

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

ORDER NO. R5-2004-0006

NPDES NO. CA 0082058

WASTE DISCHARGE REQUIREMENTS
FOR
DICALITE MINERALS CORPORATION
SHASTA COUNTY

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

1. The Dicalite Minerals Corporation (hereafter Discharger) submitted a Report of Waste Discharge, received 27 March 2002, and applied to renew their permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from their quarry and processing facility. The Discharger is currently regulated under Waste Discharge Requirements Order No. 97-220 (NPDES No. CA0082058), adopted by the Regional Board on 24 October 1997.
2. The Discharger owns and operates an open pit diatomite mine (Assessor's Parcel Nos. 022-200-08, 17, 18, and 19) in portions of Sections 25, 35, and 36, T37N, R2E, MDB&M, with surface water drainage to Lake Britton, a lake formed by the damming of the Pit River about 12 miles north of the town of Burney, as shown on Attachment A, which is incorporated herein and made part of this Order by reference.
3. The open pit diatomite mine is approximately 100 acres in area. The plant site, consisting of stockpile area, offices, fuel storage, drying facilities, and packaging is about 20 acres in area, as shown on Attachment B, a part of this Order.
4. The Discharger discharges an estimated quantity of settled stormwater runoff from ponds at the mine site (001) and the plant site (002). At each location, stormwater runoff is channeled to a primary pond for coarse settling, treated with a polymer flocculent, and then pumped to a second pond for settling of the coagulated sediment. Final discharge of the treated water is to an intermittent watercourse tributary to the Pit River (and the Lake Britton impoundment). Discharge 001 is located at N41°1.979', W121°41.048' and Discharge 002 is located at N41°1.925', W121°40.867'.
5. The facility has 11 aboveground storage tanks of various sizes (from 500 to 20,000 gallons) that store a total of 107,000 gallons of petroleum products. Containment structures have been constructed around all aboveground petroleum products. A Spill

Prevention Control and Countermeasure Plan, prepared by a registered professional engineer, has been submitted by the Discharger.

6. The facility is in the Pit River Hydrologic Unit, Lake Britton Hydrologic Subarea (No. 526.31), as depicted on interagency hydrologic maps prepared by the California Department of Water Resources (DWR) in August 1986. The mean annual rainfall in the area is approximately 40 inches, based on information from the U.S. Geological Survey and DWR.
7. The Regional Board adopted a *Water Quality Control Plan, Fourth Edition, for the Sacramento and San Joaquin River Basins* (hereafter Basin Plan). The Basin Plan designates beneficial uses, establishes water quality objectives, and describes an implementation program and policies to achieve water quality objectives for all waters of the Basin. This includes plans and policies adopted by the State Water Resources Control Board (SWRCB) and incorporated by reference, such as Resolution No. 68-16, "Statement of Policy with Respect to Maintaining High Quality of Waters in California" (Resolution No. 68-16). These requirements implement the Basin Plan.
8. USEPA adopted the *National Toxics Rule* (NTR) on 5 February 1993 and the *California Toxics Rule* (CTR) on 18 May 2000. These Rules contain water quality criteria applicable to this discharge. The SWRCB adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (known as the State Implementation Policy or SIP), which contains guidance on implementation of the NTR and the CTR.
9. The Basin Plan on page II-2.00 states that: "Existing and potential beneficial uses which currently apply to surface waters of the basins are presented in Figure II-1 and Table II-1. The beneficial uses of any specifically identified water body generally apply to its tributary streams." The Basin Plan identifies the following beneficial uses for the Pit River (including the Lake Britton impoundment) from the mouth of Hat Creek to Shasta Lake: municipal and domestic supply; agricultural supply; hydropower generation; water contact and noncontact recreation; warm and cold freshwater habitat; spawning, reproduction, and/or early development; and, wildlife habitat.
10. The beneficial uses of groundwater are municipal and domestic supply (MUN), agricultural supply (AGR), industrial service supply (IND), and industrial process supply (PRO).
11. The U.S. Environmental Protection Agency (USEPA) and the Regional Board have classified this discharge as a minor discharge.
12. Federal regulations contained in 40 CFR 122.4 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable

potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. USEPA adopted the National Toxics Rule (NTR) on 5 February 1993 and the California Toxics Rule (CTR) on 18 May 2000. The NTR and CTR contain water quality standards applicable to this discharge. The SIP contains guidance on implementation of the NTR and CTR. In addition, the Basin Plan contains narrative and numeric water quality standards consisting of water quality objectives and beneficial uses.

On 11 December 2000, the Discharger was issued a letter under the authority of California Water Code Section 13267 requesting effluent and receiving water monitoring to perform a reasonable potential analysis. Federal regulations contained in 40 CFR 122.4 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. The Discharger collected effluent and receiving water samples on 25 November 2001, 9 January 2002, and 6 March 2002, to determine if the priority pollutants established in the CTR and NTR were detected. Analytical results were submitted for volatile substances, semi-volatile substances, metals, asbestos, 2,3,7,8-TCDD dioxin, and sixteen other dioxin congeners.

The methodology described in Section 1.3 of the SIP was used to evaluate the Discharger's monitoring data. Zinc and bis-2-ethylhexylphthalate were detected in the effluent at concentrations that may cause or contribute to an in-stream excursion above a narrative or numerical water quality standard or objective. No credit for dilution of the effluent with the receiving water was considered. Additionally, based on long-term monitoring submitted by the Discharger the discharge also has reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard for settleable solids, suspended solids, pH, and acute toxicity.

The lowest observed, representative hardness measurement of the receiving water is used, when needed, to calculate effluent limits for hardness-dependent metals. On 25 November 2001 and 9 January 2002, upstream receiving water hardness was measured at 46 mg/L and 60 mg/L, respectively. Therefore, 46 mg/L is used as a conservative value for calculations.

Zinc

The CTR acute aquatic life criterion for zinc is not applicable to the Sacramento River or its tributaries above Hamilton City. For these areas, the Basin Plan instantaneous water quality objective for zinc is 18.4 ug/L (total recoverable, after adjusting for hardness). The CTR chronic aquatic life criterion is applicable and is 62.1 ug/L (total recoverable, after adjusting for hardness). No dilution allowance is being granted, therefore the effluent concentration allowance (ECA) is equal to the adjusted water quality criteria or objective. Using the SIP methodology, the LTA based on the Basin Plan objective is lowest at 5.90 ug/L (total recoverable). Using the coefficient of variation of 0.6, the MDEL

multiplier is 3.11 and the AMEL multiplier is 1.55, using a monthly sampling frequency of four times. Therefore, the MDEL for zinc is 18.3 ug/L (total recoverable) and the AMEL is 9.14 ug/L (total recoverable).

bis-2-Ethylhexylphthalate (final limit)

The CTR human health criteria for bis-2-ethylhexylphthalate in sources of drinking water is applicable and is 1.8 ug/L. No dilution allowance is being granted, therefore the effluent concentration allowance (ECA) is equal to the water quality criteria or objective. In this case the ECA is 1.8 ug/L. Using the SIP methodology, a coefficient of variation of 0.6 is appropriate if the number of effluent data points is less than ten. For CTR human health criteria, the average monthly effluent limit (AMEL) is equal to the ECA. Therefore, the AMEL for bis-2-ethylhexylphthalate is 1.8 ug/L. For CTR human health criteria, the maximum daily effluent limit (MDEL) is equal to the ECA multiplied by the MDEL/AMEL multiplier. The MDEL/AMEL multiplier is 2.01 with a coefficient of variation of 0.6 and a monthly sampling frequency of 4 times. Therefore, the MDEL for bis-2-ethylhexylphthalate is 3.6 ug/L.

Settleable Solids

The Basin Plan states that waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses. The Order contains monthly average and daily maximum settleable solids limits of 0.1 ml/L and 0.2 ml/L respectively. The settleable solids limits in this permit are based on what can reasonably be achieved in well-designed, constructed and operated settling ponds. These limits are consistent with the previous Order.

Suspended Solids

The Basin Plan states that waters shall not contain suspended material in concentrations that cause nuisance or adversely affects beneficial uses. The Order contains a daily maximum suspended solids limit of 50 mg/L. The suspended solids limit in this permit is based on benchmark values established by the USEPA and is comparable with the suspended solids limits for similar facilities.

pH Limit

This Order requires the effluent pH to remain between 6.0 and 9.0 units. These limits are consistent with the limits in the previous Order and are reasonably achievable.

Acute Toxicity Limits

The effluent generally consists of settled storm water. This Order contains effluent limits for acute toxicity which are consistent with the previous Order.

13. Section 2.1 of the SIP provides that: *“Based on an existing discharger’s request and demonstration that it is infeasible for the discharger to achieve immediate compliance with a CTR criterion, or with an effluent limitation based on a CTR criterion, the RWQCB may*

establish a compliance schedule in an NPDES permit.” Section 2.1, further states that compliance schedules may be included in NPDES permits provided that the following justification has been submitted: ...“(a) documentation that diligent efforts have been made to quantify pollutant levels in the discharge and the sources of the pollutant in the waste stream; (b) documentation of source control measures and/or pollution minimization measures efforts currently underway or completed; (c) a proposal for additional or future source control measures, pollutant minimization actions, or waste treatment (i.e., facility upgrades); and (d) a demonstration that the proposed schedule is as short as practicable.” This Order requires the Discharger to provide this information. The final water quality based effluent limitation for bis-2-ethylhexylphthalate become effective 60 days after adoption of this Order unless an acceptable compliance schedule justification meeting the requirements of Section 2.1 of the SIP is completed and submitted by the Discharger. If an acceptable compliance schedule justification is submitted, the interim effluent limit described in this Order for bis-2-ethylhexylphthalate will supercede the final effluent limit until 5 years after adoption of this Order. At that time the final effluent limit will be fully applicable. As this schedule is greater than one year, the Discharger shall submit semi-annual progress reports on 15 July each year until the Discharger achieves compliance with the final water quality based effluent limitation for bis-2-ethylhexylphthalate.

14. The SIP, Section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Board shall establish interim limitations and dates for their achievement in the NPDES permit. The interim limitations must: be based on current treatment plant performance or existing permit limitations, whichever is more stringent; include interim compliance dates separated by no more than one year, and; be included in the Provisions. The interim limitations in this Order are based on the current treatment plant performance. When there are less than ten sampling data points available, the *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-001)(TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than ten sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed sampling point to obtain the daily maximum interim limitation (TSD, Table 5-2). The Regional Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with NTR- and CTR-based Effluent Limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final Effluent Limitations, but in compliance with the interim Effluent Limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. For example, USEPA states in the Ambient Water Quality Criteria for the

Protection of Freshwater Aquatic Life for copper, that it will take an unstressed system approximately three years to recover from a pollutant in which exposure to copper exceeds the recommended criterion. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the final Effluent Limitations can be achieved.

Bis-2-ethylhexylphthalate was detected in effluent from the Facility at a concentration of 3.0 ug/L (estimated concentration). As described above, the daily maximum interim limit is established as 3.11 times the maximum observed value. Therefore, the daily maximum interim limit for bis-2-ethylhexylphthalate is 9.3 ug/L. The long-term average objective is to maintain the current level of pollutant concentrations or better. Therefore, the monthly average interim limit for bis-2-ethylhexylphthalate cannot exceed the maximum detected concentration that is 3.0 ug/L.

15. This Order establishes concentration-based and mass-based effluent limits. The mass-based effluent limits are calculated using the concentration-based limit and the maximum permitted effluent flow rate for the Facility as provided by the Discharger. If the maximum permitted effluent flow rate for the Facility changes, then the mass-based effluent limits would need to be recalculated.
16. Federal Regulations for storm water discharges were promulgated by USEPA on 16 November 1990 (40 CFR Parts 122, 123, and 124). The regulations require specific categories of facilities, which discharge storm water associated with industrial activity (storm water), to obtain NPDES permits and to implement Best Available Technology Economically Achievable and Best Conventional Pollutant Control Technology to reduce or eliminate industrial storm water pollution.
17. The SWRCB adopted Order No. 97-03-DWQ (General Permit No. CAS000001), on 17 April 1997, specifying waste discharge requirements for discharge of storm water associated with industrial activities, excluding construction activities, that requires submittal of a Notice of Intent, preparation of a Storm Water Pollution Prevention Plan, site map, and monitoring program by industries to be covered under the permit. The General Permit, Table D, requires non-metallic minerals mining facilities to sample for additional constituents. Specifically, the category "Mineral Mining and Dressing..." requires total suspended solids (TSS) to be monitored. This individual permit and the provisions and monitoring it contains concerning storm water relieve the Discharger from seeking coverage under the General Permit.
18. Resolution No. 68-16 requires the Regional Board, in regulating the discharge of waste, to maintain high quality waters of the state unless it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board's policies (e.g., quality that exceeds water quality objectives). Resolution No. 68-16 applies to both surface water and groundwater.

19. The Regional Board finds that discharge in compliance with the prohibitions, limitations, specifications, and provisions in this Order is consistent with Resolution No. 68-16. The impact on water quality will be insignificant.
20. The Basin Plan identifies numerical water quality objectives for waters designated as municipal supply. These are the maximum contaminant levels (MCLs) specified in the following provisions of Title 22, California Code of Regulations: Tables 64431-A (Inorganic Chemicals) and 64431-B (Fluoride) of Section 64431, Table 64444-A (Organic Chemicals) of Section 64444, and Table 64449-A (Secondary Maximum Contaminant Levels-Consumer Acceptance Limits) of Section 64449. The Basin Plan's incorporation of these provisions by reference is prospective, and includes future changes to the incorporated provisions as the changes take effect. The Basin Plan recognizes that the Regional Board may apply limits more stringent than MCLs to ensure that waters do not contain chemical constituents in concentrations that adversely affect beneficial uses and do not contain waste constituents in concentrations statistically greater than background water quality.
21. The action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA) (Public Resources Code Section 21100, et seq.), in accordance with Section 13389 of the California Water Code.
22. Effluent limitations, and toxic and pretreatment effluent standards established pursuant to Sections 301 (Effluent Limitations), 302 (Water Quality Related Effluent Limitations), 304 (Information and Guidelines), and 307 (Toxic and Pretreatment Effluent Standards) of the Clean Water Act (CWA) and amendments thereto are applicable to the discharge.
23. The Discharger operates a diatomite mineral mining and processing facility, therefore, effluent limitations established in Mineral Mining and Processing Point Source Category (40 CFR Part 436) are applicable to the discharge. Specifically, Subpart X (Diatomite Subcategory) applies.
24. The Regional Board has considered the information in the attached Information Sheet in developing the findings in this Order. The attached Information Sheet is part of this Order.
25. The Regional Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for this discharge and has provided them an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
26. The Regional Board, in a public meeting, heard and considered all comments pertaining to the discharge.

27. This Order shall serve as an NPDES permit pursuant to Section 402 of the CWA, and amendments thereto, and shall take effect 10 days from the date of hearing, provided USEPA has no objections.

IT IS HEREBY ORDERED that Order No. 97-220 is rescinded and the Dicalite Minerals Corporation, its agents, successors and assigns, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Clean Water Act and regulations and guidelines adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. Discharge of wastewater, including storm water, at locations or in a manner different from that described in Finding No. 4 is prohibited.
2. The by-pass or overflow of wastes to surface waters is prohibited, except as allowed by Standard Provision A.13 (see attached "Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES), March 1991").
3. The discharge of untreated wastes, including earthen materials, from diatomite mining and processing operations to surface waters or surface water drainage courses is prohibited.
4. The discharge of hazardous or toxic substances, including water treatment chemicals, solvents, or petroleum products (including oil, grease, gasoline and diesel) to surface waters or groundwater is prohibited.
5. Discharge of waste classified as "hazardous" as defined in Section 2521(a) of Title 23, California Code of Regulations (CCR), Section 2510, et seq., (hereafter Chapter 15), or "designated," as defined in Section 13173 of the California Water Code, is prohibited.

B. Effluent Limitations (Discharge 001 and 002)

1. The discharge of wastewater to the Pit River tributary in excess of the following is prohibited:

<u>Parameter</u>	<u>Unit</u>	<u>30- DayAverage</u>	<u>Daily Maximum</u>
Total Suspended Solids	mg/L	--	50
	lbs/day ^b	--	1,260
Settleable Solids	ml/L	0.1	0.2
	lbs/day ^b	--	--
Zinc (total recoverable)	ug/L	9.1	18.3
	lbs/day ^b	0.23	0.46
bis-2-Ethylhexylphthalate ^a	ug/L	1.8	3.6
	lbs/day ^b	0.05	0.09

^a Final effluent limit. Interim effluent limits may supercede as described in this Order.

^b Based upon a combined design treatment capacity of 3.02 mgd.

2. Interim effluent limits have been established for the following constituents. These interim effluent limits may supercede the above final effluent limits as described in this Order. The interim discharge of wastewater to the Pit River tributary in excess of the following is prohibited:

<u>Parameter</u>	<u>Unit</u>	<u>30- DayAverage</u>	<u>Daily Maximum</u>
bis-2-Ethylhexylphthalate	ug/L	3.0	9.3
	lbs/day ^a	0.08	0.24

^a Based upon a combined design treatment capacity of 3.02 mgd.

3. The discharge shall not have a pH less than 6.0 or greater than 9.0.
4. Survival of aquatic organisms in 96-hour acute bioassays of undiluted waste shall be no less than:

Minimum for any one bioassay-----70%
 Median for any three or more consecutive bioassays---90%

5. The maximum combined effluent flow rate shall not exceed 3.02 million gallons per day.

C. Discharge Specifications

1. Neither the treatment nor the discharge shall cause pollution or nuisance as defined by the California Water Code, Section 13050.
2. The discharge shall not cause degradation of any water supply.
3. Any domestic waste discharges shall remain underground at all times.
4. Stormwater discharges shall not cause or threaten to cause pollution, contamination, or nuisance.
5. Freeboard limitations for the primary settling ponds shall be in effect in the following manner:
 - a. Between 1 October and 1 April, the Discharger shall maintain a minimum of two feet of freeboard in each pond (measured vertically to the lowest point of overflow).
 - b. During the remainder of the year, the Discharger shall maintain a minimum of one foot of freeboard in each pond.

D. Receiving Water Limitations

Receiving water limitations are based upon site-specific interpretations of water quality objectives contained in the Basin Plan. As such, they are a required part of this permit. The discharge shall not cause the following in the Pit River (including the Lake Britton impoundment) or its tributaries:

1. Concentrations of dissolved oxygen to fall below 7.0 mg/L.
2. Oils, greases, waxes, or other materials to form a visible film or coating on the water surface or on the stream bottom.
3. Oils, greases, waxes, floating material (liquids, solids, foams, and scum), or suspended material to create a nuisance or adversely affect beneficial uses.
4. Aesthetically undesirable discoloration.
5. Fungi, slimes, or other objectionable growths.
6. The turbidity of receiving waters to increase over background levels by more than:
 - a. 1 NTU when background turbidity is between 0 and 5 NTUs;
 - b. 20 percent when background turbidity is between 5 and 50 NTUs;
 - c. 10 NTUs when background turbidity is between 50 and 100 NTUs; and

d. 10 percent when background turbidity is greater than 100 NTUs.

In determining compliance with the above limits, appropriate averaging periods may be applied upon approval by the Executive Officer.

7. The normal ambient pH to fall below 6.5, exceed 8.5, or change by more than 0.5 units. In determining compliance with these limits, appropriate averaging periods may be applied upon approval by the Executive Officer.
8. Deposition of material that causes nuisance or adversely affects beneficial uses.
9. Increase the normal ambient temperature of waters by more than 5°F (3°C).
10. Aquatic communities and populations, including vertebrate, invertebrate, and plant species, to be degraded.
11. Taste or odor-producing substances to impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, or to cause nuisance or adversely affect beneficial uses.
12. Toxic pollutants to be present in the water column, sediments, or biota in concentrations that adversely affect beneficial uses; that produce detrimental response in human, plant, animal, or aquatic life; or that bioaccumulate in aquatic resources at levels which are harmful to human health.
13. Violations of any applicable water quality standard for receiving waters adopted by the Regional Board or the SWRCB pursuant to the CWA and regulations adopted thereunder.

E. Receiving Water Limitations (Storm water Discharges)

1. Storm water discharges to any surface or groundwater shall not adversely affect human health or the environment.
2. Storm water discharges shall not cause or contribute to a violation of any applicable water quality standards, including the NTR, CTR, and the Basin Plan water quality objectives

F. Provisions

1. The Discharger shall comply with all the items of the “Standard Provisions and Reporting Requirements for Waste Discharge Requirements (NPDES),” dated

1 March 1991, which are part of this Order. This attachment and its individual paragraphs are referred to as “Standard Provision(s).”

2. The Discharger shall comply with the attached Monitoring and Reporting Program No. R5-2004-0006, which is a part of this Order, and any revisions thereto as ordered by the Executive Officer.
3. The Discharger shall comply with the standards contained in the Health and Safety Code, Chapter 6.67, Aboveground Storage of Petroleum. A spill prevention control and countermeasure plan, prepared and certified by a registered professional engineer has been submitted by the Discharger.
4. The Discharger shall notify the Regional Board of any change in the type or quantity of chemical flocculent or other water treatment chemicals. Notification shall include information from the manufacturer on toxicity and hazardous classifications.
5. Should any of the analyses required in the Monitoring and Reporting Program No. R5-2004-0006 be performed by the Discharger or at a non-certified laboratory, the Discharger shall comply with all applicable parts of the Standard Provisions, Section C., Provisions for Monitoring including implementation of a Quality Assurance-Quality Control (QA-QC) Program and preparation of a QA-QC Plan. The QA-QC Program must conform to US EPA guidelines or to procedures approved by the Executive Officer. The QA-QC Plan must be prepared at least **one month** prior to on-site analysis, and reviewed and updated, if necessary, at a frequency not less than every 3 years.
6. The Discharger shall conduct the monitoring specified in Monitoring and Reporting Program No. R5-2004-0006. If sufficient information is collected and indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numerical water quality standard, then this Order may be reopened to include effluent limit(s) to achieve water quality standards. Additionally, if pollutants are detected in discharges from the Discharger’s facility, but insufficient information exists to establish an effluent limit or determine if an effluent limit is necessary, then the Discharger may be required to conduct additional monitoring to provide sufficient information.

The Discharger may conduct studies pertaining to Facility operations, the effluent discharge, and the receiving water. For example, such studies may include a site-specific metals translator study, or a mixing zone and dilution study. If requested, the Regional Board will review such studies and if warranted, will reopen this permit to make appropriate changes.

7. **Within 60 days** after adoption of this Order, the Discharger shall complete and submit a compliance schedule justification for bis-2-ethylhexylphthalate. The compliance schedule justification shall include all items specified by the SIP Section 2.1, Paragraph 3 (items (a) through (d)). The final water quality based effluent limitation for bis-2-ethylhexylphthalate becomes effective **60 days** after adoption of this Order unless an acceptable compliance schedule justification meeting the requirements of Section 2.1 of the SIP is completed and submitted by the Discharger. If an acceptable compliance schedule justification is submitted, the interim effluent limit described in this Order for bis-2-ethylhexylphthalate will supercede the final effluent limit until **5 years** after adoption of this Order. At that time the final effluent limit will be fully applicable. As this schedule is greater than one year, the Discharger shall submit annual progress reports on **15 July** each year until the Discharger achieves compliance with the final water quality based effluent limitation for bis-2-ethylhexylphthalate. Within **24 months** of adoption of this Order, the Discharger shall either (1) submit a workplan for reducing the concentrations of pollutants in the discharge to levels that will comply with the final effluent limits, or (2) submit a workplan(s) for studies that will prove that the final effluent limits should be modified based on site-specific conditions. The Discharger must take such actions necessary to comply with the final effluent limits. The Regional Board may reopen this Order and modify the final effluent limits if appropriate, based on results of studies the Discharger may conduct.
8. Bis-2-ethylhexylphthalate has been detected in samples of effluent from the Facility. It is possible that sources of the detected bis-2-ethylhexylphthalate are from plastics used for sampling or analytical equipment. If changes in sampling and/or analytical procedures and equipment indicate that bis-2-ethylhexylphthalate is not truly present in the effluent (as demonstrated in two consecutive sampling and analysis events), then the effluent limit and sampling requirements for bis-2-ethylhexylphthalate shall be eliminated.
9. The Discharger shall conduct chronic toxicity testing **during the initial discharge of an annual wet season** as specified in Monitoring and Reporting Program No. R5-2004-0006 once during the life of this Order. If initial and confirmation testing indicates that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the water quality objective for toxicity, the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a work plan to conduct a toxicity reduction evaluation (TRE), and upon approval conduct the TRE. This Order will be reopened to include a chronic toxicity limitation and/or a limitation for the specific toxicant identified in the TRE. Additionally, if a chronic toxicity water quality objective is adopted by the SWRCB, this Order may be reopened to include a limitation based on that objective.

10. The Discharger shall construct, maintain, and operate such facilities as are necessary to accurately measure the flow of the effluent discharges.
11. The Discharger shall comply with all conditions of this Order, including timely submittal of technical and monitoring reports as directed by the Executive Officer. Violations may result in enforcement action, including Regional Board or court orders requiring corrective action or imposing civil monetary liability, or in revision or rescission of this Order.
12. The Discharger has prepared a Storm Water Pollution Prevention Plan (SWPPP) containing best management practices to reduce pollutants in the storm water discharges. The Discharger shall amend the SWPPP whenever there is a change in construction, site operation, or maintenance that may affect the discharge of significant quantities of pollutants to surface water or groundwater. The SWPPP must also be amended if there are storm water-related violations of this permit, or the Discharger has not achieved the general objectives of controlling pollutants in the storm water discharges.
13. The Discharger shall report promptly to the Regional Board any material change or proposed change in the character, location, or volume of the discharge or water treatment chemicals or biocides used. Notification on water treatment chemical changes shall include information from the manufacturer on toxicity and hazardous classifications.
14. The Discharger shall use the best practicable cost-effective control techniques currently available to comply with discharge limits specified in this Order.
15. A copy of this Order shall be kept at the discharge facility for reference by operating personnel. Key operating personnel shall be familiar with its contents.
16. This Order expires on **1 January 2009** and the Discharger must file a Report of Waste Discharge in accordance with Title 23, CCR, not later than **180 days** in advance of such date an application for renewal of waste discharge requirements if it wishes to continue the discharge.
17. In the event of any change in control or ownership of land or waste discharge facilities presently owned or controlled by the Discharger, the Discharger shall 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 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, address, and the telephone number of the persons responsible for contact with the Regional Board, and a statement. The statement shall comply with the signatory paragraph of Standard Provision D.6 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 in writing by the Executive Officer.

I, THOMAS R. PINKOS, 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 30 January 2004.

THOMAS R. PINKOS, Executive Officer

BJS:

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
CENTRAL VALLEY REGION

NPDES NO. CA0081400

MONITORING AND REPORTING PROGRAM NO. R5-2004-0006
FOR
DICALITE MINERALS CORPORATION
SHASTA COUNTY

This monitoring and reporting program specifies required monitoring and reporting to be conducted by the Discharger and shall not be changed unless a revised monitoring and reporting program is issued by the Executive Officer.

PRECIPITATION MONITORING

The daily precipitation at the plant site shall be recorded daily and reported monthly.

POND MONITORING

The following shall constitute the monitoring of the primary settling ponds. Any other pond observations shall also be noted:

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Freeboard	Feet	Visual	Weekly

EFFLUENT MONITORING (DISCHARGE 001 AND 002)

During periods of discharge from the secondary settling ponds (Discharge 001 and 002), samples shall be collected downstream from the last connection through which wastewater can be admitted into the outfall. Effluent samples should be representative of the volume and nature of the discharge. Samples collected from the outlet structure of the ponds will be considered adequately composited. The time of collection of a grab sample shall be recorded. The following shall constitute the monitoring program:

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling^{1,2} Frequency</u>
Discharge Flow (estimate)	gpm	Visual	Daily
pH	pH units	Grab	Daily
Settleable Solids	ml/L	Grab	Daily
Turbidity	NTU	Grab	Daily
Total Suspended Solids	mg/L	Grab	Weekly

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling^{1,2} Frequency</u>
Hardness	mg/L	Grab	Weekly
Zinc (Total Recoverable)	ug/L	Grab	Weekly
bis-2-Ethylhexylphthalate (EPA 8270)	ug/L	Grab	Weekly
Acute Toxicity ³	% Survival	Grab	Annually

¹ Samples shall be collected during the first hour from the first discharge after the dry season and according to sampling frequency thereafter.

² If the discharge is intermittent rather than continuous, then the first day of each intermittent discharge shall be monitored, but no more than twice the frequency noted.

³ 96-hour static bioassay using rainbow trout as the test species. To be collected immediately after the first annual rainfall event causing discharge to occur.

THREE SPECIES CHRONIC TOXICITY

Chronic toxicity monitoring using a sample collected during the first hour from the first discharge from Discharge 001 or 002 after a dry season shall be conducted **once during the 5-year permit renewal period** to determine whether the effluent is contributing toxicity to the Pit River or its tributaries. The sample shall be representative of the initial discharge of the wet season. The testing shall be conducted as specified in EPA 600/4-91-002, or latest edition. If undiluted effluent exhibits toxicity, the Discharger shall sample during the next available discharge event and conduct the test using the dilution series specified below. Chronic toxicity samples shall be collected at the discharge prior to its entering the Pit River tributary. Twenty-four hour composite or individual grab samples shall be representative of the volume and quality of the discharge. Date and time of sample collection shall be recorded. The results shall be submitted with the monitoring report and include the following:

Species: Pimephales promelas, Ceriodaphnia dubia, and Selenastrum capricornutum

	Dilutions (%)					Controls	
	100	75	50	25	12.5	Receiving Water	Lab Water
% Discharge Effluent	100	75	50	25	12.5	0	0
% Dilution Water ¹	0	25	50	75	87.5	100	0
% Lab Water	0	0	0	0	0	0	100

¹ Dilution water shall be receiving water from the Pit River tributary taken upstream from the discharge point. If the receiving water exhibits toxicity, or if no receiving water is available, the Discharge may be required to use lab water as dilution water. The dilution series may be modified after the initial test upon approval of the Executive Officer.

RECEIVING WATER MONITORING

All receiving water samples shall be grab samples. Receiving water samples shall be collected from the following stations during discharge from Discharge 001 or 002.

Station	Description
R-1	Main intermittent watercourse upstream of Dicalite's operations.
R-2	Main intermittent watercourse at 5 Corners road crossing.

Constituent	Station	Unit	Type of Sample	Sampling Frequency ¹
Flow (estimate)	R-1	cfs	Visual	Weekly
pH	R-1 and R-2	pH units	Grab	Weekly
Turbidity ²	R-1 and R-2	NTU	Grab	Weekly
Total Suspended Solids	R-1 and R-2	mg/L	Grab	Weekly
Hardness	R-1	mg/L	Grab	Weekly
Zinc (Total Recoverable)	R-1	ug/L	Grab	Weekly
bis-2-Ethylhexylphthalate	R-1	ug/L	Grab	Monthly

¹ Samples shall be collected during the same sampling event as the effluent discharge samples.

² Turbidity shall be determined by (1) individual samples, or (2) samples taken over an appropriate averaging period.

(1) Individual sampling – once per week during discharge.

(2) Averaging Periods – a minimum of four samples per day from each upstream and each downstream station for a period of up to 4 days during discharge. Samples collected for averaging must be spaced at least 3 hours apart.

In conducting the receiving water sampling, a log should be kept of the receiving water conditions throughout the reach bounded by Stations R-1 and R-2. Attention should be given to the presence or absence of:

- | | |
|---------------------------------|--------------------|
| a. Floating or suspended matter | e. Bottom deposits |
| b. Oil sheen or slick | f. Aquatic life |
| c. Discoloration | g. Upstream flow |
| d. Scum or foam | |

Notes on receiving water conditions shall be summarized in the monitoring report.

**PRIORITY POLLUTANT AND DIOXIN CONGENERS MONITORING
REQUIRED BY THE STATE IMPLEMENTATION PLAN (SIP)**

Prior to expiration of this Order, the Discharger shall conduct one sampling event and analysis for priority pollutants. The Discharger is not required to perform additional asbestos sampling because it has been determined that asbestos does not have a reasonable potential to cause or contribute to a violation of applicable water quality standards. The sampling event shall be conducted during **the initial discharge of a wet weather season**. Effluent and upstream samples must also be collected and analyzed for pH and hardness in order to calculate translators, which are needed for metals that are hardness and/or pH dependent. All analyses shall be performed at a laboratory certified by the California Department of Health Services. The laboratory is required to submit the Minimum Level (ML) and the Method Detection Limit (MDL) with the reported results for each of the priority pollutant constituents. Laboratory methods and limits shall be as described in this Monitoring and Reporting Program, and in the 11 December 2000 CTR letter issued to the Discharger, unless a variance has been approved by the Executive Officer.

If after a review of the monitoring results, it is determined that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above water quality objectives, this Order will be reopened and limitations based on those objectives included. Additionally, if pollutants are detected in discharges from the Discharger's facility, but insufficient information exists to establish an effluent limit or determine if an effluent limit is necessary, then additional monitoring will be required to provide sufficient information.

All organic analyses shall be by Gas Chromatography/Mass Spectrometry (GCMS), Method 8260B for volatiles and Method 8270C for semi-volatiles. Pesticides shall be analyzed by Method 8081A. Dioxins shall be analyzed by Method 1613/8290. If organic analyses are run by Gas Chromatography (GC) methods, any detectables are to be confirmed by GCMS. Inorganics shall be analyzed by the following Methods:

ICP/MS-EPA Method 1638	Antimony, Beryllium, Cadmium, Copper, Lead, Nickel, Selenium, Silver, Thallium, Total Chromium, Zinc
CVAA-EPA Method 1631	Mercury
HYDRIDE-EPA Method 206.3	Arsenic
FAA-EPA Method 218.4	Chromium VI
Colorimetric-EPA Method 335./ 2 or 3	Cyanide

Abbreviations:

FAA-Flame Atomic Absorption	ICP/MS-Inductively Coupled Plasma/Mass Spectrometry
CVAA-Cold Vapor Atomic Absorption	HYDRIDE-Gaseous Hydride Atomic Absorption

Dioxin congeners analysis shall be performed as described in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Plan)* using High Resolution Mass Spectrometry.

ABOVEGROUND STORAGE TANK MONITORING

The Discharger shall conduct inspections and maintenance of the aboveground storage tanks at the facility as specified in the facility's Spill Prevention Control and Countermeasures Plan. A record of the inspections and maintenance shall be retained at the facility.

REPORTING

Unless otherwise specified, monitoring results shall be submitted to the Regional Board by the 1st day of the second month following sample collection (i.e., the January report is due by 1 March).

In reporting the monitoring data, the Discharger shall arrange the data in tabular form so that the date, the constituents, and the concentrations are readily discernible. The data shall be summarized in such a manner to illustrate clearly whether the discharge complies with the waste discharge requirements.

If the Discharger monitors any pollutant at the locations designated herein more frequently than is required by this Order, the results of such monitoring shall be included in the calculation and reporting of the values required in the discharge monitoring report form. Such increased frequency shall be indicated on the discharge monitoring report form.

Upon written request by the Regional Board, the Discharger shall submit an annual report (calendar year) with both tabular and graphical summaries of the monitoring data obtained during the previous year. The report shall discuss the compliance record. If violations have occurred, the report shall also discuss the corrective actions taken and planned to bring the discharge into full compliance with the waste discharge requirements. Annual reports shall be submitted by **1 February of the subsequent year.**

All reports submitted in response to this Order shall comply with the signatory requirements of Standard Provisions D.6.

The Discharger shall implement the above monitoring program as of the date of this Order.

Ordered by: _____
THOMAS R. PINKOS, Executive Officer

30 January 2004

BJS:

INFORMATION SHEET

ORDER NO. R5-2004-0006
DICALITE MINERALS CORPORATION
SHASTA COUNTY

GENERAL INFORMATION

The Dicalite Minerals Corporation (hereafter Discharger) submitted a Report of Waste Discharge, received 27 March 2002, and applied to renew their permit to discharge waste under the National Pollutant Discharge Elimination System (NPDES) from their quarry and processing facility. The Discharger is currently regulated under Waste Discharge Requirements Order No. 97-220 (NPDES No. CA0082058), adopted by the Regional Board on 24 October 1997.

The Discharger owns and operates an open pit diatomite mine (Assessor's Parcel Nos. 022-200-08, 17, 18, and 19) in portions of Sections 25, 35, and 36, T37N, R2E, MDB&M, with surface water drainage to Lake Britton, a lake formed by the damming of the Pit River about 12 miles north of the town of Burney, as shown on Attachment A, which is incorporated herein and made part of this Order by reference. The open pit diatomite mine is approximately 100 acres in area. The plant site, consisting of stockpile area, offices, fuel storage, drying facilities, and packaging is about 20 acres in area, as shown on Attachment B, a part of this Order. The Discharger discharges an estimated quantity of settled stormwater runoff from ponds at the mine site (001) and the plant site (002). At each location, stormwater runoff is channeled to a primary pond for coarse settling, treated with a polymer flocculent, and then pumped to a second pond for settling of the coagulated sediment. Final discharge of the treated water is to an intermittent watercourse tributary to the Pit River (and the Lake Britton impoundment). Discharge 001 is located at N41°1.979', W121°41.048' and Discharge 002 is located at N41°1.925', W121°40.867'.

The facility has 11 aboveground storage tanks of various sizes (from 500 to 20,000 gallons) that store a total of 107,000 gallons of petroleum products. Containment structures have been constructed around all aboveground petroleum products. A Spill Prevention Control and Countermeasure Plan, prepared by a registered professional engineer, has been submitted by the Discharger.

The facility is in the Pit River Hydrologic Unit, Lake Britton Hydrologic Subarea (No. 526.31), as depicted on interagency hydrologic maps prepared by the California Department of Water Resources (DWR) in August 1986. The mean annual rainfall in the area is approximately 40 inches, based on information from the U.S. Geological Survey and DWR.

BENEFICIAL USES

The Basin Plan on page II-2.00 states that: “Existing and potential beneficial uses which currently apply to surface waters of the basins are presented in Figure II-1 and Table II-1. The beneficial uses of any specifically identified water body generally apply to its tributary streams.” The Basin Plan identifies the following beneficial uses for the Pit River (including the Lake Britton impoundment) from the mouth of Hat Creek to Shasta Lake: municipal and domestic supply; agricultural supply; hydropower generation; water contact and noncontact recreation; warm and cold freshwater habitat; spawning, reproduction, and/or early development; and, wildlife habitat.

The beneficial uses of groundwater are municipal and domestic water supply, agricultural supply, industrial service supply, and industrial process supply.

Resolution No. 68-16 (“Statement of Policy with Respect to Maintaining High Quality of Waters in California”) requires the Regional Board in regulating the discharge of waste to maintain high quality waters of the state unless it is demonstrated that any change in quality will be consistent with maximum benefit to the people of the State, will not unreasonably affect beneficial uses, and will not result in water quality less than that described in the Regional Board’s policies (e.g., constituent concentrations that exceed water quality objectives). The Regional Board has considered Resolution No. 68-16 and finds that the current discharge is consistent with this policy, and could not cause an increase in groundwater or surface water constituent concentrations above water quality objectives, provided the discharge is maintained in compliance with the this Order.

GROUNDWATER MONITORING

This Order does not require the Discharger to conduct groundwater monitoring. There is no current evidence to indicate that storm water discharges from the facility pose any unusual threat to groundwater quality. If any information becomes available indicating adverse groundwater impacts from the storm water system operation, a groundwater investigation and subsequent monitoring may be required.

REASONABLE POTENTIAL ANALYSIS

Federal regulations contained in 40 CFR 122.4 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. USEPA adopted the National Toxics Rule (NTR) on 5 February 1993 and the California Toxics Rule (CTR) on 18 May 2000. The NTR and CTR contain water quality standards applicable to this discharge. The State Water Resources Control Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California*

(known as the State Implementation Plan or SIP), which contains guidance on implementation for the NTR and CTR.

On 11 December 2000, the Discharger was issued a letter under the authority of California Water Code Section 13267 requesting effluent and receiving water monitoring to perform a reasonable potential analysis. Federal regulations contained in 40 CFR 122.4 (d) require effluent limitations for all pollutants that are or may be discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. The Discharger collected effluent and receiving water samples on 25 November 2001, 9 January 2002, and 6 March 2002 (dioxin congeners only), to determine if the priority pollutants established in the CTR and NTR were detected. Analytical results were submitted for volatile substances, semi-volatile substances, metals, asbestos, 2,3,7,8-TCDD dioxin, and sixteen other dioxin congeners.

The methodology described in Section 1.3 of the SIP was used to evaluate the Discharger's monitoring data and determine for what water quality constituents reasonable potential exists to cause or contribute to an instream excursion above a narrative or numerical water quality standard or objective.

Zinc, and bis-2-ethylhexylphthalate were detected in the effluent at concentrations that may cause or contribute to an in-stream excursion above a narrative or numerical water quality standard or objective. The following tables summarize the monitoring data for these constituents and the applicable water quality standards or objective.

Constituent	Effluent Concentration (ug/L, total recoverable)		Receiving Water Concentration (ug/L, total recoverable)	
	25 Nov 2001	9 Jan 2002	25 Nov 2001	9 Jan 2002
Sampling Dates:	25 Nov 2001	9 Jan 2002	25 Nov 2001	9 Jan 2002
Sampling Point:	D002	D001/D002	R-1	R-1
Zinc	21	19/31	16	8
bis-2-Ethylhexylphthalate	3 dnq	<2/<2	<2	<2

dnq: Detected but not quantified – estimated value.

Constituent	Water Quality Standard or Objective (ug/L, total recoverable) ¹
Zinc	CTR chronic=62.05, BP ² instantaneous=18.37
bis-2-Ethylhexylphthalate	CTR human health=1.8

¹ Based on a receiving water hardness of 46 mg/L.

² BP instantaneous: Instantaneous limit based on Basin Plan objectives.

BASIS FOR PERMIT REQUIREMENTS

The Discharger operates a diatomite mineral mining and processing facility, therefore, effluent limitations established in Mineral Mining and Processing Point Source Category (40 CFR Part 436) are applicable to the discharge. Specifically, Subpart X (Diatomite Subcategory) applies.

Discharge Prohibitions

The Basin Plan provides that all waters shall be maintained free of toxic substances. Water treatment chemicals used to aid in settling may cause toxicity to aquatic life. The Order prohibits the discharge of hazardous or toxic substances (including water treatment chemicals) to surface waters or drainage courses.

The Basin Plan states that surface water shall not cause oils, greases, or other materials in concentrations that cause nuisance or result in a visible film or coating on the surface of the water. This Order prohibits the discharge of petroleum products (including oil, grease, gasoline, and diesel) to surface waters or surface water drainage courses.

Dilution Considerations for Effluent Limit Calculations

In determining effluent limits as described below, no credit for dilution of the effluent with the receiving water was considered. The Pit River tributary that receives discharge from the Facility has intermittent flow and is physically constricted. Even though the discharge occurs only during wet weather conditions when upstream flow is present, no adequate information exists information to prove that a dilution allowance and mixing zone would be protective of receiving water beneficial uses and not exceed water quality standards or objectives. Therefore, all effluent limits are based on water quality criteria/objective compliance at the “end of pipe,” prior to entering the receiving water. If the Discharger conducts a study that proves that a dilution credit and mixing zone is appropriate, then this Order may be reopened and modified as appropriate.

Calculation of Effluent Limits for Priority Pollutants

As explained above, a Reasonable Potential Analysis was performed to determine what priority pollutants are discharged at a level that will cause or have the reasonable potential to cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. Zinc and bis-2-ethylhexylphthalate are priority pollutants that were detected in the effluent at concentrations that may cause or contribute to an in-stream excursion above a narrative or numerical water quality standard or objective. No credit for dilution of the effluent with the receiving water was considered as discussed and justified, above.

Zinc

Hardness

The lowest observed, representative hardness measurement of the receiving water is used, when needed, to calculate effluent limits for hardness-dependent metals. On 25 November 2001 and 9 January 2002, upstream receiving water hardness was measured at 46 mg/L and 60 mg/L, respectively. Therefore, 46 mg/L is used as a conservative value for calculations.

Translator

Appendix 3 of the SIP provides conversion factors (CFs) or translators for conversion between total recoverable and dissolved concentrations of certain metals. The CFs are listed for both acute and chronic criteria. The conversion factors for zinc in freshwater are as follows:

Zinc:

$$CF_{\text{Chronic}} = 0.986$$

$$CF_{\text{Acute}} = 0.978$$

Water Quality Criteria or Objective

The CTR acute aquatic life criterion for zinc is not applicable to the Sacramento River or its tributaries above Hamilton City. For these areas, the Basin Plan instantaneous water quality objective for zinc is 18.4 ug/L (total recoverable, after adjusting for hardness). The CTR chronic aquatic life criterion is applicable and is 62.1 ug/L (total recoverable, after adjusting for hardness). No dilution allowance is being granted, therefore the effluent concentration allowance (ECA) is equal to the adjusted water quality criteria or objective. In this case the ECA acute is 18.4 ug/L (total recoverable) and the ECA chronic is 62.1 ug/L (total recoverable).

Effluent Limit Calculation

Using the SIP methodology, a coefficient of variation of 0.6 is appropriate if the number of effluent data points is less than ten, and the ECA multiplier is 0.527 (chronic) and 0.321 (acute) for calculating long-term averages (LTAs). Therefore, the LTA based on the Basin Plan objective is lowest at 5.90 ug/L (total recoverable). Using the SIP methodology, the LTA is multiplied by the maximum daily effluent limitation (MDEL) multiplier to arrive at the MDEL. Similarly, the LTA is multiplied by the average monthly effluent limit (AMEL) multiplier to arrive at the AMEL. Using the coefficient of variation of 0.6, the MDEL multiplier is 3.11 and the AMEL multiplier is 1.55, using a monthly sampling frequency of four times. Therefore, the MDEL for zinc is **18.3 ug/L (total recoverable)** and the AMEL is **9.14 ug/L (total recoverable)**.

bis-2-Ethylhexylphthalate (final limit)

Water Quality Criteria or Objective

The CTR human health criteria for bis-2-ethylhexylphthalate in sources of drinking water is applicable and is 1.8 ug/L. No dilution allowance is being granted, therefore the effluent concentration allowance (ECA) is equal to the water quality criteria or objective. In this case the ECA is 1.8 ug/L.

Effluent Limit Calculation

Using the SIP methodology, a coefficient of variation of 0.6 is appropriate if the number of effluent data points is less than ten. For CTR human health criteria, the average monthly effluent limit (AMEL) is equal to the ECA. Therefore, the AMEL for bis-2-ethylhexylphthalate is **1.8 ug/L**. For CTR human health criteria, the maximum daily effluent limit (MDEL) is equal to the ECA multiplied by the MDEL/AMEL multiplier. The MDEL/AMEL multiplier is 2.01 with a coefficient of variation of 0.6 and a monthly sampling frequency of 4 times. Therefore, the MDEL for bis-2-ethylhexylphthalate is **3.6 ug/L**.

Calculation of Interim Effluent Limit for Bis-2-Ethylhexylphthalate

As stated above, the USEPA adopted the NTR and the CTR, which contains water quality standards applicable to this discharge and the SIP contains guidance on implementation of the NTR and CTR. The SIP, Section 2.2.1, requires that if a compliance schedule is granted for a CTR or NTR constituent, the Regional Board shall establish interim limitations and dates for their achievement in the NPDES permit. The interim limitations must: be based on current treatment plant performance or existing permit limitations, whichever is more stringent; include interim compliance dates separated by no more than one year, and; be included in the Provisions. The interim limitations in this Order are based on the current treatment plant performance. When there are less than ten sampling data points available, the *Technical Support Document for Water Quality Based Toxics Control* (EPA/505/2-90-001)(TSD) recommends a coefficient of variation of 0.6 be utilized as representative of wastewater effluent sampling. The TSD recognizes that a minimum of ten data points is necessary to conduct a valid statistical analysis. The multipliers contained in Table 5-2 of the TSD are used to determine a maximum daily limitation based on a long-term average objective. In this case, the long-term average objective is to maintain, at a minimum, the current plant performance level. Therefore, when there are less than ten sampling points for a constituent, interim limitations are based on 3.11 times the maximum observed sampling point to obtain the daily maximum interim limitation (*TSD, Table 5-2*). The Regional Board finds that the Discharger can undertake source control and treatment plant measures to maintain compliance with the interim limitations included in this Order. Interim limitations are established when compliance with NTR- and CTR-based Effluent Limitations cannot be achieved by the existing discharge. Discharge of constituents in concentrations in excess of the final Effluent Limitations, but in compliance with the interim Effluent Limitations, can significantly degrade water quality and adversely affect the beneficial uses of the receiving stream on a long-term basis. For example, USEPA states in the Ambient

Water Quality Criteria for the Protection of Freshwater Aquatic Life for copper, that it will take an unstressed system approximately three years to recover from a pollutant in which exposure to copper exceeds the recommended criterion. The interim limitations, however, establish an enforceable ceiling concentration until compliance with the final Effluent Limitations can be achieved.

It is possible that sources of the detected bis-2-ethylhexylphthalate are from plastics used for sampling or analytical equipment. If changes in sampling and/or analytical procedures and equipment indicate that bis-2-ethylhexylphthalate is not truly present in the effluent (as demonstrated in two consecutive sampling and analysis events), then the interim and final effluent limits and sampling requirements for bis-2-ethylhexylphthalate shall be eliminated.

Interim Effluent Limit for bis-2-Ethylhexylphthalate

Bis-2-ethylhexylphthalate was detected in effluent from the Facility at a concentration of 3 ug/L (estimated concentration). As described above, the daily maximum interim limit is established as 3.11 times the maximum observed value. Therefore, the daily maximum interim limit for bis-2-ethylhexylphthalate is **9.3 ug/L**. The long-term average objective is to maintain the current level of pollutant concentrations or better. Therefore, the monthly average interim limit for bis-2-ethylhexylphthalate cannot exceed the maximum detected concentration which is **3.0 ug/L**.

Effluent Limitations for Other Constituents and Parameters

Settleable Solids:

The Basin Plan states that waters shall not contain substances in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses. The Order contains monthly average and daily maximum settleable solids limits of 0.1 ml/L and 0.2 ml/L respectively. The settleable solids limits in this permit are based on what can reasonably be achieved in well-designed, constructed and operated pollutant control systems. These limits are consistent with the previous Order.

Suspended Solids:

The Basin Plan states that waters shall not contain suspended material in concentrations that cause nuisance or adversely affects beneficial uses. The Order contains a daily maximum suspended solids limit of 50 mg/L. The suspended solids limit in this permit is based on benchmark values established by the USEPA and is comparable with the suspended solids limits for similar facilities.

pH Limit:

This Order requires the effluent pH to remain between 6.0 and 9.0 units. These limits are consistent with the limits in the previous Order and are reasonably achievable.

Acute Toxicity Limits:

The effluent generally consists of settled storm water. This Order contains effluent limits for acute toxicity that are consistent with the previous Order.

Establishment of Mass-Based Effluent Limits and Effluent Flow Limit

This Order establishes concentration-based and mass-based effluent limits. The mass-based effluent limits are calculated using the concentration-based limits and the maximum permitted effluent flow rate for the Facility as provided by the Discharger (3.02 mgd). If the maximum permitted effluent flow rate for the Facility changes, then the mass-based effluent limits would need to be recalculated.

Compliance Time Schedules

The effluent limit for zinc is based on a previously existing Basin Plan water quality objective and therefore is fully applicable upon adoption of this Order by the Regional Board. A time schedule for compliance with this effluent limit is not provided by this Order. However, the Regional Board may adopt other Orders allowing the Discharger a period of time to fully comply with this effluent limit.

The effluent limit for bis-2-Ethylhexylphthalate is based on more recently adopted water quality criteria contained in the National Toxics Rule and California Toxics Rule. This Order allows a time schedule for full compliance with this effluent limit. The interim effluent limit included in this Order is applicable upon adoption of this Order and during the period of the time schedule, provided the Discharger submits a written justification that the compliance time schedule is needed. The justification must be received by the Regional Board within **60 days** of adoption of this Order. Within **24 months** of adoption of this Order, the Discharger shall either (1) submit a workplan for reducing the concentrations of pollutants in the discharge to levels that will comply with the final effluent limits, or (2) submit a workplan(s) for studies that will prove that the final effluent limits should be modified based on site-specific conditions. The Discharger must take such actions necessary to comply with the final effluent limits within **5 years** of adoption of this Order, at which time the final effluent limits will become fully applicable. The Regional Board may reopen this Order and modify the final effluent limits if appropriate, based on results of studies the Discharger may conduct.

Permit Reopener

If after a review of any monitoring results, it is determined that the discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above water quality objectives, this Order may be reopened and limitations based on those objectives included. Additionally, if pollutants are detected in discharges from the Discharger's facility, but insufficient information exists to establish an effluent limit or determine if an effluent limit is necessary, then additional monitoring will be required to provide sufficient information.

The Discharger may conduct studies pertaining to Facility operations, the effluent discharge, and the receiving water. For example, such studies may include a site-specific metals translator study, or a mixing zone and dilution study. If requested, the Regional Board will review such studies and if warranted, will reopen this permit to make appropriate changes.

Monitoring and Reporting

Settling Ponds:

Freeboard monitoring of the primary settling ponds is required to determine compliance with Discharge Specification C.5. Any other pond observations shall also be noted.

Precipitation:

Daily precipitation monitoring is consistent with the previous Order.

Effluent (Discharge 001 and 002) Monitoring for Non-Priority Pollutants:

Effluent monitoring for pH, suspended solids, and settleable solids is required to determine compliance with Effluent Limitations B.1 and B.3. Effluent monitoring for turbidity is required to determine compliance with Discharge Prohibition A.3.

Applicable monitoring required under the General Permit for Discharges of Storm Water Associated with Industrial Activities (General ISW Permit) includes pH and total suspended solids.

Acute Toxicity-

This Order requires annual monitoring for acute toxicity and is consistent with the previous Order.

Chronic Toxicity-

Provision F.9 of the Order requires monitoring for chronic toxicity once during the life of this Order. This requirement is consistent with those for similar facilities. If initial and confirmation testing indicates that the discharge causes, has the reasonable potential to cause or contributes to an in-stream excursion above the water quality objective for toxicity, then the Discharger shall initiate a Toxicity Identification Evaluation (TIE) to identify the causes of toxicity. Upon completion of the TIE, the Discharger shall submit a work plan to conduct a toxicity reduction evaluation (TRE), and upon approval conduct the TRE. This Order will be reopened to include a chronic toxicity limitation and/or a limitation for the specific toxicant identified in the TRE. Additionally, if a chronic toxicity water quality objective is adopted by the SWRCB, this Order may be reopened to include a limitation based on that objective.

Receiving Water:

Receiving water monitoring for turbidity and suspended solids is continued to determine compliance with the Receiving Water Limitations.

Priority Pollutant Monitoring (Effluent and Receiving Water)

As discussed in "Reasonable Potential Analysis" above, zinc and bis-2-ethylhexylphthalate were detected in the effluent at concentrations that may cause or contribute to an in-stream excursion above a narrative or numerical water quality standard. This Order requires monitoring to determine compliance with effluent limitations for these constituents.

Prior to expiration of this Order, the Discharger is required to conduct one additional sampling event and analysis for priority pollutants. The sampling event and analysis of the discharge and receiving water shall be conducted according to the same requirements as the sampling events described in the 11 December 2000 California Toxics Rule / National Toxics Rule letter sent to the Discharger by the Regional Board.

Aboveground Petroleum Storage

This visual monitoring is added to determine compliance with the facility's Spill Prevention Control and Countermeasure Plan.

BJS: 30 January 2004