

Central Valley Regional Water Quality Control Board

13 June 2014

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**CERTIFIED MAIL NO.
7013 2250 0000 3465 3456**

**NOTICE OF ADOPTION
OF
WASTE DISCHARGE REQUIREMENTS
FOR
IMERYS TALC VERMONT, INC.
POST-CLOSURE
CALAVERAS COUNTY**

Waste Discharge Requirements (WDRs) Order No. R5-2014-0085 for the Red Hill Mine was adopted by the California Regional Water Quality Control Board, Central Valley Region, at its 6 June 2014 meeting. This Order prescribes requirements for post-closure maintenance at the Red Hill Mine. A copy of the Order must be maintained at the facility. A copy of this Order should also be placed in the operating record.

Please review your WDRs carefully to ensure you understand all aspects of the discharge requirements. Please note that the Reporting Requirements section of the WDRs requires submittal of certain technical reports by the dates provided in the Order. These submittals include the items listed on the following table.

REQUIREMENT	DUE DATE
Water Quality Protection Standards	30 March 2017
Leachate Drain	1 November 2014
Sample Collection and Analysis Plan	1 August 2014

In addition to technical reports required by the WDRs, the WDRs contain a Monitoring and Reporting Program (MRP), which contains specified monitoring requirements that you must implement. Please review the MRP closely so that you may establish the appropriate sampling schedules and protocols. The MRP requires the following technical reports:

REQUIREMENT	DUE DATE
Semiannual Monitoring Reports	1 August, 1 February each year
Annual Monitoring Report	1 February each year
Annual Facility Inspection Report	15 November each year
Major Storm Event Report	Verbal notice 7 days from damage discovery; written notice 14 days after repairs complete.

Financial Assurances Report

1 June each year

Your first semiannual monitoring report is due by 1 August 2014, and is to cover the period from 1 January to 30 June.

To conserve paper and reduce mailing costs, a paper copy of the order has been sent only to the Discharger. Interested parties are advised that the full text of this order is available at: [http://www.waterboards.ca.gov/centralvalley/ board decisions/adopted orders/](http://www.waterboards.ca.gov/centralvalley/board%20decisions/adopted%20orders/) under Calaveras county. Anyone without access to the Internet who needs a paper copy of the order can obtain one by calling Central Valley Water Board staff.

All compliance questions or questions regarding a future permit should be directed to Ross Atkinson. Mr. Atkinson can be reached at (916) 464-4614 or via email at ross.atkinson@waterboards.ca.gov. Additionally; all technical reports and monitoring reports should be submitted to the attention of Mr. Atkinson.

Marty Hartzell
Senior Engineering Geologist
Title 27 Permitting and Mining

Enclosures - Adopted Waste Discharge Requirements
Standard Provisions and Reporting Requirements

cc w/o enclosures:

Division of Water Quality, State Water Resources Control Board, Sacramento
Patrick Palupa, Office of the Chief Counsel, SWRCB, Sacramento
David Coupe, Office of the Chief Counsel, SWRCB, Sacramento
Office of Mine Reclamation, Dept. of Conservation, Sacramento
Office of Drinking Water, Department of Health Services, Sacramento
Environmental Mgmt. Branch, Department of Health Services, Sacramento
Department of Fish and Game, Region II, Rancho Cordova
Brian Moss, Calaveras Environmental Health Dept. San Andreas
Tony Maris, Calaveras Environmental Management Agency, San Andreas
Marc Crum, Condor Earth Technologies, Inc. Sonora

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2014-0085

IMERYS TALC VERMONT, INC.
RED HILL MINE
POST-CLOSURE MAINTENANCE
CALAVERAS COUNTY

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

1. Imerys Talc Vermont, Inc. (hereinafter Discharger) owns the Red Hill Mine (facility) about two miles southeast of Angles Camp in Section 1, T2N, R13E, MDB&M, as shown in Attachment A, which is incorporated herein and made part of this Order by reference. The facility is an inactive closed Group B mining waste management unit regulated under authority given in Water Code section 13000 et seq.; California Code of Regulations, title 27 (Title 27), section 20005 et seq.
2. The facility is on a 47 acre property on Red Hill Road approximately 1.2 miles north of the intersection with Highway 49. The existing area (disturbed by mining) is approximately 16 acres of which five acres contain mining waste. The facility consists of a single waste management unit contained within the former mine open pit, as shown in Attachment B, which is incorporated herein and made part of this Order by reference. The facility is comprised of Assessor's Parcel Number (APN) 64-003-094.
3. The facility operated as a talc mine from 1980 to 1997. The existing Group B mining waste containment unit underwent final closure in 1999 in compliance with Order No. 99-071. The facility has been in Post-Closure Maintenance since 1999, the cover is stable with minimal surface erosion, and there is no evidence of releases to surface water or groundwater. Constituents of concern with the potential to leach from mining waste in concentrations greater than water quality goals include arsenic, cobalt, lead, nickel and TDS.
4. On 27 September 2013 the Discharger submitted an amended Report of Waste Discharge (ROWD). The information in the ROWD has been used in revising these waste discharge requirements (WDRs). The ROWD contains the applicable information required in Title 27. The ROWD and supporting documents contain information related to this revision/update of the WDRs including:
 - (a) Upgrades to the groundwater monitoring system to comply with Title 27, by installing two new monitoring wells; and
 - (b) Proposed revisions to groundwater and surface water monitoring parameters and to concentration limits;

(c) Changes to the leachate collection and management program; and

(d) Changes to the site drainage system.

5. The existing closed waste management unit is described as follows:

<u>Unit</u>	<u>Area</u>	<u>Liner/LCRS¹ /Cover Components</u>	<u>Unit Classification & Status</u>
WMU ²	5 acres	Mining waste backfilled into former mine pit with a sump to collect groundwater. Cover of 12-inch foundation layer, a GCL ³ , a GDN ⁴ and a soil/vegetation top layer.	Group B, closed as a landfill.

¹ LCRS – Leachate collection and removal system.

² WMU – Waste Management Unit.

³ GCL – Geosynthetic Clay Layer.

⁴ GDN – Geosynthetic drainage net.

6. On 11 June 1999, the Central Valley Water Board issued Order No. 99-071 in which the waste management unit at the facility was classified as a Group B mining waste unit for the discharge of Group B mining waste. These WDRs continue to classify the waste management unit as a Group B mining waste unit in accordance with Title 27.

Improvements implemented subsequent to the original closure include:

(a) Subsurface seepage collected above the unit was formerly directed through the Geochemical Barrier (GCB), it is now piped to a settling pond; and

(b) Surface water initially drained via unlined ditches is now piped where it passes through mineralized rock.

7. These WDRs implement the applicable regulations for discharges of mining waste to land through Prohibitions, Specifications, Provisions, and monitoring and reporting requirements. Prohibitions, Specifications, and Provisions are listed in Sections A through H of these WDRs below, and in the Standard Provisions and Reporting Requirements, Mining Wastes (SPRR) dated February 2009 which are attached hereto and made part of this Order. Monitoring and reporting requirements are included in the Monitoring and Reporting Program (MRP) No. R5-2014-0085 and in the SPRRs. In general, requirements that are either in regulation or otherwise apply to all facilities regulated under Title 27 are considered to be "standard" and are therefore in the SPRRs. Any site-specific changes to a requirement in the SPRRs are included in the applicable section (A through H) of these WDRs, and the requirement in the WDRs supersedes the requirement in the SPRRs.

WASTE CLASSIFICATION AND UNIT CLASSIFICATION

8. The Discharger has discharged Group B mining waste to a Group B waste management unit at the facility. These classified wastes may be discharged only in accordance with Title 27.
9. Water Code section 13173 defines "Group B mining waste" as either of the following:
 - (a) Mining wastes that consist of or contains hazardous wastes, that qualify for a variance under Chapter 11 of Division 4.5, of Title 22 of this code, provided that the RWQCB finds that such mining wastes pose a low risk to water quality; or
 - (b) Mining wastes that consist of or contain nonhazardous soluble pollutants of concentrations which exceed water quality objectives for, or could cause degradation of waters of the state.

Group B mining waste can be discharged only at waste management units which comply with Title 27 and have been approved by the regional board for containment of the particular kind of waste to be discharged.

10. Waste at Red Hill Mine consists of mostly overburden rock removed to expose ore for mining and smaller amount of unused, stockpiled talc ore. The waste was classified Group B mining waste in Order No. 99-071, this Order continues that classification. Composite soil samples from overburden stockpiles contained leachable concentrations of arsenic, cobalt, lead and nickel in excess of water quality goals. Samples of ore stockpiles contained concentrations of leachable arsenic and nickel up to 2,280 ug/l and 3,330 ug/l respectively.
11. The data indicate that the waste consists of or contains nonhazardous soluble pollutants of concentrations which exceed water quality objectives for, or could cause, degradation of waters of the state. Therefore, the waste is a 'Group B mining waste' and as such must be discharged to a Group B waste management unit as required by Title 27.
12. Leachate and any inflowing groundwater is collected in a sump at the base of the unit and discharged to the South Ditch. Previously, discharges from the sump if any were treated in a geochemical barrier and measured by a tipping bucket/data logger. This system has suffered repeated failures since it was installed in 1999. There are long periods when no data was collected. There is no evidence that any liquid has been released from the leachate collection sump. These WDRs require that the tipping bucket/data logger will be replaced with a more reliable stilling well with pressure transducer/data logger system.

SITE DESCRIPTION

13. The site is within the western foothills of the central Sierra Nevada Range. The area is open, hilly terrain with low to average forage quality. Historic land uses include grazing,

fruit production and mining. A local rancher has grazing rights on and around portions of the site

14. Land uses within one mile of the facility include residential and stock grazing.
15. There are 6 domestic or agricultural groundwater supply wells within one mile of the facility.
16. The site geology is characterized by phyllites of the Calaveras Formation. The rock fabric strikes north-northwest and dips steeply east. The mine extracted talc from a lens shaped body of ankerite-talc schist. The ore is cross cut by chlorite and quartz veins containing iron, nickel, chromium and arsenic sulfides. Disseminated sulfide mineralization is present in the wall rock to either side of the talc body. Wall rock is black phyllite to the east and gray-green phyllite to the west. The talc body is believed to be a hydrothermally altered serpentinite.
17. The measured hydraulic conductivity of the soil underlying the waste management unit is less than 1×10^{-6} centimeters per second (cm/s).
18. The facility receives an average of 31.24 inches of precipitation per year as measured at the New Melones Dam Station. The mean pan evaporation is 78 inches per year as measured at the New Melones Dam Station, reported by the Western Regional Climate Center.
19. The 1,000-year, 24-hour precipitation event for the facility is estimated to be 8.06 inches, based on Western Regional Climate Center estimates.
20. The waste management facility is not within a 100-year flood plain.

SURFACE WATER CONDITIONS

21. The *Water Quality Control Plan for Sacramento and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan), designates beneficial uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.
22. Surface water drainage from the site is to Carson Creek thence to Melones Reservoir on the Stanislaus River a tributary of the San Joaquin River.
23. The beneficial uses of any specifically identified water body generally apply to its tributary streams. Therefore, the designated beneficial uses of Carson Creek as tributary to New Melones Reservoir, as specified in the Basin Plan, are municipal and domestic supply; agricultural supply; hydropower generation; water contact recreation; non-contact water recreation; commercial and sport fishing; cold freshwater habitat; and wildlife habitat.

GROUNDWATER CONDITIONS

24. The site is in an area of fracture flow in bedrock with limited groundwater. Based on the inadequate available data set, parameter concentrations are highly variable between locations; intrawell analysis is appropriate; and concentrations have been generally stable over the period of monitoring (since 1998). Given the imperfect state of the previous monitoring system there is no indication of an ongoing release from the unit to groundwater.
25. The first encountered groundwater ranges from about 29 feet to 39 feet below the native ground surface. Groundwater elevations range from about 1,646 feet MSL to 1,637 feet MSL.
26. Monitoring data indicate background groundwater quality for first encountered groundwater has electrical conductivity (EC) ranging between 2,010 and 3,890 micromhos/cm, with total dissolved solids (TDS) ranging between 2,210 and 4,890 milligrams per liter (mg/L).
27. The direction of groundwater flow is generally toward the south. Prior to December 2013, only two wells were available to monitor groundwater at this site. The Discharger has been unable to estimate average groundwater gradient or average groundwater velocity.
28. The designated beneficial uses of the groundwater, as specified in the Basin Plan, are domestic and municipal water supply, agricultural supply, industrial service supply, and industrial process supply.

GROUNDWATER AND SURFACE WATER MONITORING

29. The groundwater monitoring network was recently upgraded with the addition of two additional wells. The current network consists of a background well, two monitoring wells and one domestic well, as shown on Attachment B.
30. The Discharger's detection monitoring program for groundwater at the facility satisfies the requirements contained in Title 27.
31. The Discharger submitted a 26 September 2013 Water Quality Protection Standard (WQPS) report proposing additional two monitoring wells, reduced monitoring parameters and revised concentration limits for the existing monitoring well MW-1. The WQPS report found that spatial variability of groundwater quality is high and proposed to use Intrawell data analysis to calculate tolerance limits for the monitored constituents. The WQPS and approved data evaluation methods are included in MRP No. R5-2014-0085.

DESIGN OF WASTE MANAGEMENT UNIT

32. Water Code section 13360(a)(1) allows the Central Valley Water Board to specify the design, type of construction, and/or particular manner in which compliance must be met in

waste discharge requirements or orders for the discharge of waste at solid waste disposal facilities.

33. Title 27 section 20080(b) allows the Central Valley Water Board to consider the approval of an engineered alternative to the prescriptive standard. The WMU was closed in 1999 by such an engineered alternative that was approved by the Board in Order No. 99-071. The closure from bottom to top consisted of:

- (a) Material accumulated in the bottom of the mine pit was determined to have a natural hydraulic conductivity of less than 1×10^{-6} cm/sec. A sump was constructed on the pit floor to collect inflowing groundwater and plumbed to drain to a geochemical barrier (GCB) and then discharged to South Ditch, a natural drainage west of the unit;
- (b) Waste rock and stockpiled talc ore were backfilled and compacted into the mine pit; and
- (c) a final cover consisting of a minimum 12 inch foundation layer, a Geosynthetic Clay Layer (GCL), a geocomposite drainage net layer (GDN), and a minimum 24 inch soil/vegetation layer.

Infiltrating surface water captured by the GDN drains through a sump and discharges to the South Ditch. Up gradient base flow is collected in a subsurface drainage system along the northeast pit headwall and drains to a settling pond that discharges to South Ditch. Surface water is collected by a system of ditches and pipes and diverted around the unit.

POST-CLOSURE FINANCIAL ASSURANCES

34. The facility was closed in 1999 and is now in the post-closure maintained phase. The Discharger has established post-closure financial assurances in the amount \$150,000 in 2013 dollars. This cost estimate is approved by the adoption of these WDRs. Pursuant to Title 27 section 22207(a), the Discharger shall continue to maintain financial assurances for closure of the Group B mining waste management unit in accordance with the approved cost estimate, naming the Central Valley Water Board as the beneficiary. .

FINANCIAL ASSURANCES FOR CORRECTIVE ACTION

35. Title 27 Section 22222 requires the Discharger to establish financial assurances for corrective action of a known or reasonably foreseeable release. A cost estimate for corrective action is included in the ROWD. The total of the cost estimate for corrective action is \$25,000 in 2013 dollars. This cost estimate is approved by the adoption of these WDRs. This Order requires the Discharger to establish financial assurances for corrective action in accordance with the approved cost estimate naming the Central Valley Water

Board as the beneficiary. This Order also requires annual adjustments to account for inflation by 1 June of each year.

CEQA AND OTHER CONSIDERATIONS

36. The action to revise waste discharge requirements for this existing facility is exempt from the provisions of the California Environmental Quality Act (CEQA), Public Resource Code section 21000, et seq., and the CEQA guidelines, in accordance with Title 14, section 15301.
37. 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., effective 18 July 1997, and subsequent revisions.
38. Based on the threat and complexity of the discharge, the facility is determined to be classified 3,C as defined below:
- (a) 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."
 - (b) 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."
39. 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 having discharge or 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 having discharged or 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 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.

40. The technical reports required by this Order and the attached "Monitoring and Reporting Program No. R5-2014-0085" are necessary to assure compliance with these waste discharge requirements. The Discharger owns and operates the facility that contains the waste subject to this Order.

PROCEDURAL REQUIREMENTS

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

42. The Central Valley Water Board notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge, and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

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

44. 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 that this Order becomes final, except that if the thirtieth day following the date that this Order becomes final 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.

IT IS HEREBY ORDERED, pursuant to California Water Code sections 13263 and 13267, that Order No. 99-071 is rescinded, and that Imerys Talc Vermont, Inc. 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 discharge of 'hazardous waste' is prohibited. For the purposes of this Order, the term 'hazardous waste' is as defined in California Code of Regulations, Title 23, section 2510 et seq.
2. The discharge of solid waste or liquid waste to surface waters, surface water drainage courses, or groundwater is prohibited.

3. The discharge of wastes outside of a waste management unit or portions of a waste management unit specifically designed for their containment is prohibited.
4. The Discharger shall comply with all General Provisions listed in Section III of the Standard Provisions and Reporting Requirements; Mining Wastes dated February 2009 (SPRRs).

B. DISCHARGE SPECIFICATIONS

1. The discharge shall not cause a condition of pollution or nuisance as defined by the Water Code section 13050.
2. All wells within 500 feet of the unit shall have sanitary seals or shall be properly abandoned. A record of the sealing and/or abandonment of such wells shall be sent to the Central Valley Water Board and to the State Department of Water Resources.
3. The Discharger shall comply with all Discharge Specifications listed in Section V of the SPRRs dated February 2009.

C. FACILITY SPECIFICATIONS

1. Annually, prior to the anticipated rainy season but no later than **31 October**, any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed and reported in compliance with MRP No. R5-2014-0085.

Group B Mining Waste Unit

2. There is no history of the waste management unit discharging leachate and the unit is not expected to discharge in the future. The **Leachate Production Rate** (LPR) for the Group B WMU sump is **1gpd** or 10 gallons over a 30-day period. If leachate generation in the LCRS of the Class II waste pile exceeds the LPR, the Discharger shall:
 - (a) Immediately notify Central Valley Water Board staff by telephone and email.
 - (b) Submit written notification within seven days from the time the exceedance is detected, that includes a time schedule to prevent generation of leachate.
3. The Discharger shall comply with all Facility Specifications listed in Section VI of the SPRRs dated February 2009.

D. DESIGN AND CONSTRUCTION SPECIFICATIONS

1. Containment structures and precipitation and drainage control systems shall be constructed and maintained to prevent, to the greatest extent possible, inundation, erosion, slope failure, and washout under 1,000-year, 24-hour precipitation conditions.
2. Waste management units shall be designed, constructed and operated to prevent inundation or washout due to flooding events with a 100-year return period.
3. Materials used to construct liners shall have appropriate physical and chemical properties to ensure containment of discharged wastes over their operating life.
4. Materials used to construct LCRSs shall have appropriate physical and chemical properties to ensure the required transmission of leachate over the post-closure maintenance period.
5. LCRS shall be maintained to collect twice the anticipated daily volume of leachate generated by the waste containment unit and to prevent the buildup of hydraulic head at any time.
6. The Discharger shall comply with all Construction Specifications listed in Section VII of the SPRRs dated February 2009.

E. FINANCIAL ASSURANCE

1. By **1 June 2015**, pursuant to Title 27 Section 22207, the Discharger shall submit a report showing that it has established an irrevocable \$150,000 **closure fund** with the Central Valley Water Board named as beneficiary to ensure post-closure maintenance of the Class II Group B mining waste containment unit in accordance with the cost estimate in the ROWD. The financial assurances mechanism shall be one listed in Title 27 Section 22228 for which the Discharger is eligible. For financial assurance mechanisms requiring funding, the Discharger shall either fully fund the mechanism by 1 June 2014 or may propose a payment schedule. If the Discharger proposes a payment schedule to fund the mechanism, it shall submit a report by **1 June 2016** showing that the mechanism is fully funded. For financial assurance mechanisms not requiring funding, such as a Guarantee, the Discharger shall submit a report showing the mechanism is in place by **1 June 2015**.
2. By **1 June 2015**, pursuant to Title 27 Section 22222, the Discharger shall submit a report showing that it has established an irrevocable \$25,000 **corrective action fund** with the Central Valley Water Board named as beneficiary to ensure funds are available to address a known or reasonably foreseeable release from the Group B mining waste containment unit. The financial assurances mechanism shall be one listed in Title 27 Section 22228 for which the Discharger is eligible. For financial

assurance mechanisms requiring funding, the Discharger shall either fully fund the mechanism by 1 June 2014 or may propose a payment schedule. If the Discharger proposes a payment schedule to fund the mechanism, it shall submit a report by **1 June 2016** showing that the mechanism is fully funded. For financial assurance mechanisms not requiring funding, the Discharger shall submit a report showing the mechanism is in place by **1 June 2015**.

3. By **1 June** of each year, the Discharger shall submit a report to the Central Valley Water Board that reports the balance of both the closure and corrective action funds or the amounts of the Guarantees and the adjustments to account for inflation in accordance with Title 27 Section 22236.
4. The Discharger shall comply with all Financial Assurance Provisions listed in Section IV of the SPRRs dated February 2009.

F. MONITORING SPECIFICATIONS

1. The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater and surface water and in accordance with Monitoring and Reporting Program (MRP) No. R5-2014-0085, and the Provisions for Monitoring listed in Section IX of the SPRRs dated February 2009.
2. The Discharger shall, for any waste management unit in a corrective action monitoring program, comply with the corrective action monitoring program provisions of Title 27, MRP No. R5-2014-0085 and the Provisions for Monitoring listed in Section IX of the SPRRs dated February 2009.
3. The Discharger shall comply with the Water Quality Protection Standard as specified in this Order, MRP No. R5-2014-0085, and the SPRRs dated February 2009.
4. The concentrations of the constituents of concern in waters passing the Point of Compliance (defined pursuant to Title 27, section 20164 as a vertical surface located at the hydraulically down gradient limit of the waste management unit that extends through the uppermost aquifer underlying the unit) shall not exceed the concentration limits established pursuant to MRP No. R5-2014-0085.
5. For each monitoring event, the Discharger shall determine whether the waste management unit is in compliance with the Water Quality Protection Standard using procedures specified in MRP No. R5-2014-0085 and the Provisions for Monitoring listed in Section IX of the SPRRs dated February 2009.
6. The Discharger shall comply with all Provisions for Monitoring, and Response to a Release specification, as listed in Sections IX and X of the SPRRs dated February 2009.

G. PROVISIONS

1. The Discharger shall comply with the Standard Provisions and Reporting Requirements, dated February 2009, which are attached hereto and made part of this Order by reference. The Standard Provisions and Reporting Requirements contain important provisions and requirements with which the Discharger must comply. A violation of any of the Standard Provisions and Reporting Requirements is a violation of these waste discharge requirements.
2. Pursuant to Water Code section 13267, the Discharger shall comply with Monitoring and Reporting Program No. R5-2014-0085, which is attached to and made part of this Order. This compliance includes, but is not limited to, maintenance of waste containment facilities and precipitation and drainage controls and monitoring groundwater, the unsaturated zone, and surface waters throughout the active life of the waste management units and any applicable post-closure maintenance period. A violation of Monitoring and Reporting Program No. R5-2014-0085 is a violation of these waste discharge requirements.
3. The Discharger shall not discharge waste to any mining waste management unit at this site.
4. The Discharger shall maintain a copy of this Order at the facility and make it available at all times to facility operating personnel, who shall be familiar with its contents, and to regulatory agency personnel.
5. The Discharger shall comply with all applicable provisions Title 27 that are not specifically referred to in this Order.
6. The Discharger shall, in a timely manner, remove and relocate any wastes discharged at this facility in violation of this Order and of the California Water Code.
7. The Discharger shall immediately notify the Central Valley Water Board 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 precipitation and drainage control structures.
8. In the event of any change in control or ownership of the facility or disposal areas, 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 this office. To assume operation as Discharger under this Order, the succeeding owner or operator must apply in writing to the Executive Officer requesting transfer of the Order. The request must contain the requesting entity's full legal name, the state of incorporation if a corporation, the name and address and telephone number of the persons responsible for contact with the Central Valley Water Board, and a statement. The statement shall comply with the signatory paragraph of Reporting Requirement VIII.5.d in the Standard

Provisions and Reporting Requirements and state that the new owner or operator assumes full responsibility for compliance with this Order. Failure to submit the request shall be considered a discharge without requirements, a violation of the California Water Code. Transfer shall be approved or disapproved by the Executive Officer.

9. All technical reports required herein that involve planning, investigation, evaluation, or design, or other work requiring interpretation and proper application of engineering or geologic sciences, shall be prepared by or under the direction of persons registered to practice in California pursuant to California Business and Professions Code sections 6735, 7835, and 7835.1. As required by these laws, completed technical reports must bear the signature(s) and seal(s) of the registered professional(s) in a manner such that all work can be clearly attributed to the professional responsible for the work.
10. The following reports shall be submitted pursuant to Section 13267 of the California Water Code and shall be prepared by a California-registered civil engineer or certified engineering geologist:

<u>Required Reports</u>	<u>Compliance Date</u>
A. Groundwater Monitoring System Propose Water Quality Protection Standards for new monitoring wells.	30 March 2017
B. Leachate Drain Accurately measure leachate production.	1 November 2014
C. Revised Sample Collection and Analysis Plan Submit a revised Sample Collection and Analysis plan.	1 August 2014

11. In the event of any change in ownership of this waste management facility, the Discharger shall notify the succeeding owner or operator in writing of the existence of this Order. A copy of that notification shall be sent to the Central Valley Water Board.
12. The Central Valley Water Board will review this Order periodically and may revise requirements when necessary.

13. This Order shall take effect upon the date of adoption.

14. The Discharger shall comply with all Reporting Requirements listed in Section VIII of the SPRRs dated February 2009.

I, PAMELA C. CREEDON, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Central Valley Region, on 6 June 2014.

PAMELA C. CREEDON, Executive Officer

RDA/WMH

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

MONITORING AND REPORTING PROGRAM NO. R5-2014-0085
FOR
IMERY'S TALC VERMONT, INC.
RED HILL MINE
POST-CLOSURE MAINTENANCE
CALAVERAS COUNTY

This monitoring and reporting program (MRP) is issued to Imerys Talc Vermont, Inc. (Discharger) pursuant to California Water Code section 13267 and incorporates requirements for groundwater and surface water monitoring and reporting; facility monitoring, maintenance, and reporting; and financial assurances reporting contained in California Code of Regulations, title 27, section 20005, et seq. (hereafter Title 27), Waste Discharge Requirements (WDRs) Order No. R5-2014-0085, and the Standard Provisions and Reporting Requirements, Mining Wastes dated February 2009 (SPRRs). Compliance with this MRP is ordered by the WDRs and 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. Failure to comply with this MRP, or with the SPRRs, constitutes noncompliance with the WDRs and with Water Code Section 13267, which can result in the imposition of civil monetary liability.

A. MONITORING

The Discharger shall comply with the detection monitoring program provisions of Title 27 for groundwater and surface water in accordance with Provisions for Monitoring Section IX of the SPRRs. All monitoring shall be conducted in accordance with the approved *Sample Collection and Analysis Plan*, which includes quality assurance/quality control standards. Order No. R5-2014-0085 requires the submittal of a revised *Sample Collection and Analysis Plan* for approval.

All compliance monitoring wells established for the detection monitoring program shall constitute the monitoring points for the groundwater Water Quality Protection Standard. All detection monitoring program groundwater monitoring wells, leachate, and surface water monitoring points shall be sampled and analyzed for monitoring parameters and constituents of concern (COCs) as indicated and listed in Tables I through III.

The Discharger shall use USEPA test methods with the lowest achievable detection limit for that constituent taking any matrix interferences into account. The reporting limit shall be no higher than the practical quantitation limit. The Discharger shall report all trace concentrations that are between the detection limit and the practical quantitation limit. All metals analyses shall be for dissolved metals.

The monitoring program of this MRP includes:

<u>Section</u>	<u>Monitoring Program</u>
A.1	Groundwater Monitoring
A.2	Surface Water Monitoring
A.3	LCRS Monitoring, Leachate Production Rate, and Annual LCRS Testing
A.4	Facility Monitoring

1. Groundwater Monitoring

The Discharger shall operate and maintain a groundwater detection monitoring system that complies with the applicable provisions of Title 27, sections 20415 and 20420. The detection monitoring system shall be certified by a California-licensed professional civil engineer or geologist as meeting the requirements of Title 27. The current groundwater detection monitoring system does meet the applicable requirements of Title 27. The Discharger recently installed two additional monitoring wells to bring the facility into compliance.

The current groundwater monitoring network shall consist of two monitoring wells screened in the uppermost groundwater, downgradient of the unit, (MW-1 and MW-3); and one background well upgradient of the unit, MW-2.

Groundwater samples shall be collected semiannually from the background well, the two detection monitoring wells and any additional wells added as part of the approved groundwater monitoring system. The Discharger shall collect, preserve, and transport groundwater samples in accordance with the approved Sample Collection and Analysis Plan. Depth to groundwater shall be measured to the nearest 0.01 feet. Samples shall be collected and analyzed for the monitoring parameters in accordance with the methods and frequency specified in the following table:

Table I - Groundwater Monitoring			
<u>Parameters</u>	<u>Units</u>	<u>Monitoring Frequency</u>	<u>Reporting Frequency</u>
<u>Field Parameters</u>			
Groundwater Elevation	feet & hundredths, MSL	Semiannually	Semiannually
Temperature	°F	Semiannually	Semiannually
Electrical Conductivity	umhos/cm	Semiannually	Semiannually
pH	pH units	Semiannually	Semiannually
Turbidity	NTU	Semiannually	Semiannually
<u>Monitoring Parameters</u>			
Total Dissolved Solids	mg/L	Semiannually	Semiannually
Total Alkalinity	mg/L	Semiannually	Semiannually
Chloride	mg/L	Semiannually	Semiannually
Manganese	mg/L	Semiannually	Semiannually
Sodium	mg/L	Semiannually	Semiannually
Sulfate	mg/L	Semiannually	Semiannually
Iron	mg/L	Semiannually	Semiannually
Dissolved Metals (Arsenic, Cobalt & Nickel)	ug/L	Semiannually	Semiannually

2. Surface Water Monitoring

The monitoring system shall comply with the applicable provisions of Title 27, sections 20415 and 20420. At the Red Hill Mine, runoff from waste management unit areas flows to South Ditch, drains to an un-named stream and discharges to Carson Creek. The current surface water detection monitoring system meets the applicable requirements of Title 27.

The current surface water monitoring points for the facility are:

<u>Monitoring Points`</u>	<u>Status</u>
SW-E	Background or Upstream
SW-D	Downstream of the GCB
SW-G	Downstream of Mine

For surface water detection monitoring, a sample shall be collected at each monitoring point location and analyzed for the monitoring parameters and constituents in accordance with the methods and frequency specified in the following table:

Table II - Surface Water Monitoring			
<u>Parameters</u>	<u>Units</u>	<u>Monitoring Frequency</u>	<u>Reporting Frequency</u>
<u>Field Parameters</u>			
Temperature	°F	Semiannually	Semiannually
Electrical Conductivity	umhos/cm	Semiannually	Semiannually
pH	pH units	Semiannually	Semiannually
Turbidity	NTU	Semiannually	Semiannually
<u>Monitoring Parameters</u>			
Total Dissolved Solids	mg/L	Semiannually	Semiannually
Total Suspended Solids	mg/L		
Total Alkalinity	mg/L		
Chloride	mg/L	Semiannually	Semiannually
Manganese	mg/L		
Sodium	mg/L		
Sulfate	mg/L	Semiannually	Semiannually
Iron	mg/L	Semiannually	Semiannually
Dissolved Metals (Arsenic, Cobalt & Nickel)	ug/L	Semiannually	Semiannually

3. LCRS Monitoring, Leachate Production Rate, and Annual LCRS Testing

LCRS Monitoring: The Discharger shall operate and maintain leachate collection and removal system (LCRS) sump, record and calculate semi-annual leakage rates, and conduct annual testing of the LCRS in accordance with Title 27 and this monitoring program.

The LCRS sump shall be monitored continuously with a water level transducer in a stilling well and flow shall be recorded in accordance with the following table. If the leachate drains from the sump, the Discharger shall verbally notify Central Valley Water Board staff within **seven days** and shall immediately sample and test the leachate for Field and Monitoring Parameters listed in the following table. Leachate in the LCRS sump shall then be sampled for all parameters and constituents in accordance with the frequencies listed in the following table whenever liquid is present.

Table III - LCRS Monitoring			
<u>Parameters</u>	<u>Units</u>	<u>Monitoring Frequency</u>	<u>Reporting Frequency</u>
<u>Field Parameters</u>			
Flow Rate ¹	gallons/day	Continuous by data logger	Semiannually
Electrical Conductivity	umhos/cm	Semiannually	Semiannually
pH	pH units	Semiannually	Semiannually
<u>Monitoring Parameters</u>			
Total Dissolved Solids	mg/L	Semiannually	Semiannually
Chloride	mg/L	Semiannually	Semiannually
Sulfate	mg/L	Semiannually	Semiannually
Manganese	mg/L	Semiannually	Semiannually
Sodium	mg/L	Semiannually	Semiannually
Iron	mg/L	Semiannually	Semiannually
Dissolved Metals (Arsenic, Cobalt & Nickel)	ug/L	Semiannually	Semiannually

¹ Flow in gallons per day from LCRS sump back to surface impoundment.

Leachate Production Rate: If monitoring of the flow rate into the LCRS shows an exceedance of the Leachate Production Rate required by the WDRs, the Discharger shall follow the procedures in the WDRs under “B. Discharge Specifications”. Tabulated monthly leakage rates shall be included in the semiannual monitoring reports.

Annual LCRS Testing: All LCRSs shall be tested annually pursuant to Title 27, section 20340(d) to demonstrate proper operation. The results of these tests shall be reported to the Central Valley Water Board in the Annual Monitoring Report and shall include comparisons with earlier tests made under comparable conditions.

4. 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 liner systems; LCRS pumps, piping and control systems; drainage control systems; groundwater monitoring wells; 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.3 of this MRP.

b. **Major Storm Events**

The Discharger shall inspect all precipitation, diversion, and drainage facilities and all waste management unit berms for damage **within 7 days** following major storm events capable of causing damage or significant erosion. The Discharger shall take photos of any problem 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.4 of this MRP.

B. REPORTING

The Discharger shall submit the following reports in 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	Semiannual Monitoring Report	30 June, 31 December	1 August, 1 February
B.2	Annual Monitoring Report	31 December	1 February
B.3	Annual Facility Inspection Report	31 October	15 November
B.4	Major Storm Event Reporting	Continuous	Verbal notice 7 days from damage discovery; written notice 14 days after repairs complete.
B.5	Financial Assurances Report	31 December	1 June

Reporting Requirements

The Discharger shall submit monitoring reports **semiannually** with the data and information as required in this Monitoring and Reporting Program and as required in WDRs Order No. R5-2014-0085 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.

Field and laboratory tests shall be reported in each monitoring report. Semiannual and annual monitoring reports shall be submitted to the Central Valley Water Board in accordance with the above schedule for the calendar period in which samples were taken or observations made. In addition, the Discharger shall enter all monitoring data and monitoring reports into the online Geotracker database as required by Division 3 of Title 27.

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 for the calendar period in which samples were taken or observations made.

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. Such records shall be legible and shall show the following for each sample:

- a) Sample identification and 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 MDL and PQL for each analysis. All peaks shall be reported.

Required Reports

1. **Semiannual Monitoring Report:** Monitoring reports shall be submitted semiannually and are due on **1 August** and **1 February**. Each semiannual monitoring report shall contain at least the following:
 - a) For each groundwater monitoring point addressed by the report, a description of:
 - 1) The time of water level measurement;

- 2) The type of pump - or other device - used for purging and the elevation of the pump intake relative to the elevation of the screened interval;
 - 3) The method of purging used to stabilize water in the well bore before the sample is taken including the pumping rate; the equipment and methods used to monitor field pH, temperature, and conductivity during purging; results of pH, temperature, conductivity, and turbidity testing; and the method of disposing of the purge water;
 - 4) The type of pump - or other device - used for sampling, if different than the pump or device used for purging; and
 - 5) A statement that the sampling procedure was conducted in accordance with the approved Sample Collection and Analysis Plan.
- b) A map or aerial photograph showing the locations of observation stations, monitoring points, and background monitoring points.
 - c) The estimated semiannual groundwater flow rate and direction in the uppermost aquifer, in any zones of perched water, and in any additional zone of saturation monitored based upon water level elevations taken prior to the collection of the water quality data submitted in the report [Title 27, section 20415(e)(15)].
 - d) Cumulative tabulated monitoring data for all monitoring points and constituents for groundwater, LCRS/leachate, and surface water. Concentrations below the laboratory reporting limit shall not be reported as "ND" unless the reporting limit is also given in the table. Otherwise they shall be reported "<" the reporting limit (e.g., <0.10). Units shall be as required in Tables I through IV unless specific justification is given to report in other units. Refer to the SPRRs Section IX "Provisions for Monitoring" for requirements regarding MDLs and PQLs.
 - e) Laboratory statements of results of all analyses evaluating compliance with requirements.
 - f) An evaluation of the concentration of each monitoring parameter as compared to the current concentration limits, and the results of any required verification testing for constituents exceeding a concentration limit. Report any actions taken under Section X; "Response to a Release" in the SPRRs for verified exceedances of a concentration limit.
 - g) Tabulated monthly leakage rates into the LCRS sump with comparison to the Leachate Production Rate in the Facility Specifications of the WDRs, and a discussion of required response if ALR was exceeded.
 - h) A summary of all Facility Monitoring including onsite rainfall data for the reporting period required in Section A.4 of this MRP.
2. **Annual Monitoring Report:** The Discharger shall submit an Annual Monitoring Report to the Central Valley Water Board by **1 February** covering the reporting period of the previous monitoring year. If desired, the Annual Monitoring Report

may be combined with the second semiannual report, but if so, shall clearly state that it is both a semi-annual and annual monitoring report in its title. Each Annual Monitoring Report shall contain the following additional information beyond what is required for semiannual monitoring reports:

- a) All monitoring parameters shall be graphed to show historical trends at each monitoring point and background monitoring point, 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. Graphical analysis of monitoring data may be used to provide significant evidence of a release.
 - b) 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 "...the form necessary for..." statistical analysis [Title 27, section 20420(h)], that facilitates periodic review by the Central Valley Water Board.
 - c) Hydrographs of each well showing the elevation of groundwater with respect to the elevations of the top and bottom of the screened interval and the elevation of the pump intake. Hydrographs of each well shall be prepared semi-annually and submitted annually.
 - d) 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.
 - e) A written summary of the monitoring results, indicating any changes made or observed since the previous Annual Monitoring Report.
 - f) The results of the annual testing of the LCRS.
 - g) Updated concentration limits for each monitoring parameter at each monitoring well based on the new background data set.
3. **Annual Facility Inspection Reporting:** By **15 November** of each year, the Discharger shall submit a report 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.4.a. of this MRP, above.
 4. **Major Storm Event Reporting:** The Discharger shall notify Central Valley Water Board staff within **7 days** after major storm events of any damage or significant erosion and report any needed repairs within **14 days** of completion of the repairs, including photographs of the problem and the repairs. Refer to Section A.4.b. of this MRP above for requirements for performing the inspection and conducting the repairs.

5. **Financial Assurances Report:** By 1 June of each year, the Discharger shall submit a report to the Central Valley Water Board that reports the balance of both the closure and corrective action funds or the amounts of the Guarantees and the adjustments to account for inflation in accordance with Title 27 Section 22236. Refer to Financial Assurances Specifications F.1 through F.3 of the WDRs.

C. WATER QUALITY PROTECTION STANDARD AND COMPLIANCE PERIOD

1. Water Quality Protection Standard Report

For each waste management unit, the Water Quality Protection Standard shall consist of all COCs, the concentration limit for each constituent of concern, the verification retesting procedure to confirm measurably significant evidence of a release, the point of compliance, and all water quality monitoring points for each monitored medium.

The Water Quality Protection Standard for naturally occurring waste constituents consists of the COCs, the concentration limits, and the point of compliance and all monitoring points. Any proposed changes to the Water Quality Protection Standard other than annual update of the concentration limits shall be submitted in a report for review and approval.

The report shall:

- a. Identify **all distinct bodies of surface and ground water** that could be affected in the event of a release from a waste management unit or portion of a unit. This list shall include at least the uppermost aquifer and any permanent or ephemeral zones of perched groundwater underlying the facility.
- b. Include a map showing the monitoring points and background monitoring points for the surface water monitoring program and groundwater monitoring program. The map shall include the point of compliance in accordance with Title 27, section 20405.
- c. Evaluate the perennial direction(s) of groundwater movement within the uppermost groundwater zone(s).
- d. Include a proposed statistical method for calculating concentration limits for monitoring parameters and constituents of concern that are detected in 10% or greater of the background data (naturally-occurring constituents) using a statistical procedure from Title 27, section 20415(e)(8)(A-D)] or section 20415(e)(8)(E).

- e. Include a retesting procedure to confirm or deny measurably significant evidence of a release pursuant to Title 27, section 20415(e)(8)(E) and section 20420(j)(1-3).

The Water Quality Protection Standard shall be certified by a California-registered civil engineer or geologist as meeting the requirements of Title 27. If subsequent sampling of the background monitoring point(s) indicates significant water quality changes due to either seasonal fluctuations or other reasons unrelated to waste management activities at the site, the Discharger may request modification of the Water Quality Protection Standard.

The Discharger proposed concentration limits in the 26 September 2013, *Proposed Changes to Water Quality Protection Standards*. The limits were calculated using the statistical method of upper tolerance limits, 95% coverage with 97% confidence.

The Water Quality Protection Standard shall be updated annually for each monitoring well using new and historical monitoring data.

2. Monitoring Parameters

Monitoring parameters are a select group of constituents that are monitored during each monitoring event that are the waste constituents, reaction products, hazardous constituents, and physical parameters that provide a reliable indication of a release from a waste management unit. The monitoring parameters for all waste management units are those listed in the tables in Section A of this MRP for each monitored medium.

3. Concentration Limits

For a naturally occurring constituent of concern, the concentration limit for each constituent of concern shall be determined as follows:

- a. By calculation in accordance with a statistical method pursuant to Title 27, section 20415(e)(8); or
- b. By an alternate statistical method meeting the requirements of Title 27, section 20415(e)(8)(E).

The methods for calculating concentration limits were included in the 26 September 2013, *Proposed Changes to Water Quality Protection Standards*.

The most recent concentration limits for select parameters as reported in the 26 September 2013, *Proposed Changes to Water Quality Protection Standards* Report were as follows:

Well	TDS ¹ (mg/L) ²	pH (Std units)	EC ³ (umhos/cm)	Iron (mg/L)	Sulfate (mg/L)	Arsenic (mg/L)	Nickel (mg/L)
MW-1	1716	6.6-8.4	1520	11.56	1030	0.0096	0.698
Surface Water	794	6.3-7.8	1760	9.4	942	0.011	NA

Well	T. Alkalinity (mg/L)	Manganese (mg/L)	Cobalt (mg/L)	Sodium (mg/L)
MW-1	168	7.88	0.05	25
Surface Water	1760	8.7	NA	13

¹ Total Dissolved Solids

² Milligrams per liter

³ Electrical Conductivity

Concentration Limits shall be calculated for the new wells MW-2 and MW-3 when eight independent samples have been collected.

Retesting Procedures for Confirming Evidence of a Release

If monitoring results indicate measurably significant evidence of a release, as described in Standard Monitoring Specification I.43 of the SPRRs, then:

- a. For analytes that are detected in less than 10% of the background samples (such as non-naturally occurring constituents), the Discharger shall use the non-statistical retesting procedure required in Standard Monitoring Specification I.44 of the SPRRs.
- b. For analytes that are detected in 10% or greater of the background samples (naturally occurring constituents), the Discharger shall use one of the statistical retesting procedure as required in Standard Monitoring Specification I.45 of the SPRRs.

4. Compliance Period

The compliance period for each waste management unit shall be the number of years equal to the active life of the unit plus the closure period. The compliance period is the minimum period during which the Discharger shall conduct a water quality monitoring program subsequent to a release from the waste management unit. The compliance period shall begin anew each time the Discharger initiates an evaluation monitoring program [Title 27, section 20410].

5. Monitoring Points

A monitoring point is a well, device, or location specified in the waste discharge requirements, which monitoring is conducted and at which the water quality protection standard applies. The monitoring points for each monitored medium are listed in Section A of this MRP.

D. 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.

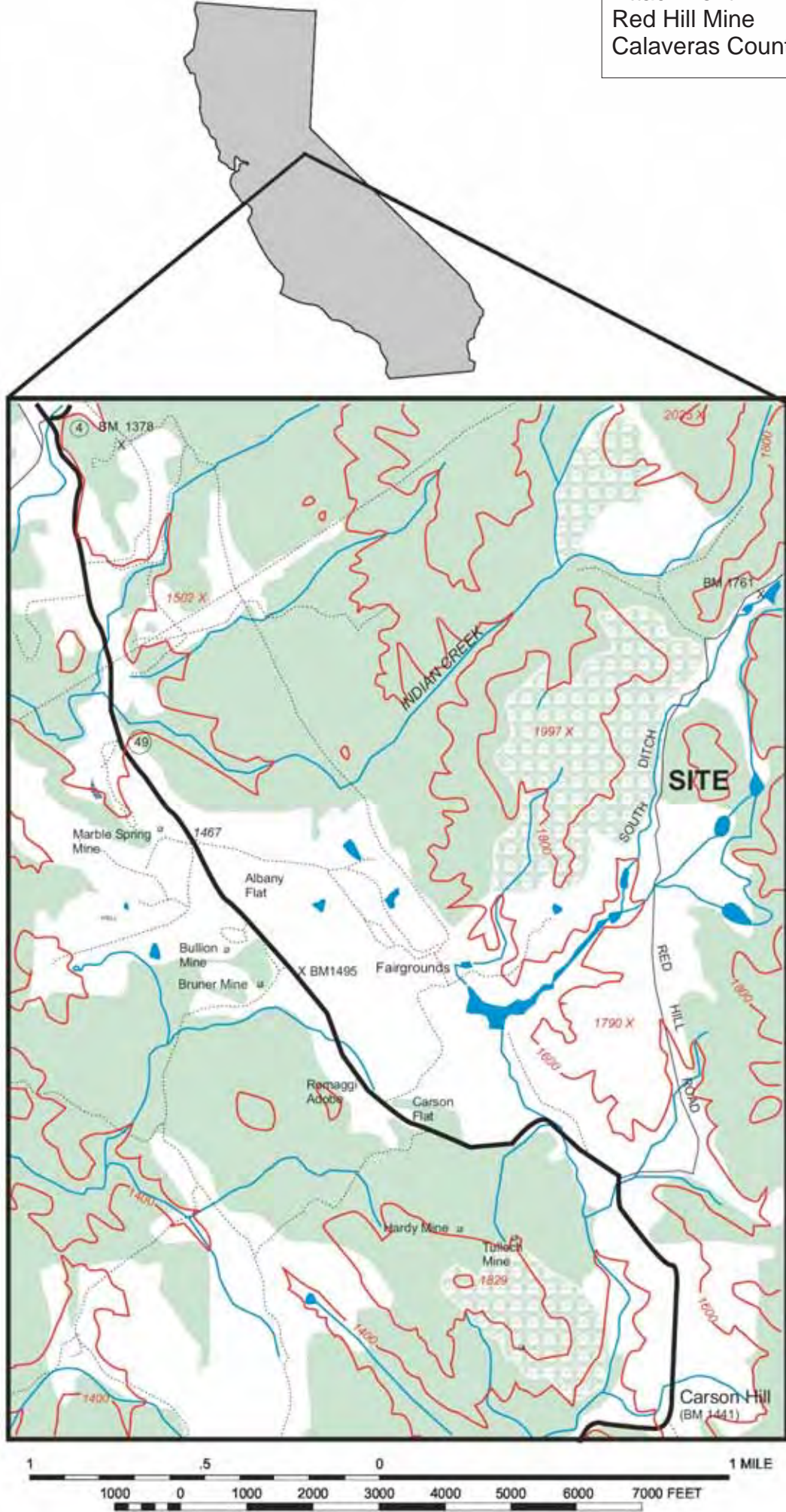
The Discharger shall implement the above monitoring program on the effective date of this Program.

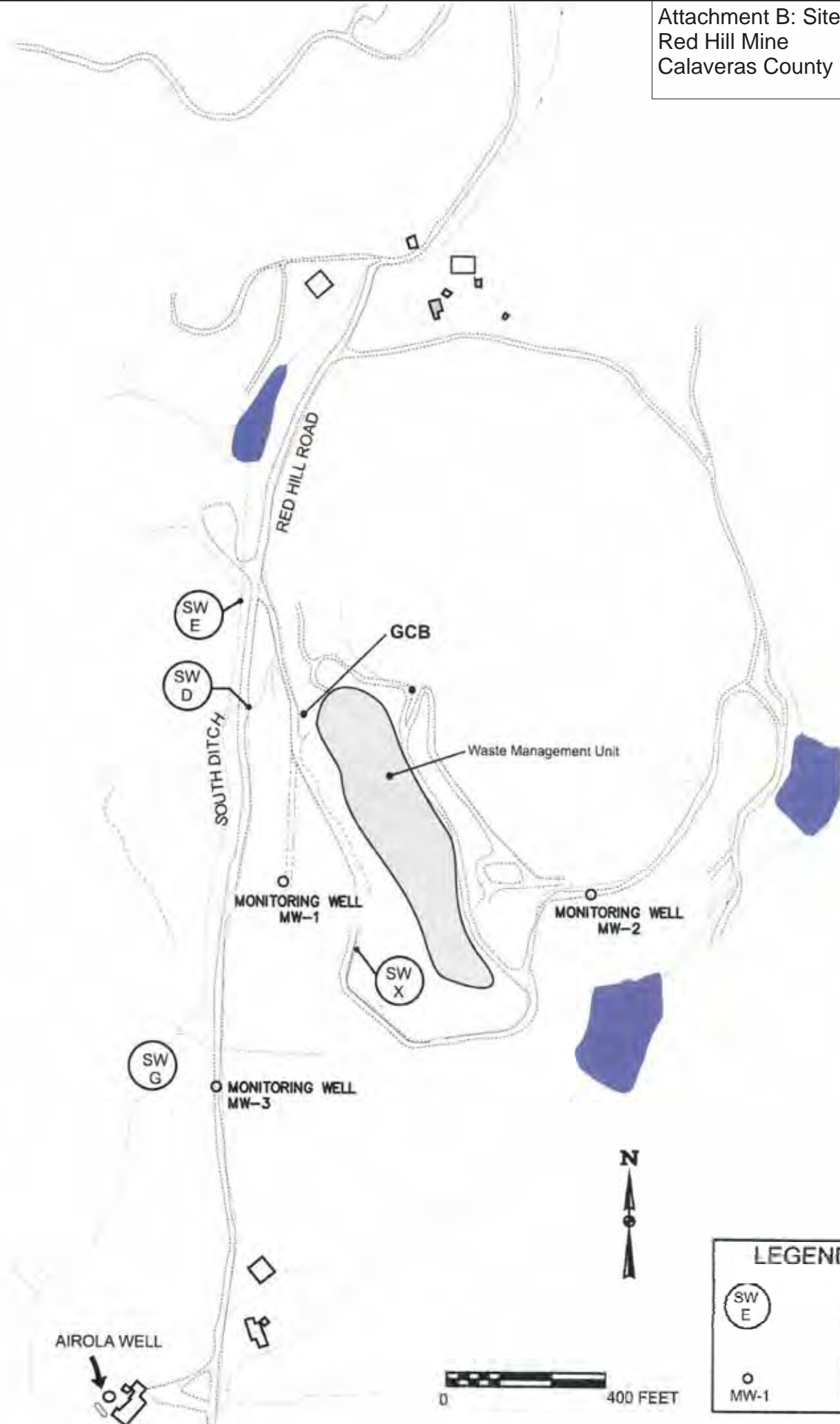
Ordered by: _____
PAMELA C. CREEDON, Executive Officer



(Date)

RDA

Attachment A: Location Map
Red Hill Mine
Calaveras County





LEGEND	
	SURFACE WATER SAMPLING POINT
	GROUND WATER SAMPLING POINT

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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 **purging** and the placement of the pump in the well, and the method of purging (pumping rate, equipment and methods used to monitor field pH, temperature, and conductivity during purging, calibration of the field equipment, results of pH, temperature, conductivity, and turbidity testing, well recovery time, and method of purge water disposal).
 - c. For each Monitoring Point and Background Monitoring Point addressed by the report, a description of the type of pump (or other device) used and its placement for **sampling**, and a detailed description of the sampling procedure (number and description of the samples, field blanks, travel blanks, and duplicate samples taken, the type of containers and preservatives used, the date and time of sampling, the name and qualifications of the person actually taking the samples, and any other observations).
 - d. A **map or aerial photograph** showing the locations of observation stations, Monitoring Points, and Background Monitoring Points.
 - e. **Laboratory** statements of results of all analyses evaluating compliance with requirements.
 - f. An evaluation of the effectiveness of the leachate monitoring and control facilities, and of the run-off/run-on control facilities.

- g. A summary and certification of completion of all Standard Observations for the WMU, for the perimeter of the WMU, and for the receiving waters. The terms 'Standard Observations' and 'receiving waters' as used in this document are defined below in section **XII. Definitions**.
 - h. The quantity and types of wastes discharged and the locations in the WMU where waste has been placed since submittal of the last such report.
3. The Discharger shall report by telephone concerning any **seepage from the disposal area** immediately after it is discovered. A written report shall be filed with the Central Valley Water Board within seven days, containing at least the following information:
- a. a map showing the location(s) of seepage;
 - b. an estimate of the flow rate;
 - c. description of the nature of the discharge (e.g., all pertinent observations and analyses); and
 - d. corrective measures underway or proposed, and corresponding time schedule.

See **RESPONSE TO A RELEASE** below.

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

5. 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)].
6. 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)].

7. 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.

INFORMATION SHEET

ORDER NO. R5-2014-0085

WASTE DISCHARGE REQUIREMENTS
IMERY'S TALC VERMONT INC
RED HILL MINE
POST-CLOSURE MAINTENANCE
CALAVERAS COUNTY

Imery's Talc California Inc. owns the closed former Red Hill Talc Mine on Red Hill Road in Calaveras County. The mine was closed in compliance with Waste Discharge Requirements Order No. 99-071 by consolidating Group B mining waste and installing an engineered cover within the footprint of the former mine pit. The Discharger requested revised Waste Discharge Requirements to address: upgrades to the groundwater monitoring system; revise monitoring parameters and concentration limits; changes to the LCRS; and changes to the site drainage.

These WDR are designed to collect sufficient groundwater and leachate generation data to allow future rescinding of the WDRs.

RDA: 17 April 2014