided channels and vegetation associated with the larger channel complex that are considered Waters of the State (WOTS). The HLP 8 expansion would impact 26.34 acres of WOTS. These ephemeral streams flow through the HLP-8 project area in a general direction from northeast to southwest. The ephemeral features originate from Nine-Mile Wash located approximately one mile to the northeast. The Project area is an extension of Nine-Mile Wash.

48. In 1992, the owner of Mesquite Mine acquired and then deeded approximately 639.56 acres of land to the BLM for mitigation for the loss of desert tortoise habitat associated with operation of Mesquite Mine, including for Section 16, the area where the HLP expansion will occur.

49. Based on data from the nearest weather station (Gold Rock Ranch, CA, 043489[12]), the Facility has an annual average precipitation of 3.90 inches, and a mean pan evaporation of 105.35 inches per year (Indio Fire Station 1927-2005[13]).

50. According to National Oceanic and Atmospheric Administration (NOAA) Precipitation Frequency Atlas 14, Vol. 6, Version 2, the 100-year and 1,000-year, 24-hour rainfall events are estimated to result in 3.85 and, 4.58 inches of precipitation, respectively.[14]

51. According to the Federal Emergency Management Agency's (FEMA) Flood Insurance Rate Map (https://msc.fema.gov/portal), the Facility is not located within a 100-year floodplain.

---

[12] https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?ca3489

[13] https://wrcc.dri.edu/Climate/comp_table_show.php?stype=pan_evap_avg

[14] Source: NOAA Precipitation Frequency Data Server (https://hdsc.nws.noaa.gov/pfds/pfds_map_cont.html?bkmrk=ca)

52. The climate at Mesquite is typically arid with high temperatures (100 to 120 °F) in the summer and moderate temperatures in the winter, generally 70 to 80 °F and rarely below 32 °F.

    a. The wind direction in the immediate vicinity of the Facility follows two general patterns. Seasonally from fall through spring, prevailing winds are from the west and northwest. Most of these winds originate in the Los Angeles basin area. Humidity is lowest under these conditions.

    b. Summer weather patterns are often dominated by an intense, heat-induced low-pressure area that forms over the interior deserts, drawing air from south of the Facility; humidity is highest under these “monsoon” conditions.

Monitoring Systems

53. “Group B” Mining Units are required to be monitored consistent with the generally applicable prescriptive standards for waste management units under Title 27, sections 20385 through 20430. (Title 27, § 22500, subd. (a).) No such monitoring is required for “Group C” Mining Units.

54. The Facility’s current groundwater monitoring well network, as of the date of this Order, is listed in the Monitoring and Reporting Program (MRP), which is attached hereto as Attachment B.

55. The Facility’s unsaturated zone monitoring system consists of cased monitoring wells drilled 50 to 100 feet below grade. The wells have a 10 to 50-foot-long screened section that can draw gas and soil-pore liquid samples from the formation surrounding the casing. The gas evacuated from the well is passed through a cyanide gas indicator.[15]

[15] “Unsaturated zone monitoring is required at all new Units unless the discharger demonstrates … that there is no unsaturated zone monitoring device or method designed to operate under the subsurface conditions existent at that Unit.” (Title 27, § 20415, subd. (d)(5).) Such monitoring shall be conducted by lysimeters (i.e., liquid recovery devices) “unless the discharger demonstrates … that such methods of unsaturated zone monitoring cannot provide an indication of a release from the Unit.” (Title 27, § 20415, subd. (d)(4).)

Mining Unit Closure

56. Mining Units must be closed so that they no longer pose a threat to water quality. Further, post-closure land uses cannot impair the integrity of any remaining containment structures. (Title 27, § 22510, subd. (a).)

57. Each Mining Unit must be closed in accordance with an approved Closure and Post-Closure Maintenance Plan[16] (CPCMP) that meets the requirements of Title 27, section 22510, as well as all of the other Title 27 prescriptive standards incorporated by reference in section 22510. (Title 27, § 22510, subd. (b).)

58. "Group B" waste piles are required to be closed as a "landfill" in accordance with subdivisions (a)-(c) of Title 27, section 21090. (Title 27, § 22510, subd. (j).) Closure as a "landfill" involves the installation of a final cover comprised of a foundation layer, a low hydraulic conductivity middle layer and a vegetative or mechanical erosion-resistant top layer. (Title 27, § 21090, subd. (a)(1)-(3).)

59. Alternatively, "Group B" wastes in a waste pile may be treated/neutralized to such an extent that it may be reclassified as "Group C" waste. The waste pile may then be closed in accordance with the standards applicable to "Group C" units (discussed below). (Figure 1.2 to Title 27, § 22510.)

60. Title 27 implicitly also allows waste piles to be clean-closed such that the Mining Unit no longer exists; in such cases, compliance with Title 27 prescriptive standards are no longer applicable. (Title 27, §§ 20950(a)(2)(B), 21090(f).)

61. "Group B" surface impoundments are required to be clean-closed per subdivisions (a) and (b)(1) of Title 27, section 21400. However, a surface impoundment with a compacted clay liner may be closed as a "landfill" per Title 27, section 21090, subdivisions (a)-(c), as described above. (Title 27, § 22510, subd. (k).)

[16] Preliminary CPCMPs are a required component of a Report of Waste Discharge. (Title 27, §§ 22470(a), 21750(i), 21769(b).)

62. All “Group C” Mining Units are required to be “closed in a manner that will minimize erosion and the threat of water quality degradation from sedimentation.” (Title 27, § 22510, subd. (l).)

63. For Mining Units that are not clean-closed, the post-closure maintenance period extends until the Regional Water Board determines that: (1) water quality aspects of reclamation are complete, and (2) the remaining wastes no longer poses a threat to water quality. (Title 27, § 22510, subd. (h).)

64. Additionally, WDRs must incorporate relevant aspects of the facility’s approved mining and reclamation plan under the Surface Mining and Reclamation Act (SMARA), Public Resources Code section 2770 et seq. (Title 27, § 22510, subd. (c).)

65. This Order requires the Discharger to submit plans for the closure of the Facility’s Mining Unit’s within 270 days of its adoption.

Financial Assurances

66. Title 27 requires permittees to provide assurances of their ability to fund the closure, and as necessary, post-closure maintenance of each Mining Unit. (Title 27, §§ 22207(b), 22212(b), 22510 (f).) Such assurances correspond to the estimates in the CPCMP. (Title 27, §§ 21769(b)-(c), 22510(f).)

67. Permittees may alternatively use financial assurances that are required by the lead agency under the Surface Mining and Reclamation Act (SMARA) (Pub. Resources Code, § 2774, subd. (a)), provided that the Regional Water Board approves the financial assurances, and is named as an alternate payee. (Title 27, § 22510, subd. (g).)

68. The Imperial County is the lead agency for purposes of SMARA and has approved the WMMI’s updated Mine and Reclamation Plan (19-13-0019) and related financial assurance for the cost of reclaiming all disturbed areas.

69. WMMI’s ROWD from January 2024 (Appendix D) included copies of a $550,000 bond posted for the closure and post-closure maintenance of certain Mining Units. The Discharger also included a copy of a bond of $7,496,478 for the 2016 Consolidated Reclamation Plan (last updated April 7, 2023).

70. This Order requires WMMI to provide appropriate assurances of financial responsibility in compliance with Title 27.

Regulatory Considerations

Permitting Authority

71. This Order is issued pursuant to Water Code section 13263, subdivision (a), which provides that "[t]he 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 or receiving waters upon, or into which, the discharge is made or proposed."

72. Water Code section 13263, subdivision (a) further provides that WDRs "shall implement water quality control plans 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[17], and the provisions of Section 13241."

73. The ability to discharge waste is a privilege, not a right. The adoption of this Order shall not be construed as establishing a vested right in the continuance of discharge activities. (Wat. Code, § 13263, subd. (g).)

74. This Order establishes WDRs pursuant to division 7, chapter 41, article 4 of the Water Code for discharges that are not subject to regulation under Clean Water Act section 402 (33 U.S.C. § 1342).

75. Surface mining operations at the Facility are subject to the Surface Mining and Reclamation Act (SMARA; Pub. Resources Code, § 2710 et seq.). Title 27, section 22510 requires the Regional Water Board to issue WDRs incorporating the relevant provisions of the approved mining and reclamation plan, 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 groundwater or surface water, unless requirements are waived. This Order complies with this directive.

---

[17] "Nuisance" is defined by statute as a condition that: "(1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property[;] [¶] (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons…[;] [and] [¶] (3) Occurs during, or as a result of, the treatment or disposal of wastes." (CWC, § 13050, subd. (m).)

76. Pursuant to Water Code section 13263.1, the Regional Water Board finds that the proposed mining waste discharge is consistent with a waste management strategy that prevents pollution or contamination of the waters of the state.

77. For the purposes waste discharge fees under California Code of Regulations, title 23 (Title 23), section 2200, the Facility has a threat-complexity rating of **2-B**.

    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.

    b. Complexity Category “B” reflects any discharger not included in Category A, with either (1) physical, chemical or biological treatment systems (except for septic systems with subsurface disposal), or (2) any Class II or Class III WMUs.

Basin Plan Implementation

78. The Water Quality Control Plan for the Colorado River Basin Region (Basin Plan) designates beneficial uses of groundwater and surface water within the region, establishes numeric and narrative WQOs protective of such uses, and incorporates applicable State Water Board plans and policies.

79. The Basin Plan designates the following beneficial uses for the ephemeral drainages courses in the area: Groundwater Recharge (GWR), Non-Contact Water Recreation (REC2), Wildlife Habitat (WILD), and on a case-by-case basis as Warm Freshwater Habitat (WARM).

80. Groundwater in the Amos-Ogilby Hydrologic Unit is designated for municipal and domestic beneficial uses (MUN).

81. The Basin Plan establishes the following WQOs for MUN-designated groundwater:

    a. Tastes and Odors (Narrative): Groundwater shall not contain taste or odor-producing substances that adversely affect beneficial uses as a result of human activity (Ch. 3, § IV.A);

    b. Chemical Constituents (Numeric): Groundwater shall not contain organic and inorganic chemical constituents in concentrations exceeding the Primary Maximum Contaminant Levels (MCLs) established for drinking water per Title 22, sections 64431, 64444 and 64678 (Ch. 3, § IV.C).

Antidegradation Policy

82. The Basin Plan incorporates the State Water Board's *Statement of Policy with Respect to Maintaining High Quality Waters in California*, Resolution 68-16 (Antidegradation Policy), which prohibits the Regional Water Board from authorizing discharges that will result in the degradation of "high quality waters," unless it is demonstrated that any such degradation in water quality:

    a. Will not unreasonably affect beneficial uses,[18] or otherwise result in water quality less than that prescribed in applicable plans and policies (e.g., violation of WQOs);

    b. Is minimized through best practicable treatment or control (BPTC);

    c. Is consistent with maximum benefit to the people of the state of California.

83. The Order complies with Antidegradation Policy by Mining Units that receive "Group B" Mining Waste to be lined with materials that prevent the percolation of waste constituents to groundwater. (Title 27, § 22490.) Discharges of "Group C" Mining Waste are not anticipated to degrade the quality of the waters of the State. (Title 27, § 22480, subd. (b)(3).)

Stormwater

84. Federal regulations for stormwater discharges were promulgated by the U.S. Environmental Protection Agency (USEPA) on November 16, 1990 (40 C.F.R. parts 122, 123, and 124) to implement the Clean Water Act's stormwater program set forth in Clean Water Act section 402(p) (33 U.S.C. § 1342(p)). In relevant part, the regulations require specific categories of facilities that discharge stormwater associated with industrial activity to "waters of the United States" to obtain National Pollutant Discharge Elimination System (NPDES) permits and to require control of such pollutant discharges using Best Available Technology Economically Achievable (BAT) and Best Conventional Pollutant Control Technology (BCT) to prevent and reduce pollutants and any more stringent controls necessary to meet water quality standards.

---

[18] The Water Code defines "Pollution" in relevant part as the "alteration of the quality of the waters of the state by waste to a degree which unreasonably affects … [¶] [t]he waters for beneficial uses." (Wat. Code, § 13050, subd. (l)(1)(A).)

85. The State Water Board adopted Order 2014-0057-DWQ (NPDES No. CAS000001), General Permit for Storm Water Discharges Associated with Industrial Activities (Industrial General Permit), as amended in 2015 and 2018 which became effective on July 1, 2020. The Industrial General Permit regulates discharges of stormwater associated with certain industrial activities, excluding construction activities, and requires submittal of a Notice of Intent (NOI) to be covered under the permit. When requested by the Water Boards to obtain General Permit coverage, entities must meet these "No Discharge" eligibility requirements or obtain General Permit coverage. This Order makes no determination as to the Discharger's need for enrollment under the Industrial General Permit.

86. The final surfaces, interim surfaces, and top deck areas of the HLPs will be sloped to promote controlled runoff of stormwater which falls directly onto the pad. Channels, basins, and other drainage control structures will be constructed during various phases of construction and operations.

87. During a storm or overflow event, the overflow and any leach solution from normal operations will be collected and routed inside of a lined perimeter solution conveyance system along the perimeters of the HLP towards the lined Surface Impoundments and recirculated through the HLP and eventually processed through the ADR Plant. Therefore, no on-site stormwater discharges are anticipated, as all stormwater collected within the HLP area will be incorporated in the leaching process solutions.

Additional Considerations

88. Water Code section 106.3, subdivision (a) provides that it is "the established policy of the state that every human being has the right to safe, clean, affordable, and accessible water adequate for human consumption, cooking, and sanitary purposes." Although subdivision (a) does not apply directly to the prescribing of WDRs (see Wat. Code, § 106.3, subd. (b)), this Order nevertheless furthers the stated policy by requiring that the receiving groundwater comply with WQOs protective of MUN beneficial uses.

89. Effective January 1, 2023, Water Code section 13149.2, subdivision (d) requires that the Regional Water Board, "[w]hen issuing … individual WDRs … that

regulate activity or a Facility that may impact a disadvantaged[19] or tribal community,[20] and that includes a time schedule in accordance with subdivision (c) of Section 13263 for achieving an applicable water quality objective, an alternative compliance path that allows time to come into compliance with water quality objectives, or a water quality variance…," must include finding(s) regarding "potential environmental justice,[21] tribal impact, and racial equity considerations" that are relevant to the permitting action. This Order does not incorporate a time schedule for compliance with applicable WQOs, or any of the other provisions described in Water Code section 13149.2, subdivision (d). Accordingly, no additional findings are necessary under section 13149.2.

California Environmental Quality Act

90. The Facility's proposed expansion was previously addressed in the joint Environmental Impact Statement and Environmental Impact Report (EIS/EIR), which was prepared in 2002 by the United States Department of the Interior and County of Imperial, in accordance with the California Environmental Quality Act (CEQA), Public Resources Code section 21000 et seq. No further environmental review is required at this time. Compliance with the mitigation measures will avoid or reduce to less than significant levels any impacts to water quality associated with the proposed expansion project.

---

[19] For the purposes of this requirement, a "disadvantaged community" is defined as a "community in which the median household income is less than 80 percent of the statewide annual median household income level." (CWC, § 13149.2, subd. (f)(1).)

[20] For the purposes of this requirement, a "tribal community" is defined as a "community within a federally recognized California Native American tribe or non-federally recognized Native American tribe on the contact list maintained by the Native American Heritage Commission for the purposes of Chapter 905 of the Statutes of 2004." (CWC, § 13149.2, subd. (f)(2).)

[21] Water Code section 13149.2 incorporates the general definition of "environmental justice" in Public Resources Code section 30107.3, subdivision (a): "the fair treatment and meaningful involvement of people of all races, cultures, incomes, and national origins, with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." (Wat. Code, § 13149.2, subd. (f).)

Monitoring and Reporting Requirements

91. This Order is also issued pursuant to Water Code section 13267, subdivision (b)(1), which provides that the Regional Water Board may require that persons discharging waste within the region "shall furnish, under penalty of perjury, technical or monitoring program reports," provided that the discharger's burdens of compliance, including costs, is reasonable relative to the need for the submittals and the benefits to be obtained.

92. The various notifications, technical reports and monitoring program reports required under this Order, including those contained within the MRP in **Attachment A**, are necessary to ensure compliance with the WDRs.

93. In accordance with section 13267, the burdens of monitoring and reporting imposed on the Dischargers under this Order and the separately adopted MRP, are reasonable relative to the need for compliance described above.

94. The Executive Officer may issue a Revised MRP as a standalone order, pursuant to their delegated authority under Water Code section 13223 and Regional Water Board Resolution R7-2022-0036. Upon issuance, the Revised MRP shall supersede the provisions of Attachment A.

Public Participation

95. In developing these WDRs, Colorado River Basin Water Board staff have complied with Water Code section 189.7, subdivision (a)(1), which requires "equitable, culturally relevant community outreach to promote meaningful civil engagement from potentially impacted communities of proposed discharges of waste that may have disproportionate impacts on water quality in disadvantaged communities or tribal communities…."

96. The Dischargers and other interested public agencies and persons were notified of the Regional 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.)

97. The Regional Water Board, in a public meeting, heard and considered all timely comments pertaining to this discharge.

REQUIREMENTS

IT IS HEREBY ORDERED, pursuant to Water Code sections 13263 and 13267, that R7-2014-0032 is rescinded (except for enforcement purposes), and that the Dischargers shall comply with the following requirements.[22]

A. Prohibitions

1. Waste shall not be discharged to land that is not owned or controlled by the Dischargers, or to any surface water drainage courses.

2. Wastes shall not be discharged or deposited if such wastes are capable of causing erosion or decay, or otherwise reducing or impairing the integrity of Mining Unit containment structures.

3. "Hazardous Waste," as defined per Title 27, section 20164, shall not be discharged at the Facility.

4. Except as specifically authorized herein for "Group B" Mining Waste, "Designated Waste," as defined per Water Code section 13173, shall not be discharged at the Facility.[23]

5. The storage, treatment, or disposal of waste at the Facility shall not cause conditions constituting a "contamination," "pollution," or "nuisance," as defined per subdivisions (k), (l), and (m) of Water Code section 13050.

6. "Group B" Mining Wastes, as designated herein, shall not be discharged outside of permitted "Group B" Mining Units, or otherwise released to surface waters, the unsaturated/vadose zone or groundwater.

7. Except as separately authorized under another permit, waste (mining waste or otherwise) shall not be discharged to any location outside of the

[22] These requirements shall apply to all Dischargers, except where otherwise specified (e.g., certain requirements are only applicable to the Operators of the Facility).

[23] This Order authorizes the discharge of "designated waste, as defined per Water Code section 13173, to the extent that it also constitutes a "Group B" Mining Waste.

Mining Units designated herein. This permit is limited to the discharge of "Group B" and "Group C" mining waste to similarly classified Mining Units.

8. Except as otherwise expressly authorized herein, the contents of any Surface Impoundment-type Mining Units shall not be discharged or otherwise released outside of the Mining Unit.[24] (Title 27, §§ 20375(d), 22490(i).)

9. Process wastewater (e.g., leaching solution) and stormwater coming into contact with "Group B" mining waste shall not be discharged to any location outside of a permitted "Group B" Mining Unit.

10. The treatment, storage and/or disposal of waste and wastewater at the Facility shall not result in objectionable odors that are perceivable beyond the Facility boundaries in areas not owned/controlled by the Dischargers.

11. Wastes shall not be discharged to a Mining Unit if such wastes, when mixed or commingled with other wastes, may create heat, pressure, fire, explosion, toxic by-products, or other chemical reactions that: (1) impair the integrity of the containment structures, or (2) generate products requiring a higher level of containment.

12. Leached, or residual ore, and any other "waste" material impacted by process solution, shall not be placed in perennial, intermittent, or ephemeral stream channels unless provision is made to divert runoff around the waste in a non-erosive manner. Waste shall not be placed where it can be eroded by stream flows or cause accelerated stream bank erosion.

13. Discharge of waste from the Facility shall not cause groundwater to:

    a. Exceed applicable WQOs;

    b. Acquire taste, odor, toxicity, or color that create nuisance conditions;

    c. Impair beneficial uses; or

[24] For the purposes of this prohibition, removal of wastewater for processing and treatment does not constitute a discharge or release outside of the Mining Unit.

d. Contain constituents or organisms in excess of applicable Title 22 MCLs (see, e.g., Title 22, § 64426.1 [bacteriological constituents], § 64431 [inorganics], § 64444 [organics], § 64678 [heavy metals]).

B. Discharge Specifications

1. Wastes shall be discharged only into Mining Units specifically designed for their containment and/or treatment, as described herein.

2. Public contact with Mining Waste at the Facility shall be precluded through fences, signs or other appropriate alternatives.

3. All ponds and open containment structures shall be managed to prevent breeding of mosquitoes. Specifically:

   a. An erosion control program shall be implemented to ensure that small coves and irregularities are not created around the perimeter of the water surface;

   b. Weeds shall be minimized through control of water depth, harvesting, or herbicides;

   c. Dead algae, vegetation, and debris shall not accumulate on the water surface; and

   d. The Dischargers shall consult and coordinate with the local Mosquito Abatement District to minimize the potential for mosquito breeding as needed to supplement the above measures.

4. The Operators shall accurately characterize wastes, including determinations of whether wastes will be compatible with containment features and other wastes at the Mining Unit, and whether the wastes are required to be managed as a “hazardous” waste.

5. “Group B” Mining Units shall remain at least five feet of separation from groundwater (including capillary fringe). (Title 27, § 20080.)

6. The Dischargers shall promptly remove and properly dispose of any unauthorized wastes that are discharged at the Facility; such instances shall be reported to the Regional Water Board within 48 hours.

7. Cyanide-based solutions shall be stored in leak-proof double-lined containers (i.e., when outside of the processing system).

8. All drainage and collection facilities used to contain or transport leaching solution shall be effectively sealed to prevent leakage of these liquids.

9. In the event of any seeps near a permitted Mining Unit, the Dischargers shall take all necessary actions to fully contain the seepage and prevent any discharges to surface waters.

C. Leachate Collection and Removal System Specifications[25]

1. All "Group B" Mining Units shall be constructed with a *blanket-type* Leachate Collection and Removal System (LCRS) that meets the requirements set forth in subdivisions (b)-(e) of Title 27, section 20340. (Title 27, § 22490, subd. (g).)

2. Each LCRS shall be operated to function without clogging until the Mining Unit's scheduled closure and, if clean-closure does not occur, the post-closure maintenance period. (Title 27, §§ 20340(d), 22490(g)(2).)

3. Leachate accumulation within LCRS sumps shall not exceed 85 percent of the design capacity.

4. Fluids shall be removed from LCRS sumps as often as needed to prevent the liquid in the sump from backing up into the collection portion of the LCRS. The removed liquid may be discharged back into the surface impoundment for that sump. If leachate generation exceeds the volume needed for safe pump operation, then the Operators shall notify the Regional Water Board in writing within **seven days**. Notification shall include a timetable for a remedial action to repair the containment structures or other action necessary to reduce leachate production.

[25] The requirements of this section are only applicable to the Operators. Additionally, this section only applies to "Group B" Mining Units. The Monitoring and Reporting Program (MRP) also contains additional LCRS monitoring and notification provisions.

D. Mining Unit Requirements[26]

1. Mining Units shall be kept in a readily accessible condition to allow for sampling and inspection by Regional Water Board staff or Facility personnel.

2. Heap Leach Pads:

    a. Within the HLPs, the Operators shall maintain devices installed in the ore piles that measure solution depth (hydraulic head) within each ore pile over the liner.

    b. Cyanide solutions shall be contained only in the HLPs, Solution Conveyance System, Surface Impoundments, and/or other leak-proof containers.

    c. There shall be no wind transport of cyanide solution or ore containing cyanide away from the HLP area.

3. Surface Impoundments:

    a. Surface Impoundments shall be designed, constructed, operated and maintained in a condition that protects the integrity of containment dams and berms so as to prevent overtopping and/or structural failure.

    b. The Operators shall maintain at least two feet of freeboard (measured vertically from the lowest possible point of overflow) and any additional freeboard necessary to accommodate seasonal precipitation and to contain a 10-year, 24-hour storm event.[27]

[26] The requirements of this section are only applicable to the Operators.

[27] Although the “design storm” for Surface Impoundments is ordinarily a 24-hour storm event with a return period of 1,000 years (Title 27, § 20375, subd. (a) & Table 4.1), the “design storm” for a “Group B” Mining Unit has a return period of only 10 years (Title 27, § 22490, subds. (h)(1), (i)).

c. Each Surface Impoundment shall contain a permanent staff gauge or other markings that will allow for the immediate determination of available freeboard.[28]

d. The Operators shall prepare and implement an Operation Plan providing for operation levels and monthly waste input quantities based on anticipated precipitation and past precipitation conditions for the year.[29] (Title 27, §§ 20375(b), 22490(i).)

e. Direct pipeline discharge to Surface Impoundments shall be either equipped with devices or shall have fail-safe operating procedures to prevent overfilling. Discharges shall be stopped in the event of any containment system failure which causes a threat to water quality. (Title 27, §§ 20375(c), 22490(i).)

f. Standby emergency facilities shall be available to assure continual circulation of the leaching solution if a planned processing configuration or rate could, in an emergency, result in a flow in excess of the existing Surface Impoundments' capacity.

g. Surface Impoundments shall be designed and constructed to prevent scouring of containment structures at points of discharge into the impoundments and by wave action at the waterline. (Title 27, §§ 20375(e), 22490(i).)

h. Residual solids obtained from wastewater discharged to a Surface Impoundment shall be discharged only at a solid waste management facility (landfill) licensed to receive such wastes. The Operators shall maintain legible records on the volume and type of waste removed from a WMU and shall submit a shipping manifest or other appropriate documentation showing the disposal method and location.

---

[28] The requirements in this section shall become effective 45 days following issuance of this Order.

[29] The Operations Plan shall be submitted to Regional Water Board staff on request. The Operators shall implement any changes to the Operations Plan specified by staff for compliance with Title 27.

i. If during the active life, wastes are removed and the bottom of the impoundment is cleaned down to the liner, an inspection shall be made of the bottom of the liner prior to refilling of the impoundment to confirm that the liner has not been damaged.

4. "Group C" Mining Units:

a. Overburden stockpiles shall be maintained to prevent excess erosion and stormwater ponding through the use of best management practices, such as micro-catchments from machine tracks; coarse rock riprap armoring if nearby ephemeral surface water flow; rock mulching; and seeding with native seed mix collected on site.

E. Stormwater Specifications[30]

1. Mining Units, covering material and other waste conveyance, treatment, storage or disposal features/systems shall be designed, constructed, operated, and maintained to prevent overtopping, inundation, washout or erosion due to a 100-year storm and any resulting floods.

2. To the extent practicable, outside surface and subsurface drainage shall be diverted away from Mining Units.

3. Stormwater retention basins shall, at all times, retain sufficient capacity to retain a 100-year storm event.

4. The processing area(s) shall be protected from any run-on, washout, or erosion, which could occur as a result of a storm having a predicted frequency of once in 100 years.

5. Diversion and drainage facilities shall be designed, constructed, and maintained to:

[30] Prior to closure of the Mining Units (pursuant to an approved Closure Plan), this section shall only apply to the Operators.

a. Accommodate the anticipated volume of precipitation and peak flows from surface runoff and under the precipitation conditions for the Mining Unit;

b. Effectively divert sheet flow runoff laterally, via the shortest distance, into the drainage and collection facilities;

c. Prevent surface erosion through the use of energy dissipators where required to decrease the velocity of runoff, slope protection, and other erosion control measures where needed to prevent erosion; and

d. Control and intercept run-on, in order to isolate uncontaminated surface waters from water that might have come into contact with waste.

F. Construction Specifications[31]

1. All Mining Unit containment structures, regardless of Mining Unit classification, shall be designed by a registered civil engineer, and the construction of such structures shall be supervised and certified by a registered civil engineer or engineering geologist. (Title 27, § 22490, subd. (d).)

2. All “Group B” Mining Units shall be constructed in accordance with designs prepared by a civil engineer or a certified engineering geologist appropriately licensed by the State of California, and as approved by the Regional Water Board via WDRs.

3. Except as authorized herein, the Operators shall not construct any new “Group A” or “Group B” Mining Units without the issuance of revised WDRs.

4. The HLP-8 expansion and New Event Pond, as described in Attachment A, shall be constructed in accordance with the following provisions:

[31] The requirements of this section are only applicable to the Operators.

a. Newly constructed or rehabilitated berms or levees (excluding internal berms that separate ponds or control the flow of water within a pond) shall be designed and constructed under the supervision of a California Registered Civil Engineer.

b. Certification shall be submitted prior the discharge of waste to the new Mining Units.

G. Special Provisions

1. **Sample Collection and Analysis Plan.** Within **90 days** of the adoption of these WDRs, the Operators shall submit to the Regional Water Board for review and approval a comprehensive Sample Collection and Analysis Plan (SCAP) that shall describe in detail the methods to be used to perform all monitoring activities for all onsite features, including:

   a. Sample collection procedures describing purging techniques, sampling equipment, and decontamination of sampling equipment;

   b. Sample preservation information and shipment procedures;

   c. Sample analytical methods and procedures;

   d. Sample quality assurance/quality control (QA/QC) procedures;

   e. Chain of custody control; and

   f. Sample analysis information including sample preparation techniques to avoid matrix interferences, method detection limits (MDLs), practical quantitation limits (PQLs) and reporting limits (RLs), and procedures for reporting trace results between the MDL and PQL.

2. **Surface Water Bodies**. There are no adjacent surface water bodies that could be affected by a release from the Facility's Mining Units. Accordingly, surface water monitoring is not required under Title 27. (See Title 27, § 20415, subd. (c)(1).)

3. **Spill Prevention Plan.** Within 90 days of the adoption of these WDRs, the Operators shall submit the Spill Prevention Plan for approval by the Regional Water Board Executive Officer. The Operators shall develop and implement a plan for immediate detection of leaks or failures in the

aboveground pipelines carrying leaching, barren, or pregnant effluent. An alarm or shutoff device shall be installed on the pump used in the leaching, barren, or pregnant effluent pipelines. Pumping of leachate, barren, or pregnant effluent shall be suspended immediately following major pipeline failure. The plan shall include daily inspection of the entire length of aboveground line in operation at the time, and the maintenance of a daily log. Minor leaks shall be repaired immediately upon being identified. Lines should be sign posted or marked to identify the fluid being pumped and alerting facility staff and the public of the potential danger.

H. Financial Assurances Requirements[32]

1. The Dischargers shall provide financial assurances of its ability to pay for the costs of closure and, as applicable, post-closure maintenance of each Mining Unit at the Facility. (Title 27, § 22510, subd. (f).)

2. Within **270 days** of the adoption of this Order, the Dischargers shall demonstrate to the Regional Water Board that it has established acceptable financial assurance mechanisms described in subchapter 3 (“Allowable Mechanisms”) of Title 27, division 2, subdivision 1, chapter 6 in at least the amount of the cost estimates for corrective action, closure, and post-closure maintenance. The Financial Assurances for Closure, Post-Closure, and Corrective Action will be approved in writing by the Regional Water Board’s Executive Officer.

3. The Dischargers shall obtain and maintain adequate assurances of financial responsibility for closure and post-closure maintenance at the Facility in accordance with Title 27, section 22510.

I. Closure and Post-Closure Specifications[33]

1. **General Performance Standard for Closure of Mining Units.** Mining Units shall be closed in a manner that results in conditions and features

---

[32] The requirements of this section are only applicable to the Operators.

[33] The requirements of this section shall not apply to the Sanitation District until the Operators have defaulted such obligations, and the Sanitation District has been provided written notice of the default.

that do not pose a threat to water quality. Additionally, subsequent land uses (i.e., post-closure) shall not impair the integrity of any remaining containment structures. (Title 27, § 22510, subd. (a).)

2. **Waste Piles.** "Group B" Waste Pile Mining Units (i.e., HLPs) that are not clean-closed,[34] as described in subdivision (f) of Title 27, section 21090, shall be closed as a "landfills" (i.e., with a final cover) in accordance with subdivisions (a)-(c) of Title 27, section 21090.

3. **Surface Impoundments.** Unless the Dischargers demonstrate that it would be infeasible to do so (and such demonstration is approved in writing by the Regional Water Board's Executive Officer), the Dischargers shall clean-close all Surface Impoundment-type Mining Units, as described in subdivision (f) of Title 27, section 21090.

4. **Clean Closure Standards.** In order to clean-close a "Group B" Mining Unit, the Dischargers shall take the following actions:

    a. For Surface Impoundments, remaining free liquid contents shall be removed and discharged to another Surface Impoundment onsite or a permitted solid waste facility. (Title 27, § 21400, subd. (a).)

    b. All residual wastes in the Mining Unit (including sludges, precipitates, and settled solids shall be completely removed and either treated, as described in Section I.5 below, or otherwise disposed offsite at a permitted solid waste facility. (Title 27, § 21400, subd. (b)(1).)

    c. Remaining containment features shall be inspected for contamination and, if not contaminated, such features shall be dismantled. (Title 27, § 21400, subd. (b)(1).)

    d. Liner materials and containment structures, regardless of contamination, shall not be left in situ or otherwise abandoned in

[34] Specifically, clean-closure requires that: (1) all waste materials and any components of the containment system which are contaminated by wastes be removed from the Mining Unit; (2) remaining containment features be inspected for contamination and, if not contaminated, dismantled; and (3) any contaminated soil or other contaminated materials beneath the Mining Unit be removed for disposal elsewhere.

place. All materials shall be removed from the Facility as part of closure.

e. Any natural geologic materials beneath or adjacent to the closed impoundment that have been contaminated shall be removed for disposal at an appropriate Unit; and

f. The Dischargers shall take any additional activities required to meet the applicable performance standard—i.e., the removal all waste and contaminated materials from the Unit, as well as from the underlying and surrounding environs, such that the waste and Unit no longer poses a threat to water quality. (Title 27, § 20950, subd. (a)(2)(B).)

5. **Treatment of Leached and Residual Ore in HLPs.** Following completion of the ore-leaching process, each HLP shall be flushed with fresh water or otherwise rinse-treated to reduce the concentration of cyanide and other constituents of concern to concentrations such that the residual Mining Waste may be re-classified as “Group C.” Specifically, the residual Mining Waste shall be treated so that concentrations of nonhazardous soluble constituents neither exceed applicable water quality objectives (WQOs) nor are capable of water quality degradation. An adequate technical demonstration showing the completed rinse-treated soil with no concentrations of cyanide or constituents of concern shall be submitted to the Regional Water Board for concurrence.

6. **Closure Plans.** For each Mining Unit at the Facility, the Operators shall submit, for Regional Water Board Executive Officer approval, a separate closure plan that describes all of the activities necessary to comply with the provisions of this Order, as well as the prescriptive requirements of Title 27. Such submittals shall occur within **270 days** of the adoption of this Order. In particular, the Closure Plan shall:

a. Identify whether the Operators intend to clean-close or close the HLPs as a landfill (as described above);

b. Treatment methods and proposed methods for demonstrating conversion to Group C waste;

c. Include cost estimates for all of the proposed activities; and

d. Include time schedule for the completion of these activities shall be included as well.

To the extent possible, the Operators shall make a good faith effort to obtain the Sanitation District's consent for all activities described in the Closure Plan, as well as the final condition of the Facility upon closure.

7. **Closure Timing.** The Dischargers shall commence closure of all Waste Pile-type Mining Units at the Facility within one year of the cessation of ore processing activities. Such closure activities shall be carried out pursuant to the approved Closure Plan for each Mining Unit, and completed according to the approved time schedule.

8. The Dischargers shall notify the Regional Water Board in writing of the final closure of a Mining Unit at least 180 days prior to beginning any final closure activities. The notice shall include a statement that all closure activities will conform to the most recently approved final or partial final closure plan and that the plan provides for site closure in compliance with all applicable federal and state regulations.

J. Monitoring, Reporting and Notification Specifications

1. Compliance with Monitoring and Reporting Program.[35]

The Dischargers shall comply with the MRP in Attachment B, or in the event of a subsequently issued Revised MRP, the provisions of that Revised MRP, which shall supersede the provisions of Attachment B as the operative MRP to detect at the earliest opportunity unauthorized discharges of waste constituents from the Facility, or any impairment of beneficial uses that result from discharges of waste at the Facility. The Dischargers shall report the results of all onsite monitoring in accordance with the operative MRP.

[35] The requirements of this section shall not apply to the Sanitation District until the Operators have defaulted on such obligations, and the Sanitation District has been provided written notice of the default.

2. Notification Requirements

a. **Change in Operators or Owners.**

i. Regulatory coverage under this Order is not transferable to any person without written approval from the Regional Water Board's Executive Officer. The Board may require modification or revocation and reissuance of this Order to change the name of the new permittee and incorporate other requirements as may be necessary.

ii. Prior to any change in the operators of the Facility, the Operators shall notify the Regional Water Board's Executive Officer (with a copy to the Sanitation District) in writing at least **30 days** in advance.

Additionally, the Sanitation District shall promptly notify the Regional Water Board regarding any changes in Facility operators that the Sanitation District is made aware of. This notification requirement shall not apply if the Operators have complied with the notification requirement specified above.

iii. Prior to any change in the ownership of the land underlying the Facility, the Sanitation District shall notify the Regional Water Board's Executive Officer (with a copy to the Operators) in writing at least **30 days** in advance.

b. **Noncompliance.** The Operators shall report any noncompliance that may endanger human health or the environment. Information shall be provided orally to the Regional Water Board and the Office of Emergency Services (OES) within **24 hours** of when the Operators becomes aware of the incident. If noncompliance occurs outside of business hours, the Operators shall leave a message on the Regional Water Board's voicemail.

A written report shall also be provided within **five business days** of the time the Operators become aware of the incident. The written report shall contain a description of the noncompliance and its cause, the period of noncompliance, the anticipated time to achieve full compliance, and the steps taken or planned to reduce, eliminate, and prevent recurrence of the noncompliance. A final certified report must be submitted through online GeoTracker.

Additional information may be added to the certified report, in the form of an attachment, at any time. All other forms of noncompliance shall be reported in the next scheduled SMR, or earlier if requested by the Executive Officer.

c. **Slope Failures.** The Operators shall promptly notify the Regional Water Board of any slope failure occurring at a Mining Unit or WMU. The Operators shall promptly correct any failure which threatens the integrity of containment features or the unit in accordance with the method approved by the Regional Water Board's Executive Officer.

d. **Earthquakes.** Following an earthquake that generates significant ground shaking (Modified Mercalli Intensity Scale V or greater) at or near the Facility, the Operators shall submit a detailed post-earthquake inspection and corrective action plan (if necessary). The plan shall address damage to and corrective measures for: containment structures; leachate control and stormwater management systems; wells and equipment to monitor groundwater; and any other system/structure potentially impacted by static and seismic deformations of the Mining Unit. The Operators shall notify the Executive Officer immediately, but no later than **24 hours**, of damage to the Facility due to an earthquake, and provide a post-earthquake inspection report within **15 business days**.

e. **Spills.** In the event of any spills or other unauthorized discharges at the Facility (including spills of cyanide, process wastewater or other process chemicals), that exceed the reporting thresholds of applicable statutes and regulations (as summarized by the California Office of Emergency Services at *https://www.caloes.ca.gov/wp-content/uploads/Fire-Rescue/Documents/Release-Reporting-Matrix.pdf*) or 150 gallons of process solution, the Operators shall do the following:

   i. Orally report to the Regional Water Board staff and the Office of Emergency Services within **24 hours** of when the Operators become aware of the incident. If noncompliance occurs outside of business hours, the Operators shall leave a message on the Regional Water Board's office or staff's voicemail.

ii. Provide a written report within **five business days** of the time the Operators become aware of the incident. The written report shall contain a description of the noncompliance and its cause, the period of noncompliance, the anticipated time to achieve full compliance, and the steps taken or planned, to reduce, eliminate, and prevent recurrence of the noncompliance. The Operators shall estimate the total volume as well as the vertical and horizontal extent of the spill/leak/release.

iii. Submit a follow-up report within **30 days** that includes confirmation sampling results indicating that cleanup goals have been achieved.

iv. If the release or spill was captured in appropriate secondary containment, the Operators do not need to submit the follow-up report, nor do the Operators need to conduct confirmation sampling. However, the Operators shall inform the Regional Water Board that the spill was successfully contained within secondary containment within the Oral and Writing Reporting timeline specified above.

3. General Reporting Requirements

a. **Electronic Submittal.** All materials shall be submitted electronically via the GeoTracker Database (https://geotracker.waterboards.ca.gov).[36] After uploading, the submitting party shall notify Regional Water Board staff via email to RB7_WDRs_paperless@waterboards.ca.gov, or another address specified by staff. The following information shall be included in the body of the email:

Attention:	Land Disposal Unit
Report Title:	[Report Title]
Upload ID:	[Number]
Facility :	Western Mesquite Mines

[36] Large files must be split into appropriately labelled, manageable file sizes and uploaded into GeoTracker.

County: Imperial County
GeoTracker ID: L10002722293

b. **Qualified Professionals.** All technical reports[37] submitted under this Order shall be prepared by, or under the direct supervision of, a competent licensed civil engineer or engineering geologist (Qualified Professional). The submittal shall be signed and stamped by the Qualified Professional and contain a brief summary of the Qualified Professional's qualifications.

c. **Certification.** All submittals under this Order shall be accompanied by a transmittal containing the certification language below that is signed by either the Required Signatory, as identified in the table below, or their Authorized Representative. To act as an Authorized Representative for a Required Signatory, an individual must be identified[38] and duly authorized in writing by the Required Signatory; this written authorization shall be provided to the Regional Water Board beforehand, or concurrently with the first submittal signed by the Authorized Representative.

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.

[37] A "technical report" is a one incorporating the application of scientific or engineering principles.

[38] This identification may be in reference to the Authorized Representative's title or position, provided it is one that customarily has the responsibility of supervising the Facility's overall operation (e.g., facility manager, superintendent).

Table 9. Required Signatories for Submittals.

Category of Discharger	Required Signatory
Corporations	Senior Vice President or Equivalent Principal Executive
Limited Liability Companies (LLCs)	Manager
General Partnerships and Limited Partnerships (LPs)	General Partner
Sole Proprietorships	Sole Proprietor
Public Agencies	Principal Executive or Ranking Elected/Appointed Official

K. Other Provisions

1. **Operation and Maintenance.** The Operators shall at all times properly operate and maintain all systems and components the Facility installed or used to achieve compliance with this Order. Proper operation and maintenance include effective performance, adequate process controls, and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities/systems when necessary to achieve compliance with this Order. All systems in service or reserved shall be inspected and maintained on a regular basis. Records of inspections and maintenance shall be retained and made available to the Regional Water Board on request.

2. **Backup Generators**. Standby, power generating facilities shall be available to operate the solution conveyance and collection systems during a commercial power failure.

3. **Duty to Mitigate.** The Operators shall take all reasonable steps to minimize or prevent any discharge in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment.

4. **Operational Personnel.** The Facility shall be supervised and operated by persons possessing the necessary expertise in the operation and

maintenance of the Facility. Further, the Operators shall ensure that all site-operating personnel are familiar with the content of this Order and maintain a copy of this Order at the Facility.

5. **Inspection and Entry.** The Dischargers[39] shall allow the Regional Water Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:

   a. Enter the premises regulated by this Order, or the place where records are kept under the conditions of this Order;

   b. Have access to and copy, at reasonable times, records kept under the conditions of this Order;

   c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order; and

   d. Sample or monitor at reasonable times, for the purpose of assuring compliance with this Order or as otherwise authorized by the Water Code, any substances or parameters at this location.

6. **Records Retention.** The Operators shall retain copies of all reports required by this Order and the associated MRP. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. Records may be maintained electronically. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Executive Officer.

LIST OF ATTACHMENTS

Attachment A—Permitted “Mining Units”
Attachment B—Monitoring and Reporting Program
Attachment C—Maps and Facility Diagrams

[39] The requirements of this section shall not apply to the Sanitation District until the Operators have defaulted such obligations, and the Sanitation District has been provided written notice of the default.

ENFORCEMENT

If, in the opinion of the Executive Officer, the Discharger fails 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 Regional Water Board reserves the right to take any enforcement actions authorized by law.

ADMINISTRATIVE REVIEW

Any person aggrieved by this Regional Water Board action may petition the State Water Board for review in accordance with CWC section 13320 and CCR, 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—PERMITTED "MINING UNITS"

Table A-1. "Group B" Waste Pile-Type Mining Unit (Heap Leach Pads).

Cell	Construction	Status	Size
HLPs 1-4	1982-1985	Active	346 Acres
HLPs 5-6	2007-2008	Active	394 Acres
HLP 7	2014-2015	Active	207 Acres
HLP 8	(pending)	Planned	87.28 Acres

Table A-2. "Group B" Surface Impoundments

Mining Unit	Status	Size/Capacity	Location	Liner	LCRS	Purpose / Function
Old Event Pond	Active	25 million gallons	SW of HLPs 1-4 Adjacent/South of Intermediate Pond Adjacent/East of Pregnant Pond	Composite Single Liner: 40 mil chlorinated polyethylene [CPE]	None	Temporary containment excess stormwater from HLPs during heavy rain events.

ATTACHMENT A—PERMITTED MINING UNITS

Mining Unit	Status	Size/Capacity	Location	Liner	LCRS	Purpose / Function
Intermediate Pond	Active	3.12 Acres	SW of HLPs 1-4 Adjacent/N of Old Event Pond and Pregnant Solution Pond	Composite Single Liner: 40 mil CPE	Tensar drainage net w/ clean coarse sand in sump (3,307 gal. capacity).	Temporary storage of barren solution before chemical rebalance and reapplication to HLPs.
Pregnant Solution Pond	Active	3.12 Acres	SW of HLPs 1-4 W of Old Event Pond, south of Intermediate Solution Pond	Composite Double Liner: 40 mil CPE	Tensar drainage net w/ clean course sand in sump (212 gal. capacity).	Temporary storage of pregnant solution before removal of precious metals at ADR Plant.
Pads 5 and 6 North Stormwater Pond	Inactive	34,250 gal	N of HLP 5-6	Composite Single Liner: 60 mil high density polyethylene (HDPE)	None.	Temporary containment of operational process solution and/or excess stormwater from HLPs during heavy rain events.

ATTACHMENT A—PERMITTED MINING UNITS

Mining Unit	Status	Size/Capacity	Location	Liner	LCRS	Purpose / Function
Pad 7 Event Pond	Inactive	34,250 gal.	S of HLPs 5-6 W of CIC Processing Area	Composite Double Liner: 80-mil HDPE (top) 60-mil HDPE(bottom)	Sump located b/w liners. Depth: 2 ft.; Width: 4 ft. at bottom; 12 ft. at top Filled w/ drain rock (wrapped in geotextile), and 8” perforated pipe to remove accumulated liquids. Automatic pump w/ float triggered control device.	Temporary containment of operational process solution and/or excess stormwater from HLPs during heavy rain events.

Mining Unit	Status	Size/Capacity	Location	Liner	LCRS	Purpose / Function
New Proposed Pending Pond	Planned	34, 250 gal	Adjacent to HLP 8	Similar design to Pad 7 Event Pond Composite double-liner 80-mil HDPE (top) 60-mil HDPE (bottom)	Similar construction to Pad 7 New Event Pond	Temporary containment of operational process solution and/or excess stormwater from HLPs during heavy rain events.

Table A-3. Permitted Mining Units— "Group C" Units

Unit	Classification	Description
Overburden Piles	"Group C"	Overburden rock from the mining operations deposited in Overburden Piles and/or used as backfill within pits.

ATTACHMENT B—MONITORING AND REPORTING PROGRAM

A. General Monitoring Requirements

1. **Representative Sampling.** All samples shall be representative of the volume and nature of the discharge or matrix of material sampled. The time, date, and location of each grab sample shall be recorded on the chain of custody form for the sample. If composite samples are collected, the basis for sampling (time or flow weighted) shall be approved in writing by Regional Water Board staff.

2. **Instrumentation and Calibration.** All monitoring instruments and devices used by the Discharger shall be properly maintained and calibrated to ensure their continued accuracy. Any flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices. In the event that continuous monitoring equipment is out of service for a period greater than **24 hours**, the Discharger shall obtain representative grab samples each day the equipment is out of service. The Discharger shall correct the cause(s) of failure of the continuous monitoring equipment as soon as practicable. The Discharger shall report the period(s) during which the equipment was out of service and if the problem has not been corrected, shall identify the steps which the Discharger is taking or proposes to take to bring the equipment back into service and the schedule for these actions.

3. **Field Test Instruments.** Field test instruments (e.g., those used to test pH, dissolved oxygen, and electrical conductivity) may be used provided:

    a. The user is trained in proper use and maintenance of the instruments,

    b. The instruments are field calibrated prior to monitoring events at the frequency recommended by the manufacturer,

    c. Instruments are serviced and/or calibrated by the manufacturer at the recommended frequency, and

    d. Field calibration reports are submitted.

4. **30-Day Sample Collection Limitation.** For any given monitored medium, the samples collected from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be collected within a span not to exceed 30 days,

unless a longer time period is approved by the Executive Officer and shall be collected in a manner that ensures sample independence to the greatest extent feasible.[40]

5. **Testing and Analytical Methods.** The collection, preservation, and holding times of all samples shall be performed in accordance with USEPA-approved procedures. Except as otherwise specified in the MRP or as approved in writing by the Executive Officer, all analyses shall be conducted in accordance with the latest editions of either of the USEPA's *Guidelines Establishing Test Procedures for Analysis of Pollutants Under the Clean Water Act* (40 C.F.R. part 136); or *Test Methods for Evaluating Solid Waste: Physical/Chemical Methods Compendium* (SW-846).

6. **Laboratory Certification.** Except as otherwise approved in writing by the Executive Officer, all analyses shall be conducted by a laboratory certified by the State Water Board, Division of Drinking Water Environmental Laboratory Accreditation Program (ELAP).

7. **Records Retention.** The Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, for a minimum of five years from the date of the sampling or measurement. Records of monitoring information shall include:

    a. The date, exact place, and time of sampling or measurement(s);

    b. The individual(s) who performed the sampling or measurement(s);

    c. The methods used for groundwater purging/sampling;

    d. The date(s) analyses were performed;

    e. The individual(s) who performed the analyses;

[40] The 30-day limit does not apply to media that (1) are resampled to confirm the results of the initial round of samples, or (2) are resampled due to errors in the original sampling and analysis, but the Discharger shall conduct the resampling as expeditiously as practical.

f. The analytical techniques or method used; and

g. All sampling and analytical results, including units of measurement used, minimum reporting limit for the analyses, results less than the reporting limit but above the method detection limit (MDL), data qualifiers and a description of the qualifiers, quality control test results (and a written copy of the laboratory quality assurance plan), dilution factors, if used, and sample matrix type.

B. Detection Monitoring Program

1. General Requirements

a. To detect a release at the earliest possible opportunity (Title 27, § 20420, subd. (b)), the Discharger shall implement a Detection Monitoring Program (DMP) for groundwater, the unsaturated zone and surface water in accordance with the provisions of Title 27, particularly sections 20415 and 20420.[41] A separate DMP is required for each "Group B" Mining Unit.

b. Additional monitoring points shall be added as necessary to provide the best assurance of the earliest possible detection of a release. (Title 27, § 20415, subd. (b)(1)(B)2.)

2. Groundwater

a. **General Standards.** The Discharger shall operate and maintain a groundwater monitoring system that complies with the applicable provisions of Title 27, sections 20415 and 20420. Monitoring shall be performed in accordance with the locations, frequencies, and parameters described below.

b. **Monitoring Well Locations.** The Facility's groundwater monitoring network currently consists of the wells listed below in Table B-1.

[41] The Colorado River Basin Water Board Executive Officer may waive detection monitoring for the unsaturated zone and/or surface waters, based on demonstrations in the WQMP. (See Title 27, § 20415, subds. (c)(1), (d)(5).)

The groundwater monitoring system shall include a sufficient number of monitoring points, installed at appropriate locations and depths, to yield groundwater samples from the uppermost aquifer and any perched groundwater that represents the quality of groundwater that has not been affected by a release from each Unit. (Title 27, §§ 20415(b)(1)(A)-(B), 20420(b).)

Table B-1. Groundwater Monitoring Well Network.

Well	Location	Screening Depth (ft.)	Function
GW-1	SW of Mining Units. Furthest Downgradient.	317-416 (basement rock)	Detection
GW-2	S of Mining Units; E of GW-1.	207-305 (Bear Canyon Conglomerate)	Detection
GW-3A	S of Mining Units; N of GW-2.	196-296 (Bear Canyon Conglomerate)	Detection
GW-4A	N of Mining Units and GW-6.	209-309 (basement rock)	Detection
GW-5	SW of Mining Units; N of GW-1.	259-359 (Bear Canyon Conglomerate)	Detection
GW-6	N of HLPs 1-8; S of former Vista HLP and GW-4A.	238-338 (Bear Canyon Conglomerate)	Detection
GW-7A	N of Mining Units, Furthest Upgradient.	190-442 (Bear Canyon Conglomerate)	Background

c. **Groundwater Conditions.** Each quarter, the Discharger shall monitor Groundwater Conditions specified in Table B-3. To the extent feasible, this information shall be determined separately for: (1) the uppermost aquifer; (2) any zones of perched water; and (3) any additional zone of saturation monitored based upon water level elevations taken prior to the collection of the water quality data submitted in the report. (Title 27, § 20415, subd. (e)(15).) Such information shall be reported semiannually.

Table B-2. Groundwater Conditions Monitoring.

Conditions	Units	GeoTracker Code	Monitoring Freq.	Reporting Freq.
Elevation (Well-Specific)	ft bgs	ELEV	Quarterly	Semiannually
Gradient / Direction	-	(none)	Quarterly	Semiannually
Flow Rate	ft. / year	(none)	Quarterly	Semiannually

d. **Monitoring Parameters.** All monitoring wells shall be sampled and analyzed for the Monitoring Parameters listed in Table B-3, in accordance with the specified frequencies. (Title 27, § 20420, subds. (e)-(f).) Whenever a well is sampled, the groundwater elevation, temperature, electrical conductivity, turbidity, and pH shall be accurately measured at each well. (Title 27, § 20415, subd. (e)(13).)

Table B-3. Monitoring Parameters.

Monitoring Parameter	Units	GeoTracker Code	Monitoring Freq.	Reporting Freq.
Temperature	°F	TEMP	Semiannually	Semiannually
Electrical Conductivity	µmhos/cm	SC	Semiannually	Semiannually
pH	SU	PH	Semiannually	Semiannually

Monitoring Parameter	Units	GeoTracker Code	Monitoring Freq.	Reporting Freq.
Turbidity	NTU	TURB	Semiannually	Semiannually
Total Dissolved Solids (TDS)	mg/L		Semiannually	Semiannually
Free Cyanide	mg/L		Semiannually	Semiannually
Total Cyanide	mg/L		Semiannually	Semiannually
Copper	µg/L		Semiannually	Semiannually
Arsenic	µg/L		Semiannually	Semiannually
Iron	µg/L		Semiannually	Semiannually
Gold	µg/L		Semiannually	Semiannually
General Chemistry (Ca, Mg, Na, SO4)	mg/L		Semiannually	Semiannually

e. **Five-Year Constituents of Concern.** Beginning in 2025, the Discharger shall analyze groundwater samples for the Constituents of Concern (COCs) listed in Table B-4 every five years. (Title 27, § 20395, subd. (a).)[42] Results of such monitoring shall be reported in the next Semiannual Monitoring Report.

[42] COCs are the list of "waste constituents, reaction products, and hazardous constituents that are reasonably expected to be in or derived from waste contained in the [Mining] Unit." (Title 27, § 20395, subd. (a).)

Table B-4. Five-Year Constituents of Concern.

Constituent of Concern	Units	GeoTracker Code
Antimony	mg/l	
Cadmium	mg/l	
Cobalt	mg/l	
Lead	mg/l	
Mercury	mg/l	
Nickel	mg/l	
Vanadium	mg/l	
Zinc	mg/l	

3. Unsaturated Zone

a. Soil-pore gas and liquid samples shall be collected from the monitoring points listed in Table B-5, as well as any subsequently-installed soil gas wells, and analyzed for the Monitoring Parameters in Table B-6 and Table B-3.

b. A log must be maintained of when the vadose zone wells are sampled, including when the sample was taken, by whom, and results. The log shall be maintained on site and shall be available for inspection.

c. Any detection of cyanide gas shall be reported by email to Regional Water Board staff within 24 hours. The Discharger shall thereafter submit a follow-up report with any information specified by staff in a technical reporting order. (Wat. Code, § 13267, subd. (b)(1).)

Table B-5. Soil-Gas Wells.

Soil-Gas Wells	Location
V02	South of HLP 1-4, East of V03 and V04
V03	South of HLP 1-4, in-Between of V02 and V04
V04	South of HLP 1-4, West of V03 and V02
V06A	Adjacent (East) of Event Pond, South of V06B
V06B	Adjacent (East) of Event Pond, North of V06A
V06C	Adjacent (West) of Event Pond and Pregnant Pond, South of V06D
V06D	Adjacent (West) of Event Pond and Pregnant Pond, North of V06C
V11B	West of HLP 1-4
V12 (A, B, C)	West of HLP 1-4
V25A	South of HLP 5-6, West of V26A and V27
V26A	South of HLP 5-6, in-Between of V25A and V27
V27	South of HLP 5-6, East of V25A and V26A

Table B-6. Soil Gas Wells Monitoring Parameters.

Parameter	Units	Sample Type	Monitoring	Reporting
Cyanide Gas[43]	PPM	Grab	Semiannual	Semiannual (Non-Detections) Within 48 Hours of Detections (see above)

4. Establishment of Concentration Limits

d. The Discharger shall establish a Concentration Limit (i.e., background value) for each Monitoring Parameter and Constituent of Concern (COC) at each Monitoring Point, in accordance with the statistical methods in subdivision (e)(8) of Title 27, section 20415.[44] (Title 27, § 20400, subds. (a), (b).).

e. Updated Concentration Limits shall be proposed by the Discharger every five years, and submitted via the Annual Monitoring Report. Unless expressly rejected by the Regional Water Board's Executive Officer in writing, the updated Concentration Limits shall be used to determine whether there has been a release from the Unit.

f. If the Discharger fails to submit updated Concentration Limits, the existing ones shall remain operative, provided that, where appropriate, the Regional Water Board's Executive Officer may revert to lower concentrations where so warranted by existing monitoring data.

[43] Non-detections of Cyanide Gas (including total cyanide or free cyanide) shall be reported accordingly.

[44] The Concentration Limit for organic compounds that are neither naturally occurring, nor detected in background groundwater samples, shall be taken as the detection limit of the analytical method used (e.g., USEPA Methods 8260, 8270).

5. Procedures to Confirm Evidence of Release

a. **Verification Sampling after Detection of Constituent of Concern.** Whenever a COC is detected at a Monitoring Point at a concentration exceeding the applicable Concentration Limit the Discharger shall conduct verification sampling to confirm if the exceedance is due to a release, or if it is a false-positive (unless previous monitoring has already confirmed a release for that constituent at that monitoring point). An exceedance of the Concentration Limit shall be considered "measurably significant evidence of a release" that shall be either confirmed or denied through the applicable verification procedure specified below.

b. **Procedure for Analytes Detected in Less than 10 Percent of Background Samples (Non-Statistical Method).**

i. **Initial Determination.** The Discharger shall identify each analyte in the current DMP Monitoring Point sample that exceeds either its respective MDL or PQL, and for which a release has not been previously confirmed. 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 equal or exceed their respective MDLs; or (ii) the data contains one or more analyte that equals or exceeds its PQL.

ii. **Notification to Regional Water Board Staff.** Upon determining that there is a preliminary indication of a release, the Discharger shall immediately notify Regional Water Board staff by phone or email (not required if Board staff made the determination in writing and notified Discharger).

iii. **Discrete Retest.** Within 30 days of either the Discharger or the Regional Water Board determining that there is a preliminary indication of a release, the Discharger shall collect two new (retest) samples from the relevant monitoring point(s), and analyze the samples for COCs at issue. (Title 27, §§ 20415(e)(8)(E), 20420(j)(1)-(3).)

iv. Confirmation of Release. As soon as the retest data are available, the Discharger shall conclude that measurably significant evidence of a release is confirmed if (not including the original sample) two or more analytes equal or exceed their respective MDLs or if one or more analyte equals or exceeds its PQL. The Discharger shall then immediately verbally notify the Regional Water Board whether or not the retest confirmed measurably significant evidence of a release for the analyte at the monitoring point, and follow up with written notification submitted by certified mail within seven days of the verbal notification.

c. **Procedure for Analytes Detected in 10 Percent or More of Background Samples (Statistical or Non-Statistical Method).**

i. **Initial Determination.** The Discharger shall compare the value reported by the laboratory for each analyte to the statistically-derived Concentration Limit from the most recent report (e.g., Annual Report) that uses the approved statistical procedure. If the value exceeds the Concentration Limit for that analyte, the Discharger shall conclude that there is "measurably significant evidence of a release." (Title 27, § 20420, subd. (i).)

ii. Notification to Regional Water Board Staff. Upon determining that there is a preliminary indication of a release, the Discharger shall *immediately notify Regional Water Board staff* by phone or email (not required if Board staff made the determination in writing and notified Discharger).

iii. **Retest Method.** Within 30 days of either the Discharger or the Regional Water Board determining that there is a preliminary indication of a release, the Discharger shall implement a verification procedure/retest option in accordance with Title 27, section 20415, subdivision (e)(8)(E) and section 20420, subdivision (j)(2). (Title 27, §§ 20415(e)(8)(E), 20420(j).) The verification procedure shall include either a single "composite" retest (i.e., a statistical analysis that augments and reanalyzes the data from the monitoring point that indicated a release), or

shall consist of at least two "discrete" retests (i.e., statistical analyses each of which analyzes only newly acquired data from the monitoring point that indicated a release).[45] (Title 27, § 20415, subd. (e)(8)(E).)

The retest samples shall be collected from the monitoring point where the release is preliminarily indicated and shall be analyzed for the constituents that caused the need for the retest. For any indicated monitoring parameter or constituent of concern, if the retest results of one or more of the retest data suites confirm the original indication, the Discharger shall conclude that measurably significant evidence of a release has been confirmed.

The Discharger shall then immediately verbally notify the Regional Water Board whether or not the retest confirmed measurably significant evidence of a release for the analyte at the monitoring point, and follow up with written notification submitted by certified mail within seven days of the verbal notification.

d. Next Steps After Confirmation. If a release has been confirmed under either of the procedures above, the Discharger shall comply with the Response to Release Requirements in Section A.6 below. If the analyte at issue is a Five-Year COC, that analyte shall be added to list of Monitoring Parameters that are monitored on a more frequent basis.

e. Physical Evidence of a Release. If the Discharger determines that there is significant physical evidence of a release, the Discharger shall immediately verbally notify Regional Water Board staff and provide written notification by certified mail within seven days of such determination. (Title 27, §§ 20385(a)(3), 20420(l)(1)-(2).)

---

[45] The Discharger may use an alternate method previously approved in writing by the Regional Water Board. The verification procedure shall comply with the requirements of Title 27, section 20415, subdivision (e)(8)(E), in addition to the performance standards of section 20415, subdivision (e)(9).

6. Response to Release Requirements

a. If the Discharger confirms that there is "measurably significant evidence of a release" per Section B.b or B.c, the Discharger shall comply with the time schedule of required actions in Table B-7 below.

b. If the Discharger confirms that there is measurably significant evidence of a release from the Mining Unit at any monitoring point, the Discharger may attempt to demonstrate that a source other than the Mining Unit 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.

c. The Discharger may make a demonstration pursuant to section 20420, subdivision (k)(7); however, the Discharger is not relieved of the requirements and due dates of Title 27, sections 20420, subdivision (k)(6)-(7), unless Regional Water Board staff concur that the demonstration successfully shows that a source other than the Mining Unit 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.

d. In order to make this demonstration, the Discharger shall notify the Regional Water Board by certified mail of the intent to make the demonstration **within seven days** of determining measurably significant evidence of a release, and shall submit a report **within 90 days** of determining measurably significant evidence of a release. (Title 27, § 20420, subd. (k)(7).)

Table B-7. Time Schedule of Required Actions After Confirming Measurably Significant Evidence of Release.

Deadline	Required Action
Immediately after Confirmation	***Additional Sampling*** The Discharger shall sample all monitoring points in the affected medium at that Mining Unit and determine the concentration of all monitoring parameters and constituents of concern for comparison with established concentration limits (CLs). Because this constituent of concern (COC) scan does not involve statistical testing, the Discharger will need to collect and analyze only a single water sample from each monitoring point in the affected medium (Title 27, § 20420, subd. (k)(1))
Within 90 Days of Confirmation	***Submit Evaluation Monitoring Program*** The Discharger shall submit a Report of Waste Discharge (ROWD) with a proposed Evaluation Monitoring Program (EMP) in accordance with Title 27, section 20420, subdivision (k)(5)(A)-(D), and incorporating the results of the immediate post-confirmation sampling activities required above. Specifically, the EMP shall be designed for the collection and analysis of all data necessary to assess the nature and extent of the release and to determine the spatial distribution and concentration of each constituent throughout the zone affected by the release. (Title 27, §§ 20420(k)(5), 20425(b).) *The EMP is subject to Regional Water Board Executive Officer approval, including with specified revisions. The EMP shall be considered established upon its approval.*
Within 180 Days of Confirmation	***Submit Corrective Action Feasibility Study*** The Discharger shall submit, for Regional Water Board Executive Officer approval, an initial engineering feasibility study for a Corrective Action Program necessary to meet the requirements of Title 27, section 20430. At a minimum, the 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. (Title 27, § 20420, subd. (k)(6).)

Deadline	Required Action
Within 90 Days of EMP Approval	The Discharger shall complete and submit the following: (1) Technical Report with EMP results and assessment. (Title 27, § 20425, subd. (b).) (2) Updated Engineering Feasibility Study for corrective action based on data collected to delineate the release and data from the ongoing monitoring program per Title 27, section 20425, subdivision (e). (Title 27, § 20425, subd. (c).) (3) Proposed Corrective Action Program in accordance Title 27, section 20430, based on data collected to delineate the release the updated engineering feasibility study. (Title 27, § 20425, subd. (d).)

C. Other Facility Monitoring

1. Observed Surface Water

If substantial volumes of surface water are observed near a permitted Mining Unit, the Discharger shall record the following information, which shall be reported within 24 hours:

a. Flow rate and source of water;

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

c. Discoloration and turbidity: Description of color, source, and size of affected area;

d. Evidence of odors: Presence or absence, characterization, source, and distance of travel from source; and

e. Weather conditions: Wind direction and estimated velocity, total precipitation during the previous five-days and on the day of observation.

2. Stormwater Monitoring

After each Significant Storm Event,[46] the Discharger shall record the remaining freeboard (vertical feet) and storage capacity (gallons and/or acre-feet) of each stormwater retention basin shall be identified. Any stormwater-related actions shall be reported in the next Semiannual Monitoring Report.

3. Seep Monitoring

a. Whenever any seeps (i.e., liquid wastes) are observed emerging from the ground near a permitted Mining Unit, the Discharger shall record the location, flow rate and any other relevant characteristics (e.g., color or odor). This information shall be emailed to Regional Water Board staff as soon as possible and in no case more than 24 hours after the initial discovery.

b. Observed seepages shall, within 30 days of first observance, be sampled and analyzed for the Monitoring Parameters listed in Table B-3 and Constituents of Concern listed in Table B-4, as well as any other constituents or parameters specified in writing by Regional Water Board staff. Results of such analyses shall be reported within seven days of receipt of laboratory report.

4. Leachate Collection and Removal System Monitoring

a. Each Leachate Collection and Removal System (LCRS) shall be tested annually to demonstrate proper operation, with the results of each test being compared to the results of prior testing under similar conditions. (Title 27, § 20340, subd. (d).) Results shall be reported annually.

b. Each LCRS sump shall be inspected monthly for presence of leachate, whereupon the volume of leachate shall be measured. Any leachate present in a sump shall, within 30 days of first

[46] For purposes of this Order, a “Significant Storm Event” is a weather event that results in at least 1 inch of precipitation within a 24-hour period.

observance, be sampled and analyzed for Specific Conductance and pH.

c. As provided in Table B-8, the total volume and flow rate shall be calculated, recorded and reported semiannually.

d. If an automated sump-pump is installed, an alarm shall also be installed to indicate if the sump fills beyond the upper limit of the sump-pump settings. Automated systems shall also include a means of monitoring changes in the height of liquid in the sump and measuring the frequency and volume of pumping. This data shall be converted to a daily leakage rate and summarized in the Semiannual Monitoring Report. Automated sump pumps shall be tested at least quarterly to ensure they are functioning properly.[47]

Table B-8. LCRS Sump Monitoring, Monthly Inspection Parameters.

Physical Parameter	Units	Sampling Freq.	Reporting Freq.
Total Volume Collected	Gallons	Monthly	Semiannually
Estimated Flow Rate	Gallons/Day	Monthly	Semiannually
Percentage of Sump Capacity[48]	%	Monthly	Semiannually

[47] If the existing manual sump-pump at the Facility is replaced with an automatic sump-pump, the Discharger shall include this information in the Semiannual Monitoring Report.

[48] The total sump capacity shall be specified when reporting this information.

Table B-9. Leachate Accumulation Reporting Thresholds.

Sump #	Reporting Threshold
Pregnant Pond	1,654 Gallons/Day
Intermediate Pond	406 Gallons/Day
Pad 7 New Event Pond Eastern portion	602 Gallons/Day
Pad 7 New Event Pond Western Portion	602 Gallons/Day
HLP 5-6 Stormwater Sump	359 Gallons/Day
All Other Sumps	85 percent of Total Capacity

e. The volume removed shall be measured and used to identify the leakage rate into each sump. The removal dates, volumes, and calculated leakage rates shall be reported semiannually.

   If an automated sump-pump is installed, an alarm shall also be installed to indicate if the sump fills beyond the upper limit of the sump-pump settings. Automated systems shall also include a means of monitoring changes in the height of liquid in the sump and measuring the frequency and volume of pumping. This data shall be converted to a daily leakage rate and summarized in the Semiannual Monitoring Report. Automated sump pumps shall be tested at least quarterly to ensure they are functioning properly.

5. Geosynthetic Liner Monitoring

The Discharger shall inspect the exposed portion of geosynthetic liner of each “Group B” Mining Unit on a monthly basis, with the observations reported on a semiannual basis. Any observed damage to the liner shall be verbally reported to Regional Water Board staff within 48 hours, with a follow-up written report submitted to the Board within seven days.

6. Surface Impoundment Monitoring[49]

a. Each month, the Discharger shall measure the available freeboard for each Surface-Impoundment-type Mining Unit at the Facility. (See Title 27, § 20375, subd. (a).) The available freeboard and calculated storage capacity for such Mining Units shall be recorded and reported semiannually.

b. Each month, the Discharger shall inspect the overall condition of each Surface-Impoundment. The Discharger shall record any observed erosion, settlement or subsidence along the visible areas of the Surface Impoundment(s), including the top of the berm, outer slopes, and upper region of the inner slope. Repairs shall be performed as needed and documented in the inspection logs. Observations and repairs shall be included in the next Semiannual Monitoring Report.

Table B-10. Surface Impoundment Monitoring.

Parameter	Unit	Monitoring Freq.	Reporting Freq.
Available Freeboard	Feet	Monthly	Semiannually
Storage Capacity	Gallons	Monthly	Semiannually
Visual Inspection for Erosion, etc. (see § C.b)	N/A	Monthly	Semiannually
Visual Inspection of Exposed Liner (§ 20375, subd. (f).)	N/A	Weekly	Semiannually

[49] This section applies only to those permitted Mining Units that are surface impoundments, as listed in Attachment A.

7. Heap Leach Pad Monitoring

The Facility's Heap Leach Pad (HLPs), as listed in Attachment A, shall be monitored in accordance with Table B-11 below.

Table B-11. Heap Leach Pad Monitoring.

Parameter	Unit	Monitoring Freq.	Reporting Freq.
Ore Discharged to Unit for Processing	Tons	Semiannually	Annually
Estimated Life Remaining	Years	Semiannually	Annually
Estimated Remaining Capacity	%	Semiannually	Annually
Barren Solution Applied	Gallons	Semiannually	Annually
Pregnant Solution Recovered	Gallons	Semiannually	Annually
Visual Inspections	N/A	Monthly	Semiannually

8. Overburden Pile Monitoring

The Facility's generation of "Group C" Mining Waste and overall ground disturbance activities shall be monitored and reported in accordance with Table B-12 below.

Table B-12. "Group C" Mining Waste Monitoring.

Parameter	Unit	Monitoring	Reporting
Tons of Overburden Produced	Tons	Annually	Annually
Acres of Disturbance	Acres	Annually	Annually

D. Reporting Requirements

1. Semiannual Reporting

The Discharger shall submit Semiannual Monitoring Reports including the results of all monitoring activities that are required to be reported on a semiannual basis. Such reports shall be submitted on **August 15** (covering Jan. 1–June 30) and **February 15** (covering July 1–Dec. 31). The report shall include the following components:

a. A cover letter containing:

i. A summary of essential points in report; and

ii. An identification/discussion of any violations occurring since the last report was submitted, as well as any actions taken or planned for correcting those violations (or, if no violations occurred since last submittal, a statement to that effect).[50]

b. Maps depicting the Facility layout and the location of sampling points and monitoring wells, as well as groundwater elevations in the monitoring wells, including the inferred direction of groundwater flow.[51]

c. Written summary of the monitoring results—including a discussion of the groundwater flow rate/direction or any other information suggesting a change in the underlying hydrogeologic conditions.

---

[50] If the Discharger previously submitted a report describing corrective actions and/or a time schedule for implementing the corrective actions, reference to the previous correspondence will be satisfactory. If no violations have occurred since the last submittal, this shall be stated.

[51] This map shall include all of the elevations obtained from monitoring wells located within a one-mile radius of the Facility boundary to which the Discharger has access. The contour intervals on the groundwater elevation map shall be small enough to show areas of groundwater mounding, if present.

d. Results of any sampling/analyses/investigations conducted in addition to what is otherwise required under this MRP.

e. Narrative evaluation of the groundwater monitoring data and whether the data indicates a release from any Mining Units.

f. A summary of leachate data for each applicable Mining Unit, including any laboratory results and measurements of gas concentrations and liquids in the gas monitoring wells and the LCRS sumps.

g. Tables of the data collected. The tables shall include all the data collected, to date, at each monitoring point, organized in chronological order, with the oldest data in the top row and progressively newer data in rows below the top row. Each row shall be a separate date and each column shall be a separate parameter at a single location (or a single average, as appropriate). The tables shall be submitted in electronic (Excel or other tab delimited) format. The data shall be summarized in such a manner as to clearly illustrate whether the Facility is operating in compliance with the WDRs. Where appropriate, the Discharger shall include supporting calculations (e.g., for averages or comparison of liquids removed to a specific reporting threshold).

h. Graphs depicting groundwater elevations through time, and TDS concentrations through time, at each monitoring point, with the concentrations being the y-axis and time being the x-axis. Logarithmic scales can be used for values that vary by order of magnitude. Individual graphs can combine multiple locations and/or multiple chemicals if it allows data to be compared more easily.

i. Piper (trilinear) diagrams of the major anions and cations, with sodium in the lower right portion of the cation triangle and chloride in the lower left portion of the anion triangle. The Discharger can include additional figures, tables, and graphs if it improves the readability of the document.

j. Field logs used during well purging and sampling. At a minimum, the field logs should include the following:

    i. The well number;

ii. The sampling date and time;

iii. The method of monitoring Field Monitoring Parameters and calibration of equipment used to monitor Field Monitoring Parameters;

iv. The purge method (if a pump is used, include the depth of pump placement in each well and the pumping rate); and

v. The purge and sample collection information such as: date each well was purged; well recovery time; method of disposal of the purged water; an estimate of the volume of water purged from each well; the results of all field analyses; depth to groundwater prior to purging, at the conclusion of purging, and when the sample was collected; the method of measuring the water level; and field personnel names and signature.

vi. Documentation showing the calibration of flow meters and other sampling/monitoring equipment as performed in a timely manner.

vii. Copies of the laboratory data sheets for analyses within the semiannual monitoring period.

k. Repair Logs for any repairs to Mining Units or other onsite facilities occurring during the semiannual monitoring period.

l. A written summary of inspections by the Discharger, County of Imperial, BLM, and/or Regional Water Board and any related correspondence shall be included in an appropriate place in the Semi-Annual Monitoring Report. Copies of inspection reports prepared by the Discharger shall be included in an appendix to the report.

2. Annual Reporting

In addition to the components described in Section D.1, the Semiannual Monitoring Report due on February 15 (covering July 1 – Dec. 31) shall also include the results of all monitoring activities that are required to be reported annually, as well as the following:

a. An overall evaluation of the performance of the Facility, including a discussion of HLP capacity, nuisance conditions, and an update on any pilot projects.

b. **[Optional]** Any proposed changes to Monitoring Parameters or Constituents of Concern, monitoring points, monitoring frequencies or analytical methods.[52]

c. Annual updates to financial assurances cost estimates.

d. **[Every Five Years]** Revised Concentration Limits for all Monitoring Parameters and Constituents of Concern.

e. An annual summary consisting of the total volume of mining wastes generated at the Facility. The summary shall contain a table that lists each category of waste (e.g. Group B and C mining waste) and the volume accepted at the HLPs and "Group C" waste piles (i.e., Overburden Stockpiles).

3. Data Presentation Requirements for Monitoring Reports

a. In reporting monitoring data, the Discharger shall arrange data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. Additionally, data shall be summarized in a manner that clearly illustrates compliance/noncompliance.

b. Unless reporting limits are specified in the same table, non-detections and sub-RL concentrations shall be reported as "< [limit]" (e.g., "< 5 µg/L").

c. Absent specific justification, all monitoring data shall be reported in the units specified herein.

d. All analytical data shall be reported with method detection limits (MDLs) and with either the reporting level or limits of quantitation (LOQs) according to 40 C.F.R. part 136, Appendix B. The

[52] These changes may also be proposed in a separate technical report.

laboratory reporting limit for all reported monitoring data shall be no greater than the practical quantitation limit (PQL).

e. Quality assurance / quality control (QA/QC) data shall be reported, along with the sample results to which they apply, including the method, equipment, and analytical detection limits, the recovery rates, an explanation of any recovery rate that is less than 80 percent, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analyses, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recovery. 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, but the analytical results shall not be adjusted.

ATTACHMENT C—MAPS AND FACILITY DIAGRAMS

Figure 1. Site Map.

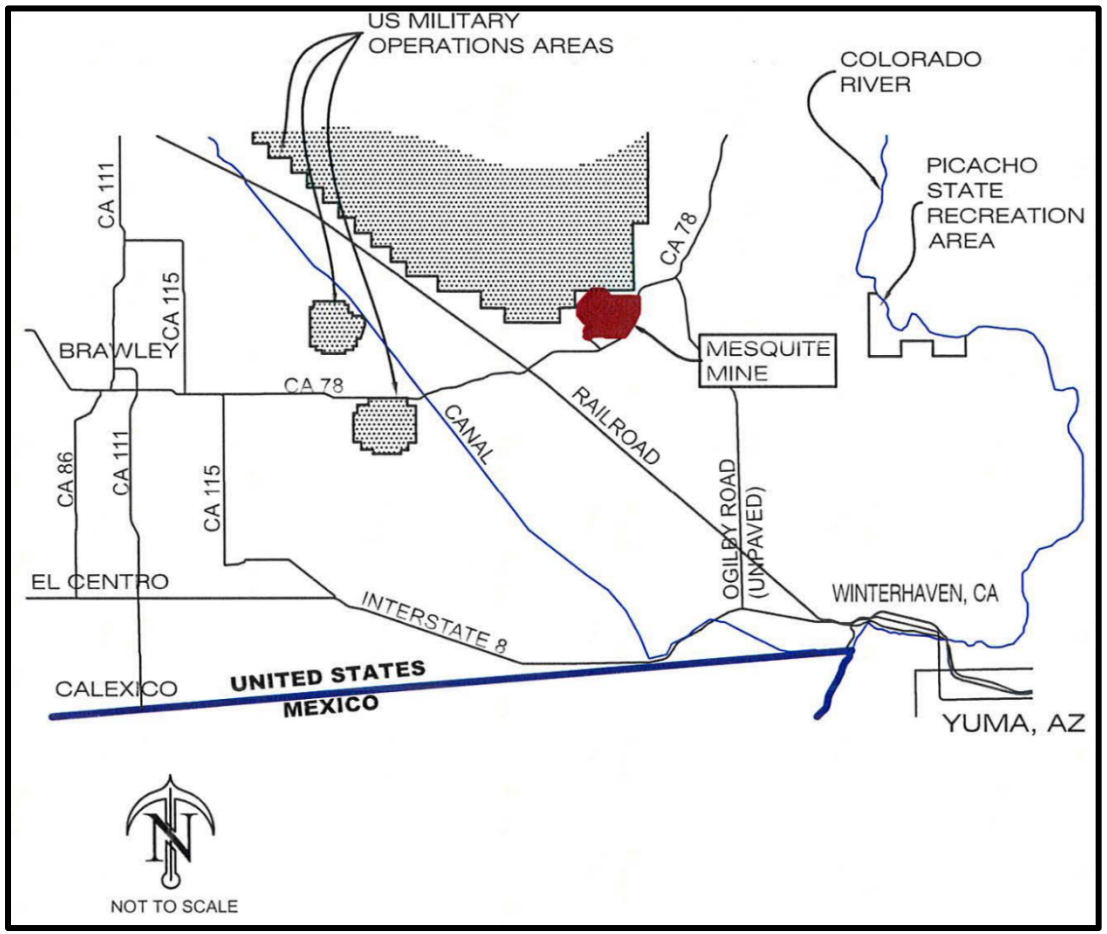

Figure 2. General Facility Map.

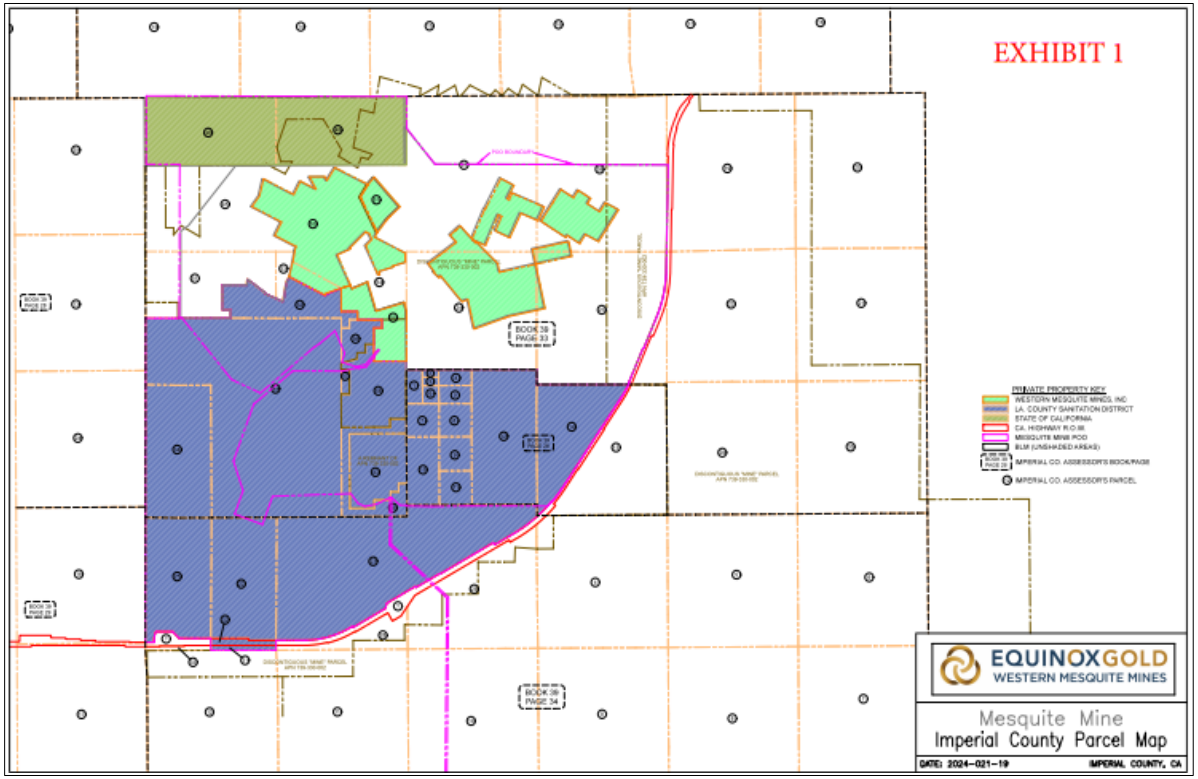

Figure 3. Waste Management Unit Map.

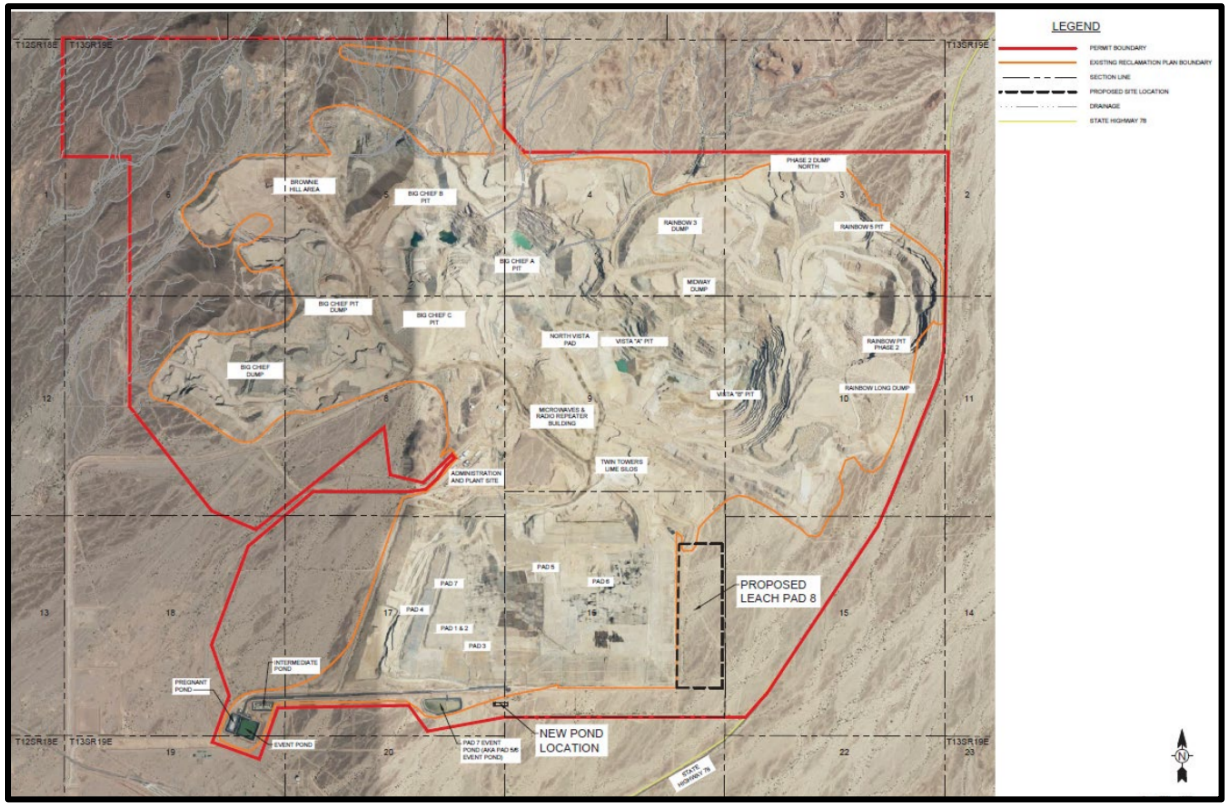

Figure 4. Monitoring Well Map.

Figure 5. Soil-Gas Monitoring Well Map.

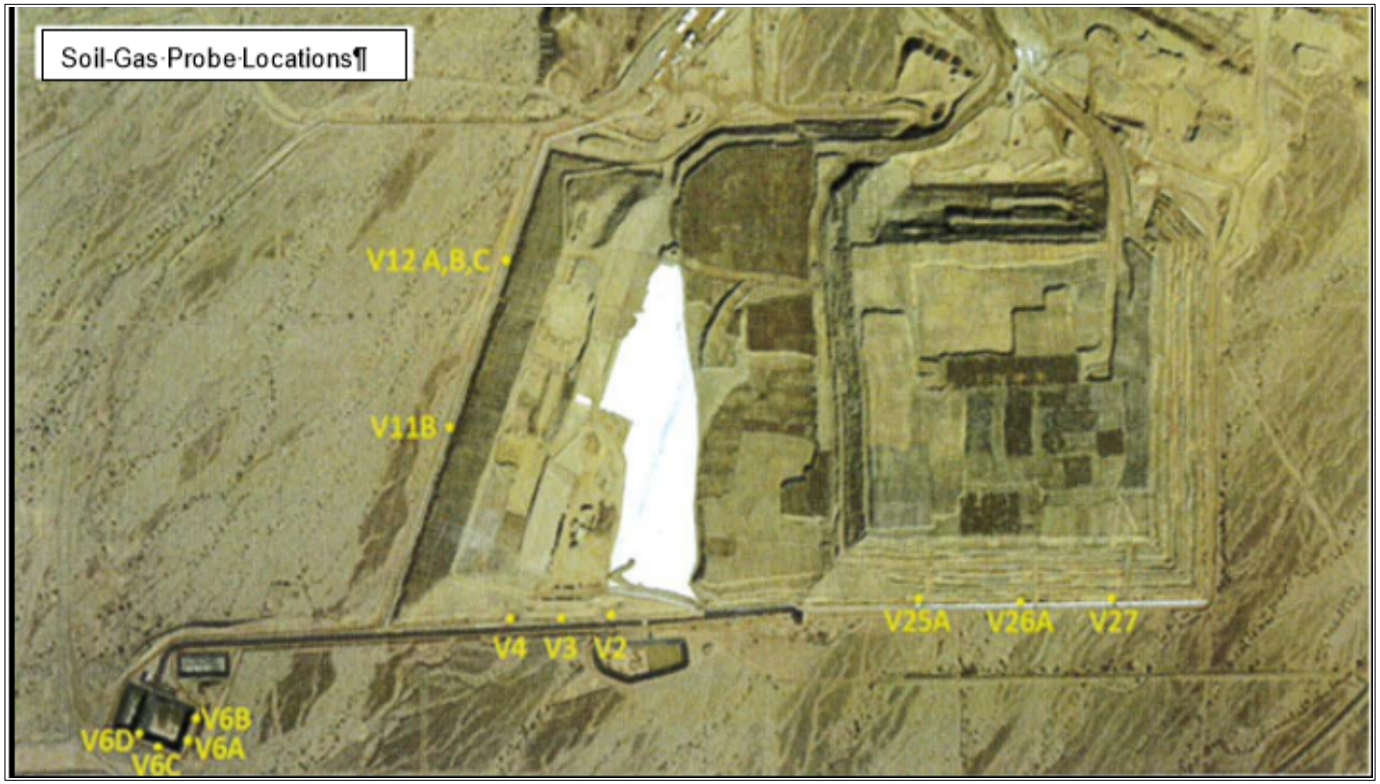

Figure 6. Surface Impoundments Map.