

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER R5-2015-0101

WASTE DISCHARGE REQUIREMENTS
FOR

EAGLE BIRD MINING COMPANY, LLC
AND

UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE

EAGLE BIRD MINE

SIERRA COUNTY

The California Regional Water Control Board, Central Valley Region ("Central Valley Water Board" or "Board") under the authority of the California Water Code and Title 27 of the California Code of Regulations ("Title 27") finds that:

1. Eagle Bird Mining Company LLC (mine operator and mine claimant), and the United States Department of Agriculture Forest Service (land manager), operate, own, and manage the Eagle Bird Mine Claim Group (Eagle Bird Mine or Mine Site) in Sierra County. The Mine Site is comprised of nine (9) lode gold mining claims on which the Discharger plans to perform small-scale exploration and limited mining to evaluate the extent of the resource and its economic viability. Mining activities are regulated under authority given in Water Code section 1300 et seq., and Title 27, section 22470 et seq. No prior WDRs have been issued for the Mine Site.
2. On 4 April 2012, Eagle Bird Mining Company LLC submitted a Report of Waste Discharge (ROWD) for the Mine Site. Information in the ROWD has been used in preparing these waste discharge requirements (WDRs).
3. The Mine Site is located on public lands owned by the United States Government and administered by the Forest Service. Eagle Bird Mining Company LLC is the mine operator and the mine claimant. Eagle Bird Mining Company LLC has the primary responsibility for compliance with these WDRs, including day-to-day operations, monitoring, and closure and post-closure maintenance. The Forest Service is the land manager of the public lands where the discharge occurs, and is ultimately responsible for ensuring compliance with these WDRs and therefore is also named as a Discharger. The Forest Service may be held responsible for compliance with these WDRs in the event that enforcement actions against Eagle Bird Mining Company LLC is ineffective or would be futile, or that enforcement is necessary to protect water quality, public health, or the environment. For the purposes of these WDRs, unless otherwise noted, the term "Discharger" refers to Eagle Bird Mining Company LLC.
4. Information in the Dischargers ROWD has been used to develop these WDRs. The ROWD and supporting documents contain information related to waste characterization, construction, operations, closure, and reclamation of the Mine Site.

SITE DESCRIPTION

5. The following documents are attached to this Order and hereby incorporated into and made a part of this Order by reference:
 - a. Attachment A – Location Map
 - b. Attachment B – Site Map
 - c. Attachment C – Claim Map
 - d. Attachment D – Pedro Claim
 - e. Attachment E – Eagle Bird Claim
6. The Mine Site is located at an elevation of nearly 5,700 feet above mean sea level, approximately 5 miles east southeast of Downieville as shown on Attachment A. The Mine Site is located within Sierra County Assessor's Parcel Number's 010-010-006 and 010-010-014 shown on Attachment B and consists of 9 mining claims shown on Attachment C. Surface water from the Mine Site flows west via Carney Creek and Shannon Ravine, to Jim Crow Creek, which is tributary to the North Fork of the Yuba River.
7. Intermittent mining and processing operations have taken place at the Mine Site starting in the mid-1880s, with recurring activities in the 1910s, 1930s, and most recently in 1969. Waste rock and mill tailings from a former stamp mill are found at the Mine Site. Gold has been the primary commodity mined which is coarse and "free milling" (without chemical treatment) and recovered by gravity concentration after crushing and grinding to approximately minus 60 mesh.
8. Mine workings at the Eagle Bird Mine consisted of a mill level tunnel, two upper levels, and several sublevels and stopes totaling approximately 2,000 feet in length. The Pedro No. 1 drift reportedly extended approximately 450 feet to below the nearby multilevel workings of the Pedro decline which may extend to some depth below the caved areas. The Patrick Mine consisted of one drift of about 104 feet in length.

FOREST SERVICE REQUIREMENTS

9. The Mine Site is on public lands open to mineral acquisition under the General Mining Law of 1872. Locatable metallic minerals include gold, silver, lead, copper, zinc, nickel, etc.
10. Authorization to enter National Forests for mineral development is provided by 16 U.S.C. 478. Mining at the site has been authorized under the Mining Laws governing locatable minerals on the North Yuba Ranger District, Tahoe National Forest, under 36 CFR 228A.
11. The Forest Service requires a Plan of Operations from mining operators when mining activity is likely to cause a significant disturbance of surface resources, including surface waters. A Plan of Operations must be approved prior to the start of any work and must incorporate applicable best management practices (BMPs) for the protection of water-related beneficial uses and the control of discharges associated with mining activities.
12. Through a 1981 Management Agency Agreement between the State Water Resources Control Board and the Forest Service's Pacific Southwest Region, the Forest Service developed a Water Quality Management Plan for Forest System Lands in California (September 2000). The Forest

Service requires that all new Plans of Operations for mining on National Forest System lands comply with the Federal Water Pollution Control Act of 1972 (Clean Water Act or CWA), 33 U.S.C § 1251-1387 and the Porter-Cologne Water Quality Control Act, Chapter 4, Article 4 Section 13260 (a)(1). Section 12.32 of the Forest Service Water Quality Management Plan contains mining BMPs, which state that; "Where prospecting, or mining related actions discharge, or have the potential to discharge waste(s) into waters of the State, the operator is required by state law to file a report of waste discharge with the appropriate Regional Board. Such filing can result in the issuance of waste discharge requirements (WDRs) to the operator by the Regional Board. The WDRs become a mandatory provision of the Plan of Operations for mining activity, which is approved and administered by the Forest Service."

13. The Forest Service also requires a Reclamation Plan and Financial Assurances for reclamation under the requirements of the California Surface Mining and Reclamation Act of 1975 (SMARA). SMARA applies to any mining or exploration proposal that equals or exceeds 1,000 cubic yards of material removed, or creates more than 1 acre of surface disturbance, over the expected life of the mine.
14. Through a Memorandum of Understanding between the Forest Service and the California Department of Conservation, SMARA plans are developed through the State Mining and Geology Board (SMGB). California Environmental Quality Act (CEQA) compliance is met by the lead agency completing an environmental review of the project and approving the Reclamation Plan. On 16 April 2015, Sierra County as the lead agency for the Eagle Bird Mine project adopted a mitigated negative declaration and mitigation monitoring plan for the Eagle Bird Mine, and approved a reclamation plan and financial assurance for the Eagle Bird Mine.

GEOLGY

15. The Mine Site is located within the Sierra Nevada physiographic province, in the Sierra Nevada mountain range. The majority of the Mine Site is located within the Paleozoic Bowman Lake Batholith (granitic/granodiorite rocks). The western edge of the Mine Site appears to lie within the Paleozoic Metasedimentary Shoo Fly Complex (shale/slate)^{1, 2}. The ore-bearing rock has been found along the contact between the granitic/granodiorite and shale/slate rocks and in fissures and veins extending from the Bowman Lake Batholith³. Rock outcrops are common along ridgelines and in drainages. The Mine Site is located approximately 4.5 miles east of an inactive section of the north-south trending Melones Fault Zone, approximately 1 mile southwest of a northwest-southeast trending inactive thrust fault (Jennings, 1994).
16. The National Resources Conservation Service mapped four soil types within the eagle Bird Mine Group and provided a range of physical and chemical properties for these soils⁴. The soil type in the planned active mine area on the Pedro, Eagle Bird, and Patrick Claims is Chaix variant-Rock outcrop-Cryumbrepts (CKF). Physical parameters include a typical soil thickness of 22-24 inches

¹ *Geologic Map of the Chico Quadrangle*, California Department of Conservation, Division of Mines and Geology, 1992.

² U.S. Geological Survey *Map Showing Plutons and Accreted Terrains of the Sierra Nevada, California with a Tabulation of U/Pb Isotope Ages* compiled by William P. Erwin and Joseph L. Woodsen, 2001.

³ Milton Heaney in 1993 and 1994, and Paulsen Research and Development in 1989.

⁴ Custom Soil Resources Report for Tahoe National Forest Area. California, Eagle Bird Mine Group, United States Department of Agriculture, National Resources Conservation Services.

that is generally 67 percent sand, 23 percent silt and 10 percent clay (sandy loam). Infiltration rate is moderate (0.2 – 0.8 in/hr) and saturated hydraulic conductivity (Ksat) ranges from 1.98 to 5.95 in/hr (maximum 2.8×10^{-3} cm/sec).

LAND USE

17. Land within one mile of the perimeter of the Mine Site is both publicly (Forest Service) and privately held. Privately held property is within several hundred feet west, south, and east of the Mine Site. Based on satellite imagery (Acme Mapper 2.0), no residences, crops, or livestock are present within one mile of the perimeter of the Mine Site.
18. The Mine Site is included in the Timber and Range lands designation of the Tahoe National Forest's Land and Resources Management Plan. This designation allows for multiple uses including timber harvest, mining, livestock grazing, and recreation. The Mine Site is currently developed as an underground hard rock gold mine with associated surface facilities such as access roads, adits, tunnels, mining equipment and man-made structures onsite. The Mine Site has been actively mined off and on since the 1880s; however, it has been mostly dormant since 1969.

PRECIPITATION

19. The Mine Site is located in the North Yuba River Watershed and characterized by cool, wet winters and hot, dry summers with occasional high elevation thunderstorms. Annual precipitation for the Mine Site ranges from 65 to 75 inches, increasing with elevation due to orographic lift. The majority of precipitation from mid-November through April is likely to fall as snow. Snow accumulations can easily reach 10 to 15 feet by the end of winter, leaving the site inaccessible for several months. The 10-year, 24 hour Mine Site design storm is 8.18 inches and the 100-year, 24-hour precipitation for the Mine Site is 12.8 inches⁵.
20. Mean annual air temperature averages approximately 55°F, and the total number of frost free days is approximately 175 days. Summer highs can reach 100°F, and winter lows can reach 0°F. Pan evaporation rate for Lake Spaulding, located approximately 15 miles southeast and at a similar elevation to the Mine Site, is approximately 32.5 inches for the period from May through October⁶.

WASTE CHARACTERIZATION

21. Water Code section 13260(k) requires that, before a person discharges mining waste, the person shall first submit:
 - (1) A report on the physical and chemical characteristics of the waste that could affect its potential to cause pollution or contamination.

⁵ NOAA Atlas 14 Point Precipitation Frequency Estimates, March 2012

http://hdsc.nws.noaa.gov/hdsc/pfds/pfds_map_cont.html?bkmrk=ca

⁶ California Climate Data Archive. <http://www.calclim.dri.edu/ccda/data.html>, February 2013.

- (2) A report that evaluates the potential of the discharge of the mining waste to produce, over the long term, acid mine drainage, the discharge or leaching of heavy metals, or the release of other hazardous substances.
22. The Discharger's ROWD identified in Finding No. 2 above included a Waste Characterization Report (Condor, 2 February 2012). Results of acid base accounting of the mining waste in the Characterization Report concluded that the waste is not acid generating. Furthermore, the low concentration of sulfate in water exiting the No. 2 adit on the Eagle Bird Claim indicates that the potential for generating acid mine drainage is low. Water discharging from the mine adit is considered a demonstrative indicator of the potential threat to water quality posed by the proposed mining activities.
23. Results of acid-base accounting and the neutralizing potential of the disposal environment where the mining waste will be discharged suggested that deionized water could be substituted for the citrate buffer extract solution in the waste extraction tests (WET) to more appropriately assess the potential leachability of the mining waste.
24. Based on the information in Findings 22 and 23 above, the Discharger conducted WET of mining waste (waste rock and tailings) from previous operations to determine the potential risk of water quality degradation posed by the mining waste. The Dischargers ROWD concluded that discharges to surface and/or groundwater from waste representative of samples collected from the Mine Site would be in compliance with the applicable water quality control plan, including water quality objectives, other than turbidity.
25. Based on the information in Findings 22 through 24 above, and in accordance with Title 27 section 22480(b), the Discharger classified waste at the Mine Site as Group C mining waste. Mining wastes from Group C are wastes from which any discharge would be in compliance with the applicable water quality control plan, including water quality objectives other than turbidity.
26. Title 27 section 22480 – Groups of Mining Waste, states, in part,
- (c) Classification Considerations - In reaching decisions regarding classification of a mining waste as a Group B or Group C waste, the RWQCB can consider the following factors:
- (1) whether the waste contains hazardous constituents only at low concentrations;
 - (2) whether the waste has no or low acid generating potential; and
 - (3) whether, because of its intrinsic properties, the waste is readily containable by less stringent measures.

Based on these regulations and in agreement with Findings 22 through 25 above, **mining waste at the Eagle Bird Mine Site is classified as Group C waste.**

27. To ensure that Group C waste classification remains appropriate, the Monitoring and Reporting Program will require ongoing sampling and characterization of the mining waste in accordance with Water Code section 13260(k). Ongoing characterization is intended to detect changes in geology and mineralogy and then modify waste containment and waste discharge procedures to address any changes. Ongoing characterization of the mining waste should be at the frequency of one sample for every 500 tons of mining waste discharged or at least one sample every third calendar year.

POTENTIAL IMPAIRMENT OF GROUND WATER AND SURFACE WATER

28. Based on the Group C classification in Finding 26 above, groundwater monitoring is not required by these WDRs⁷. Should the mining waste group classification change, the need for groundwater monitoring would be reassessed.
29. Based on the Group C classification in Finding 26 above (turbidity as the only constituent of concern), the Discharger shall conduct surface water monitoring at the Mine Site by obtaining coverage under the new State Water Resources Control Board Industrial General Permit 2014-0057-DWQ (IGP) which becomes effective on 1 July 2015. This requirement represents a Title 27 section 20080(b)(2) engineered alternative to the water quality monitoring requirements for Mining Units under section 22500(a).
30. The Central Valley Water Board has adopted the *Water Quality Control Plan for the Sacramento River and San Joaquin River Basins*, Fourth Edition; revised October 2011 (the "Basin Plan") that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives. The Basin Plan, at page II-2.00, states that the "...beneficial uses of any specifically identified water body generally apply to its tributary streams." The Basin Plan does not specifically identify beneficial uses for Carney Creek, Shannon Ravine, or Jim Crow Creek, but does identify present and potential uses for the Yuba River, to which Carney Creek, Shannon Ravine, and Jim Crow Creek are tributary. These beneficial uses are as follows: municipal and domestic supply; agricultural supply, including stock watering; hydropower generation; water contact recreation; non-contact water recreation, including aesthetic enjoyment; cold freshwater habitat; cold spawning, and wildlife habitat.

MINING AND PROCESSING OPERATIONS

31. The Discharger intends to perform small-scale exploration and limited mining to evaluate the extent of the mineral resource and the viability of a larger mining operation. The rate and timing of the work will likely occur in phases influenced by finances, availability of ore, waste rock and tailings storage, and permitting requirements. The Discharger anticipates submitting a revised ROWD after approximately 5 years when site capacity is at or near maximum, and new undisturbed areas will be needed for continuing operations.
32. Mining, processing, and waste disposal activities will be primarily located on the Pedro Claim shown on Attachment D. Mining and some limited waste disposal activities will also take place on the Eagle Bird Claim shown on Attachment E.
33. No use of chemicals such as cyanide or mercury is proposed for the operation. Initial processing of Group C ore up to 12-inches in diameter and the ensuing discharge of the mining waste will likely occur at an offsite custom mill.
34. Group C ore exceeding 12-inches in diameter will be stockpiled onsite for processing at a later date. Group C waste rock and tailings will be discharged in the onsite Group C Mining Units shown in Attachment D and Attachment E. Non-saturated (15 to 20 percent or less wet unit weight

⁷ As authorized by Title 27 section 22500(a).

(i.e. no free water)) Group C mill tailings may also be disposed of in underground areas that have been mined out.

35. For on-site milling and processing of ore to take place, the Discharger must first obtain authorization to construct onsite processing facilities from the Forest Service and Sierra County Planning Department. If onsite processing is authorized, the Discharger will process ore by gravity methods to approximately ¾-inch minus (concentrate product) and then transport the concentrate offsite for refining.
36. The Discharger’s ROWD contains the following **self-imposed** prohibitions on mining, processing, and waste disposal activities:

Waste Group	Proposed Mining	Proposed Onsite Processing	Proposed Onsite Disposal
Group A	No	No	No
Group B	Yes	Yes	No
Group C	Yes	Yes	Yes

37. The Dischargers ROWD states that;
- a. Group B mining waste will be dry crushed on a covered concrete slab. The cover will be constructed to prevent precipitation from contacting the material.
 - b. No water will be used in the Group B processing circuit.
 - c. Group B mining waste will be transported off-site for final concentration and refining.
38. If the Discharger or the Regional Board’s analysis of the underground workings indicates the presence of Group A mining waste, the Discharger will postpone excavation of the material until additional sampling and characterization is performed.
39. If additional analysis indicates a Group A mining waste, the Discharger shall notify the Central Valley Water Board within 7 business days of the existence of Group A mining waste. As noted in Finding 36 above, these WDRs prohibit mining, processing, and discharging Group A Mining waste at the Mine Site.
40. If the additional analysis indicates a Group B mining waste, the Discharger will transport the material from directly below ground into 10 to 20 cubic yards trucks, cover, and transport the Group B mining waste off-site for further processing at a custom mill. The Discharger has identified the following offsite custom mill facilities which are currently permitted to accept and discharge Group B mining waste:
- a. United Milling and Refining Corporation, McCarran, Nevada (NEV2009113)⁸.
 - b. Shasta Gold Corporation and French Gulch (Nevada Mining Corporation), Washington Mine, Shasta County, California (Order R5-2011-0026).

⁸ State of Nevada, Division of Environmental Protection, Bureau of Mining Regulation & Reclamation.

41. Other off-site custom milling facilities permitted to accept Group B mining waste may be identified by the Discharger by submitting a written request to the Central Valley Water Board's Title 27 Permitting and Mining Unit requesting approval of a change in the off-site custom processing facility. A request for a change in the off-site custom processing facility must be submitted as required by Reporting Requirement B.9 of Monitoring and Reporting Program (MRP) No. R5-2015-0101.
42. If onsite milling of Group B material is initiated, the Discharger shall place Group B material on the covered concrete slab located in the milling area. The cover shall be constructed to prevent precipitation from contacting the material. The slab shall be constructed with a concrete curb to retain the material on the slab and inhibit water from flowing onto the slab⁹. The area surrounding the slab shall be graded to divert sheet flow laterally to drainage swales and away from slab. The Group B mining waste may be dry crushed on the covered concrete slab to ¾-inch minus or less. No water or chemicals shall be used in the Group B milling or processing circuit and no Group B mining waste shall be discharged at the Site. Crushed Group B material will be directly loaded into 10 to 20 cubic yards trucks, covered, and transported off-site for further processing at the custom processing facility described in Finding 40 above.
43. Onsite milling and processing of Group C material will include crushing, grinding, screening, and filtering. Final gold recovery will be by gravity methods, likely using a low gravity-force centrifuge and spiral cleaner. Mill tailings will consist of a fine- to medium-size sand of about minus 60 mesh (0.25 mm). No chemicals shall be used in the Group C processing circuit.
44. Because the Mine Site setting is at 5,700 feet and heavy winter snowfall is anticipated, mining and processing operations will be seasonal with an average operating period from mid-May to mid-November. The actual length of the operating season will be determined by weather. Considering an average production period of 6 months per year and 40 tons per day, the annual production could be up to 7,200 tons.
45. Attachment D shows the mining, processing and waste disposal areas, including the tailings storage areas and south settling pond. The processing site will also contain a 10-foot by 100-foot haulage road, a 1,000-square foot concrete pad, a 1,000 square foot covered and curbed concrete pad, and a 100-foot square concrete pad for temporary storage of Group C tailings.
46. All milling equipment will be semi-portable and require minimal or no concrete foundation. Stockpiling of the Group C ore will occur on a concrete slab. A front-end loader or similar equipment, will move the tailings from the slab to the tailings storage area. The mill area will be graded and excess water generated in the milling and dewater process will flow to the settling pond. The perimeter of the mill area will be bermed and adequate drainage control installed to inhibit storm water run-on.
47. Group C tailings will be dewatered to approximately 15 to 20 percent moisture content using a dewatering screen, filter press, or similar method to achieve the desired moisture content. Excess water that may accumulate in the tailings impoundment during operations will flow to the settling pond through a 12-inch diameter corrugated plastic pipe. The settling pond will be managed to maintain a surface water elevation of 2 feet below the pipe invert and 4 feet below the lowest

⁹ As authorized by Title 27 section 22470(b).

elevation of the berm surrounding the settling pond. The ground surface surrounding the tailings storage and settling pond shall be graded to direct storm water away from the tailings storage and settling pond.

48. Following cessation of seasonal operations, the 12-inch diameter pipe connecting the tailings storage and the settling pond will be capped on the tailings pile side and the pile covered with a single sheet of 30 mil geosynthetic (described in attachment C of the Dischargers ROWD). The geosynthetic shall be anchored as described in the Tailings Management section (4.3.3.1) of the Dischargers ROWD.
49. Prior to transporting any mining waste offsite from the Mine Site, the Discharger must first provide the Central Valley Water Board's Title 27 Permitting and Mining Unit with a letter from the offsite custom processing facility, certifying that they are authorized by their State permitting authorities to accept, process, treat, and discharge mining waste from the Mine Site. Refer to Reporting Requirement B.9 of Monitoring and Reporting Program (MRP) No. R5-2015-0101.
50. Discharging mining waste at the Mine Site at a location other than the designated Mining Units shown on Attachment D and Attachment E of this Order is prohibited.

MINING UNIT DESIGN

51. Regulations set forth in Title 27, section 22490, which establish prescriptive standards for construction of Mining Units and containment are not applicable for Group C mining wastes. Group C mining wastes are wastes from which any discharge would be in compliance with the applicable water quality control plan, including water quality objectives other than turbidity. However, the term "Mining Unit" is preserved and is applicable for the treatment, storage, or disposal of Group C mining waste.
52. Mining, processing, and waste disposal activities described in Finding 32 above are not subject to confinement as prescribed in Title 27 regulations except as those prescriptive and performance standards attributed to Group C mining waste. Reclamation of Group C mining waste shall occur in the areas shown on Attachment D and Attachment E and in accordance with the Dischargers approved mining and reclamation plan¹⁰. The specifications for storage, management, and reclamation of Group C mining waste are found in Discharge Specifications Section B of this Order.

CLOSURE AND POST-CLOSURE MAINTENANCE OF MINING UNITS

53. Regulations set forth in Title 27, section 22510 establish standards for Closure and Post Closure Maintenance of Mining Units and provide that:

"The RWQCB shall issue WDRs which incorporate the relevant provisions of an approved mining and reclamation plan (see California Surface Mining and Reclamation Act, Public Resources Code, Section 2770, et seq.), prescribe additional conditions as necessary to prevent water quality degradation, and ensure that there will be no significant increase in the concentration of

¹⁰ Eagle Bird Mine Plan of Operations, Reclamation Plan, and Financial Assurance Cost Estimate, Condor March 23, 2015.

indicator parameters or waste constituents in ground or surface water, unless requirements are waived.”

54. In providing financial assurances for Mining Units per Title 27, section 22510(g) the Discharger may propose Alternative Financial Assurances and the Central Valley Water Board may accepted the proposal if the following applies:

“If a lead agency acting under the authority of §2774(a) of the Public Resources Code requires assurances of financial responsibility, these assurances can be used to fulfill all comparable requirements under Title 27 section 22510(f), provided that:

- (1) the RWQCB approves the assurance; and*
- (2) the RWQCB is named as alternate payee.”*

RECLAMATION PLAN AND FINANCIAL ASSURANCE

55. As of 16 April 2015, the Discharger has a Reclamation Plan (File No. 1591) and related Financial Assurance approved by the lead agency (Sierra County) for the Mine Site and reviewed by the Department of Conservation Office of Mine Reclamation for the purposes of compliance with SMARA. The Reclamation Plan sets forth a plan for reclamation of the Mine Site resulting from implementation of the Plan of Operations, while the Financial Assurance provides the present-day cost to complete reclamation of the Mine Site and reclamation of the areas anticipated to be disturbed during the first year of operation.
56. The Dischargers Financial Assurances for reclamation in the amount of \$160,298 is a Surety Bond with the payees listed as Sierra County, the Department of Conservation, the U.S. Forest Service, and the Central Valley Water Board.
57. These WDRs incorporate by reference the Discharger’s Reclamation Plan and approved Financial Assurance in place of Title 27 Closure and Post-Closure Maintenance Plan and Closure and Post-Closure Financial Assurances.
58. Central Valley Water Board staff shall periodically review the Financial Assurance Cost Estimate and the Discharger shall update the financial assurance upon request by the Board.

CEQA AND OTHER CONSIDERATIONS

59. On 16 April 2015, pursuant to provisions of California Environmental Quality Act (CEQA), Sierra County adopted a mitigated negative declaration and mitigation monitoring plan for the Eagle Bird Mine, and approved a reclamation plan and financial assurance for the Eagle Bird Mine.
60. This order implements:
- a. The Water Quality Control Plan for the Sacramento River and San Joaquin River Basins, Fourth Edition;

- b. The prescriptive standards and performance goals of California Code of Regulations, title 27, section 20005 et seq.

61. Based on the threat and complexity of the discharge, the Mine Site is determined to be classified 3-C as defined below:

- c. Category 3 threat to water quality, defined as, "Those discharges of waste that could degrade water quality without violating water quality objectives, or could cause a minor impairment of designated beneficial uses as compared with Category 1 and Category 2."
- d. Category C complexity, defined as, "Any discharger for which waste discharge requirements have been prescribed pursuant to Section 13263 or the Water Code not included in Category A or Category B as described above. Included are dischargers having no waste treatment systems or that must comply with best management practices, dischargers having passive treatment and disposal systems, or dischargers having waste storage systems with land disposal."

62. Water Code section 13267(b) provides that:

In conducting an investigation specified in subdivision (a), the Regional Board may require that any person who has discharged, discharges, or is suspected of discharging, or who proposed to discharge within its region, or any citizen or domiciliary, or political agency or entity of this state who had discharged, discharges, or is suspected of discharging, or who proposed to discharge waste outside of its region that could affect the quality of the waters of the state within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the Regional Board requires. The burden, including costs of these reports, shall bear a reasonable relationship to the need for the reports and the benefits to be obtained from the reports.

63. The technical reports required by this Order and attached Monitoring and Reporting Program are necessary to assure compliance with these WDRs, and to assure that the discharges will comply with the Basin Plan. The Dischargers owns and operates the Eagle Bird Mine, and is responsible for the discharges of waste at the Mine Site subject to this Order and is, subject to requirements imposed pursuant to Water Code 13267.

PROCEDURAL REQUIREMENTS

64. All local agencies with jurisdiction to regulate land use, solid waste disposal, air pollution, and to protect public health have approved the use of the Eagle Bird Mine for the discharges of waste to land stated herein.

65. The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the Eagle Bird Mine, and has provided them with an opportunity for public hearing and an opportunity to submit their written views and recommendations.

66. The Central Valley Water Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, pursuant to Water Code sections 13263 and 13267, that Eagle Bird Mining Company LLC (mine operator and mine claimant), and the United States Department of Agriculture Forest Service, their agents, successors, and assigns, in order to meet the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. PROHIBITIONS

1. The direct or indirect discharge of mining waste to surface water or surface water drainage courses is prohibited.
2. The discharge of process water to surface water or surface water drainage courses is prohibited.
3. The discharge of "hazardous waste" or "Group A" or "Group B" mining waste at the Mine Site is prohibited. For the purposes of this Order, the terms "Group A", "Group B", and "Group C" mining wastes are as defined in title 27, section 22480. The term "hazardous wastes" is defined in California Code of Regulations, title 22, section 66261.1 et seq.
4. The discharge of any waste other than mining wastes into a Mining Unit is prohibited. Prohibited wastes may include, but are not limited to, oil, grease, solvents, other petroleum products, and toxic and hazardous materials.
5. The discharge of mining waste at the Mine Site from sources other than the Eagle Bird Mine is prohibited.
6. The discharge of mining waste at locations other than the Mining Units shown on Attachments D and E of this order is prohibited.
7. The discharge of mining wastes outside a Mining Unit except as described in Findings 40 and 41 is prohibited.
8. The Discharger shall comply with all General Provisions listed in Section III of the Standard Provisions and Reporting Requirements (SPRRs) dated February 2009 which are attached hereto and made part of this Order by reference.

B. DISCHARGE SPECIFICATIONS

GENERAL SPECIFICATIONS

1. If additional analysis indicates a Group A mining waste, the Discharger shall notify the Central Valley Water Board within 7 business days of the existence of Group A mining waste. As noted in Prohibition A.3. above, these WDRs prohibit mining, processing, and discharging Group A Mining waste at the Mine Site.

2. If any analysis indicates a Group B classification, the Discharger shall transport the material from directly below ground into 10 to 20 cubic yards trucks, cover, and transport the Group B mining waste off-site for further processing at the custom processing facility described in Findings 40 and 41 above.
3. If onsite milling of Group B material is initiated, the Discharger may place Group B material on the covered concrete slab located in the milling area. The cover shall be constructed to prevent precipitation from contacting the material. The slab must be constructed with a concrete curb to retain the material on the slab and inhibit water from flowing onto the slab. The area surrounding the slab must be graded to divert sheet flow laterally to drainage swales and away from slab. Group B mining waste may be dry crushed on the covered concrete slab to $\frac{3}{4}$ -inch minus or less, however **no water or chemicals** shall be used in the Group B milling or processing circuit.
4. All Group C mining waste discharged as part of the mining operations are to be placed in the Mining Units shown on Attachment D and Attachment E of this Order.
5. The Discharger shall not cause a condition of pollution, contamination, or nuisance as defined by Water Code section 13050.

PROTECTION FROM STORM EVENTS

1. The Discharger must obtain coverage under the new State Water Resources Control Board Industrial General Permit 2014-0057-DWQ (IGP) which becomes effective on 1 July 2015.
2. Precipitation and drainage controls shall be designed and constructed to accommodate the anticipated volume and precipitation and peak flows from surface runoff for one 10-year, 24-hour storm event as required by Title 27, subsection 22490(h)(1)(C).
3. Annually, prior to the anticipated wet season but no later than 15 October of each year, any necessary erosion control measures shall be implemented, and any necessary construction, maintenance, or repairs of precipitation and drainage controls shall be completed to prevent flooding, erosion, or slope failure.

CLOSURE AND POST-CLOSURE MAINTENANCE PLAN

1. The Discharger has a Reclamation Plan (File No. 1591) and related financial assurance approved by the Sierra County and reviewed by the Department of Conservation Office of Mine Reclamation for the purposes of compliance with SMARA.
2. The Reclamation Plan and related financial assurance are functionally equivalent to Closure and Post Closure Maintenance of Mining Units and Closure and Post-Closure Funding required by Title 27, subsections 22510 (b), (c) and (f).
3. Any amendments to the Eagle Bird Mine Reclamation shall be submitted to the Central Valley Water Board to ensure that they are consistent with Title 27, subsections 22510 (b), (c) and (f).

4. The Mine Site shall be closed in accordance with the Dischargers approved Reclamation Plan and as required by Title 27, subsections 22510 (a), (b) and (m).
5. The post-closure monitoring and maintenance period shall end¹¹ when the Central Valley Water Board determines that water quality aspects of closure and post-closure maintenance are complete and the wastes no longer pose a threat to water quality (Title 27, section 22510(h)).
6. The Discharger shall comply with all applicable Standard Closure and Post-Closure Specifications listed in Section XI D and E of the SPRRs dated February 2009 which are attached hereto and made part of this Order by reference.

C. MONITORING SPECIFICATIONS

1. The Dischargers compliance with the Monitoring Program and Reporting Requirements of the new State Water Resources Control Board Industrial General Permit 2014-0057-DWQ is sufficient to fulfill the requirements of this section. Annual storm water reporting shall be submitted as required by Reporting Requirement B.1 of the attached Monitoring and Reporting Program (MRP) No. R5-2015-0101.
2. Groundwater or surface water shall not be degraded by the following Mine Site activities: mining or processing activities, waste discharges, closure activities, or post-closure maintenance.
3. The Discharger shall conduct storm water monitoring in accordance with an approved Sampling and Analysis Plan.
4. The Discharger shall maintain an approved Sampling and Analysis Plan. The Sampling and Analysis Plan shall at a minimum include:
 - Sample collection procedures describing purging techniques, sampling equipment, and decontamination of sampling equipment;
 - Sample preservation information and shipment procedures;
 - Sample analytical methods and procedures;
 - Sample quality assurance/quality control (QA/QC) procedures; and
 - Chain of Custody control.

D. FINANCIAL ASSURANCE SPECIFICATIONS

1. The Discharger has a financial assurance approved by the lead agency (Sierra County) and reviewed by the Department of Conservation Office of Mine Reclamation for the purposes of compliance with SMARA.

¹¹ The post-closure monitoring and maintenance period typically ends when the Unit has been in compliance with the water quality protection standard for a period of three consecutive years.

2. The Dischargers financial assurance is functionally equivalent to the Closure and Post-Closure Funding required by Title 27, subsections 22510 (f) and (g).
3. These WDRs incorporate by reference the Financial Assurance in place of Title 27 Closure and Post-Closure Financial Assurances.
4. Any modifications to the Eagle Bird Mine financial assurances shall be submitted to the Central Valley Water Board to ensure that the modifications are consistent with Title 27, subsections 22510 (f) and (g).
5. By **31 January of each year**, the Discharger shall submit to the Central Valley Water Board updated cost estimates and a demonstration of financial assurance for closure, and post-closure maintenance (reclamation) of the Mine Site.
6. By **31 January of each year**, the Discharger shall submit to the Central Valley Water Board completed copies of the Office of Mine Reclamation's Annual Surface Mining Inspection Report (MRRC-1) and Lead Agency Inspection Notice Form.

E. PROVISIONS

1. The Discharger shall comply with Standard Provisions and Reporting Requirements (SPRRs) Mining Wastes dated February 2009. The SPRRs contain important provisions and requirements with which the Discharger must comply.
2. The Discharger must comply with Monitoring and Reporting Requirements Order R5-2015-0101. Compliance includes, but is not limited to, storm water monitoring and facility monitoring throughout the active life of the Mining Unit and post-closure maintenance period.
3. The Discharger shall notify Central Valley Water Board staff **within 24 hours** of any unpermitted discharge, flooding, equipment failure, slope failure, or other change in Mine Site conditions or related precipitation and drainage controls or degradation of waters of the state.
4. The Discharger shall maintain legible records at the Mine Site of volume and type of waste discharged. The Discharger shall make such records available for review by representatives of the Central Valley Water Board and State Water Resources Control Board.
5. The Discharger shall complete the following tasks by the required dates:

TASK	DATE DUE
Submit Annual Monitoring Report (Monitoring Specification C.1)	By 31 January of each year
Submit Sampling and Analysis Plan for on-going characterization of the mining waste (Finding 27).	By 31 January 2016

Beginning 2016, or at least every third calendar year submit on going waste characterization report to determine if mining waste is still appropriately classified as a Group C mining waste (Finding 27).	By 31 January of each year with Annual Monitoring Report
Submit proof of coverage under the new State Water Resources Control Board Industrial General Permit 2014-0057-DWQ (Monitoring Specification C.1)	By 31 January with Annual Monitoring Report
Submit completed copy of Office of Mine Reclamation Annual Surface Mining Inspection Report and Lead Agency Inspection Notice Form (Financial Assurance Specification D.5).	By 31 January of each year with Annual Monitoring Report
Submit updated cost estimates and financial assurances for closure and post-closure maintenance (reclamation) of the Mine Site (Financial Assurance Specification D.5).	By 31 January of each year with Annual Monitoring Report

6. Provisional tasks E.2 above shall be prepared by a registered professional licensed in the State of California to perform such work. Upon approval in writing by the Executive Officer of the submittals in response to the provisional tasks mentioned above the approved submittals are incorporated herein and made part of this Order by reference for the purpose of compliance and enforcement.
7. In the event of any change in control or ownership of the Eagle Bird Mine, the Discharger must notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be immediately forwarded to the Central Valley Water Board's Rancho Cordova Office. To assume operation as a Discharger under this Order, the succeeding owner or operator must submit a written request requesting transfer of the Order to the Executive Officer. The request must contain the requesting entity's full legal name, the state of incorporation (if a corporation), the name, address, and telephone number of persons responsible for contact with the Central Valley Water Board, and a statement complying with the signatory paragraph of the Standard Provisions that states the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the Water Code. Transfer shall be approved or disapproved by the Executive Officer.
8. For the purposes of resolving any disputes arising from or related to the California Water Code, any regulations promulgated thereunder, these WDRs or any other orders governing the Mine Site, the Discharger, its parents and subsidiaries, and their respective past, present, and future officers, directors, employees, agents, shareholders, predecessors, successors, assigns, and affiliated entities, consent to jurisdiction of the Courts of the State of California.
9. The Central Valley Water Board will review this Order periodically and revise requirements when necessary.

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 Central Valley Water Board reserves its right to take any enforcement actions authorized by law.

Any person aggrieved by this action of the Central Valley Water Board may petition the State Water Board to review the action in accordance with Water Code section 13320 and California Code of Regulations, title 23, sections 2050 and following. The State Water Board must receive the petition by 5:00 p.m., 30 days after the date of this Order, except that if the thirtieth day following the date of this Order falls on a Saturday, Sunday, or state holiday, the petition must be received by the State Water Board by 5:00 p.m. on the next business day. Copies of the law and regulations applicable to filing petitions may be found on the Internet at:
http://www.waterboards.ca.gov/public_notices/petitions/water_quality
or will be provided upon request.

I, Pamela C. Creedon, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an Order adopted by the Central Valley Regional Water Quality Control Board, on 31 July 2015.

Original signed by

PAMELA C. CREEDON, Executive Officer

WMH/jsh

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM R5-2015-0101
FOR

EAGLE BIRD MINING COMPANY, LLC.
UNITED STATES DEPARTMENT OF AGRICULTURE, FOREST SERVICE

EAGLE BIRD MINE

SIERRA COUNTY

This monitoring and reporting program (MRP) is issued pursuant to Water Code section 13267. This MRP contains requirements for storm water monitoring, facility monitoring, and reporting; requires the submittal of annual reports required by Waste Discharge Requirements (WDRs) Order R5-2015-0101; and includes requirements related to the implementation of the Standard Provisions and Reporting Requirements (SPRRs) dated February 2009. The Discharger shall not implement any changes to this MRP unless a revised MRP is issued by the Central Valley Water Board or the Executive Officer.

A. MONITORING

Based on Finding 27 of the WDRs, waste from the Eagle Bird Mine **may be classified as Group C mining waste**, per Title 27 (Title 27) California Code of Regulations section 22480(c), because it contains hazardous constituents only at low concentrations, has low acid generation potential, and is readily containable by less stringent measures. In accordance with Title 27 section 22480, mining waste from Group C are wastes from which any discharge would be in compliance with the applicable water quality control plan, including water quality objectives other than turbidity.

This MRP represents a Title 27 section 20080(b)(2) engineered alternative to the surface water monitoring requirements for Mining Units under section 22500(a). This MRP is designed to eliminate unnecessary and duplicative monitoring requirements, while ensuring that the monitoring program meets the requirements of Title 27. The requirements of this MRP are summarized below:

1. Groundwater Monitoring

Based on Finding 29 of the WDRs, groundwater monitoring is not required by this MRP. Should the mining waste group classification change, the need for groundwater monitoring will be reassessed.

2. Surface Water Monitoring

Based on Finding 30 of the WDRs, and in place of a surface water monitoring plan, this MRP requires coverage under the new State Water Resources Control Board Industrial General Permit 2014-0057-DWQ (IGP) which becomes effective on 1 July 2015.

3. Storm Water Monitoring

Monitoring and reporting conducted by the Discharger for the IGP is sufficient to fulfill the requirements of this section. Annual storm water reporting shall be submitted as required in Section B.1 of this MRP.

4. Monitoring Points

The monitoring points for storm water discharges associated with the Eagle Bird Mine and regulated by the IGP are shown on Attachment B of the WDRs and described as follows:

- R-1, Unnamed stream located in the northern section of the site;
- R-2, Shannon Ravine; and
- R-3, Near the mine boundary south of Annex No. 6 adit and north of Carney Creek.

Storm water monitoring shall be conducted in accordance with the IGP's Monitoring Program and Reporting Requirements and the Discharger's approved Site Sampling and Analysis Plan (Condor, 19 August 2011). Storm water monitoring and analysis shall also comply with:

- a. Provisions for Monitoring in Section IX of the SPRRs; and
- b. Monitoring Specifications in Section C of the WDRs.

5. Facility Monitoring

a. Annual Facility Inspection

Annually, prior to the anticipated rainy season, but no later than **30 September**, the Discharger shall conduct an inspection of the facility. The inspection shall assess repair and maintenance needed for drainage control systems, cover systems, and waste containment systems; and shall assess preparedness for winter conditions (including but not limited to erosion and sedimentation control). The Discharger shall take photos of any problems areas before and after repairs. Any necessary construction, maintenance, or repairs shall be completed by **31 October**. Annual facility inspection reporting shall be submitted as required in Section B.2 of this MRP.

b. Major Storm Events

The Discharger shall inspect all precipitation, diversion, and drainage facilities and all mining unit side slopes for damage **within 7 days** following major storm events capable of causing damage or significant erosion. The Discharger shall take photos of any problems areas before and after repairs. Necessary repairs shall be completed **within 30 days** of the inspection. Notification and reporting requirements for major storm events shall be conducted as required in section B.3 of this MRP.

c. Standard Observations

The Discharger shall conduct Standard Observations at the facility in accordance with SPRRs and this section of the MRP. Standard observations shall be conducted in accordance with the following schedule:

<u>Mining Unit Type</u>	<u>Frequency</u>	<u>Season</u> ¹
Active	Weekly	Wet: 1 October to 30 April
Active	Monthly	Dry: 1 May to 30 September
Inactive/Closed	Monthly	Wet: 1 October to 30 April
Inactive/Closed	Quarterly	Dry: 1 May to 30 September

Standard Observations for the mining units shall include:

- 1) Signs of erosion along the slopes or perimeter (show affected area on map):
- 2) Any seepage discharged from the base of any Mining Unit containing mining waste is considered a demonstrative indicator of the potential threat to water quality posed by the mining waste. Seepage discharged from the base of any Mining Unit shall be treated in accordance with SPRRs Reporting Requirements Section VIII.

Results of Standard Observations shall be submitted in the annual monitoring report required in Section B.1 of this MRP.

¹ Because of heavy winter snow fall, the operation is expected to be seasonal with the average operation period from mid-May to mid-November. As such, the ability to conduct standard observations during the wet season may be limited.

B. REPORTING

The Discharger shall include all of the following information in the Annual Monitoring Report and accordance with the required schedule:

Reporting Schedule

<u>Section</u>	<u>Report</u>	<u>End of Reporting Period</u>	<u>Due Date</u>
B.1	Annual Monitoring Report	31 December	31 January
B.1.b	Annual Storm Water Report	15 July ²	31 January
B.2	Annual Facility Inspection Report	31 October	31 January
B.3	Major Storm Event Reporting	Continuous	7 days from damage discovery
B.4	Financial Assurances Report	1 July	31 January
B.5	Annual Surface Mining Inspection Report	1 July	31 January
B.6	Waste Characterization Report	As Required	31 January
B.7	On Site Discharge Report	31 December	31 January
B.8	Off Site Discharge Report	31 December	31 January
B.9	Off Site Custom Milling Facilities Report	31 December	31 January

Reporting Requirements

The Discharger shall submit monitoring reports **annually** with the data and information as required in this Monitoring and Reporting Program and as required in WDRs Order R5-2015-0101 and the Standard Provisions and Reporting Requirements (particularly Section IX: “Provisions for Monitoring” and Section X: “Response to a Release”). In reporting the monitoring data required by this program, the Discharger shall arrange the data in tabular form so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or the lack thereof. Data shall also be submitted in a digital format, such as a computer disk.

The annual monitoring report shall be submitted to the Central Valley Water Board in accordance with the schedule above. Field and laboratory tests shall be reported in each annual monitoring report. The results of **all monitoring** conducted at the site shall be reported to the Central Valley Water Board in accordance with the reporting schedule above.

² Annual reports for the new Industrial Storm Water General Permit are due by 15 July of each year.

The Discharger shall retain records of all monitoring information, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained throughout the life of the facility including the post-closure period. Such records shall be legible and shall show the following for each sample:

- a) Sample identification and the monitoring point from which it was taken, along with the identity of the individual who obtained the sample;
- b) Date, time, and manner of sampling;
- c) Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;
- d) Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
- e) Calculation of results; and
- f) Results of analyses, and the MDL and PQL for each analysis. All peaks shall be reported.

Required Reports

1. **Annual Monitoring Report:** The Discharger shall submit an Annual Monitoring Report to the Central Valley Water Board by **31 January** covering the reporting period of the previous monitoring year. Each Annual Monitoring Report shall contain the following information:
 - a) A map showing the area of and the tonnage discharged to each Mining Unit during the previous calendar year and include a projection of the year in which each discrete Mining Unit will be filled.
 - b) Copy of the annual storm water report for the new State Water Resources Control Board Industrial General Permit 2014-0057-DWQ (IGP) which becomes effective on 1 July 2015, including copies of laboratory analytical report(s).
 - c) A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.
 - d) A statement that the sampling procedure was conducted in accordance with the approved Sample Collection and Analysis Plan
 - e) Tabular and graphical summaries of all data collected during the year. All monitoring parameters shall be graphed to show historical trends at each monitoring point for all samples taken within the previous five calendar years at a scale appropriate to show trends or variations in water quality.
 - f) All historical monitoring data for which there are detectable results, including data for the previous year, shall be submitted in tabular form in a digital file format such as a

computer disk. The Central Valley Water Board regards the submittal of data in hard copy and in digital format as necessary for conducting the periodic review and analysis required by Title 27. (Cal. Code Regs., tit. 27, § 20420(h).)

- g) A comprehensive discussion of the compliance record, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.
 - h) A written summary of the monitoring results, indicating any changes made or observed since the previous Annual Monitoring Report.
 - i) A summary of all Standard Observations for the reporting period required in Section A.5.c of this MRP.
2. **Annual Facility Inspection Report:** A comprehensive discussion describing the results of the inspection and the repair measures implemented, preparations for winter, and include photographs of any problem areas and the repairs. Refer to Section A.5.a of this MRP, above.
 3. **Major Storm Event Reporting:** Following major storm events capable of causing damage or significant erosion, the Discharger **immediately** shall notify Central Valley Water Board staff of any damage or significant erosion upon discovery and report subsequent repairs within **14 days** of completion of the repairs, including photographs of the problem and the repairs. Refer to Section A.5.b of this MRP, above.
 4. **Financial Assurances Report:** By **31 January of each year**, the Discharger shall submit to the Central Valley Water Board updated cost estimates and a demonstration of financial assurance for closure, and post-closure maintenance (reclamation) of the Facility. Refer to Financial Assurances Specifications D.1 through D.5 of the WDRs.
 5. **Annual Surface Mining Inspection Report:** By **31 January of each year**, the Discharger shall submit to the Central Valley Water Board completed copies of the Office of Mine Reclamation's Annual Surface Mining Inspection Report (MRRC-1) and Lead Agency Inspection Notice Form. Refer to Financial Assurances Specifications D.6 of the WDRs.
 6. **Waste Characterization Report:** To ensure that Group C waste classification remains appropriate, ongoing sampling and characterization of the mining waste in accordance with Water Code section 13260(k) is required. Ongoing characterization of the mining waste shall be at the frequency of one sample for every 500 tons of mining waste discharged or at least one sample every third calendar year (see Finding 28 of the WDRs). Waste characterization reports shall be submitted annually and are due on **31 January**.
 7. **On Site Discharge Report:** The Discharger shall report and summarize the type and quantity of waste discharged in accordance with the frequencies specified in Table I.
 8. **Off Site Discharge Report:** The Discharger shall report and summarize the types and quantity of ore, concentrate, or mining waste taken off-site for further processing at a custom mill. The report shall document the date of removal, tonnage removed, and the location of the appropriately permitted custom mill. A copy of each hauling receipt shall be included in

the annual report and submitted in accordance with SPRRs Reporting Requirements, Section VIII, A.5.

9. **Off Site Custom Milling Facilities Report:** Other off-site custom milling facilities may be identified by the Discharger by submitting a written request to the Central Valley Water Board's Title 27 Permitting and Mining Unit requesting approval of a change in the approved off-site custom processing facility. The request must contain the off-site custom milling facilities full legal name, the state of incorporation (if a corporation), the name, address, and telephone number of the person responsible for the facility, the permit number which authorizes the permittee to construct, operate and accept waste, and a statement complying with the signatory requirements of the Standard Provisions (VIII. A. 5.) that states the new owner or operator is permitted to accept the mining waste and assumes full responsibility for the mining waste. Failure to submit the request prior to offsite discharge shall be considered a discharge without requirements, a violation of the Water Code. Any change to the approved off-site custom processing facility shall be approved or disapproved by the Central Valley Water Board's Title 27 Permitting and Mining Unit. Refer to Findings 41 and 42 of the WDRs.

C. TRANSMITTAL LETTER FOR ALL REPORTS

A transmittal letter explaining the essential points shall accompany each report. At a minimum, the transmittal letter shall identify any violations found since the last report was submitted, and if the violations were corrected. If no violations have occurred since the last submittal, this shall be stated in the transmittal letter. The transmittal letter shall also state that a discussion of any violations found since the last report was submitted, and a description of the actions taken or planned for correcting those violations, including any references to previously submitted time schedules, is contained in the accompanying report. The transmittal letter shall contain a statement by the discharger, or the discharger's authorized agent, under penalty of perjury, that to the best of the signer's knowledge the report is true, accurate, and complete.

The Discharger shall implement the above monitoring program on the effective date of this Program.

Original signed by

Ordered by: _____
PAMELA C. CREEDON, Executive Officer

31 July 2015

WMH/jsh

TABLE I
PRODUCTION MONITORING

Production Information	Tons	Discharge Location³	Sample Frequency	Reporting Frequency
Pedro Claim				
Group C - Ore			Monthly	Semiannually
Group C - Waste			Monthly	Semiannually
Group B - Ore			Monthly	Semiannually
Group B - Waste			Monthly	Semiannually
Eagle Bird Claim			Monthly	Semiannually
Group C - Ore			Monthly	Semiannually
Group C - Waste			Monthly	Semiannually
Group B - Ore			Monthly	Semiannually
Group B - Waste			Monthly	Semiannually
Mill Tailings⁴			Monthly	Semiannually
Total tons mined			Monthly	Semiannually
Total tons shipped off-site⁵			Monthly	Semiannually

³

1. On-site mining unit,
2. On-site stockpile
3. Taken to off-site mill facility

⁴

1. Discharged on surface
2. Discharged underground

⁵ Each time ore, concentrate, or mining waste is taken off-site for further processing at a custom mill, the Discharger shall document the date of removal, tonnage removed, and the location of the appropriately permitted custom mill. A copy of each hauling receipt shall be included in the annual monitoring report.

INFORMATION SHEET

WASTE DISCHARGE REQUIREMENTS ORDER R5-2015-0101
EAGLE BIRD MINING COMPANY, LLC
U.S. FOREST SERVICE
EAGLE BIRD MINE
SIERRA COUNTY

EAGLE BIRD MINING COMPANY LLC (MINE OPERATOR), AND THE UNITED STATES DEPARTMENT OF AGRICULTURE FOREST SERVICE (LAND MANAGER), SIERRA COUNTY

The Eagle Bird Mine (Mine Site) is comprised of nine (9) lode gold mining claims on public lands owned by the United States Government and managed by the Forest Service. The Mine Site is located approximately 5 miles east-southeast of Downieville. Eagle Bird Mining Company LLC (the Discharger) plans to perform small-scale exploration and mining of up to 7,200 tons per year. No use of chemicals such as cyanide or mercury is proposed for the operation.

Intermittent mining and processing operations have taken place at the Mine Site starting in the mid-1880s, with recurring activities in the 1910s, 1930s, and most recently in 1969. However, Waste Discharge Requirements (WDRs) have never been issued for the Mine Site. These proposed WDRs prescribe waste discharge requirements for mining waste that are protective of ground and surface waters.

Based on information in the Dischargers Report of Waste Discharge, mining waste at the Eagle Bird Mine can be classified as Group C as defined by Title 27 (Title 27) California Code of Regulations section 22480. Mining wastes from Group C are wastes from which any discharge would be in compliance with the applicable water quality control plan, including water quality objectives other than turbidity.

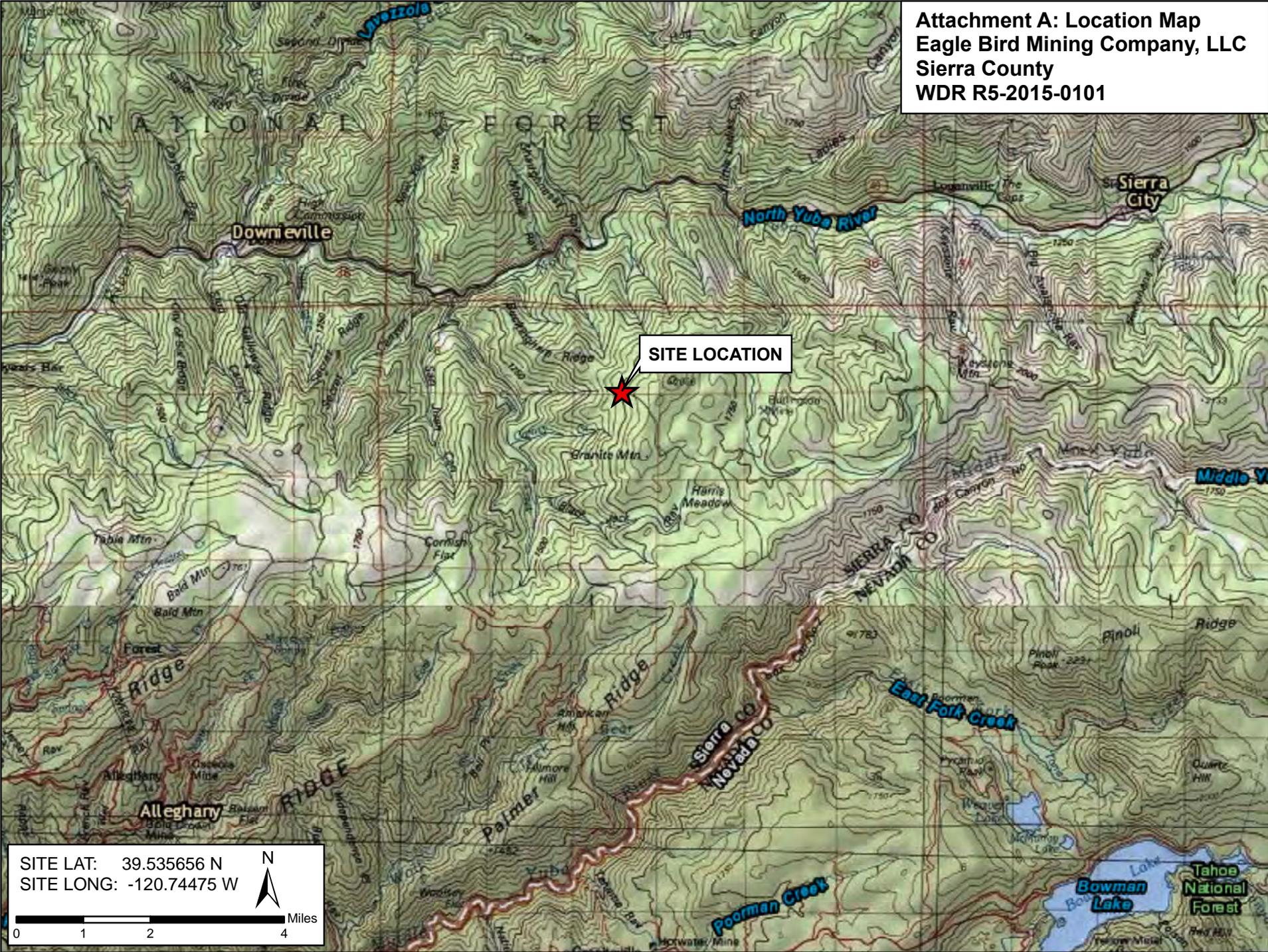
To ensure that Group C waste classification remains appropriate, the Monitoring and Reporting Program will require ongoing sampling and characterization of the mining waste in accordance with Water Code section 13260(k). Ongoing characterization is intended to detect changes in geology and mineralogy and then modify waste containment and waste discharge procedures to address any changes.

The Discharger has a Reclamation Plan and related Financial Assurance approved by Sierra County and reviewed by the Department of Conservation Office of Mine Reclamation for the purposes of compliance with the California Surface Mining and Reclamation Act (SMARA). The Reclamation Plan and related Financial Assurance are functionally equivalent to Closure and Post Closure Maintenance of Mining Units and Closure and Post-Closure Funding required by Title 27, subsections 22510 (b), (c) and (f).

These WDRs incorporate by reference the Discharger's Reclamation Plan and approved Financial Assurance in place of Title 27 Closure and Post-Closure Maintenance Plan and Closure and Post-Closure Financial Assurances.

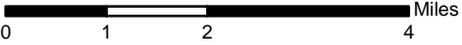
JSH/WMH

Attachment A: Location Map
Eagle Bird Mining Company, LLC
Sierra County
WDR R5-2015-0101



SITE LOCATION

SITE LAT: 39.535656 N
SITE LONG: -120.74475 W



Attachment B: Site Map
Eagle Bird Mining Company, LLC
Sierra County
WDR R5-2015-0101

APN 010-010-006-0

R-1

R-2

PROJECT SITE

R-3

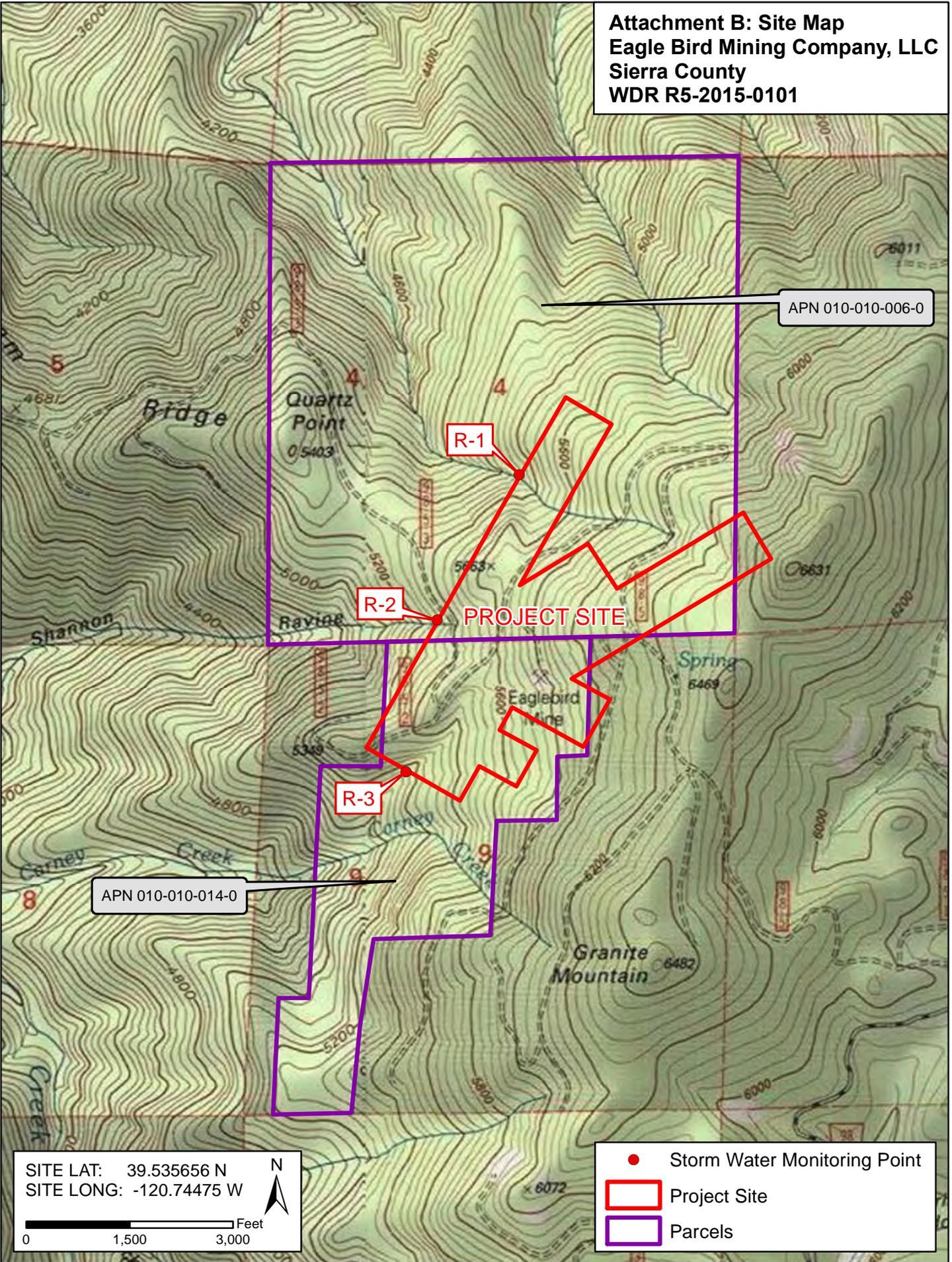
APN 010-010-014-0

SITE LAT: 39.535656 N
SITE LONG: -120.74475 W

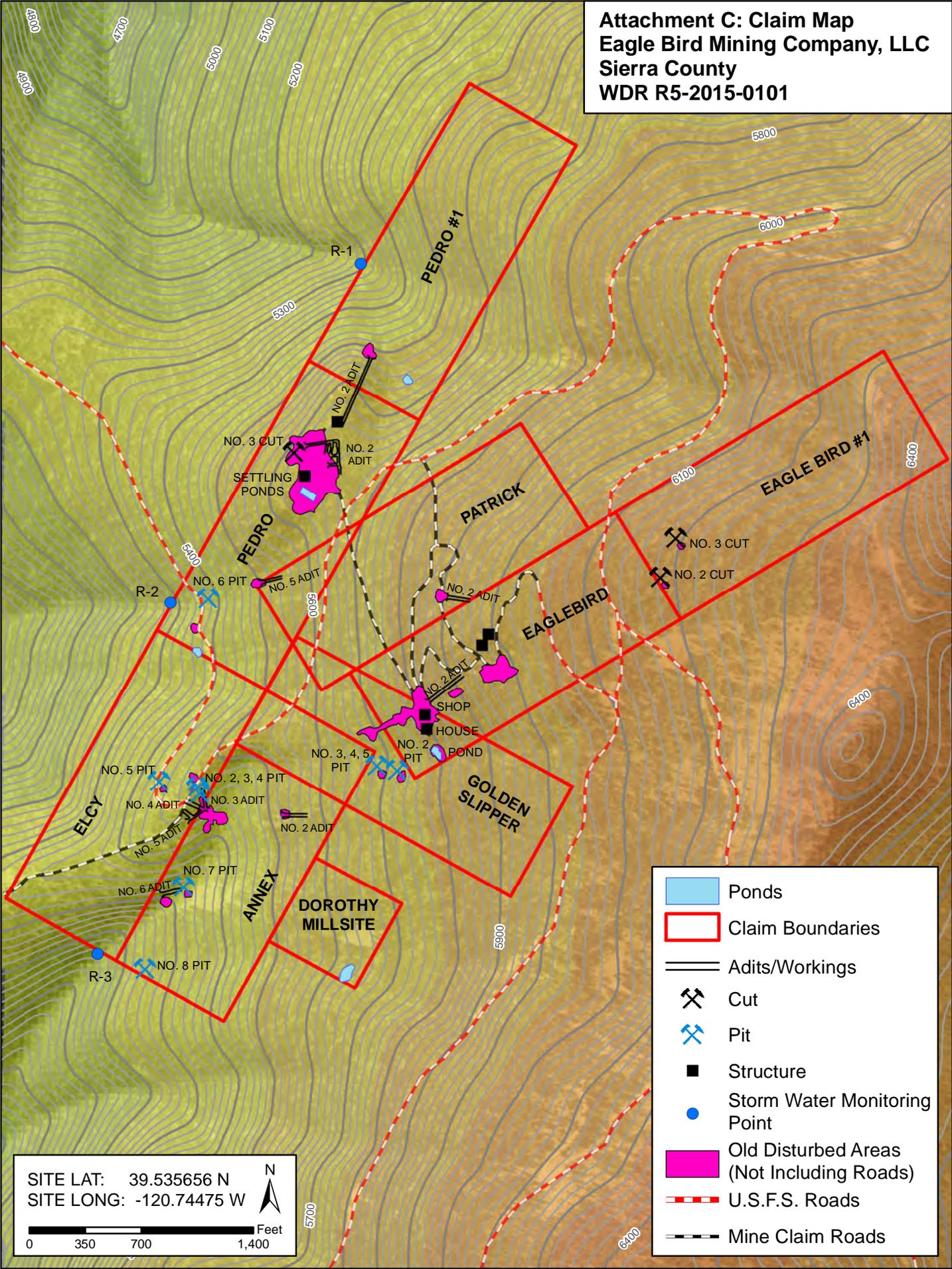
0 1,500 3,000 Feet



- Storm Water Monitoring Point
- ▭ Project Site
- ▭ Parcels



Attachment C: Claim Map
Eagle Bird Mining Company, LLC
Sierra County
WDR R5-2015-0101



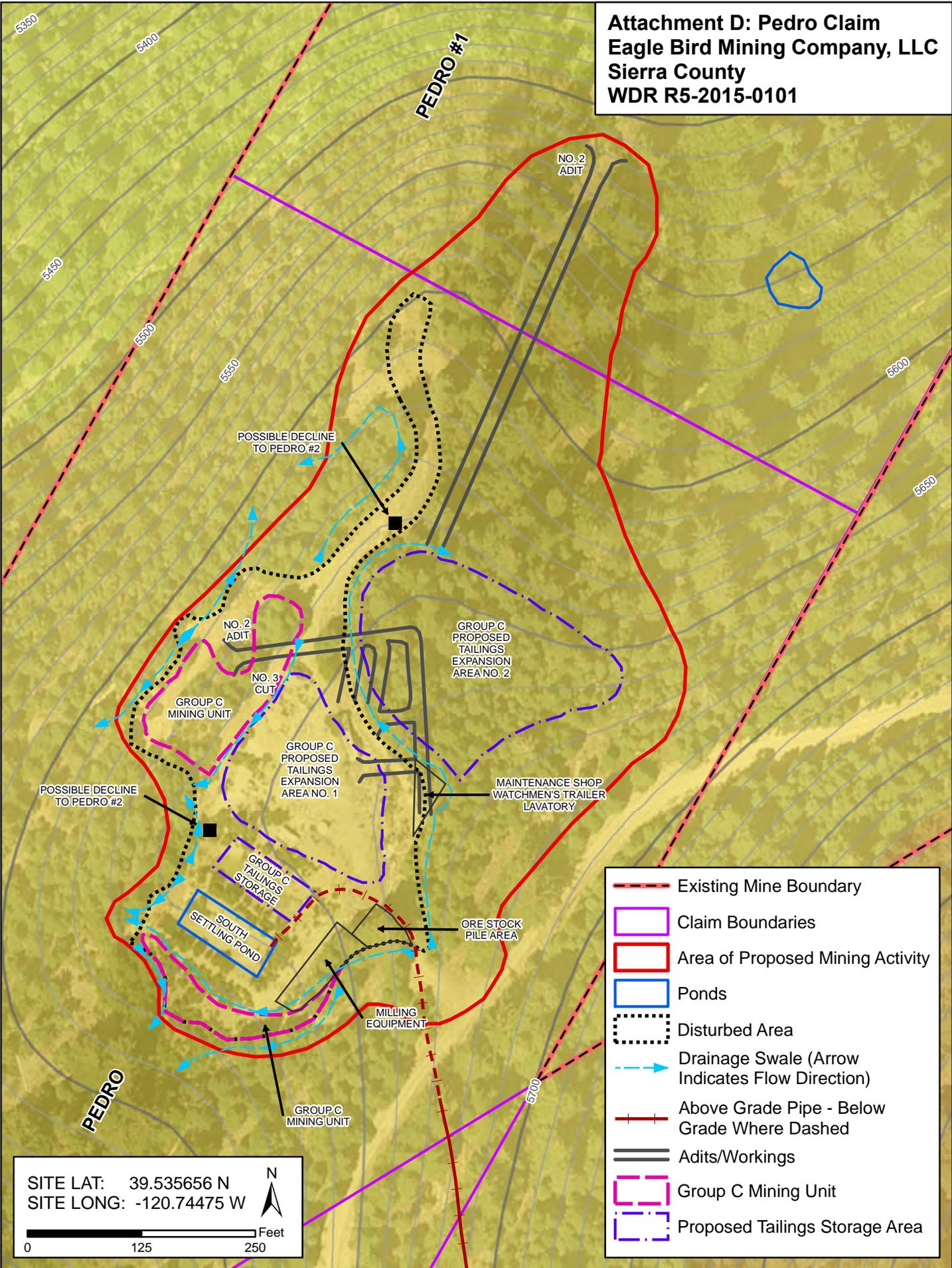
- Ponds
- Claim Boundaries
- Adits/Workings
- Cut
- Pit
- Structure
- Storm Water Monitoring Point
- Old Disturbed Areas (Not Including Roads)
- U.S.F.S. Roads
- Mine Claim Roads

SITE LAT: 39.535656 N
 SITE LONG: -120.74475 W

0 350 700 1,400 Feet

N

Attachment D: Pedro Claim
Eagle Bird Mining Company, LLC
Sierra County
WDR R5-2015-0101



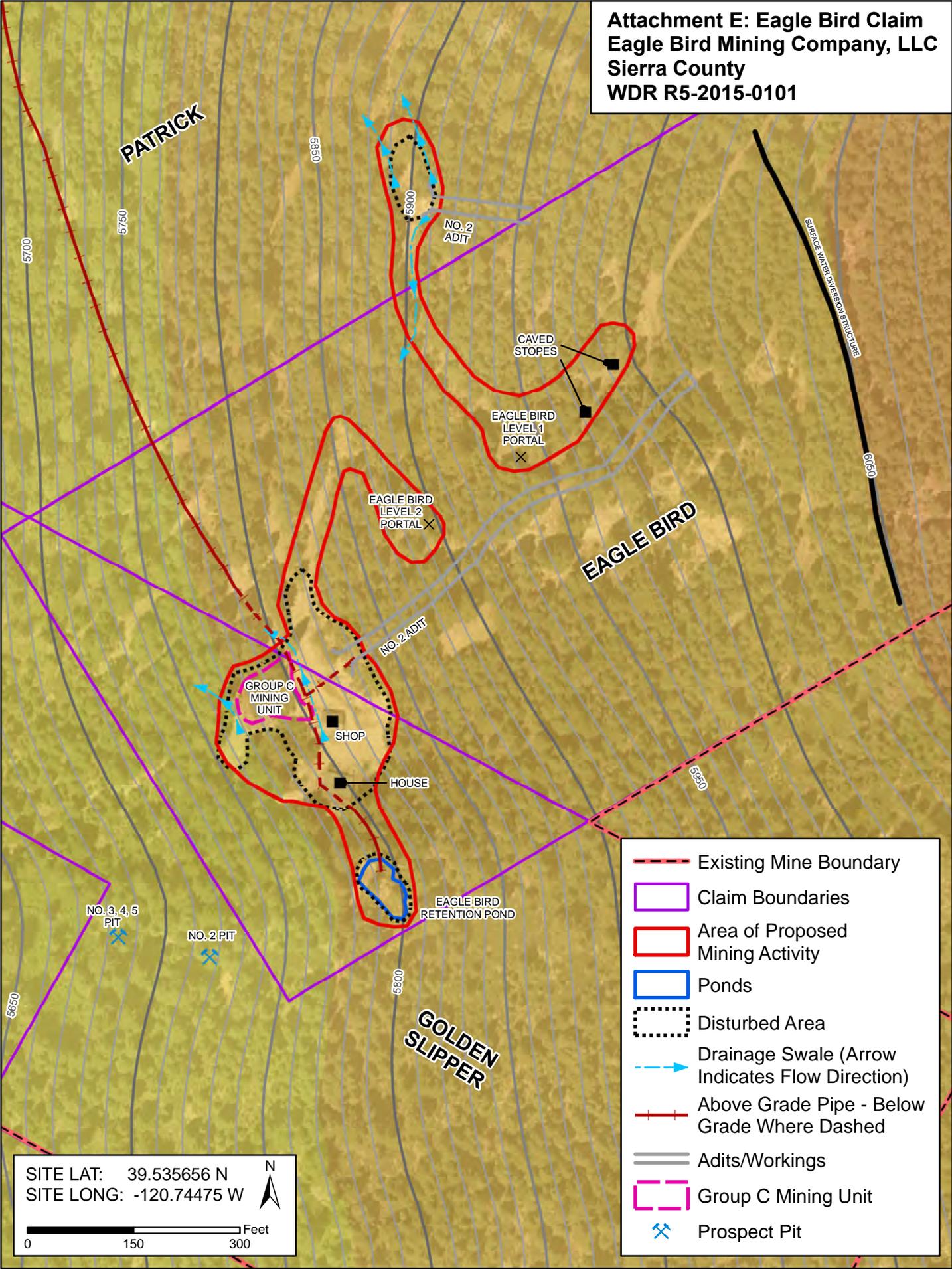
SITE LAT: 39.535656 N
 SITE LONG: -120.74475 W



0 125 250 Feet

- - - Existing Mine Boundary
- Claim Boundaries
- ▭ Area of Proposed Mining Activity
- ▭ Ponds
- Disturbed Area
- Drainage Swale (Arrow Indicates Flow Direction)
- - - Above Grade Pipe - Below Grade Where Dashed
- Adits/Workings
- - - Group C Mining Unit
- - - Proposed Tailings Storage Area

Attachment E: Eagle Bird Claim
Eagle Bird Mining Company, LLC
Sierra County
WDR R5-2015-0101



- Existing Mine Boundary
- Claim Boundaries
- Area of Proposed Mining Activity
- Ponds
- Disturbed Area
- Drainage Swale (Arrow Indicates Flow Direction)
- Above Grade Pipe - Below Grade Where Dashed
- Adits/Workings
- Group C Mining Unit
- Prospect Pit

SITE LAT: 39.535656 N
 SITE LONG: -120.74475 W

0 150 300 Feet

Partial Table of Contents for
STANDARD PROVISIONS AND REPORTING REQUIREMENTS
MINING WASTES
For Title 27 (27CCR §20005 et seq.)
FEBRUARY 2009

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CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

STANDARD PROVISIONS AND REPORTING REQUIREMENTS
FOR
WASTE DISCHARGE REQUIREMENTS
FOR
DISCHARGES OF MINING WASTES
REGULATED BY TITLE 27
(27 CCR §20005 et seq.)
MINING FACILITIES

FEBRUARY 2009

I. APPLICABILITY

- A. These Standard Provisions and Reporting Requirements are applicable to “mining waste” disposal sites that are regulated pursuant to the provisions of the California Code of Regulations, title 27 section 20005 et seq. (27 CCR or Title 27). The term “Mining waste” is defined in title 27 section 22480.
- B. For this document, WMU is defined as a waste management unit containing mining waste.
- C. “Order,” as used throughout this document, means the Waste Discharge Requirements to which these Standard Provisions and Reporting Requirements are incorporated.
- D. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, and do not protect the Discharger from liabilities under federal, state, or local laws. This Order does not convey any property rights or exclusive privileges.
- E. The provisions of this Order are severable. If any provision of this Order is held invalid, the remainder of this Order shall not be affected.
- F. If there is any conflicting or contradictory language between the Waste Discharge Requirements (WDRs), the Monitoring and Reporting Program (MRP), or the Standard Provisions and Reporting Requirements (SPRR), then language in the WDRs shall govern over either the MRP or the SPRR, and language in the MRP shall govern over the SPRR.

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

II. TERMS AND CONDITIONS

- A. Failure to comply with any waste discharge requirement, monitoring and reporting requirement, or Standard Provisions and Reporting Requirement, or other order or prohibition issued, reissued, or amended by the Central Valley Water Board or the State Water Resources Control Board, or intentionally or negligently discharging waste, or causing or permitting waste to be deposited where it is discharged into the waters of the state and creates a condition of pollution or nuisance, is a violation of these waste discharge requirements and the California Water Code, which can result in the imposition of civil liability [CWC §13350(a)]
- B. After notice and opportunity for a hearing, this Order may be terminated or modified for cause, including, but not limited to [CWC §13381]:
1. Violation of any term or condition contained in this Order;
 2. Obtaining this Order by misrepresentation, or failure to disclose fully all relevant facts;
 3. A change in any condition that results in either a temporary or permanent need to reduce or eliminate the authorized discharge;
or
 4. A material change in the character, location, or volume of discharge.
- C. Before initiating a new discharge or making a material change in the character, location, or volume of an existing discharge, the Discharger shall file a new report of waste discharge, or other appropriate joint technical document, with the Central Valley Regional Water Quality Control Board (hereafter Central Valley Water Board) [CWC §13260(c) and §13264(a)]. A material change includes, but is not limited to, the following:
1. An increase in area or depth to be used for solid waste disposal beyond that specified in waste discharge requirements;
 2. A significant change in disposal method, location, or volume (e.g., change from land disposal to land treatment); or
 3. A change in the type of waste being accepted for disposal.

- D. Representatives of the Central Valley Water Board may inspect the facilities to ascertain compliance with the waste discharge requirements. The inspection shall be made with the consent of the owner or possessor of the facilities or, if the consent is refused, with a duly issued warrant. However, in the event of an emergency affecting the public health or safety, an inspection may be made without consent or the issuance of a warrant [CWC §13267(c)].
- E. The Central Valley Water Board will review this Order periodically and will revise these waste discharge requirements when necessary [CWC §13263(e) and 27 CCR §21720(b)].
- F. Except for material determined to be confidential in accordance with California law and regulations, all reports prepared in accordance with terms of this Order shall be available for public inspection at the offices of the Central Valley Water Board [CWC §13267(b)]. Data on waste discharges, water quality, geology, and hydrogeology shall not be considered confidential.
- G. The Discharger shall submit to the Central Valley Water Board for review and approval a closure and post-closure maintenance plan prepared in accordance with Closure and Post-Closure for Mining WMUs [27 CCR §22510].

III. GENERAL PROVISIONS

- A. The discharge shall neither cause nor contribute to the contamination, degradation, or **pollution of groundwater** via the release of waste constituents in either liquid or gaseous phase.
- B. Wastes shall not be discharged to any surface water body without a Stormwater Permit or a NPDES permit.
- C. The discharge shall neither cause nor contribute to any **surface water pollution**, contamination, or nuisance, including, but not limited to:
 - 1. floating, suspended, or deposited macroscopic particulate matter or foam;
 - 2. increases in bottom deposits or aquatic growth;
 - 3. an adverse change in temperature, turbidity, or apparent color beyond natural background levels;

4. the creation or contribution of visible, floating, suspended, or deposited oil or other products of petroleum origin;
 5. the introduction or increase in concentration of toxic or other pollutants/contaminants resulting in unreasonable impairment of beneficial uses of waters of the State.
- D. The discharge shall not cause any increase in the concentration of waste constituents in soil-pore gas, soil-pore liquid, soil, or other geologic materials outside of the waste management unit (WMU) if such waste constituents could migrate to waters of the State—in either the liquid or the gaseous phase—and cause **a condition of contamination, pollution, degradation, or nuisance**.
- E. The discharge shall not cause the release of pollutants, or waste constituents in a manner which could cause a condition of contamination, pollution, degradation, or nuisance to occur, as indicated by the most appropriate statistical or non-statistical data analysis method and retest method listed in the Monitoring and Reporting Program.
- F. The Discharger shall take **all reasonable steps to minimize any adverse impact** to the waters of the state resulting from noncompliance with this Order. (“Order,” as used throughout this document, means the Waste Discharge Requirements). Such steps shall include accelerated or additional monitoring as necessary to determine the nature, extent, and impact of the noncompliance.
- G. In the event of any change of ownership or responsibility for construction, operation, closure, or post-closure maintenance of the waste discharge facilities described in this Order, the Discharger shall notify the Central Valley Water Board prior to the effective date of the change and shall include a statement by the new Discharger that construction, operation, closure, or post-closure maintenance will be in compliance with this Order and any revisions thereof [27 CCR §21710(c)(1)].
- H. The Discharger shall notify the Central Valley Water Board of a material change in; the types, quantity, or concentrations of wastes discharged; site operations and features; or proposed closure procedures, including changes in cost estimates. This notification shall be given a reasonable time before the changes are made or become effective. No changes shall be made without Central Valley Water Board approval following authorization for closure pursuant to the site Notification of Closure [27 CCR §21710(a)(4)].

- I. The Discharger shall maintain legible records of the volume and type of each waste discharged at each WMU or portion of a WMU, and the manner and location of discharge. These records shall be on forms approved by the State Water Resources Control Board or Central Valley Water Board and shall be maintained at the waste management facility until the beginning of the post-closure maintenance period. These records shall be available for review by representatives of the State Water Resources Control Board or Central Valley Water Board at any time during normal business hours. At the beginning of the post closure maintenance period, copies of these records shall be sent to the Central Valley Water Board. [27 CCR §21720(f)].
- J. All WMUs shall be protected from flooding as required in title 27 section 22490(b).
- K. Diversion and drainage facilities shall be designed and constructed to accommodate the anticipated volume of precipitation and peak flows from surface runoff as follows [27 CCR §22490(h)(1)]:
 1. Group A – one 25 year, 24 hour storm;
 2. Group B – one 10 year, 24 hour storm; and
 3. Group C – one 10 year, 24 hour storm.
- L. Precipitation on Group A and B waste piles that is not diverted by containment structures shall be collected and managed through the leachate collection and removal system (LCRS). The Central Valley Water Board can make exemptions to this requirement if the collected fluid does not contain indicator parameters or waste constituents in excess of applicable water quality objectives [27 CCR §22490(h)(2)].
- M. Dischargers shall comply with special requirements for surface impoundments given in title 27 section 20375. Nevertheless, for Mining Units, Dischargers shall use the precipitation conditions in title 27 section 22490(h)(1).

IV. **FINANCIAL ASSURANCE PROVISIONS**

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

- B. If a lead agency acting under the authority of §2774(a) of the Public Resources code requires assurances of financial responsibility, these assurances can be used to fulfill all comparable requirements provided that:
 - 1. the Central Valley Water Board approves the assurance; and
 - 2. the Central Valley Water Board is named as alternate payee. [27 CCR §22510(g)]

V. DISCHARGE SPECIFICATIONS

- A. The Discharger is responsible for accurate characterization of wastes, including a determination of whether or not wastes will be compatible with containment features and other wastes at the WMU and whether or not the wastes are required to be managed as a Group A, Group B or Group C mining waste [27 CCR §22480]
- B. Group B and Group C WMUs contained with liners shall be designed, constructed, and operated to ensure that wastes will be a minimum of 5 feet above the highest anticipated elevation of underlying groundwater [27 CCR §20240(c), §20330(a), and §22490(f)(6)], including the capillary fringe.
- C. The Discharger shall submit operations plans and any amended operation plans describing those WMU operations which could affect water quality, including, but not limited to [27 CCR §21760(b)]:
 - 1. A description of proposed treatment, storage, and disposal methods;
 - 2. Contingency plans for the failure or breakdown of waste handling facilities or containment systems, including notice or any such failure, or any detection of waste or leachate in monitoring facilities, to the Central Valley Water Board, local governments, and water users downgradient of the WMU(s); and
 - 3. A description of inspection and maintenance programs which will be undertaken regularly during disposal operations and the post-closure maintenance period.

VI. FACILITY SPECIFICATIONS

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

- B. Collection and holding facilities associated with precipitation and drainage control systems shall be emptied immediately following each storm or otherwise managed to maintain the design capacity of the system [27 CCR §20365(d)].
- C. The Discharger shall promptly notify the Central Valley Water Board of any slope failure occurring at a WMU. Any failure which threatens the integrity of containment features or the WMU shall be promptly corrected in accordance with an approved method [27 CCR §21710(c)(2)].

VII. CONSTRUCTION SPECIFICATIONS

- A. All containment structures shall be designed by a California registered civil engineer, and construction shall be supervised and certified by a California registered civil engineer or a certified engineering geologist as meeting the prescriptive standards, or approved engineered alternative design, in accordance with this Order prior to waste discharge. WMUs shall receive a final inspection and approval of the construction by Central Valley Water Board staff before use of the WMU commences [27 CCR §22490(d)].
- B. Any report, or any amendment or revision of a report, that proposes a design or design change that might affect a WMU's containment features or monitoring systems shall be approved by a registered civil engineer or a certified engineering geologist, as appropriate [27 CCR §21710(d)].
- C. Materials used in containment structures shall have appropriate chemical and physical properties to ensure that such structures do not fail to contain waste because of pressure gradients, physical contact with waste or leachate, chemical reactions with soil or rock, climatic conditions, the stress of installation, or because of the stress of daily operations [27 CCR §22490(e) and §20320(a)].
- D. WMU liners shall be designed and constructed to contain the fluid, including gas, waste, and leachate [27 CCR §20330(a)].
- E. Hydraulic conductivities shall be determined primarily by appropriate field test methods in accordance with accepted civil engineering practice. The results of laboratory tests with both water and leachate, and field tests with water, shall be compared to evaluate how the field permeabilities will be affected by leachate. It is acceptable for the Discharger to use appropriate compaction tests in conjunction with laboratory hydraulic conductivity tests to determine field permeabilities

as long as a reasonable number of field hydraulic conductivity tests are also conducted [27 CCR §20320(c)].

- F. Hydraulic conductivities specified for containment structures other than the final cover shall be relative to the fluids (leachate) to be contained. Hydraulic conductivities for the final cover shall be relative to water [27 CCR §20320(b)].
- G. Leachate collection and removal systems shall be designed and operated to function without clogging through the scheduled closure of the WMU and during the post-closure maintenance period. The systems shall be tested at least annually to demonstrate proper operation. The results of the tests shall be compared with earlier tests made under comparable conditions [27 CCR §20340(d)].
- H. Leachate collection and removal systems shall be designed and constructed to ensure that there is no buildup of hydraulic head on the liner. The depth of fluid in the collection sump shall be kept at the minimum needed to ensure efficient pump operation [27 CCR §20340(c)].
- I. For Units constructed (or reconstructed) after July 18, 1997, all construction of liner systems and final cover systems shall be performed in accordance with a Construction Quality Assurance Plan certified by a registered civil engineer or a certified engineering geologist [27 CCR §20323] and approved by the Executive Officer.

VIII. REPORTING REQUIREMENTS

A. General Requirements

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

conditions which could impair the integrity of waste or leachate containment facilities or of precipitation and drainage control structures.

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

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

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

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

4. The Discharger shall **retain records of all monitoring information**, including all calibration and maintenance records, all original strip chart recordings of continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order. Records shall be maintained for a minimum of five years from the date of the sample, measurement, report, or application. This period may be extended during the course of any unresolved litigation regarding this discharge or when requested by the Central Valley Water Board Executive Officer.

Such records shall show the following for each sample:

- a. Identity of sample and of the Monitoring Point or Background Monitoring Point from which it was taken, along with the identity of the individual who obtained the sample;
- b. Date, time, and manner of sampling;
- c. Date and time that analyses were started and completed, and the name of the personnel and laboratory performing each analysis;

- d. Complete procedure used, including method of preserving the sample, and the identity and volumes of reagents used;
- e. Calculation of results; and
- f. Results of analyses, and the method detection limit (MDL) and practical quantitation limit (PQL) for each analysis.

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

5. **All reports and transmittal letters shall be signed** by persons identified below:
 - a. *For a corporation:* by a principal executive officer of at least the level of senior vice-president.
 - b. *For a partnership or sole proprietorship:* by a general partner or the proprietor.
 - c. *For a municipality, state, federal or other public agency:* by either a principal executive officer or ranking elected or appointed official.
 - d. A duly authorized representative of a person designated in a, b or c above if;
 - i. the authorization is made in writing by a person described in a, b, or c of this provision;
 - ii. the authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a WMU, superintendent, or position of equivalent responsibility. (A duly authorized representative may thus be either a named individual or any individual occupying a named position); and
 - iii. the written authorization is submitted to the Central Valley Water Board.

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

"I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for

obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”

6. In reporting the monitoring data, the Discharger shall arrange the **data in tabular form** so that the date, the constituents, the concentrations, and the units are readily discernible. The data shall be summarized in such a manner so as to illustrate clearly the compliance with waste discharge requirements or lack thereof.
7. The results of any monitoring done more frequently than required at the locations specified herein shall be reported to the Central Valley Water Board.

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

1. A transmittal **letter** explaining the essential points in each report shall accompany each report. Such a letter shall include a discussion of any violations found since the last such report was submitted, and shall describe actions taken or planned for correcting those violations. If the Discharger has previously submitted a detailed time schedule for correcting the violations, a reference to the correspondence transmitting such schedule will be satisfactory. If no violations have occurred since the last submittal, this shall be stated in the letter of transmittal.
2. Each monitoring report (e.g., Detection Monitoring Report, Constituents of Concern 5-Year Report) shall include a **compliance evaluation summary**. The summary shall contain at least:
 - a. For each monitored ground water body, a description and graphical presentation of the gradient and direction of **ground water flow** under/around the WMU, based upon water level elevations taken during the collection of the water quality data submitted in the report.
 - b. For each monitoring well addressed by the report, a description of the method and time of water level measurement, the type of pump used for **purgings** and the placement of the pump in the well, and the method of purging (pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of pH,

- temperature, conductivity, and turbidity testing, well recovery time, and method of purge water disposal).
- c. For each Monitoring Point and Background Monitoring Point addressed by the report, a description of the type of pump (or other device) used and its placement for **sampling**, and a detailed description of the sampling procedure (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations).
 - d. A **map or aerial photograph** showing the locations of observation stations, Monitoring Points, and Background Monitoring Points.
 - e. **Laboratory** statements of results of all analyses evaluating compliance with requirements.
 - f. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.
 - g. A summary and certification of completion of all Standard Observations for the WMU, for the perimeter of the WMU, and for the receiving waters. The terms 'Standard Observations' and 'receiving waters' as used in this document are defined below in section **XII. Definitions**.
 - h. The quantity and types of wastes discharged and the locations in the WMU where waste has been placed since submittal of the last such report.
3. The Discharger shall report by telephone concerning any **seepage from the disposal area** immediately after it is discovered. A written report shall be filed with the Central Valley Water Board within seven days, containing at least the following information:
 - a. a map showing the location(s) of seepage;
 - b. an estimate of the flow rate;

- c. description of the nature of the discharge (e.g., all pertinent observations and analyses); and
- d. corrective measures underway or proposed, and corresponding time schedule.

See **RESPONSE TO A RELEASE** below.

- 4. The Discharger shall submit an **Annual Monitoring Summary Report** to the Central Valley Water Board summarizing the monitoring results from the previous year. This report shall contain:
 - a. For each Monitoring Point and Background Monitoring Point, submit in **graphical format** the laboratory analytical data for all samples taken within at least the previous five calendar years. Each such graph shall plot the concentration of one or more constituents for the period of record for a given Monitoring Point or Background Monitoring Point, at a scale appropriate to show trends or variations in water quality. The graphs shall plot each datum, rather than plotting mean values. For any given constituent or parameter, the scale for background plots shall be the same as that used to plot downgradient data. Graphical analysis of monitoring data may be used to provide significant evidence of a release.
 - b. Unless otherwise exempted by the Executive Officer, all monitoring analytical data obtained during the previous two six-month Reporting Periods, presented in tabular form as well as on computer disk, either in EXCEL format or in another file format acceptable to Central Valley Water Board staff. Data may be submitted in commonly available compressed format. The Central Valley Water Board regards the submittal of data in hard copy and electronic format as "...the form necessary for..." statistical analysis (27 CCR §20420(h)), in that this facilitates periodic review by the Central Valley Water Board's statistical consultant.
 - c. **A comprehensive discussion of the compliance record**, and the result of any corrective actions taken or planned which may be needed to bring the Discharger into full compliance with the waste discharge requirements.

- d. A **map** showing the area and elevations in which filling has been completed during the previous calendar year.
- e. A **written** summary of the monitoring results, indicating any changes made or observed since the previous annual report.
- f. An evaluation of the effectiveness of the leachate monitoring/control facilities.

IX. PROVISIONS FOR MONITORING

A. General

- 1. The Discharger shall maintain a **written sampling and analysis plan** sufficient to assure compliance with the terms of this Order. Anyone performing sampling on behalf of the Discharger shall be familiar with the sampling and analysis plan.
- 2. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and regularly **calibrated** to ensure their continued accuracy.
- 3. The Discharger shall construct or abandon all **monitoring wells** to meet or exceed the standards stated in the State Department of Water Resources Bulletin 74-81 and subsequent revisions, and shall comply with the reporting provisions for wells required by Water Code Sections 13750 through 13755.
- 4. All sample analyses shall be conducted at a **laboratory accredited** for such analyses by the State Department of Health Services. The **Quality Assurance-Quality Control Program** must conform to EPA guidelines (e.g., "Laboratory Documentation Requirements for Data Validation," January 1990, USEPA Region 9) or to procedures approved by the Central Valley Water Board.
- 5. The director **of the laboratory** whose name appears on the certification shall supervise all analytical work in his/her laboratory and shall sign all reports of such work submitted to the Central Valley Water Board.
- 6. Unless samples are from water supply wells or unless otherwise specified by Central Valley Water Board staff, all ground water samples to be analyzed for **metals** shall be field-filtered.

Filtration methods shall minimize the entrainment of air into the sample (by using, for example, in-line pressure filtration).

B. Sampling and Analytical Methods

1. For any given monitored medium, the samples taken from all monitoring points and background monitoring points to satisfy the data analysis requirements for a given reporting period shall all be taken within a span not to exceed 30 days, unless the Executive Officer approves a longer time period, and shall be taken in a manner that ensures sample independence to the greatest extent feasible. Specific methods of collection and analysis must be identified. Sample collection, storage, and analysis shall be performed according to the most recent version of USEPA Methods, such as the latest editions, as applicable, of: (1) Methods for the Analysis of Organics in Water and Wastewater (USEPA 600 Series), (2) Test Methods for Evaluating Solid Waste (SW-846, latest edition), and (3) Methods for Chemical Analysis of Water and Wastes (USEPA 600/4-79-020), and in accordance with the approved Sample Collection and Analysis Plan.
2. If methods other than USEPA-approved methods or Standard Methods are used, the exact methodology shall be submitted for review and approval by the Executive Officer prior to use.
3. The **methods of analysis and the detection limits** used must be appropriate for the expected concentrations. For the monitoring of any constituent or parameter that is found in concentrations which produce more than 90% non-numerical determinations (i.e., "trace" or "ND") in data from background monitoring points for that medium, the analytical method having the lowest MDL shall be selected from among those methods which would provide valid results in light of any matrix effects or interferences.
4. **"Trace" results** - results falling between the MDL and the PQL - shall be reported as such, and shall be accompanied by both the estimated MDL and PQL values for that analytical run.
5. **MDLs and PQLs** shall be derived by the laboratory for each analytical procedure, according to State of California laboratory accreditation procedures. These MDLs and PQLs shall reflect the detection and quantitation capabilities of the specific analytical procedure and equipment used by the lab, rather than

simply being quoted from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs and PQLs are expected to closely agree with published USEPA MDLs and PQLs.

6. If the laboratory suspects that, due to a change in matrix or other effects, the true detection limit or quantitation limit for a particular analytical run differs significantly from the laboratory-derived MDL/PQL values, the results shall be flagged accordingly, along with estimates of the detection limit and quantitation limit actually achieved. **The MDL shall always be calculated such that it represents the lowest achievable concentration associated with a 99% reliability of a nonzero result.** The PQL shall always be calculated such that it represents the lowest constituent concentration at which a numerical value can be assigned with reasonable certainty that it represents the constituent's actual concentration in the sample. Normally, PQLs should be set equal to the concentration of the lowest standard used to calibrate the analytical procedure.
7. Unknown chromatographic peaks shall be reported, along with an estimate of the concentration of the unknown analyte. When unknown peaks are encountered, second column or second method confirmation procedures shall be performed to attempt to identify and more accurately quantify the unknown analyte.
8. All **QA/QC data** shall be reported, along with the sample results to which they apply, including the method, equipment, analytical detection and quantitation limits, the percent recovery, an explanation for any recovery that falls outside the QC limits, the results of equipment and method blanks, the results of spiked and surrogate samples, the frequency of quality control analysis, and the name and qualifications of the person(s) performing the analyses. Sample results shall be reported unadjusted for blank results or spike recoveries. In cases where contaminants are detected in QA/QC samples (i.e., field, trip, or lab blanks), the accompanying sample results shall be appropriately flagged.
9. The statistical method shall account for data below the PQL with one or more statistical procedures that are protective of human health and the environment. Any PQL validated pursuant to §20415(e)(7) of Title 27 that is used in the statistical method shall be **the lowest concentration (or value) that can be reliably achieved** within limits of precision and accuracy specified in the WDRs for routine laboratory operating conditions that are

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

10. Background for water samples shall be represented by the data from all samples taken from applicable background monitoring points during that reporting period (at least one sample from each background monitoring point). The Discharger may propose an alternate statistical method [to the methods listed under 27 CCR §20415(e)(8)(A-D)] in accordance with §20415(e)(8)(E) of Title 27, for review and approval by the Executive Officer.
11. The Discharger may propose an alternate statistical method [to the methods listed under title 27 section 20415(e)(8)(A-D)] in accordance with title 27 section 20415(e)(8)(E), for review and approval by the Executive Officer. Upon receiving written approval, alternate statistical procedures may be used for determining the significance of analytical results for common laboratory contaminants (i.e., methylene chloride, acetone, diethylhexyl phthalate, and di-n-octyl phthalate). Nevertheless, analytical results involving detection of these analytes in any background or downgradient sample shall be reported and flagged for easy reference by Central Valley Water Board staff.
12. The Discharger shall use the following non-statistical method for all analytes that are detected in less than 10% of the background samples. The non-statistical method shall be implemented as follows:
 - a. From the constituent of concern or monitoring parameter list, identify each analyte in the **current** sample that exceeds either its respective MDL or PQL. The Discharger shall conclude that the exceedance provides a preliminary

indication of a release or a change in the nature or extent of the release, at that monitoring point, if **either**:

- i. The data contains two or more analytes that are detected in less than 10% of background samples that equal or exceed their respective MDLs; or
 - ii. The data contains one or more analyte that equals or exceeds its PQL.
- b. **Discrete Retest** [27 CCR §20415(e)(8)(E)]:
- i. In the event that the Discharger concludes (pursuant to paragraph 12.a., above) that there is a preliminary indication of a release, then the Discharger shall immediately notify Central Valley Water Board staff by phone or e-mail and, within 30 days of such indication, shall collect two new (retest) samples from the monitoring point where the release is preliminarily indicated.
 - ii. For any given retest sample, the Discharger shall include, in the retest analysis, **only the laboratory analytical results for those analytes detected in the original sample**. As soon as the retest data are available, the Discharger shall conclude that there is measurably significant evidence of a release if two or more analytes equal or exceed their respective MDLs or if one or more analyte equals or exceeds its PQL and shall:
 - a. **Immediately** notify the Central Valley Water Board about any constituent or constituents verified to be present at the monitoring point, and follow up with written notification submitted by certified mail **within seven days** of validation; and
 - b. Comply with section **IX.B.14** of this document, **Sampling and Analytical Methods**, if any constituent or constituents were verified to be present.
 - iii. Any analyte that triggers a discrete retest per this method shall be added to the monitoring parameter list

such that it is monitored during each regular monitoring event.

13. If the Executive Officer determines, after reviewing the submitted report in 12.b. above, that the detected constituent most likely originated from the WMU(s), the Discharger shall **immediately** implement the requirements of section **X.C., Release Has Been Verified**, of this document.
14. If the Discharger determines that there is measurably significant evidence of a release from the WMU at any monitoring point, the Discharger shall **immediately** implement the requirements of section **X.C., Release Has Been Verified**, of this document.

X. RESPONSE TO A RELEASE

A. Monitoring Point Evidence of a Release

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

- a. **Notification — immediately notify Central Valley Water Board staff verbally** of the finding and **provide** written notification by certified mail **within seven days** of such determination. The notification shall, for each affected monitoring point, identify the monitoring parameters and constituents of concern that have indicated “measurably significant” evidence of a release from the WMU [27 CCR §20420(j)(1)];
- b. **Retest Optional** — can immediately initiate the verification (retest) procedure pre-approved by the Central Valley Water Board [pursuant to §20415(e)(8)(E) of Title 27] to verify that there is “measurably significant” evidence of a release from the WMU for a parameter or constituent which has indicated a release at a monitoring point [27 CCR §20420(j)(2)]; and

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

B. **Physical Evidence of a Release**

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

C. **Release Has Been Verified**

1. If the detection was made based upon sampling and analysis for monitoring parameters, **immediately** sample all monitoring points in the affected medium at that WMU and determine the concentration of all constituents of concern. Because this constituent of concern scan does not involve statistical testing, the Discharger need collect and analyze only a single water sample from each monitoring point in the affected medium [27 CCR §20420(k)(1)].
2. The Discharger, **within 90 days** of determining “measurably significant” evidence of a release, shall submit an amended report of waste discharge to establish an evaluation monitoring program meeting the requirements of §20425 of Title 27 [27 CCR §20420(k)(5)].
3. The Discharger, **within 180 days** of determining “measurably significant” evidence of a release, shall submit to the Central Valley Water Board an initial engineering feasibility study for a corrective action program necessary to meet the requirements of §20430 of Title 27. At a minimum, the engineering feasibility study shall contain a detailed description of the corrective action measures that could be taken to achieve background concentrations for all constituents of concern [27 CCR §20420(k)(6)].
4. If the Discharger determines that there is “measurably significant” evidence of a release from the WMU at any monitoring point, the Discharger may demonstrate that a source other than the WMU

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

5. The Discharger, **within 90 days** of establishing an Evaluation Monitoring Program, shall conduct an evaluation monitoring program to assess the nature and extent of the release from the WMU and to design a corrective action program meeting the requirements of §20430 of Title 27. At a minimum, an evaluation monitoring program for a WMU shall include:
 - a. An assessment of the nature and extent of the release from the WMU. This assessment shall include a determination of the distribution and concentration of each constituent of concern throughout the zone affected by the release. The Discharger shall submit this assessment to the Central Valley Water Board **within 90 days** of establishing an evaluation monitoring program [27 CCR §20425(b)].
 - b. Update the initial engineering feasibility study for corrective action based on the data collected to delineate the release and from the ongoing monitoring program. The Discharger shall submit this updated engineering feasibility study to the Central Valley Water Board **within 90 days** of establishing an evaluation monitoring program [27 CCR §20425(c)].

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

D. **Release Beyond Facility Boundary**

1. Any time the Discharger concludes that a release from the WMU has proceeded beyond the facility boundary, the Discharger shall so notify all persons who either own or reside upon the land that directly overlies any part of the plume (Affected Persons).
2. Initial notification to Affected Persons shall be accomplished within 14 days of making this conclusion and shall include a description of the Discharger's current knowledge of the nature and extent of the release.
3. Subsequent to initial notification, the Discharger shall provide updates to all Affected Persons, including any persons newly affected by a change in the boundary of the release, within 14 days of concluding there has been any material change in the nature or extent of the release.
4. Each time the Discharger sends a notification to Affected Persons, the Discharger shall provide the Central Valley Water Board, within seven days of sending such notification, with both a copy of the notification and a current mailing list of Affected Persons.

XI. **STANDARD CONDITIONS**

A. **Supervision and Certification**

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

- a. be submitted for review and approval by the Central Valley Water Board prior to construction;
 - b. demonstrate that the WMU has been constructed according to the specifications and plans as approved by the Central Valley Water Board; and
 - c. provide quality control on the materials and construction practices used to construct the WMU and prevent the use of inferior products and/or materials which do not meet the approved design plans or specifications.
3. **Closure** of each WMU shall be performed under the direct supervision of a California registered civil engineer or California certified engineering geologist.

B. Operations

1. The Discharger shall maintain in **good working order** and operate as efficiently as possible any facility, control system, or monitoring device installed to achieve compliance with the waste discharge requirements.
2. For any **electrically** operated equipment at the site, the **failure** of which could cause loss of control or containment of waste materials, or violation of this Order, the Discharger shall employ safeguards to prevent loss of control over wastes. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures, or other means.
3. The fact that it would have been necessary to halt or reduce the permitted activity in Order to maintain compliance with this Order shall not be regarded as a defense for the Discharger's violations of the Order.
4. The discharge shall remain within the designated disposal area at all times.
5. By the effective date of waste discharge requirements, the Discharger shall have a plan for preventing and controlling **accidental discharges**, and for minimizing the effect of such events. This plan shall:

- a. Identify the possible sources of accidental loss or leakage of wastes from each waste storage, treatment, or disposal unit.
- b. Evaluate the effectiveness of present WMUs and operational procedures, and identify needed changes or contingency plans.
- c. Predict the effectiveness of the proposed changes in waste management facilities and procedures and provide an implementation schedule containing interim and final dates when changes will be implemented.

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

6. Any direct-line discharge to a surface impoundment shall have fail-safe equipment or operating procedures to prevent overflowing.
7. Surface impoundments shall be designed, constructed and maintained to prevent scouring and/or erosion of the liners and other containment features at points of discharge to the impoundments and by wave action at the waterline.
8. Leachate removed from a surface impoundment LCRS shall be discharged to the impoundment from which it originated.
9. Solids which accumulate in a surface impoundment shall be periodically removed to maintain minimum freeboard requirements and to maintain sufficient capacity for the surface impoundment leachate and for the discharge of wastes. Prior to removal of these solids, sufficient samples shall be taken for their characterization and classification pursuant to Article 2, Subchapter 2 of Title 27. The rationale for the sampling protocol used, the results of this sampling, and a rationale for classification of the solids shall be submitted to the Central Valley Water Board for review. The solids will be discharged to an appropriate WMU based on characterization.
10. Water used for facility maintenance shall be limited to the minimum amount necessary for dust control.

C. Siting

1. New WMUs for Group A and B wastes shall not be located on Holocene faults. Units for Group C wastes may be located on Holocene faults if displacement will not allow escape of wastes or cause irreparable damage to containment structures [27 CCR §22490(a)(1)].
2. New WMUs shall be outside areas of rapid geologic change. Exemptions may be allowed by the RWQCB if containment structures are designed and constructed to preclude failure [27 CCR §22490(a)(2)].
3. Surface drainage from tributary areas and internal site drainage from surface or subsurface sources shall not contact or percolate through wastes, and shall either be contained on-site or be discharged in accordance with applicable storm water regulations.

D. Closure

1. New and existing WMUs shall be closed so that they no longer pose a threat to water quality. No post closure land uses shall be permitted that might impair the integrity of containment structures [27 CCR §22510(a)].
2. WMUs shall be closed according to an approved closure and post closure maintenance plan which provides for continued compliance with applicable standards for waste containment, precipitation and drainage controls and monitoring throughout closure and the post closure maintenance period [27 CCR §22510(b)].
3. Closed WMUs shall be provided with at least two **permanent monuments**, installed by a licensed land surveyor or by a registered civil engineer authorized to perform land surveying, from which the location and elevation of all wastes, containment structures, and monitoring facilities can be determined throughout the post-closure maintenance period [27 CCR §20950(d)].
4. Final cover slopes for Group A and Group B waste piles shall not be steeper than a horizontal to vertical ratio of one and three quarters to one, and shall have minimum of one fifteen-foot wide bench for every fifty feet of vertical height [27 CCR §21090(a)].

E. Post-Closure

1. WMUs shall be closed so that they no longer pose a threat to water quality. No post closure land uses shall be permitted that might impair the integrity of containment structures [27 CCR §22510(a)].
2. The post-closure maintenance period shall end when the Central Valley Water Board determines that water quality aspects of reclamation are complete and waste no longer poses a threat to water quality [27 CCR §22510(h)].
3. The owner of the mine shall have the continuing responsibility to assure protection of usable waters from discharged wastes and from gases and leachate generated by discharged waste during the active life, closure, and post-closure maintenance period of the WMUs and during subsequent use of the property for other purposes.

XII. DEFINITIONS

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

The following additional definitions apply to the Order:

- A. **“Affected Persons”** means all individuals who either own or occupy land outside the boundaries of the parcel upon which the WMU is located that has been or may be affected by the **release** of leachate or waste constituents (in gas or liquid phase) from a WMU.
- B. **“Background Monitoring Point”** means a device (e.g., well) or location (e.g., a specific point along a lakeshore), upgradient or sidegradient from the WMU, or as otherwise approved by the Executive Officer, where water quality samples are taken that are not affected by any release from the WMU and that are used as a basis of comparison against samples taken from downgradient Monitoring Points.
- C. **“Composite liner”** means a liner that consists of two or more components, which include a Synthetic Liner in direct and uniform contact with an underlying layer of prepared, low-permeability soil such that the net permeability of the resulting combination is significantly less

than would be expected by reference to the permeability of the individual components layers.

- D. Unless otherwise specified, “**composite sample**” means a combination of individual samples either collected over a specified sampling period or collected over an area at one time (synoptically):
1. at equal time intervals,
 2. at varying time intervals so that each sample represents an equal portion of the media to be sampled.

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

- E. “**Daily maximum concentration**” means the highest measurement made on any single discrete sample or composite sample.
- F. “**Grab sample**” means a discrete sample collected in less than 15 minutes.
- G. “**Matrix effect**” means any change in the method detection limit or practical quantitation limit for a given analyte as a result of the presence of other constituents - either of natural origin or introduced **by** humans as a result of a release or spill - that are present in the sample of water or soil-pore gas being analyzed.
- H. “**Method detection limit (MDL)**” means the lowest constituent concentration associated with a 99% reliability of a “non-zero” analytical result. The MDL shall reflect the detection capabilities of the specific analytical procedure and equipment used by the laboratory. MDLs reported by the laboratory shall not simply be restated from USEPA analytical method manuals. In relatively interference-free water, laboratory-derived MDLs are expected to closely agree with published USEPA MDLs. If the lab suspects that, due to matrix or other effects, the detection limit for a particular analytical run differs significantly from the laboratory-derived MDL, the results should be flagged accordingly, along with an estimate of the detection limit achieved.
- I. “**Monitoring Parameters**” means the short list of constituents and parameters used for the majority of monitoring activity at a given WMU. Monitoring for the short list of Monitoring Parameters constitutes

“indirect monitoring,” in that the results are used to indicate indirectly the success or failure of adequate containment for the longer list of Constituents of Concern.

- J. **“Monitored Media”** means those water-, solid-, or gas-bearing media that are monitored pursuant to the Monitoring and Reporting Program. The Monitored Media may include:
1. Ground water in the uppermost aquifer, in any other portion of the zone of saturation in which it would be reasonable to anticipate that waste constituents migrating from the WMU could be detected, and in any perched zones underlying the WMU,
 2. Any bodies of surface water that could be measurably affected by a release,
 3. Soil pore liquid beneath and/or adjacent to the WMU, and
 4. Soil pore gas beneath and/or adjacent to the WMU.
- K. **“Monitoring Point”** means a device (e.g., well) or location (e.g., a specific point along a lakeshore), downgradient from the WMU and that is assigned in this Order, at which samples are collected for the purpose of detecting a release by comparison with samples collected at Background Monitoring Points.
- L. **“Monthly average concentration”** means the arithmetic mean of measurements made during the month.
- M. **“Monthly average discharge”** means the total discharge by volume during a calendar month divided by the number of days in the month that the facility was discharging (e.g. gallons per day, cubic feet per day).
- Where less than daily sampling is required by this Order, the monthly average shall be determined by the summation of all the measured discharges divided by the number of days during the month when the measurements were made.
- N. **“Order,”** as used throughout this document, means the Waste Discharge Requirements. The Monitoring and Reporting Program and Standard Provisions and Reporting Requirements are incorporated by reference into the Waste Discharge Requirements.
- O. **“Practical quantitation limit (PQL)”** means the lowest constituent concentration at which a numerical concentration can be assigned with

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

- P. **"Reporting Period"** means the time interval during which samples are collected and analyzed, and the results then reported to the Central Valley Water Board, to comply with a specified monitoring and reporting frequency. The maximum reporting period for analysis of all Constituents of Concern is five years; for Monitoring Parameters it is six months (generally, Spring/Summer = April 1 to September 30, and Fall/Winter = October 1 to March 31). The Reporting Period for the Annual Summary Report extends from April 1 of the previous year to March 31 of the current year. The due date for the submittal of any given report will be 15 days after the end of its Reporting Period, unless otherwise stated.
- Q. **"Receiving Waters"** refers to any surface or ground water which actually or potentially receives waste constituents, leachate, or surface or ground waters which come in contact with waste materials or contaminated soils.
- R. **"Sample size"**:
1. For Monitoring Points, means the number of data points obtained from a given Monitoring Point during a given Reporting Period used for carrying out the statistical or non-statistical analysis of a given analyte during a given Reporting Period; or
 2. For Background Monitoring Points, means the number of new and existing data points collected under §20415(e)(11 and 12) from all applicable Background Monitoring Points in a given monitored medium—used to collectively represent the background concentration and variability of a given analyte in carrying out statistical or non-statistical analysis of that analyte during a given Reporting Period.

S. **“Standard Observations”** means:

1. For Receiving Waters:
 - a. Floating and suspended materials of waste origin: presence or absence, source, and size of affected area;
 - b. Discoloration and turbidity: description of color, source, and size of affected area;
 - c. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;
 - d. Evidence of water uses: presence of water-associated wildlife;
 - e. Flow rate; and
 - f. Weather conditions: wind direction and estimated velocity, total precipitation during recent days and on the day of observation;
2. Along the perimeter of the WMU:
 - a. Evidence of liquid leaving or entering the WMU, estimated size of affected area, and flow rate (show affected area on map);
 - b. Evidence of odors: presence or absence, characterization, source, and distance of travel from source; and
 - c. Evidence of erosion and/or of daylighted refuse.
3. For the WMU:
 - a. Evidence of ponded water at any point on the waste management facility (show affected area on map);
 - b. Evidence of odors: presence or absence, characterization, source, and distance of travel from source;
 - c. Evidence of erosion and/or of daylighted refuse; and

T. **“Standard Analysis and Measurements”** means:

1. Turbidity, in NTU;

2. Water elevation to the nearest 1/100th foot above mean sea level; and
 3. Sampling and statistical/non-statistical analysis of the Monitoring Parameters.
- U. “**Synthetic Liner**” means a layer of flexible, man-made material that is installed in accordance with the standard of the industry over an area of land prior to the discharge of waste there.
- V. “**VOC_{water}**” (Volatile Organics Monitoring Parameter for Water) means the composite monitoring parameter encompassing all VOCs that are detectable in less than ten percent of applicable background samples from a monitored water-bearing medium (e.g., the unsaturated zone, the uppermost aquifer, a zone of perched groundwater, or a surface water body). This parameter is analyzed via the non-statistical analytical method described elsewhere in this Order to identify a release to waters of the state of VOCs whose presence in background water is detected too infrequently to allow statistical analysis.
- W. “**VOC_{spg}**” (Volatile Organics Monitoring Parameter for Soil Pore Gas) means Monitoring Parameters addressing all volatile organic constituents detectable in a sample of soil pore gas.
- X. “**Volatile organic constituents (VOCs)**” means the suite of organic constituents having a high vapor pressure. The term includes at least the 47 organic constituents listed in Appendix I to 40 CFR Part 258.