



Regional Water Quality Control Board

Central Coast Region



Linda S. Adams
Secretary for
Environmental Protection

895 Aerovista Place, Suite 101, San Luis Obispo, California 93401
(805) 549-3147 • Fax (805) 543-0397
<http://www.waterboards.ca.gov/centralcoast/>

Arnold Schwarzenegger
Governor

ORDER NO. R3-2010-0025
NPDES NO. CA0005274

WASTE DISCHARGE REQUIREMENTS FOR THE GRANITE ROCK COMPANY, INC., ARTHUR R. WILSON QUARRY

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 1. Discharger Information

Discharger	Granite Rock Company, Inc.
Name of Facility	Arthur R. Wilson Quarry
Facility Address	End of Quarry Road
	Aromas, California 95004
	San Benito County
The U.S. Environmental Protection Agency (USEPA) and the Regional Water Quality Control Board have classified this discharge as a minor discharge.	

The discharge by Granite Rock Company, Inc. from the Arthur R. Wilson Quarry from the discharge points identified below is subject to waste discharge requirements as set forth in this Order:

Table 2. Discharge Location

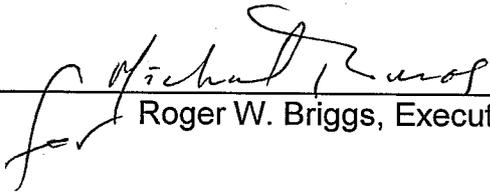
Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Treated wastewater and stormwater	36°, 55', 48" N	121°, 36', 58" W	Pajaro River

Table 3. Administrative Information

This Order was adopted by the Regional Water Quality Control Board on:	December 9, 2010
This Order shall become effective on:	January 28, 2011
This Order shall expire on:	January 28, 2016
The Discharger shall file a Report of Waste Discharge in accordance with title 23, California Code of Regulations, as application for issuance of new waste discharge requirements no later than:	July 28, 2015

IT IS HEREBY ORDERED, that Order No. R3-2005-0044 is rescinded upon the effective date of this Order except for enforcement purposes, and, to meet the provisions contained in division 7 of the California Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the federal Clean Water Act (CWA) and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order.

I, Roger W. Briggs, Executive Officer, do hereby certify that this Order, with all attachments, is a full, true, and correct copy of an Order adopted by the Regional Water Board on **December 9, 2010.**



Roger W. Briggs, Executive Officer

Table of Contents

I.	Facility Information	4
II.	Findings	4
III.	Discharge Prohibitions.....	9
IV.	Effluent Limitations and Discharge Specifications	11
	A. Effluent Limitations – Discharge Point 001	11
	B. Land Discharge Specifications – Not Applicable.....	12
	C. Reclamation Specifications – Not Applicable.....	12
V.	Receiving Water Limitations	12
	A. Surface Water Limitation.....	12
	B. Groundwater Limitations – Not Applicable	15
VI.	Provisions.....	15
	A. Standard Provisions.....	15
	B. Monitoring and Reporting Program (MRP) Requirements	15
	C. Special Provisions.....	15
	1. Reopener Provisions.....	15
	2. Special Studies, Technical Reports and Additional Monitoring Requirements	15
	3. Best Management Practices and Pollution Prevention – Not Applicable	17
VII.	Compliance Determination	17

List of Tables

Table 1.	Discharger Information.....	1
Table 2.	Discharge Location	1
Table 3.	Administrative Information.....	1
Table 4.	Facility Information	4
Table 5.	Basin Plan Beneficial Uses	6
Table 6.	Effluent Limitations for Conventional and Nonconventional Pollutants.....	11
Table 7.	Effluent Limitations for Toxic Pollutants	12
Table 8.	Toxicity Reduction Evaluation Schedule	17

List of Attachments

Attachment A – Definitions	A-1
Attachment B – Map	B-1
Attachment C – Flow Schematic.....	C-1
Attachment D –Standard Provisions	D-1
Attachment E – Monitoring and Reporting Program	E-1
Attachment F – Fact Sheet.....	F-1
Attachment G – Public Comment Correspondence	G-1

I. FACILITY INFORMATION

The following Discharger is subject to waste discharge requirements as set forth in this Order:

Table 4. Facility Information

Discharger	Granite Rock Company, Inc.
Name of Facility	Arthur R. Wilson Quarry
Facility Address	End of Quarry Road
	Aromas, California 95004
	San Benito County
Facility Contact, Title, and Phone	Aaron Johnston-Karas, Director of Sustainable Resource Development, (831) 768-2094
Mailing Address	P.O. Box 50001, Watsonville, CA 95077
Type of Facility	Granite Quarry and Processing, NAICS Code 212313/SIC Codes 1423, 2951 and 4212
Facility Design Flow	9.0 million gallons per day (MGD)

II. FINDINGS

The California Regional Water Quality Control Board, Central Coast Region (Regional Water Board), finds:

A. Background. The Granite Rock Company, Inc. (hereinafter the Discharger) is currently discharging under Order No. R3-2005-0044 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0005274. The Discharger submitted a Report of Waste Discharge, dated January 7, 2010, and applied for a NPDES permit renewal to discharge treated wastewater and stormwater runoff from the Arthur R. Wilson Quarry (hereinafter Facility). The application was deemed complete on **February 23, 2010**, by Regional Water Board staff.

For the purposes of this Order, references to the “Discharger” or “Permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

B. Facility Description. The Discharger mines, processes, and stockpiles granite rock aggregates, which are used as basic construction materials and as feed materials in on-site and off-site asphalt and concrete manufacturing plants. Water flow through the Facility is designed to be a closed-loop system such that water recycling is maximized. Water intakes and inputs to the system include rainfall (including stormwater runoff), treated process water, and supplemental groundwater.

Stormwater is collected in the Facility's Quarry Storage Reservoir and in the Soda Lake (a man-made retention pond) for settling and re-use. Stormwater is also collected in the Facility's stormwater settling basin systems, one of which may also be used as supplemental water if needed. The Facility's water circuit uses well water as makeup

and recycles water between the wet processing plant and the Quarry Storage Reservoir. Wash water from the aggregate wash in the wet process plant is pumped to the Fines Treatment Plant for treatment. The treated process water then flows to the Quarry Storage Reservoir and is stored for later re-use. The treated process water may also be pumped to Soda Lake.

As a result of the Facility's ability to treat and store process water, and water losses due to evaporation, retention in product, and dust control application, there are infrequent discharges of process water from the Facility. Recycled water discharge from the Quarry Storage Reservoir to the Pajaro River through Discharge Point 001 occurs only after a rain event (or events) that occur at a rate and/or frequency that result in more rain than the storage capacity at the Facility. The last recorded discharge from the Facility occurred in January 2002. No discharges occurred during the term of the existing Order. Discharges to the Pajaro River occur at Discharge Point 001 (36° 55' 48"N Latitude; 121° 36' 58" W Longitude) from the Quarry Storage Reservoir, where water is pumped from the surface of the reservoir to a concrete reinforced bank that serves to dissipate energy and minimize erosion during discharge events. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

- C. Legal Authorities.** This Order is issued pursuant to section 402 of the Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). This Order shall serve as a NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260).
- D. Background and Rationale for Requirements.** The Regional Water Board developed the requirements of this Order based on information submitted as part of the application, through monitoring and reporting programs, and other available information, including a site visit on March 11, 2010. The Fact Sheet (Attachment F), which contains background information and rationale for the Order's waste discharge requirements, is hereby incorporated into this Order and constitutes part of the Findings for this Order. Attachments A through E are also incorporated into this Order.
- E. California Environmental Quality Act (CEQA).** Under California Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100-21177.
- F. Technology-based Effluent Limitations.** Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations¹, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements

¹ All further statutory references are to title 40 of the Code of Federal Regulations unless otherwise indicated.

based on Effluent Limitations Guidelines and Standards for the Mineral Mining and Processing Point Source Category in Part 436 and Best Professional Judgment (BPJ) in accordance with Part 125, section 125.3. A detailed discussion of the technology-based effluent limitations development is included in the Fact Sheet (Attachment F).

G. Water Quality-Based Effluent Limitations. Section 301(b) of the CWA and section 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards.

Section 122.44(d)(1)(i) mandates that permits include effluent limitations for all pollutants that are or may be discharged at levels that have the reasonable potential to cause or contribute to an exceedance of a water quality standard, including numeric and narrative objectives within a standard. Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, water quality-based effluent limitations (WQBELs) must be established using: (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed state criterion or policy interpreting the state’s narrative criterion, supplemented with other relevant information, as provided in section 122.44(d)(1)(vi).

Water Quality Control Plans. The Regional Water Board has adopted a Water Quality Control Plan for the Central Coast Region (Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters within the Region. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which establishes state policy that all waters, with certain exceptions, are suitable or potentially suitable municipal or domestic drinking water supplies. Beneficial uses established by the Basin Plan for the Pajaro River are presented in Table 5, below.

Table 5. Basin Plan Beneficial Uses

Discharge Point	Receiving Water Name	Beneficial Use(s)
001	Pajaro River	MUN - Municipal and domestic supply AGR - Agricultural supply IND - Industrial service supply GWR - Groundwater recharge REC-1 - Water contact recreation REC-2 - Non-contact water recreation WILD - Wildlife habitat COLD - Cold fresh water habitat WARM - Warm fresh water habitat MIGR - Migration of aquatic organisms SPWN - Spawning, reproduction, and/or early development FRSH - Freshwater replenishment COMM - Commercial and sport fishing

To protect beneficial uses, the Basin Plan establishes water quality objectives and implementation programs. This Order's requirements implement the Basin Plan.

- H. Thermal Plan.** The State Water Board adopted a Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. The Thermal Plan contains temperature objectives for inland surface waters, which are applicable to the Discharger. The general objective for temperature from Section II.A.2.a. of the Basin Plan is more limiting, however, and is included as a receiving water limitation in the Order along with temperature limits developed and proposed by the California Department of Fish and Game and others for a previously permitted Pajaro River discharge (Order No. R3-2009-0044) that are protective of all life stages of steelhead.
- I. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants that are applicable to discharges from the Facility.
- J. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005, that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- K. Compliance Schedules and Interim Requirements.** Section 2.1 of the SIP provides that, based on a Discharger's request and demonstration that it is infeasible for an existing Discharger to achieve immediate compliance with an effluent limitation derived from a CTR criterion, compliance schedules may be allowed in an NPDES permit. Unless an exception has been granted under section 5.3 of the SIP, a compliance schedule may not exceed 5 years from the date that the permit is issued or reissued, nor may it extend beyond 10 years from the effective date of the SIP (or May 18, 2010) to establish and comply with CTR criterion-based effluent limitations. Where a compliance schedule for a final effluent limitation exceeds 1 year, the Order must include interim numeric limitations for that constituent or parameter. Where allowed by the Basin Plan, compliance schedules and interim effluent limitations or discharge specifications may also be granted to allow time to implement a new or revised water quality objective. This Order does not include compliance schedules or interim effluent limitations.

L. Alaska Rule. On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes [65 Fed. Reg. 24641 (April 27, 2000) (codified at 40 CFR 131.21)]. Under the revised regulation (also known as the Alaska Rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000 may be used for CWA purposes, whether or not approved by USEPA.

M. Stringency of Requirements for Individual Pollutants. This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. As discussed in section IV.B of the Fact Sheet, the Order establishes technology-based effluent limitations for pH, turbidity and total suspended solids (TSS) for Discharge Point 001. These technology-based limitations implement the minimum applicable federal technology-based requirements. The Order also contains limitations necessary to meet applicable water quality standards. These limitations are not more stringent than required by the CWA.

WQBELs have been scientifically derived to implement water quality objectives that protect beneficial uses. Both the beneficial uses and the water quality objectives have been approved pursuant to federal law and are the applicable federal water quality standards. To the extent that toxic pollutant WQBELs were derived from the CTR, the CTR is the applicable standard pursuant to NPDES regulations at 40 CFR 131.38. The scientific procedures for calculating the individual WQBELs for priority pollutants are based on the CTR and the SIP, which was approved by USEPA on May 18, 2000. All beneficial uses and water quality objectives contained in the Basin Plan were approved under state law and submitted to and approved by USEPA prior to May 30, 2000. Any water quality objectives and beneficial uses submitted to USEPA prior to May 30, 2000, but not approved by USEPA before that date, are nonetheless “applicable water quality standards for purposes of the CWA” pursuant to NPDES regulations at 40 CFR 131.21 (c)(1). Collectively, this Order’s restrictions on individual pollutants are no more stringent than required to implement the requirements of the CWA.

N. Antidegradation Policy. NPDES regulations at 40 CFR 131.12 require that State water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California’s antidegradation policy in State Water Board Resolution No. 68-16, which incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that the existing quality of waters be maintained unless degradation is justified based on specific findings. The Basin Plan implements and incorporates by reference both the state and federal antidegradation policies. As discussed in Section III.C.5 of the Fact Sheet, the permitted discharge is consistent with the antidegradation provisions of 40 CFR 131.12 and State Water Board Resolution No. 68-16.

O. Anti-Backsliding Requirements. CWA sections 402 (o) (2) and 303 (d) (4) and NPDES regulations at 40 CFR 122.44 (l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require effluent limitations in a reissued permit to be as stringent as those in the previous permit, with some exceptions where limitations may

be relaxed. All effluent limitations in this Order are at least as stringent as the effluent limitations in the previous Order.

P. Endangered Species Act. This Order does not authorize any act that results in the taking of a threatened or endangered species or any act that is now prohibited, or becomes prohibited in the future, under either the California Endangered Species Act (Fish and Game Code sections 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. sections 1531 to 1544). This Order requires compliance with effluent limits, receiving water limits, and other requirements to protect the beneficial uses of waters of the state. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

Q. Monitoring and Reporting. Section 122.48 requires that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 authorize the Regional Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP) (Attachment E) establishes monitoring and reporting requirements to implement federal and state requirements.

R. Standard and Special Provisions. Standard Provisions, which apply to all NPDES permits in accordance with section 122.41, and additional conditions applicable to specified categories of permits in accordance with section 122.42, are provided in Attachment D. The Regional Water Board has also included in this Order special provisions applicable to the Discharger. A rationale for the special provisions contained in this Order is provided in the attached Fact Sheet.

S. Provisions and Requirements Implementing State Law. The provisions and requirements in subsections IV.C, V.B, and VI.C. of this Order are included to implement state law only. These provisions and requirements are not required or authorized under the federal CWA; consequently, violations of these provisions/requirements are not subject to the enforcement remedies that are available for NPDES violations.

T. Notification of Interested Parties. The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe Waste Discharge Requirements for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Details of notification are provided in the Fact Sheet accompanying this Order.

U. Consideration of Public Comment. The Regional Water Board, in a public meeting, heard and considered all comments pertaining to the discharge. Details of the Public Hearing are provided in the Fact Sheet of this Order.

III. DISCHARGE PROHIBITIONS

A. Discharge of treated wastewater at a location other than Discharge Point 001 (36°, 55', 48" N Latitude and 121°, 36', 58" W Longitude), as described by this Order, is prohibited, unless the discharge is regulated by General Permit No. CAS000001 or another discharge permit.

- B.** The discharge of any waste not specifically regulated by this Permit to a storm drain system or to waters of the United States, excluding stormwater regulated by General Permit No. CAS000001 (Waste Discharge Requirements for Discharges of Stormwater Associated with Industrial Activities), is prohibited.
- C.** The overflow or bypass of wastewater from the Discharger's collection, treatment, or disposal facilities and the subsequent discharge of untreated or partially treated wastewater, except as provided for in Attachment D, Standard Provision I.G (Bypass), is prohibited.
- D.** The discharge shall not cause or contribute to adverse impacts to beneficial uses of water or to threatened or endangered species and their habitat.
- E.** Creation of a condition of pollution, contamination, or nuisance, as defined by Section 13050 of the California Water Code, is prohibited.
- F.** The discharge shall not cause or contribute to downstream flooding within the Pajaro River.
- G.** The flow rate of the discharge of Facility process water from the Quarry Storage Reservoir to the Pajaro River shall not exceed 9.0 MGD.
- H.** The discharge of Facility process water from the Quarry Storage Reservoir to the Pajaro River shall not occur when Pajaro River flows are greater than 13,000 MGD (corresponding to a Pajaro River stage of approximately 31.3 feet) as measured at the Chittenden gauging station.

IV. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations – Discharge Point 001

1. Final Effluent Limitations – Discharge Point 001

a. **Conventional and Non-Conventional Pollutants.** The Discharger shall comply with the following effluent limitations at Discharge Point 001, with compliance measured at Monitoring Location EFF-001 as described in the attached Monitoring and Reporting Program (MRP).

Table 6. Effluent Limitations for Conventional and Nonconventional Pollutants

Constituent	Units	Effluent Limitations	
		Average Monthly	Maximum Daily
pH	s.u.	7.0 - 8.3 at all times	
Total Suspended Solids (TSS)	mg/L	50	--
Total Dissolved Solids	mg/L	1,000	--
Turbidity	NTUs	--	50
Acute Toxicity	TU	--	1 ^{[1][2]}
Suspended Sediments	mg/L	<ul style="list-style-type: none"> For a discharge duration of 1 day (24 hours) or less, the suspended sediments concentration (SSC) cannot exceed 1,807 mg/L. For a discharge duration of 2 days (48 hours), the SSC cannot exceed 665 mg/L for both days. For a discharge duration of 2 to 14 days (48 to 336 hours), the SSC cannot exceed 244 mg/L for each day. For a discharge duration of 14 to 49 days (336 to 1,176 hours), the SSC cannot exceed 90 mg/L for each day. For a discharge duration of greater than 49 days (1,176 hours), the SSC cannot exceed 90 mg/L for each day. 	

^[1] Or the background toxicity of the receiving water as determined by concurrent toxicity testing using upstream receiving water samples; the greater of the two shall apply.

^[2] Survival of test organisms exposed to 100 percent effluent shall not be significantly reduced when compared to the survival of control organisms using a t-test.

b. **Toxic Pollutants.** The Discharger shall comply with the following effluent limitations for toxic pollutants at Discharge Point 001, with compliance measured at Monitoring Location EFF-001, as described in the attached MRP.

Table 7. Effluent Limitations for Toxic Pollutants

Constituent	Units	Effluent Limits	
		Average Monthly	Maximum Daily
Mercury, Total Recoverable	µg/L	0.050	0.10
Selenium, Total Recoverable	µg/L	10	20
Cyanide, Total (as CN)	µg/L	4.3	8.5
Aluminum, Total Recoverable	µg/L	1,000	5,000
Iron, Total Recoverable	µg/L	1,000	--
Molybdenum, Total Recoverable	µg/L	10	--

B. Land Discharge Specifications – Not Applicable

C. Reclamation Specifications – Not Applicable

V. RECEIVING WATER LIMITATIONS

A. Surface Water Limitation

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. Discharges from the Facility shall not cause the following conditions in the Pajaro River.

1. Waters shall be free of coloration that causes nuisance or adversely affects beneficial uses. Coloration attributable to materials of waste origin shall not be greater than 15 units or 10 percent above natural background color, whichever is greater.
2. Waters shall not contain taste- or odor-producing substances in concentrations that impart undesirable tastes or odors to fish flesh or other edible products of aquatic origin, that cause nuisance, or that adversely affect beneficial uses.
3. Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely affect beneficial uses.
4. Waters shall not contain suspended material in concentrations that causes nuisance or adversely affects beneficial uses.
5. Waters shall not contain settleable material in concentrations that result in deposition of material that causes nuisance or adversely affects beneficial uses.
6. Waters shall not contain oils, greases, waxes, or other similar materials in concentrations that result in a visible film or coating on the surface of the water or on objects in the water, that cause nuisance, or that otherwise adversely affect beneficial uses.
7. Waters shall not contain biostimulatory substances in concentrations that promote aquatic growths to the extent that such growths cause nuisance or adversely affect beneficial uses.

- 8.** The suspended sediment load and suspended sediment discharge rate to surface waters shall not be altered in such a manner as to cause nuisance or adversely affect beneficial uses.
- 9.** Waters shall be free of changes in turbidity that cause nuisance or adversely affect beneficial uses. Increase in turbidity attributable to controllable water quality factors shall not exceed the following limits:
 - a.** Where natural turbidity is between 0 and 50 Nephelometer Turbidity Units (NTU), increases shall not exceed 20 percent.
 - b.** Where natural turbidity is between 50 and 100 NTU, increases shall not exceed 10 NTU.
 - c.** Where natural turbidity is greater than 100 NTU, increases shall not exceed 10 percent.
- 10.** To protect cold freshwater habitat, the pH value shall not be depressed below 7.0 nor raised above 8.3, nor shall changes in ambient pH levels exceed 0.5 pH units.
- 11.** To protect cold freshwater habitat, dissolved oxygen concentrations in receiving waters shall not be reduced below 7.0 mg/L at any time. If background concentration of dissolved oxygen in receiving waters is less than 7.0 mg/L, then discharges shall not reduce dissolved oxygen concentrations.
- 12.** To protect cold freshwater habitat, the discharge to the Pajaro River shall not increase the temperature of the Pajaro River by more than 5°F. At no time shall the discharge cause Pajaro River temperature to exceed 68°F in October or November and 57°F in December through April. If the background Pajaro River temperature exceeds 68°F in October or November and 57°F in December through April, then the discharge shall not cause any observable increase in background temperature.
- 13.** All waters shall be maintained free of toxic substances in concentrations which are toxic to, or which produce detrimental physiological responses in human, plant, animal, or aquatic life. Survival of aquatic life in surface waters subjected to a waste discharge or other controllable water quality conditions shall not be less than that for the same water body in areas unaffected by the waste discharge.
- 14.** The discharge of wastes shall not cause concentrations of unionized ammonia (NH₃) to exceed 0.025 mg/L (as N) in the Pajaro River.
- 15.** No individual pesticide or combination of pesticides shall reach concentrations that adversely affect the beneficial uses of the receiving water. There shall be no increase in pesticide concentrations found in bottom sediments or aquatic life. For waters presently free of detectable pesticides or where beneficial uses would be impaired by detectable pesticide concentrations, the discharge shall not contain chlorinated hydrocarbon pesticides at concentrations detectable within the accuracy of analytical methods as prescribed in Standard Methods for the Examination of

Water and Wastewater, latest edition, or other equivalent methods approved by the Executive Officer.

16. Waters shall not contain organic substances in concentrations greater than the following:

Methylene Blue Activated Substances	0.2 mg/L
Phenols	0.1 mg/L
PCBs	0.3 µg/L
Phthalate Esters	0.002 µg/L

17. Radionuclides shall not be present in concentrations that are deleterious to human, plant, animal, or aquatic life; or result in the accumulation of radionuclides in the food web to an extent which presents a hazard to human, plant, animal, or aquatic life. In no circumstance shall receiving waters contain concentrations of radionuclides in excess of the maximum contaminant levels (MCLs) for radioactivity presented in Table 4 of Title 22 California Code of Regulations, Division 4, Chapter 15, Article 5.

18. To protect the municipal and domestic supply beneficial use, receiving waters shall not contain concentrations of chemical constituents in excess of the primary maximum contaminant levels (MCLs) specified for drinking water in Table 64431-A (Primary MCLs for Inorganic Chemicals) and Table 64444-A (Primary MCLs for Organic Chemicals) of Title 22 California Code of Regulations, Division 4, Chapter 15.

19. To protect the water contact recreation beneficial use, fecal coliform concentration in the wastewater discharge, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 per 100 mL, nor shall more than 10 percent of samples collected during any 30-day period exceed 400 per 100 mL.

20. Receiving waters shall not contain concentrations of chemical constituents in amounts that adversely affect the agricultural beneficial use. (Interpretation of adverse effect shall be derived from guidelines of the University of California Agricultural Extension Service presented in Section III, Table 3-3 of the Basin Plan.

21. Waters used for irrigation and livestock watering shall not contain chemical constituents in excess of those levels specified for irrigation and livestock watering in Section III, Table 3-4 of the Basin Plan.

22. To protect cold and warm freshwater habitat beneficial uses, receiving waters shall not contain metals in excess of the following concentrations, established by Table 3-5 of the Basin Plan.

Metal	Receiving Water Hardness > 100 mg/L CaCO ₃	Receiving Water Hardness < 100 mg/L CaCO ₃
Cadmium ^[1]	0.03 mg/L	0.004 mg/L
Chromium	0.05 mg/L	0.05 mg/L
Copper	0.03 mg/L	0.01 mg/L
Lead	0.03 mg/L	0.03 mg/L
Mercury ^[2]	0.0002 mg/L	0.0002 mg/L
Nickel ^[3]	0.4 mg/L	0.1 mg/L
Zinc	0.2 mg/L	0.004 mg/L

^[1] Lower cadmium values not to be exceeded for crustaceans and waters designated SPWN are 0.003 mg/ in hard water and 0.0004 mg/L in soft water.

^[2] Total mercury values should not exceed 0.05 mg/L as an average value; maximum acceptable concentration of total mercury in any aquatic organism is a total biochemical oxygen demand burden of 0.5 mg/L wet weight.

^[3] Value cited as objective pertains to nickel salts (not pure metallic nickel).

23. The following surface water quality objectives for the Pajaro River at Chittenden, established by Table 3-7 of the Basin Plan, shall not be exceeded.

TDS	Chloride	Sulfate	Boron	Sodium
1,000 mg/L	250 mg/L Cl	250 mg/L SO ₄	1.0 mg/L B	200 mg/L Na

B. Groundwater Limitations – Not Applicable

VI. PROVISIONS

A. Standard Provisions

The Discharger shall comply with all Standard Provisions included in Attachment D of this Order.

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order. All monitoring shall be conducted according to 40 CFR 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants*.

C. Special Provisions

1. Reopener Provisions

- a. This permit may be reopened and modified in accordance with NPDES regulations at 40 CFR 122 and 124, as necessary, to include additional conditions or limitations based on newly available information or to implement any USEPA-approved, new state water quality objective.

2. Special Studies, Technical Reports and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

If the discharge consistently exceeds an effluent limitation for toxicity specified by section IV.A.1.b of this Order, the Discharger shall conduct a Toxicity Reduction Evaluation (TRE) in accordance with the Discharger's TRE Workplan.

A TRE is a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases: characterization; identification; and confirmation using aquatic organism toxicity tests. The TRE shall include all reasonable steps to identify the source of toxicity. The Discharger shall take all reasonable steps to reduce toxicity to the required level once the source of toxicity is identified.

The Discharger shall maintain a TRE Workplan, which describes steps that the Discharger intends to follow if a toxicity effluent limitation in this Order is exceeded. The Workplan shall be prepared in accordance with current technical guidance and reference material, including EPA/600/2-88-062, and shall describe, at a minimum:

- i. Actions proposed to investigate/identify the causes/sources of toxicity;
- ii. Actions proposed to mitigate the discharge's adverse effects, to correct the non-compliance, and/or to prevent the recurrence of acute or chronic toxicity; and
- iii. A schedule to implement these actions.

When monitoring detects effluent toxicity greater than a limitation in this Order, the Discharger shall resample immediately, if the discharge is continuing, and retest for whole effluent toxicity. Results of an initial failed test and results of subsequent monitoring shall be reported to the Executive Officer (EO) as soon as possible after receiving monitoring results. The EO will determine whether to initiate enforcement action, whether to require the Discharger to implement a TRE, or to implement other measures. The Discharger shall conduct a TRE considering guidance provided by the USEPA's Toxicity Reduction Evaluation Procedures, Phases 1, 2, and 3 (EPA document Nos. EPA 600/3-88/034, 600/3-88/035, and 600/3-88/036, respectively). A TRE, if necessary, shall be conducted in accordance with the following schedule.

Table 8. Toxicity Reduction Evaluation Schedule

Action Step	When Required
Take all reasonable measures necessary to immediately reduce toxicity, where the source is known.	Within 24 hours of identification of noncompliance.
Initiate the TRE in accordance to the Workplan.	Within 7 days of notification by the EO.
Conduct the TRE following the procedures in the Workplan.	Within the period specified in the Workplan (not to exceed one year without an approved Workplan)
Submit the results of the TRE, including summary of findings, required corrective action, and all results and data.	Within 60 days of completion of the TRE.
Implement corrective actions to meet Permit limits and conditions.	To be determined by the EO.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation and Maintenance Specifications

- a. **Erosion and Sediment Control.** By October 1 of each year, the Discharger shall inspect, install, and have proper operational condition all erosion and sediment control systems necessary to ensure compliance with this Order.

5. Other Special Provisions

- a. **Discharges of Stormwater.** For the control of stormwater discharged from the site of the wastewater treatment and disposal facilities, if applicable, the Discharger shall seek authorization to discharge under and meet the requirements of the State Water Resources Control Board’s Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001, *Waste Discharge Requirements for Discharges of Stormwater Associated with Industrial Activities Excluding Construction Activities*.

6. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

7. Compliance Schedules – Not Applicable

VII. COMPLIANCE DETERMINATION

Compliance with the effluent limitations contained in section IV of this Order will be determined as specified below:

A. General

Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined in the MRP and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).

B. Multiple Sample Data

When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

1. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
2. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean: Also called the average, is the sum of measured values divided by the number of samples. For ambient water concentrations, the arithmetic mean is calculated as follows:

Arithmetic mean = $\mu = \Sigma x / n$ where: Σx is the sum of the measured ambient water concentrations, and n is the number of samples.

Average Monthly Effluent Limitation (AMEL): the highest allowable average of daily discharges over a calendar month, calculated as the sum of all daily discharges measured during a calendar month divided by the number of daily discharges measured during that month.

Average Weekly Effluent Limitation (AWEL): the highest allowable average of daily discharges over a calendar week (Sunday through Saturday), calculated as the sum of all daily discharges measured during a calendar week divided by the number of daily discharges measured during that week.

Bioaccumulative: those substances taken up by an organism from its surrounding medium through gill membranes, epithelial tissue, or from food and subsequently concentrated and retained in the body of the organism.

Carcinogenic Pollutants: substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV): a measure of the data variability and is calculated as the estimated standard deviation divided by the arithmetic mean of the observed values.

Daily Discharge: Daily Discharge is defined as either: (1) the total mass of the constituent discharged over the calendar day (12:00 am through 11:59 pm) or any 24-hour period that reasonably represents a calendar day for purposes of sampling (as specified in the permit), for a constituent with limitations expressed in units of mass or; (2) the unweighted arithmetic mean measurement of the constituent over the day for a constituent with limitations expressed in other units of measurement (e.g., concentration).

The daily discharge may be determined by the analytical results of a composite sample taken over the course of one day (a calendar day or other 24-hour period defined as a day) or by the arithmetic mean of analytical results from one or more grab samples taken over the course of the day.

For composite sampling, if one day is defined as a 24-hour period other than a calendar day, the analytical result for the 24-hour period will be considered as the result for the calendar day in which the 24-hour period ends.

Detected, but Not Quantified (DNQ): those sample results less than the reported Minimum Level, but greater than or equal to the laboratory's Minimum Detection Level (MDL).

Dilution Credit: the amount of dilution granted to a discharge in the calculation of a water quality-based effluent limitation, based on the allowance of a specified mixing zone. It is calculated from the dilution ratio or determined through conducting a mixing zone study or modeling of the discharge and receiving water.

Effluent Concentration Allowance (ECA): a value derived from the water quality criterion/objective, dilution credit, and ambient background concentration that is used, in conjunction with the coefficient of variation for the effluent monitoring data, to calculate a long-term average (LTA) discharge concentration. The ECA has the same meaning as waste load allocation (WLA) as used in USEPA guidance (*Technical Support Document For Water Quality-based Toxics Control*, March 1991, second printing, EPA/505/2-90-001).

Enclosed Bays: indentations along the coast that enclose an area of oceanic water within distinct headlands or harbor works. Enclosed bays include all bays where the narrowest distance between headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of the bay. This definition includes but is not limited to: Humboldt Bay, Bodega Harbor, Tomales Bay, Drakes Estero, San Francisco Bay, Morro Bay, Los Angeles Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay.

Instantaneous Maximum Effluent Limitation: the highest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous maximum limitation).

Instantaneous Minimum Effluent Limitation: the lowest allowable value for any single grab sample or aliquot (i.e., each grab sample or aliquot is independently compared to the instantaneous minimum limitation).

Maximum Daily Effluent Limitation (MDEL): the highest allowable daily discharge of a pollutant.

Median: the middle measurement in a set of data. The median of a set of data is found by first arranging the measurements in order of magnitude (either increasing or decreasing order). If the number of measurements (n) is odd, then the median = $X_{(n+1)/2}$. If n is even, then the median = $(X_{n/2} + X_{(n/2)+1})/2$ (i.e., the midpoint between the $n/2$ and $n/2+1$).

MDL (Method Detection Limit): the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero, as defined in title 40 of the Code of Federal Regulations, PART 136, Appendix B.

Minimum Level (ML): the concentrations at which the entire analytical system must give a recognizable signal and acceptable calibration point. The ML is the concentration in a sample that is equivalent to the concentration of the lowest calibration standard analyzed by a specific analytical procedure, assuming that all the method-specified sample weights, volumes and processing steps have been followed.

Mixing Zone: a limited volume of receiving water that is allocated for mixing with a wastewater discharge where water quality criteria can be exceeded without causing adverse effects to the overall water body.

Not Detected (ND): those sample results less than the laboratory's MDL.

Ocean Waters: the territorial marine waters of the state as defined by California law to the extent these waters are outside of enclosed bays, estuaries, and coastal lagoons. If a discharge outside the territorial waters of the state could affect the quality of the waters of the state, the discharge may be regulated to assure no violation of the Ocean Plan will occur in ocean waters.

Persistent Pollutants: substances for which degradation or decomposition in the environment is nonexistent or very slow.

PCBs (polychlorinated biphenyls): the sum of chlorinated biphenyls whose analytical characteristics resemble those of Aroclor-1016, Aroclor-1221, Aroclor-1232, Aroclor-1242, Aroclor-1248, Aroclor-1254 and Aroclor-1260.

Pollutant Minimization Program (PMP): waste minimization and pollution prevention actions that include, but are not limited to, product substitution, waste stream recycling, alternative waste management methods, and education of the public and businesses. The goal of the PMP shall be to reduce all potential sources of Ocean Plan Table B pollutants through pollutant minimization (control) strategies, including pollution prevention measures as appropriate, to maintain the effluent concentration at or below the water quality-based effluent limitation. Pollution prevention measures may be particularly appropriate for persistent bioaccumulative priority pollutants where there is evidence that beneficial uses are being impacted. The Regional Water Board may consider cost effectiveness when establishing the requirements of a PMP. The completion and implementation of a Pollution Prevention Plan, if required pursuant to Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention: any action that causes a net reduction in the use or generation of a hazardous substance or other pollutant that is discharged into water and includes, but is not limited to, input change, operational improvement, production process change, and product reformulation (as defined in Water Code section 13263.3). Pollution prevention does not include actions that merely shift a pollutant in wastewater from one environmental medium to another environmental medium, unless clear environmental benefits of such an approach are identified to the satisfaction of the State or Regional Water Board.

Reporting Level (RL): the ML (and its associated analytical method) chosen by the Discharger for reporting and compliance determination from the MLs included in this Order. The MLs included in this Order correspond to approved analytical methods for reporting a sample result that are selected by the Regional Water Board either from Appendix 4 of the SIP in accordance with section 2.4.2 of the SIP or established in accordance with section 2.4.3 of the SIP. The ML is based on the proper application of method-based analytical procedures for sample preparation and the absence of any matrix interferences. Other factors may be applied to the ML depending on the specific sample preparation steps employed. For example, the treatment typically applied in cases where there are matrix-effects is to dilute the sample or sample aliquot by a factor of ten. In such cases, this additional factor must be applied to the ML in the computation of the RL.

Satellite Collection System: the portion, if any, of a sanitary sewer system owned or operated by a different public agency than the agency that owns and operates the wastewater treatment facility that a sanitary sewer system is tributary to.

Source of Drinking Water: any water designated as municipal or domestic supply (MUN) in a Regional Water Board Basin Plan.

Standard Deviation (σ): a measure of variability that is calculated as follows:

$$\sigma = (\Sigma[(x - \mu)^2]/(n - 1))^{0.5}$$

where:

x is the observed value;

μ is the arithmetic mean of the observed values; and

n is the number of samples.

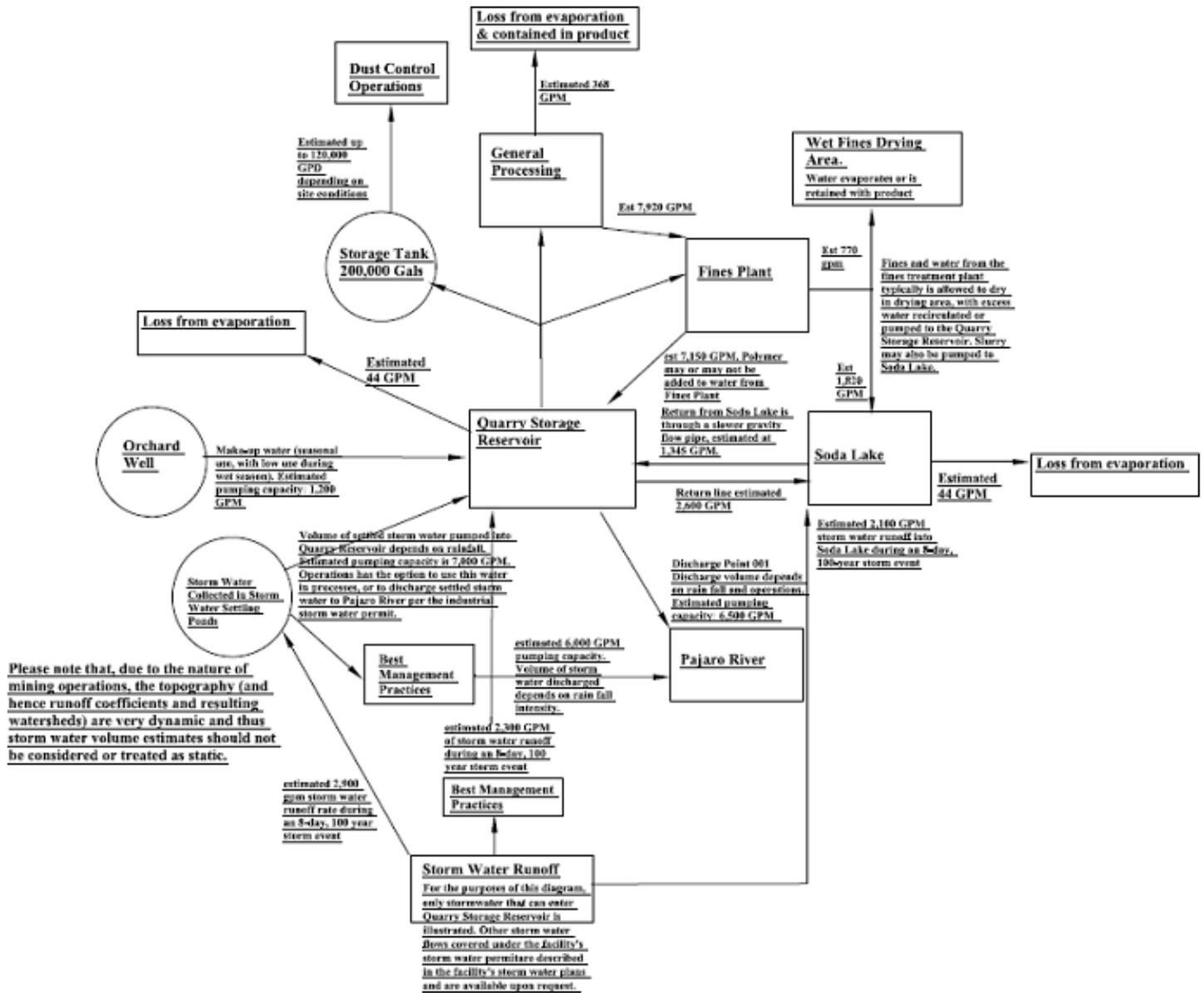
Toxicity Reduction Evaluation (TRE): a study conducted in a step-wise process designed to identify the causative agents of effluent or ambient toxicity, isolate the sources of toxicity, evaluate the effectiveness of toxicity control options, and then confirm the reduction in toxicity. The first steps of the TRE consist of the collection of data relevant to the toxicity, including additional toxicity testing, and an evaluation of facility operations and maintenance practices, and best management practices. A Toxicity Identification Evaluation (TIE) may be required as part of the TRE, if appropriate. (A TIE is a set of procedures to identify the specific chemical(s) responsible for toxicity. These procedures are performed in three phases (characterization, identification, and confirmation) using aquatic organism toxicity tests.)

ATTACHMENT B – MAP



Attachment B –Map

ATTACHMENT C – FLOW SCHEMATIC



ATTACHMENT D –STANDARD PROVISIONS

I. STANDARD PROVISIONS – PERMIT COMPLIANCE

A. Duty to Comply

1. The Discharger must comply with all of the conditions of this Order. Any noncompliance constitutes a violation of the Clean Water Act (CWA) and the California Water Code and is grounds for enforcement action, for permit termination, revocation and reissuance, or modification; or denial of a permit renewal application. (40 CFR § 122.41(a).)
2. The Discharger shall comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the CWA within the time provided in the regulations that establish these standards or prohibitions, even if this Order has not yet been modified to incorporate the requirement. (40 CFR § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for a Discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Order. (40 CFR § 122.41(c).)

C. Duty to Mitigate

The Discharger shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this Order that has a reasonable likelihood of adversely affecting human health or the environment. (40 CFR § 122.41(d).)

D. Proper Operation and Maintenance

The Discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the Discharger to achieve compliance with the conditions of this Order. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of backup or auxiliary facilities or similar systems that are installed by a Discharger only when necessary to achieve compliance with the conditions of this Order. (40 CFR § 122.41(e).)

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 CFR § 122.41(g).)

2. The issuance of this Order does not authorize any injury to persons or property or invasion of other private rights, or any infringement of state or local law or regulations. (40 CFR § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Regional Water Board, State Water Board, United States Environmental Protection Agency (USEPA), and/or their authorized representatives (including an authorized contractor acting as their representative), upon the presentation of credentials and other documents, as may be required by law, to (40 CFR § 122.41(i); Water Code, § 13383):

1. Enter upon the Discharger's premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of this Order (40 CFR § 122.41(i)(1));
2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Order (40 CFR § 122.41(i)(2));
3. Inspect and photograph, at reasonable times, any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Order (40 CFR § 122.41(i)(3)); and
4. Sample or monitor, at reasonable times, for the purposes of assuring Order compliance or as otherwise authorized by the CWA or the Water Code, any substances or parameters at any location. (40 CFR § 122.41(i)(4).)

G. Bypass

1. Definitions
 - a. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility. (40 CFR § 122.41(m)(1)(i).)
 - b. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities, which causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production. (40 CFR § 122.41(m)(1)(ii).)
2. Bypass not exceeding limitations. The Discharger may allow any bypass to occur which does not cause exceedances of effluent limitations, but only if it is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions listed in Standard Provisions – Permit Compliance I.G.3, I.G.4, and I.G.5 below. (40 CFR § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Regional Water Board may take enforcement action against a Discharger for bypass, unless (40 CFR § 122.41(m)(4)(i)):
 - a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 CFR § 122.41(m)(4)(i)(A));
 - b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance (40 CFR § 122.41(m)(4)(i)(B)); and
 - c. The Discharger submitted notice to the Regional Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 CFR § 122.41(m)(4)(i)(C).)
4. The Regional Water Board may approve an anticipated bypass, after considering its adverse effects, if the Regional Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 CFR § 122.41(m)(4)(ii).)
5. Notice
 - a. Anticipated bypass. If the Discharger knows in advance of the need for a bypass, it shall submit a notice, if possible at least 10 days before the date of the bypass. (40 CFR § 122.41(m)(3)(i).)
 - b. Unanticipated bypass. The Discharger shall submit notice of an unanticipated bypass as required in Standard Provisions - Reporting V.E below (24-hour notice). (40 CFR § 122.41(m)(3)(ii).)

H. Upset

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology based permit effluent limitations because of factors beyond the reasonable control of the Discharger. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation. (40 CFR § 122.41(n)(1).)

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology based permit effluent limitations if the requirements of Standard Provisions – Permit Compliance I.H.2 below are met. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review. (40 CFR § 122.41(n)(2).)

2. Conditions necessary for a demonstration of upset. A Discharger who wishes to establish the affirmative defense of upset shall demonstrate, through properly signed, contemporaneous operating logs or other relevant evidence that (40 CFR § 122.41(n)(3)):
 - a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 CFR § 122.41(n)(3)(i));
 - b. The permitted facility was, at the time, being properly operated (40 CFR § 122.41(n)(3)(ii));
 - c. The Discharger submitted notice of the upset as required in Standard Provisions – Reporting V.E.2.b below (24-hour notice) (40 CFR § 122.41(n)(3)(iii)); and
 - d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 CFR § 122.41(n)(3)(iv).)
3. Burden of proof. In any enforcement proceeding, the Discharger seeking to establish the occurrence of an upset has the burden of proof. (40 CFR § 122.41(n)(4).)

II. STANDARD PROVISIONS – PERMIT ACTION

A. General

This Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the Discharger for modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Order condition. (40 CFR § 122.41(f).)

B. Duty to Reapply

If the Discharger wishes to continue an activity regulated by this Order after the expiration date of this Order, the Discharger must apply for and obtain a new permit. (40 CFR § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Regional Water Board. The Regional Water Board may require modification or revocation and reissuance of the Order to change the name of the Discharger and incorporate such other requirements as may be necessary under the CWA and the Water Code. (40 CFR § 122.41(l)(3); § 122.61.)

III. STANDARD PROVISIONS – MONITORING

- A.** Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. (40 CFR § 122.41(j)(1).)
- B.** Monitoring results must be conducted according to test procedures under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503 unless other test procedures have been specified in this Order. (40 CFR § 122.41(j)(4); § 122.44(i)(1)(iv).)

IV. STANDARD PROVISIONS – RECORDS

- A.** Except for records of monitoring information required by this Order related to the Discharger's sewage sludge use and disposal activities, which shall be retained for a period of at least five years (or longer as required by Part 503), the Discharger shall retain records of all monitoring information, including all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this Order, and records of all data used to complete the application for this Order, for a period of at least three (3) years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Water Board Executive Officer at any time. (40 CFR § 122.41(j)(2).)

B. Records of monitoring information shall include:

1. The date, exact place, and time of sampling or measurements (40 CFR § 122.41(j)(3)(i));
2. The individual(s) who performed the sampling or measurements (40 CFR § 122.41(j)(3)(ii));
3. The date(s) analyses were performed (40 CFR § 122.41(j)(3)(iii));
4. The individual(s) who performed the analyses (40 CFR § 122.41(j)(3)(iv));
5. The analytical techniques or methods used (40 CFR § 122.41(j)(3)(v)); and
6. The results of such analyses. (40 CFR § 122.41(j)(3)(vi).)

C. Claims of confidentiality for the following information will be denied (40 CFR § 122.7(b)):

1. The name and address of any permit applicant or Discharger (40 CFR § 122.7(b)(1)); and
2. Permit applications and attachments, permits and effluent data. (40 CFR § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Regional Water Board, State Water Board, or USEPA within a reasonable time, any information which the Regional Water Board, State Water Board, or USEPA may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Order or to determine compliance with this Order. Upon request, the Discharger shall also furnish to the Regional Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 CFR § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Regional Water Board, State Water Board, and/or USEPA shall be signed and certified in accordance with Standard Provisions – Reporting V.B.2, V.B.3, V.B.4, and V.B.5 below. (40 CFR § 122.41(k).)
2. All permit applications shall be signed by a responsible corporate officer. For the purpose of this section, a responsible corporate officer means: (i) A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy- or decision-making functions for the corporation, or (ii) the manager of one or more manufacturing, production, or operating facilities, provided, the manager is authorized to make management decisions which govern the operation of the regulated facility including having the explicit or implicit duty of making major capital investment recommendations, and initiating and directing other comprehensive measures to assure long term environmental compliance with environmental laws and regulations; the manager can ensure that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; and where authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures. (40 C.F.R. § 122.22(a)(1).)
3. All reports required by this Order and other information requested by the Regional Water Board, State Water Board, or USEPA shall be signed by a person described in Standard Provisions – Reporting V.B.2 above, or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described in Standard Provisions – Reporting V.B.2 above (40 CFR § 122.22(b)(1));
 - b. 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 well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative

- may thus be either a named individual or any individual occupying a named position.) (40 CFR § 122.22(b)(2)); and
- c. The written authorization is submitted to the Regional Water Board and State Water Board. (40 CFR § 122.22(b)(3).)
 4. If an authorization under Standard Provisions – Reporting V.B.3 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Standard Provisions – Reporting V.B.3 above must be submitted to the Regional Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 CFR § 122.22(c).)
 5. Any person signing a document under Standard Provisions – Reporting V.B.2 or V.B.3 above shall make the following certification:

“I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.” (40 CFR § 122.22(d).)

C. Monitoring Reports

1. Monitoring results shall be reported at the intervals specified in the Monitoring and Reporting Program (Attachment E) in this Order. (40 CFR § 122.41(l)(4).)
2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Regional Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 CFR § 122.41(l)(4)(i).)
3. If the Discharger monitors any pollutant more frequently than required by this Order using test procedures approved under Part 136 or, in the case of sludge use or disposal, approved under Part 136 unless otherwise specified in Part 503, or as specified in this Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the DMR or sludge reporting form specified by the Regional Water Board. (40 CFR § 122.41(l)(4)(ii).)
4. Calculations for all limitations, which require averaging of measurements, shall utilize an arithmetic mean unless otherwise specified in this Order. (40 CFR § 122.41(l)(4)(iii).)

D. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule of this Order, shall be submitted no later than 14 days following each schedule date. (40 CFR § 122.41(l)(5).)

E. Twenty-Four Hour Reporting

1. The Discharger shall report any noncompliance that may endanger health or the environment. Any information shall be provided orally within 24 hours from the time the Discharger becomes aware of the circumstances. A written submission shall also be provided within five (5) days of the time the Discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times, and if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. (40 CFR § 122.41(l)(6)(i).)
2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 CFR § 122.41(l)(6)(ii)):
 - a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(A).)
 - b. Any upset that exceeds any effluent limitation in this Order. (40 CFR § 122.41(l)(6)(ii)(B).)
3. The Regional Water Board may waive the above-required written report under this provision on a case-by-case basis if an oral report has been received within 24 hours. (40 CFR § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Regional Water Board as soon as possible of any planned physical alterations or additions to the permitted facility. Notice is required under this provision only when (40 CFR § 122.41(l)(1)):

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source in section 122.29(b) (40 CFR § 122.41(l)(1)(i)); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in this Order. (40 CFR § 122.41(l)(1)(ii).)
3. The alteration or addition results in a significant change in the Discharger's sludge use or disposal practices, and such alteration, addition, or change may justify the application of permit conditions that are different from or absent in the existing permit, including notification of additional use or disposal sites not reported during

the permit application process or not reported pursuant to an approved land application plan. (40 CFR § 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Regional Water Board or State Water Board of any planned changes in the permitted facility or activity that may result in noncompliance with General Order requirements. (40 CFR § 122.41(l)(2).)

H. Other Noncompliance

The Discharger shall report all instances of noncompliance not reported under Standard Provisions – Reporting V.C, V.D, and V.E above at the time monitoring reports are submitted. The reports shall contain the information listed in Standard Provision – Reporting V.E above. (40 CFR § 122.41(l)(7).)

I. Other Information

When the Discharger becomes aware that it failed to submit any relevant facts in a permit application, or submitted incorrect information in a permit application or in any report to the Regional Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 CFR § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

- A.** The Regional Water Board is authorized to enforce the terms of this permit under several provisions of the Water Code, including, but not limited to, sections 13385, 13386, and 13387.

VII. ADDITIONAL PROVISIONS – NOTIFICATION LEVELS

A. Non-Municipal Facilities

Existing manufacturing, commercial, mining, and silvicultural Dischargers shall notify the Regional Water Board as soon as they know or have reason to believe (40 CFR §122.42(a)):

- 1.** That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any toxic pollutant that is not limited in this Order, if that discharge will exceed the highest of the following "notification levels" (40 CFR §122.42(a)(1)):
 - a.** 100 micrograms per liter ($\mu\text{g/L}$) (40 CFR §122.42(a)(1)(i));
 - b.** 200 $\mu\text{g/L}$ for acrolein and acrylonitrile; 500 $\mu\text{g/L}$ for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 CFR § 122.42(a)(1)(ii));
 - c.** Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 CFR §122.42(a)(1)(iii)); or

ATTACHMENT D-1 - CENTRAL COAST REGIONAL WATER BOARD STANDARD PROVISIONS (JANUARY 1985)

I. CENTRAL COAST GENERAL PERMIT CONDITIONS

A. Central Coast Standard Provisions – Prohibitions

1. Introduction of "incompatible wastes" to the treatment system is prohibited.
2. Discharge of high-level radiological waste and of radiological, chemical, and biological warfare agents is prohibited.
3. Discharge of "toxic pollutants" in violation of effluent standards and prohibitions established under Section 307(a) of the Clean Water Act is prohibited.
4. Discharge of sludge, sludge digester or thickener supernatant, and sludge drying bed leachate to drainageways, surface waters, or the ocean is prohibited.
5. Introduction of pollutants into the collection, treatment, or disposal system by an "indirect discharger" that:
 - a. Inhibit or disrupt the treatment process, system operation, or the eventual use or disposal of sludge; or,
 - b. Flow through the system to the receiving water untreated; and,
 - c. Cause or "significantly contribute" to a violation of any requirement of this Order, is prohibited.
6. Introduction of "pollutant free" wastewater to the collection, treatment, and disposal system in amounts that threaten compliance with this order is prohibited.

B. Central Coast Standard Provisions – Provisions

1. Collection, treatment, and discharge of waste shall not create a nuisance or pollution, as defined by Section 13050 of the California Water Code.
2. All facilities used for transport or treatment of wastes shall be adequately protected from inundation and washout as the result of a 100-year frequency flood.
3. Operation of collection, treatment, and disposal systems shall be in a manner that precludes public contact with wastewater.
4. Collected screenings, sludges, and other solids removed from liquid wastes shall be disposed in a manner approved by the Executive Officer.
5. Publicly owned wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23 of the California Administrative Code.

6. After notice and opportunity for a hearing, this order may be terminated for cause, including, but not limited to:
 - a. violation of any term or condition contained in this order;
 - b. obtaining this order by misrepresentation, or by failure to disclose fully all relevant facts;
 - c. a change in any condition or endangerment to human health or environment that requires a temporary or permanent reduction or elimination of the authorized discharge; and,
 - d. a substantial change in character, location, or volume of the discharge.
7. Provisions of this permit are severable. If any provision of the permit is found invalid, the remainder of the permit shall not be affected.
8. After notice and opportunity for hearing, this order may be modified or revoked and reissued for cause, including:
 - a. Promulgation of a new or revised effluent standard or limitation;
 - b. A material change in character, location, or volume of the discharge;
 - c. Access to new information that affects the terms of the permit, including applicable schedules;
 - d. Correction of technical mistakes or mistaken interpretations of law; and,
 - e. Other causes set forth under Sub-part D of 40 CFR Part 122.
9. Safeguards shall be provided to assure maximal compliance with all terms and conditions of this permit. Safeguards shall include preventative and contingency plans and may also include alternative power sources, stand-by generators, retention capacity, operating procedures, or other precautions. Preventative and contingency plans for controlling and minimizing the affect of accidental discharges shall:
 - a. identify possible situations that could cause "upset", "overflow" or "bypass", or other noncompliance. (Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.)
 - b. evaluate the effectiveness of present facilities and procedures and describe procedures and steps to minimize or correct any adverse environmental impact resulting from noncompliance with the permit.
10. Physical Facilities shall be designed and constructed according to accepted engineering practice and shall be capable of full compliance with this order when properly operated and maintained. Proper operation and maintenance shall be

described in an Operation and Maintenance Manual. Facilities shall be accessible during the wet-weather season.

11. Production and use of reclaimed water is subject to the approval of the Board. Production and use of reclaimed water shall be in conformance with reclamation criteria established in Chapter 3, Title 22, of the California Administrative Code and Chapter 7, Division 7, of the California Water Code. An engineering report pursuant to section 60323, Title 22, of the California Administrative Code is required and a waiver or water reclamation requirements from the Board is required before reclaimed water is supplied for any use, or to any user, not specifically identified and approved either in this Order or another order issued by this Board.

C. Central Coast Standard Provisions – General Monitoring Requirements

1. If results of monitoring a pollutant appear to violate effluent limitations based on a weekly, monthly, 30-day, or six-month period, but compliance or non-compliance cannot be validated because sampling is too infrequent, the frequency of sampling shall be increased to validate the test within the next monitoring period. The increased frequency shall be maintained until the Executive Officer agrees the original monitoring frequency may be resumed.

For example, if arsenic is monitored annually and results exceed the six-month median numerical effluent limitation in the permit, monitoring of arsenic must be increased to a frequency of at least once every two months (Central Coast Standard Provisions – Definitions I.G.13.). If suspended solids are monitored weekly and results exceed the weekly average numerical limit in the permit, monitoring of suspended solids must be increased to at least four (4) samples every week (Central Coast Standard Provisions – Definitions I.G.14.).

2. Water quality analyses performed in order to monitor compliance with this permit shall be by a laboratory certified by the State Department of Health Services for the constituent(s) being analyzed. Bioassay(s) performed in order to monitor compliance with this permit shall be in accord with guidelines approved by the State Water Resources Control Board and the State Department of Fish and Game. If the laboratory used or proposed for use by the discharger is not certified by the California Department of Health Services or, where appropriate, the Department of Fish and Game due to restrictions in the state's laboratory certification program, the discharger shall be considered in compliance with this provision provided:
 - a. Data results remain consistent with results of samples analyzed by the Central Coast Water Board;
 - b. A quality assurance program is used at the laboratory, including a manual containing steps followed in this program that is available for inspections by the staff of the Central Coast Water Board; and,
 - c. Certification is pursued in good faith and obtained as soon as possible after the program is reinstated.

3. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. Samples shall be taken during periods of peak loading conditions. Influent samples shall be samples collected from the combined flows of all incoming wastes, excluding recycled wastes. Effluent samples shall be samples collected downstream of the last treatment unit and tributary flow and upstream of any mixing with receiving waters.
4. All monitoring instruments and devices used by the discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy.

D. Central Coast Standard Provisions – General Reporting Requirements

1. Reports of marine monitoring surveys conducted to meet receiving water monitoring requirements of the Monitoring and Reporting Program shall include at least the following information:
 - a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling, tide height, etc.).
 - b. A description of sampling stations, including differences unique to each station (e.g., station location, grain size, rocks, shell litter, calcareous worm tubes, evident life, etc.).
 - c. A description of the sampling procedures and preservation sequence used in the survey.
 - d. A description of the exact method used for laboratory analysis. In general, analysis shall be conducted according to Central Coast Standard Provisions – C.1 above, and Federal Standard Provision – Monitoring III.B. However, variations in procedure are acceptable to accommodate the special requirements of sediment analysis. All such variations must be reported with the test results.
 - e. A brief discussion of the results of the survey. The discussion shall compare data from the control station with data from the outfall stations. All tabulations and computations shall be explained.
2. Reports of compliance or noncompliance with, or any progress reports on, interim and final requirements contained in any compliance schedule shall be submitted within 14 days following each scheduled date unless otherwise specified within the permit. If reporting noncompliance, the report shall include a description of the reason, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance. A second report shall be submitted within 14 days of full compliance.
3. The “Discharger” shall file a report of waste discharge or secure a waiver from the Executive Officer at least 180 days before making any material change or proposed change in the character, location, or plume of the discharge.

4. Within 120 days after the discharger discovers, or is notified by the Central Coast Water Board, that monthly average daily flow will or may reach design capacity of waste treatment and/or disposal facilities within four (4) years, the discharger shall file a written report with the Central Coast Water Board. The report shall include:
 - a. the best estimate of when the monthly average daily dry weather flow rate will equal or exceed design capacity; and,
 - b. a schedule for studies, design, and other steps needed to provide additional capacity for waste treatment and/or disposal facilities before the waste flow rate equals the capacity of present units.

In addition to complying with Federal Standard Provision – Reporting V.B., the required technical report shall be prepared with public participation and reviewed, approved and jointly submitted by all planning and building departments having jurisdiction in the area served by the waste collection, treatment, or disposal facilities.

5. All “Dischargers” shall submit reports to the:

California Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906

In addition, "Dischargers" with designated major discharges shall submit a copy of each document to:

Regional Administrator
US Environmental Protection Agency, Region 9
Attention: CWA Standards and Permits Office (WTR-5)
75 Hawthorne Street
San Francisco, California 94105

6. Transfer of control or ownership of a waste discharge facility must be preceded by a notice to the Central Coast Water Board at least 30 days in advance of the proposed transfer date. The notice must include a written agreement between the existing “Discharger” and proposed “Discharger” containing specific date for transfer of responsibility, coverage, and liability between them. Whether a permit may be transferred without modification or revocation and reissuance is at the discretion of the Board. If permit modification or revocation and reissuance is necessary, transfer may be delayed 180 days after the Central Coast Water Board's receipt of a complete permit application. Please also see Federal Standard Provision – Permit Action II.C.
7. Except for data determined to be confidential under Section 308 of the Clean Water Act (excludes effluent data and permit applications), all reports prepared in accordance with this permit shall be available for public inspection at the office of the

Central Coast Water Board or Regional Administrator of EPA. Please also see Federal Standard Provision – Records IV.C.

8. By January 30th of each year, the discharger shall submit an annual report to the Central Coast Water Board. The report shall contain both tabular and graphical summaries of the monitoring data obtained during the previous year. The discharger shall discuss the compliance record and corrective actions taken, or which may be needed, to bring the discharge into full compliance. The report shall address operator certification and provide a list of current operating personnel and their grade of certification. The report shall inform the Board of the date of the Facility's Operation and Maintenance Manual (including contingency plans as described Central Coast Standard Provision – Provision B.9., above), of the date the manual was last reviewed, and whether the manual is complete and valid for the current facility. The report shall restate, for the record, the laboratories used by the discharger to monitor compliance with effluent limits and provide a summary of performance relative to Section C above, General Monitoring Requirements.

If the facility treats industrial or domestic wastewater and there is no provision for periodic sludge monitoring in the Monitoring and Reporting Program, the report shall include a summary of sludge quantities, analyses of its chemical and moisture content, and its ultimate destination.

If applicable, the report shall also evaluate the effectiveness of the local source control or pretreatment program using the State Water Resources Control Board's "Guidelines for Determining the Effectiveness of Local Pretreatment Programs."

E. Central Coast Standard Provisions – General Pretreatment Provisions

1. Discharge of pollutants by "indirect dischargers" in specific industrial sub-categories (appendix C, 40 CFR Part 403), where categorical pretreatment standards have been established, or are to be established, (according to 40 CFR Chapter 1, Subchapter N), shall comply with the appropriate pretreatment standards:
 - a. By the date specified therein;
 - b. Within three (3) years of the effective date specified therein, but in no case later than July 1, 1984; or,
 - c. If a new indirect discharger, upon commencement of discharge.

F. Central Coast Standard Provisions – Enforcement

1. Any person failing to file a report of waste discharge or other report as required by this permit shall be subject to a civil penalty not to exceed \$5,000 per day.
2. Upon reduction, loss, or failure of the treatment facility, the "Discharger" shall, to the extent necessary to maintain compliance with this permit, control production or all discharges, or both, until the facility is restored or an alternative method of treatment is provided.

G. Central Coast Standard Provisions – Definitions

(Not otherwise included in Attachment A to this Order)

1. A “composite sample” is a combination of no fewer than eight (8) individual samples obtained at equal time intervals (usually hourly) over the specified sampling (composite) period. The volume of each individual sample is proportional to the flow rate at the time of sampling. The period shall be specified in the Monitoring and Reporting Program ordered by the Executive Officer.
2. “Daily Maximum” limit means the maximum acceptable concentration or mass emission rate of a pollutant measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling. It is normally compared with results based on “composite samples” except for ammonia, total chlorine, phenolic compounds, and toxicity concentration. For all exceptions, comparisons will be made with results from a “grab sample”.
3. “Discharger”, as used herein, means, as appropriate: (1) the Discharger, (2) the local sewerage entity (when the collection system is not owned and operated by the Discharger), or (3) “indirect discharger” (where “Discharger” appears in the same paragraph as “indirect discharger”, it refers to the discharger.)
4. “Duly Authorized Representative” is one where:
 - a. the authorization is made in writing by a person described in the signatory paragraph of Federal Standard Provision V.B.;
 - b. the authorization specifies either an individual or the occupant of a position having either responsibility for the overall operation of the regulated facility, such as the plant manager, or overall responsibility for environmental matters of the company; and,
 - c. the written authorization was submitted to the Central Coast Water Board.
5. A “grab sample” is defined as any individual sample collected in less than 15 minutes. “Grab samples” shall be collected during peak loading conditions, which may or may not be during hydraulic peaks. It is used primarily in determining compliance with the daily maximum limits identified in Central Coast Standard Provision – Provision G.2. and instantaneous maximum limits.
6. “Hazardous substance” means any substance designated under 40 CFR Part 116 pursuant to Section 311 of the Clean Water Act.
7. “Incompatible wastes” are:
 - a. Wastes which create a fire or explosion hazard in the treatment works;

- b. Wastes which will cause corrosive structural damage to treatment works, but in no case wastes with a pH lower than 5.0 unless the works is specifically designed to accommodate such wastes;
 - c. Solid or viscous wastes in amounts which cause obstruction to flow in sewers, or which cause other interference with proper operation of treatment works;
 - d. Any waste, including oxygen demanding pollutants (BOD, etc), released in such volume or strength as to cause inhibition or disruption in the treatment works and subsequent treatment process upset and loss of treatment efficiency; and,
 - e. Heat in amounts that inhibit or disrupt biological activity in the treatment works or that raise influent temperatures above 40 °C (104 °F) unless the treatment works is designed to accommodate such heat.
8. "Indirect Discharger" means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.
9. "Log Mean" is the geometric mean. Used for determining compliance of fecal or total coliform populations, it is calculated with the following equation:

$$\text{Log Mean} = (C_1 \times C_2 \times \dots \times C_n)^{1/n},$$

in which "n" is the number of days samples were analyzed during the period and any "C" is the concentration of bacteria (MPN/100 ml) found on each day of sampling. "n" should be five or more.

10. "Mass emission rate" is a daily rate defined by the following equations:

$$\text{mass emission rate (lbs/day)} = 8.34 \times Q \times C; \text{ and,}$$

$$\text{mass emission rate (kg/day)} = 3.79 \times Q \times C,$$

where "C" (in mg/L) is the measured daily constituent concentration or the average of measured daily constituent concentrations and "Q" (in MGD) is the measured daily flow rate or the average of measured daily flow rates over the period of interest.

11. The "Maximum Allowable Mass Emission Rate," whether for a month, week, day, or six-month period, is a daily rate determined with the formulas in paragraph G.10, above, using the effluent concentration limit specified in the permit for the period and the average of measured daily flows (up to the allowable flow) over the period.
12. "Maximum Allowable Six-Month Median Mass Emission Rate" is a daily rate determined with the formulas in Central Coast Standard Provision – Provision G.10, above, using the "six-month Median" effluent limit specified in the permit, and the average of measured daily flows (up to the allowable flow) over a 180-day period.
13. "Median" is the value below which half the samples (ranked progressively by increasing value) fall. It may be considered the middle value, or the average of two middle values.

14. "Monthly Average" (or "Weekly Average", as the case may be) is the arithmetic mean of daily concentrations or of daily mass emission rates over the specified 30-day (or 7-day) period.

$$\text{Average} = (X1 + X2 + \dots + Xn) / n$$

in which "n" is the number of days samples were analyzed during the period and "X" is either the constituent concentration (mg/l) or mass emission rate (kg/day or lbs/day) for each sampled day. "n" should be four or greater.

15. "Municipality" means a city, town, borough, county, district, association, or other public body created by or under state law and having jurisdiction over disposal of sewage, industrial waste, or other waste.
16. "Overflow" means the intentional or unintentional diversion of flow from the collection and transport systems, including pumping facilities.
17. "Pollutant-free wastewater" means inflow and infiltration, stormwater, and cooling waters and condensates which are essentially free of pollutants.
18. "Primary Industry Category" means any industry category listed in 40 CFR Part 122, Appendix A.
19. "Removal Efficiency" is the ratio of pollutants removed by the treatment unit to pollutants entering the treatment unit. Removal efficiencies of a treatment plant shall be determined using "Monthly averages" of pollutant concentrations (C, in mg/l) of influent and effluent samples collected about the same time and the following equation (or its equivalent):

$$C_{\text{Effluent}} \text{ Removal Efficiency (\%)} = 100 \times (1 - C_{\text{effluent}} / C_{\text{influent}})$$

20. "Severe property damage" means substantial physical damage to property, damage to treatment facilities which causes them to become inoperable, or substantial and permanent loss to natural resources which can reasonably be expected to occur in the absence of a "bypass". It does not mean economic loss caused by delays in production.
21. "Sludge" means the solids, residues, and precipitates separated from, or created in, wastewater by the unit processes of a treatment system.
22. To "significantly contribute" to a permit violation means an "indirect discharger" must:
- Discharge a daily pollutant loading in excess of that allowed by contract with the "Discharger" or by Federal, State, or Local law;
 - Discharge wastewater which substantially differs in nature or constituents from its average discharge;

- c. Discharge pollutants, either alone or in conjunction with discharges from other sources, which results in a permit violation or prevents sewage sludge use or disposal; or
 - d. Discharge pollutants, either alone or in conjunction with pollutants from other sources that increase the magnitude or duration of permit violations.
23. "Toxic Pollutant" means any pollutant listed as toxic under Section 307 (a) (1) of the Clean Water Act or under 40 CFR Part 122, Appendix D. Violation of maximum daily discharge limitations are subject to 24-hour reporting (Federal Standard Provisions V.E.).
24. "Zone of Initial Dilution" means the region surrounding or adjacent to the end of an outfall pipe or diffuser ports whose boundaries are defined through calculation of a plume model verified by the State Water Resources Control Board

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Table of Contents

Attachment E – Monitoring and Reporting Program (MRP)	E-2
I. General Monitoring Provisions.....	E-2
II. Monitoring Locations	E-3
III. Influent Monitoring Requirements – Not Applicable.....	E-4
IV. Effluent Monitoring Requirements	E-4
A. Monitoring Location EFF-001.....	E-4
V. Whole Effluent Toxicity Testing Requirements	E-5
A. Acute Toxicity	E-5
B. Quality Assurance.....	E-5
C. Accelerated Monitoring Requirements.....	E-6
D. Conducting Toxicity Identification Evaluations and Toxicity Reduction Evaluations	E-6
VI. Land Discharge Monitoring Requirements – Not Applicable	E-7
VII. Reclamation Monitoring Requirements – Not Applicable.....	E-7
VIII. Receiving Water Monitoring Requirements – Surface Water.....	E-7
A. Receiving Water Monitoring.....	E-7
IX. Other Monitoring Requirements.....	E-8
A. Process Water Supply Monitoring.....	E-8
X. Reporting Requirements.....	E-9
A. General Monitoring and Reporting Requirements.....	E-9
B. Self Monitoring Reports (SMRs)	E-9
C. Discharge Monitoring Reports (DMRs) – Not Applicable	E-12
D. Other Reports	E-12

List of Tables

Table E-1. Monitoring Station Locations.....	E-3
Table E-2. Effluent Monitoring	E-4
Table E-3. Approved Tests – Acute Toxicity.....	E-5
Table E-4. Receiving Water Monitoring Requirements.....	E-7
Table E-5. Process Water Supply Monitoring Requirements.....	E-8
Table E-6. Monitoring Periods and Reporting Schedule.....	E-9

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify monitoring and reporting requirements. Water Code sections 13267 and 13383 also authorize the Regional Water Quality Control Board (Regional Water Board) to require technical and monitoring reports. This MRP establishes monitoring and reporting requirements, which implement the federal and California regulations.

I. GENERAL MONITORING PROVISIONS

- A.** Laboratories analyzing monitoring samples shall be certified by the Department of Health Services (DHS), in accordance with Water Code section 13176, and must include quality assurance/quality control data with their reports.
- B.** Samples and measurements taken as required herein shall be representative of the volume and nature of the monitored discharge. All samples shall be taken at the monitoring locations specified below and, unless otherwise specified, before the monitored flow joins or is diluted by any other waste stream, body of water, or substance. Monitoring locations shall not be changed without notification to and approval of the Regional Water Board.
- C.** Appropriate flow measurement devices and methods consistent with accepted scientific practices shall be selected and used to ensure the accuracy and reliability of measurements of the volume of monitored discharges. The devices shall be installed, calibrated, and maintained to ensure that the accuracy of the measurements is consistent with the accepted capability of that type of device. Devices selected shall be capable of measuring flows with a maximum deviation of less than ± 10 percent from true discharge rates throughout the range of expected discharge volumes. Guidance in selection, installation, calibration, and operation of acceptable flow measurement devices can be obtained from the following references.
 - 1.** *A Guide to Methods and Standards for the Measurement of Water Flow*, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 421, May 1975, 96 pp. (Available from the U.S. Government Printing Office, Washington, D.C. 20402. Order by SD Catalog No. C13.10:421.)
 - 2.** *Water Measurement Manual*, U.S. Department of Interior, Bureau of Reclamation, Second Edition, Revised Reprint, 1974, 327 pp. (Available from the U.S. Government Printing Office, Washington D.C. 20402. Order by Catalog No. 172.19/2:W29/2, Stock No. S/N 24003-0027.)
 - 3.** *Flow Measurement in Open Channels and Closed Conduits*, U.S. Department of Commerce, National Bureau of Standards, NBS Special Publication 484, October 1977, 982 pp. (Available in paper copy or microfiche from National Technical Information Services (NTIS) Springfield, VA 22151. Order by NTIS No. PB-273 535/5ST.)

4. *NPDES Compliance Sampling Manual*, U.S. Environmental Protection Agency, Office of Water Enforcement, Publication MCD-51, 1977, 140 pp. (Available from the General Services Administration (8FFS), Centralized Mailing Lists Services, Building 41, Denver Federal Center, CO 80225.)
- D. All monitoring instruments and devices used by the Discharger to fulfill the prescribed monitoring program shall be properly maintained and calibrated as necessary to ensure their continued accuracy. All flow measurement devices shall be calibrated at least once per year to ensure continued accuracy of the devices.
 - E. Monitoring results, including noncompliance, shall be reported at intervals and in a manner specified in this MRP.
 - F. Unless otherwise specified by this MRP, all monitoring shall be conducted according to test procedures established at 40 CFR 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants*. All analyses shall be conducted using the lowest practical quantitation limit achievable using the specified methodology. Where effluent limitations are set below the lowest achievable quantitation limits, pollutants not detected at the lowest practical quantitation limits will be considered in compliance with effluent limitations. Analysis for toxics listed by the California Toxics Rule shall also adhere to guidance and requirements contained in the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (2005). Analyses for toxics listed in Table B of the California Ocean Plan (2005) shall adhere to guidance and requirements contained in that document.

II. MONITORING LOCATIONS

The Discharger shall establish the following monitoring locations to demonstrate compliance with the effluent limitations, discharge specifications, and other requirements in this Order:

Table E-1. Monitoring Station Locations

Discharge Point Name	Monitoring Location Name	Monitoring Location Description
001	EFF-001	Effluent discharged from Quarry Storage Reservoir before its contact with receiving water.
--	RSW-001	In the Pajaro River upstream of Discharge Point 001 where water samples reflect water quality before the addition of effluent to the receiving water.
--	RSW-002	Pajaro River approximately 100 to 200 feet downstream of Discharge Point 001, where a representative sample that indicates the impact of effluent on receiving water can be collected.

III. INFLUENT MONITORING REQUIREMENTS – NOT APPLICABLE

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

1. The Discharger shall monitor effluent discharged to the Pajaro River from Quarry Storage Reservoir and Lower Hole Stormwater Collection Pond at Monitoring Location EFF-001 as follows. All effluent monitoring is required only when effluent is being discharged to the Pajaro River.

Table E-2. Effluent Monitoring

Parameter	Units	Sample Type	Quarry Storage Reservoir Minimum Sampling Frequency	Lower Hole Stormwater Collection Pond Minimum Sampling Frequency
Flow	MGD	Measured	1/Day	1/Permit Term – Discharge Event
Suspended Sediment	mg/L	Grab	1/Week ^{[1][2]}	1/Permit Term – Discharge Event
Total Suspended Solids (TSS)	mg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Turbidity	NTUs	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
pH	s.u.	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Temperature	°F	Grab	1/Hour ^[3]	1/Permit Term – Discharge Event
Oil and Grease	mg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
TDS	mg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Chloride	mg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Sulfate	mg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Boron	mg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Sodium	mg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Mercury (Total Recoverable)	µg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Cyanide	µg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Aluminum	mg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Iron	mg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Molybdenum	mg/L	Grab	1/Week ^[1]	1/Permit Term – Discharge Event
Acute Toxicity	TUa	Grab	1/Discharge Event ^[4]	1/Permit Term – Discharge Event
CTR Priority Pollutants ^[5]	µg/L	Grab	1/Permit Term	1/Permit Term – Discharge Event
Title 22 Pollutants ^[6]	µg/L	Grab	1/Permit Term	1/Permit Term – Discharge Event

^[1] Monitoring for these pollutants at weekly intervals is based on an assumption of one discharge event per year during the wet season (October 1 through May 31) that lasts for 3 to 4 days. If a single discharge event continues for more than 7 days, monitoring for this constituent will be required a second time following a weekly interval; however, monitoring is required at monthly intervals thereafter.

^[2] Analysis for suspended sediment concentration shall be performed in accordance with American Society for Testing and Materials (ASTM) Method D3977-97B [Standard test methods for determining sediment concentration in water samples (ASTM Designation: D-3977-97)].

^[3] Hourly during the discharge. Sampling may be reduced to one time sampling during discharges as supported by applicable data showing that the effluent temperature is consistently at or below the receiving water temperature and will not be likely to cause excursions above the prescribed limits.

^[4] Monitoring for acute toxicity during each discharge event is based on an assumption of one discharge event per year, or less. If there is more than one discharge event per wet season, monitoring for acute toxicity is required no more than two times per wet season.

^[5] The CTR priority pollutants are those listed by the California Toxics Rule at 40 CFR 131.38 (b)(1). These pollutants shall be monitored one time per permit term, if there is a discharge event.

^[6] The Title 22 pollutants are those for which primary Maximum Contaminant Levels have been established by the Department of Health Services and which are listed in Tables 64431-A and 64444-A of the California Code of

Regulations, Title 22, Division 4, Chapter 15. Where these pollutants are included in other groups of pollutants (CTR Priority Pollutants), monitoring does not need to be duplicated.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Acute Toxicity

1. Acute Toxicity Monitoring Requirements - EFF-001

- a. Bioassays shall be performed to evaluate the toxicity of the discharge in accordance with the following procedures unless otherwise specified by the Water Board's Executive Officer or designee.
- b. The test species given below shall be used to measure acute toxicity:

Table E-3. Approved Tests – Acute Toxicity

Species	Effect	Test Duration (hrs)	Reference
Fathead Minnow (<i>Pimephales promelas</i>)	Larval Survival and Growth	96	EPA/821-R-02-012 (Acute)

- c. The presence of acute toxicity shall be determined as significantly reduced survival of test organisms at 100 percent effluent compared to a control using a statistical t-test.

B. Quality Assurance

- 1. The use of a dilution series for this Discharger is not applicable, because there is no dilution in the receiving water.
- 2. For the acute toxicity testing using a t-test, two dilutions shall be used, i.e., 100 percent effluent and a control (when a t-test is used instead of an LC50).
- 3. If organisms are not cultured in-house, concurrent testing with a referenced toxicant shall be conducted. Where organisms are cultured in-house, monthly reference toxicant testing is sufficient. Reference toxicant tests also shall be conducted using the same test conditions as the effluent toxicity tests (e.g., same test duration, etc.).
- 4. If either the reference toxicant test or effluent test does not meet all test acceptability criteria (TAC) as specified in the toxicity test references, then the permittee must resample and retest within 15 working days or as soon as possible. The retesting period begins when the Discharger collects the first sample required to complete the retest.
- 5. The reference toxicant and effluent tests must meet the upper and lower bounds on test sensitivity as determined by calculating the percent minimum significant difference (PMSD) for each test result. The test sensitivity bound is specified for each test method in the respective methods manuals.

C. Accelerated Monitoring Requirements

1. When acute toxicity is detected in the effluent during regular toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall initiate accelerated monitoring to confirm the effluent toxicity.
2. The Discharger shall implement an accelerated monitoring frequency consisting of performing three toxicity tests in a six-week period following the first failed test results.
3. If implementation of the generic Toxicity Reduction Evaluation (TRE) work plan indicates the source of the exceedance of the toxicity trigger (for instance, a temporary plant upset), then only one additional test is necessary. If exceedance of the toxicity trigger is detected in this test, the Discharger will continue with accelerated monitoring requirements or implement the Toxicity Identification and Toxicity Reduction Evaluations.
4. If none of the three tests indicated exceedance of the toxicity trigger, then the Discharger may return to the normal bioassay testing frequency.

D. Conducting Toxicity Identification Evaluations and Toxicity Reduction Evaluations

1. A Toxicity Identification Evaluation (TIE) shall be triggered if testing from the accelerated monitoring frequency indicates any of the following:
 - a. Two of the three accelerated toxicity tests are reported as failed tests meeting any of the conditions specified in Attachment E, Section V.D.
 - b. The TIE shall be initiated within 15 days following failure of the second accelerated monitoring test.
 - c. If a TIE is triggered prior to the completion of the accelerated testing, the accelerated testing schedule may be terminated, or used as necessary in performing the TIE.
2. The TIE shall be conducted to identify and evaluate toxicity in accordance with procedures recommended by the United States Environmental Protection Agency (USEPA) which include the following:
 - a. Toxicity Identification Evaluation: Characterization of Chronically Toxic Effluents, Phase I, (USEPA, 1992a);
 - b. Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition (USEPA, 1991a);

- c. Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Sampling Exhibiting Acute and Chronic Toxicity (USEPA, 1993a); and
 - d. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (USEPA, 1993b).
3. As part of the TIE investigation, the Discharger shall be required to implement its TRE work plan. The Discharger shall take all reasonable steps to control toxicity once the source of the toxicity is identified. A failure to conduct required toxicity tests or a TRE within a designated period shall result in the establishment of numerical effluent limitations for chronic toxicity in a permit or appropriate enforcement action. Recommended guidance in conducting a TRE include the following:
- a. Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants, August 1999, EPA/833B-99/002; and
 - b. Clarifications Regarding Toxicity Reduction and Identification Evaluations in the National Pollutant Discharge Elimination System Program dated March 27, 2001, USEPA Office of Wastewater Management, Office of Regulatory Enforcement.

VI. LAND DISCHARGE MONITORING REQUIREMENTS – NOT APPLICABLE

VII. RECLAMATION MONITORING REQUIREMENTS – NOT APPLICABLE

VIII. RECEIVING WATER MONITORING REQUIREMENTS – SURFACE WATER

A. Receiving Water Monitoring

1. The Discharger shall monitor the Pajaro River at Monitoring Stations RSW-001 and RSW-002 as follows, except that the CTR Priority Pollutants and the Title 22 Pollutants shall be monitored only at Monitoring Station RSW-001:

Table E-4. Receiving Water Monitoring Requirements

Parameter	Units	Sample Type	Minimum Sampling Frequency
Dissolved Oxygen	mg/L	Field Measurement	1/Month ^[1]
Temperature	°F	Field Measurement	1/Hour ^[2]
pH	pH units	Field Measurement	1/Month ^[1]
Visual Observations	-	Field Observation	1/Month ^[1]
Flow	MGD or cfs	Measured	1/Hour ^[3]
Turbidity	NTU	Grab	1/Month ^[1]
TDS	mg/L	Grab	1/Month ^[1]
Chloride	mg/L	Grab	1/Month ^[1]
Sulfate	mg/L	Grab	1/Month ^[1]
Boron	mg/L	Grab	1/Month ^[1]
Sodium	mg/L	Grab	1/Month ^[1]
Nitrate (as N)	mg/L	Grab	1/Month ^[1]

Parameter	Units	Sample Type	Minimum Sampling Frequency
Acute Toxicity	TUa	Grab	1/Discharge Event ^[4]
CTR Priority Pollutants ^[5]	µg/L	Grab	1/Permit Term ^[6]
Title 22 Pollutants ^[7]	µg/L	Grab	1/Permit Term ^[6]
Hardness (as CaCO ₃)	mg/L	Grab	2/Permit Term ^[6]

^[1] These monthly monitoring requirements shall be conducted only during periods of discharge to the Pajaro River (i.e., in each calendar month that a discharge occurs, monthly monitoring requirements must be conducted).

^[2] Prior to each Pajaro River discharge, and hourly during the discharge. Sampling may be reduced to one time sampling during discharges as supported by applicable data showing that the effluent temperature is consistently at or below the receiving water temperature and will not be likely to cause excursions above the prescribed limits (see Receiving Water Limitation V.A.12). Alternate sampling locations may be established to account for safety considerations as long as alternate locations produce characteristic temperature data. Reductions in sampling frequency and the selection of alternate sampling locations are contingent upon Executive Officer approval.

^[3] Prior to each Pajaro River discharge, and hourly during the discharge, as measured at the Chittenden Gauging Station.

^[4] Receiving water monitoring for toxicity shall be conducted coincident with effluent toxicity monitoring.

^[5] The CTR priority pollutants are those listed by the California Toxics Rule at 40 CFR 131.38 (b) (1).

^[6] Monitoring shall occur during the wet season (October 1 through May 31) within the 18-month period before expiration of this Order. Sample collection shall be reported in the first quarterly report submitted following completion of the sampling event. Data shall be reported in the first quarterly report submitted following receipt of the data from the analytical laboratory.

^[7] The Title 22 pollutants are those for which primary Maximum Contaminant Levels have been established by the Department of Health Services and which are listed in Tables 64431-A and 64444-A of the California Code of Regulations, Title 22, Division 4, Chapter 15. Where these pollutants are also identified as CTR Priority Pollutants, monitoring does not need to be duplicated.

IX. OTHER MONITORING REQUIREMENTS

A. Process Water Supply Monitoring

1. The Discharger shall collect and analyze representative samples from the Facility process water supply well (currently the Orchard Well) as follows.

Table E-5. Process Water Supply Monitoring Requirements

Constituent	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	Measured	1/Year
TDS	mg/L	Grab	1/Year
Chloride	mg/L	Grab	1/Year
Sulfate	mg/L	Grab	1/Year
Boron	mg/L	Grab	1/Year
Sodium	mg/L	Grab	1/Year
Nitrate (as N)	mg/L	Grab	1/Year
Hardness (as CaCO ₃)	Mg/L	Grab	1/Year
CTR Priority Pollutants ^[5]	µg/L	Grab	1/Permit Term
Title 22 Pollutants ^[7]	µg/L	Grab	1/Permit Term
Acute Toxicity	TUa	Grab	1/Permit Term

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

B. Self Monitoring Reports (SMRs)

1. The Discharger shall electronically submit Self-Monitoring Reports (SMRs) using the State Water Board's California Integrated Water Quality System (CIWQS) Program Web site (<http://www.waterboards.ca.gov/ciwqs/index.html>). The CIWQS Web site will provide additional directions for SMR submittal in the event there will be service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through IX. The Discharger shall submit monthly SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule:

Table E-6. Monitoring Periods and Reporting Schedule

Sampling Frequency	Monitoring Period Begins On ...	Monitoring Period	SMR Due Date
1/Hour	Permit effective date	Hourly	Submit with monthly SMR
1/Day	Permit effective date	(Midnight through 11:59 PM) or any 24-hour period that reasonably represents a calendar day for purposes of sampling.	Submit with monthly SMR
1/Week	Sunday following permit effective date or on permit effective date if on a Sunday	Sunday through Saturday	Submit with monthly SMR
1/Month	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 st day of calendar month through last day of calendar month	Submit with monthly SMR
1/Quarter	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 through March 31 April 1 through June 30 July 1 through September 30 October 1 through December 31	Submit with next monthly SMR
1/Year	January 1 following (or on) permit effective date	January 1 through December 31	Submit with Annual Report
1/Discharge	Permit effective date	Sunday through Saturday	Submit with monthly

Sampling Frequency	Monitoring Period Begins On ...	Monitoring Period	SMR Due Date
Event			SMR
X/Permit Term	January 1 following (or on) permit effective date	Permit term	Submit with Annual Report

4. Reporting Protocols. The Discharger shall report with each sample result the applicable reported Minimum Level (ML) and the current Method Detection Limit (MDL), as determined by the procedure in Part 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- a. Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- b. Sample results less than the reported ML, but greater than or equal to the laboratory’s MDL, shall be reported as “Detected, but Not Quantified,” or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ as well as the words “Estimated Concentration” (may be shortened to “Est. Conc.”). The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy (\pm a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- c. Sample results less than the laboratory’s MDL shall be reported as “Not Detected,” or ND.
 - d. Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from *extrapolation* beyond the lowest point of the calibration curve.
5. Compliance Determination. Compliance with effluent limitations for priority pollutants shall be determined using sample reporting protocols defined above and Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional and State Water Boards, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the priority pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reporting level (RL).
6. Multiple Sample Data. When determining compliance with an AMEL, AWEL, or MDEL for priority pollutants and more than one sample result is available, the Discharger shall compute the arithmetic mean unless the data set contains one or

more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND). In those cases, the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:

- a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
- b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.

7. The Discharger shall submit SMRs in accordance with the following requirements:

- a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
- b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the WDRs; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.
- c. SMRs must be submitted to the Regional Water Board, signed and certified as required by the Standard Provisions (Attachment D), to the address listed below:

Central Coast Regional Water Quality Control Board
895 Aerovista Place, Suite 101
San Luis Obispo, California 93401

- d. The Annual Report (I.E.8, Page D-15)) due on January 30th following each calendar year shall also include:
 - i. All data required by this MRP for the corresponding monitoring period, including appropriate calculations to verify compliance with effluent limitations.
 - ii. A discussion of any incident of non-compliance and corrective actions taken.

C. Discharge Monitoring Reports (DMRs) – Not Applicable

D. Other Reports

1. In accordance with Special Provision VI.C.4.a of the Order, the Discharger shall certify by October 1 of each year that necessary measures have been taken and pollution control equipment and systems are in proper condition to comply with the terms of the Order during the impending rainy season.
2. The Discharger shall report the results of any special monitoring, TREs, or other data or information that results from the Special Provisions, section VI.C, of the Order. The Discharger shall submit such reports with the first monthly SMR scheduled to be submitted on or immediately following the report due date.

ATTACHMENT F – FACT SHEET

Table of Contents

- I. Permit Information F-3
- II. Facility Description F-4
 - A. Description of Wastewater and Biosolids Treatment or Controls F-4
 - B. Discharge Points and Receiving Waters F-5
 - C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data F-6
 - D. Compliance Summary F-6
 - E. Planned Changes – Not Applicable F-6
- III. Applicable Plans, Policies, and Regulations F-6
 - A. Legal Authorities F-6
 - B. California Environmental Quality Act (CEQA) F-7
 - C. State and Federal Regulations, Policies, and Plans F-7
 - D. Impaired Water Bodies on CWA 303(d) List F-9
 - E. Other Plans, Policies and Regulations F-9
- IV. Rationale For Effluent Limitations and Discharge Specifications F-9
 - A. Discharge Prohibitions F-9
 - B. Technology-Based Effluent Limitations F-10
 - 1. Scope and Authority F-10
 - 2. Applicable Technology-Based Effluent Limitations F-11
 - C. Water Quality-Based Effluent Limitations (WQBELs) F-12
 - 1. Scope and Authority F-12
 - 2. Applicable Beneficial Uses and Water Quality Criteria and Objectives F-12
 - 3. Determining the Need for WQBELs F-12
 - 4. WQBEL Calculations F-15
 - 5. Whole Effluent Toxicity (WET) F-17
 - 6. pH F-19
 - 7. Suspended Sediment F-19
 - 8. Intake Credits F-19
 - D. Final Effluent Limitations F-21
 - 1. Satisfaction of Anti-Backsliding Requirements F-21
 - 2. Satisfaction of Antidegradation Policy F-21
 - 3. Stringency of Requirements for Individual Pollutants F-21
 - E. Interim Effluent Limitations – Not Applicable F-21
 - F. Land Discharge Specifications – Not Applicable F-21
 - G. Reclamation Specifications – Not Applicable F-21
- V. Rationale for Receiving Water Limitations F-21
 - A. Surface Water F-21
 - B. Groundwater – Not Applicable F-22
- VI. Rationale for Monitoring and Reporting Requirements F-22
 - A. Influent Monitoring – Not Applicable F-22
 - B. Effluent Monitoring F-22
 - C. Whole Effluent Toxicity Testing Requirements F-22
 - D. Receiving Water Monitoring F-22
 - 1. Surface Water F-22
 - 2. Groundwater – Not Applicable F-23

Attachment F – Fact Sheet F-1

E.	Process Water Supply Monitoring.....	F-23
F.	Other Monitoring Requirements – Not Applicable.....	F-23
VII.	Rationale for Provisions.....	F-23
A.	Standard Provisions.....	F-23
B.	Monitoring and Reporting Program (MRP) Requirements.....	F-23
C.	Special Provisions.....	F-23
1.	Reopener Provisions.....	F-23
2.	Special Studies and Additional Monitoring Requirements.....	F-24
3.	Best Management Practices and Pollution Prevention – Not Applicable.....	F-24
4.	Construction, Operation, and Maintenance Specifications.....	F-24
5.	Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable.....	F-24
6.	Other Special Provisions.....	F-24
7.	Compliance Schedules – Not Applicable.....	F-24
VIII.	Public Participation.....	F-24
A.	Notification of Interested Parties.....	F-24
B.	Written Comments.....	F-25
C.	Public Hearing.....	F-36
D.	Waste Discharge Requirements Petitions.....	F-36
E.	Information and Copying.....	F-37
F.	Register of Interested Persons.....	F-37
G.	Additional Information.....	F-37

List of Tables

Table F-1.	Facility Information.....	F-3
Table F-2.	Historic Effluent Limitations and Monitoring Data.....	F-6
Table F-3.	Basin Plan Beneficial Uses.....	F-7
Table F-4.	Effluent Limitations Guidelines for Discharges of Process Generated Waste Water Pollutants from Facilities that Recycle Waste Water for Use in Processing	F-11
Table F-5.	Technology-Based Effluent Limitations Based on BPJ.....	F-12
Table F-6.	Reasonable Potential Analysis.....	F-14
Table F-7.	Calculation of Long-Term Averages.....	F-17
Table F-8.	Calculation of Aquatic Life WQBELs.....	F-17
Table F-9.	Calculation of Human Health WQBELs.....	F-17
Table F-10.	Summary of WQBELs – Discharge Point 001.....	F-20

ATTACHMENT F – FACT SHEET

As described in Section II of this Order, this Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the Facility.

Table F-1. Facility Information

WDID	2352000001
Discharger	Granite Rock Company, Inc.
Name of Facility	Arthur R. Wilson Quarry
Facility Address	End of Quarry Road Aromas, California 95004 San Benito County
Facility Contact, Title and Phone	Aaron Johnston-Karas, Dir. of Sustainable Resource Dev. (831) 768-2094
Authorized Person to Sign and Submit Reports	Aaron Johnston-Karas, Dir. of Sustainable Resource Dev. (831) 768-2094
Mailing Address	P.O. Box 50001, Watsonville, CA 95077
Billing Address	P.O. Box 50001, Watsonville, CA 95077
Type of Facility	Granite Quarry and Processing, NAICS Code 212313/SIC Codes 1423, 2951 and 4212
Major or Minor Facility	Minor
Threat to Water Quality	3
Complexity	C
Pretreatment Program	Not Applicable
Reclamation Requirements	Not Applicable
Facility Permitted Flow	9.0 million gallons per day (MGD)
Facility Design Flow	9.0 MGD
Watershed	Pajaro River Watershed
Receiving Water	Pajaro River
Receiving Water Type	Inland Surface Water

- A.** Granite Rock Company, Inc. (hereinafter Discharger) is the owner and operator of the Arthur R. Wilson Quarry (hereinafter Facility), a granite quarry and processing facility.

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B.** The Facility discharges wastewater to the Pajaro River, a water of the United States, and is currently regulated by Order No. R3-2005-0044, which was adopted on May 13, 2005, and expires on July 2, 2010. The terms and conditions of the current Order have been automatically continued and remain in effect until new Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit are adopted pursuant to this Order.
- C.** The Discharger filed a Report of Waste Discharge and submitted an application for renewal of its WDRs and NPDES permit on January 7, 2010. Supplemental information was provided by the Discharger on December 16, 2009. A site visit was conducted on March 11, 2010 to observe operations and collect additional data to develop permit limitations and conditions.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

The Discharger mines, processes, and stockpiles granite rock aggregates, which are used as basic construction materials and as feed materials in on-site and off-site asphalt and concrete manufacturing plants.

Water flow through the Facility is designed to be a closed-loop system such that water recycling is maximized. Water intakes and inputs to the system include rainfall (including stormwater runoff), treated process water, and supplemental groundwater.

Stormwater is collected in the Facility's Quarry Storage Reservoir and in the Soda Lake (a man-made retention pond) for settling and re-use. Stormwater is also collected in the Facility's stormwater settling basin systems, one (Lower Hole) of which may also be used as supplemental water if needed. The Facility's water circuit uses well water as makeup and recycles water between the wet processing plant and the Quarry Storage Reservoir. Although most stormwater from the Facility is covered under General NPDES Permit No. CAS000001 (Waste Discharge Requirements for Discharges of Stormwater Associated with Industrial Activities), some site stormwater enters the process water circuit (stormwater runoff from the processing area and stockpiles, and stormwater which falls on Quarry Storage Reservoir and Soda Lake). When necessary, excess stormwater is stored in Soda Lake and eventually returned to the recirculating system.

Wash water from the aggregate wash in the wet process plant is pumped to the Fines Treatment Plant for treatment. Larger materials, such as sand, are removed from the wash water and stockpiled for sale. Suspended solids in the wash water are settled out with gravity in a primary settling tank and by using an anionic acrylamide copolymer as a flocculent. Typically, four nuclear density meters are used to monitor the optimum ratio of polymer necessary to remove the suspended solids. Up to five meshed-belt presses are used to physically separate the underflow process water from the primary settling tank from settled solids. The treated process water then flows to the Quarry Storage Reservoir and is stored for later re-use. The treated process water may also be pumped to Soda Lake.

Currently, the source of the groundwater is a production well called the Orchard Well. Typically, well water use during the rainy season is minimal since settled stormwater is used to supplement recycled process water losses. During dry periods without available settled stormwater, the average daily usage of the Orchard Well is estimated at approximately 0.75 to 1 million gallons per day (assuming a 5 day work week).

Settled water from the Quarry Storage Reservoir is pumped for use in general plant processes (e.g., wash water, dust suppression) in the Facility. Assuming a 60-hour workweek pumping continuously at the maximum potential pumping rate, the maximum average flows out of the Quarry Storage Reservoir to plant processes are estimated to be around 6.1 million gallons a day; most of this water is returned to the Quarry Storage Reservoir for re-use. This is considered an upper-bound estimate, as water flows varies with operational need and market demand. In this 6.1 million gallons a day configuration, up to 1.76 million gallons a day may not be returned to the system due to losses attributed to evaporation, retention in products, and, during dry periods, use for dust suppression. The remaining 4.34 million gallons used in different plant processes re-circulates back into the Quarry Storage Reservoir.

As a result of the Facility's ability to treat and store process water, and water losses due to evaporation, retention in product, and dust control application, there are infrequent discharges of process water from the Facility. Recycled water discharge from the Quarry Storage Reservoir (Discharge Point 001) occurs only after a rain event (or events) that occur at a rate and/or frequency that result in more rain than the storage capacity at the Facility. The last recorded discharge from the Facility occurred in January 2002. No discharges occurred during the term of the existing Order.

Fine materials from the Fines Treatment Plant are pumped as a slurry to Soda Lake or are mixed with overburden to be used in reclamation activities. Although the purpose of Soda Lake is to provide storage for fines, it also provides water storage and additional settling/treatment capacity. Soda Lake is viewed by the Regional Board as a wide spot in the Facility's water circuit and not as a receiving water. Due to its isolation from groundwater, the Regional Board has also determined that there is no significant discharge to groundwater from Soda Lake. The Quarry Storage Reservoir is also considered a wide spot in the Facility's process water circuit that provides additional settling/treatment as well as water storage. Solids are periodically dredged from this reservoir to maintain its capacity.

A water flow diagram for the Facility is provided in Attachment C.

B. Discharge Points and Receiving Waters

Discharges to the Pajaro River occur at Discharge Point 001 (36° 55' 48"N Latitude; 121° 36' 58" W Longitude) from the Quarry Storage Reservoir, where water is pumped from the surface of the reservoir to a concrete reinforced bank that serves to dissipate energy and minimize erosion during discharge events. Discharges occur only after significant rain events, when water accumulation exceeds the storage capacity of the Facility. Based on experience of the past several years, the Discharger, in its Report of Waste Discharge, projects one discharge event per year lasting 4 to 5 days with a maximum daily discharge of approximately 7 to 8 million gallons.

C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations contained in the previous Order for discharges from Discharge Point 001 (Monitoring Location EFF-001) and representative monitoring data from the term of the previous Order are as follows:

Table F-2. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitation			Monitoring Data (From July 2005 – To February 2010)		
		Average Monthly	Average Weekly	Maximum Daily	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
pH	pH Units	7.0 - 8.3			ND ^[1]		
Total Suspended Solids (TSS)	mg/L	50	--	--	ND	ND	ND
Turbidity	NTUs	--	--	50	ND	ND	ND
Mercury (Dissolved)	µg/L	0.050	--	0.10	ND	ND	ND
Acute Toxicity	TU	--	--	1 ^{[1],[2]}	ND	ND	ND

^[1] ND – No discharge during the permit term; no effluent data available.

^[2] Or the background toxicity of the receiving water as determined by concurrent toxicity testing using upstream receiving water samples; the greater of the two shall apply.

^[3] Survival of test organisms exposed to 100 percent effluent shall not be significantly reduced when compared to the survival of control organisms using a t-test.

D. Compliance Summary

The Facility has not discharged to the Pajaro River during the term of Order No. R3-2005-0044. The Discharger has been in compliance with all other requirements of Order No. R3-2005-0044.

E. Planned Changes – Not Applicable

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

The requirements contained in the proposed Order are based on the requirements and authorities described in this section.

A. Legal Authorities

This Order is issued pursuant to section 402 of the federal Clean Water Act (CWA) and implementing regulations adopted by the U.S. Environmental Protection Agency (USEPA) and chapter 5.5, division 7 of the California Water Code (commencing with section 13370). It shall serve as a NPDES permit for point source discharges from this Facility to surface waters. This Order also serves as WDRs pursuant to article 4, chapter 4, division 7 of the Water Code (commencing with section 13260).

B. California Environmental Quality Act (CEQA)

Under Water Code section 13389, this action to adopt an NPDES permit is exempt from the provisions of CEQA, Public Resources Code sections 21100 through 21177.

C. State and Federal Regulations, Policies, and Plans

1. Water Quality Control Plans. The Regional Water Board has adopted a Water Quality Control Plan for the Central Coast Region (the Basin Plan) that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters within the Region. In addition, the Basin Plan implements State Water Resources Control Board (State Water Board) Resolution No. 88-63, which established state policy that all waters, with certain exceptions, should be considered suitable or potentially suitable for municipal or domestic supply. Thus, beneficial uses applicable to the Pajaro River are presented below.

Table F-3. Basin Plan Beneficial Uses

Discharge Point	Receiving Water	Beneficial Use(s)
001	Pajaro River	MUN - Municipal and domestic supply AGR - Agricultural supply IND- Industrial service supply GWR - Groundwater recharge REC-1 - Water contact recreation REC-2 - Non-contact water recreation WILD - Wildlife habitat COLD - Cold fresh water habitat WARM - Warm fresh water habitat MIGR - Migration of aquatic organisms SPWN - Spawning, reproduction, and/or early development FRSH - Freshwater replenishment COMM - Commercial and sport fishing

To protect beneficial uses, the Basin Plan establishes water quality objectives and implementation programs. This Order's requirements implement the Basin Plan.

2. Thermal Plan. The State Water Board adopted a *Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Water and Enclosed Bays and Estuaries of California* (Thermal Plan) on May 18, 1972, and amended this plan on September 18, 1975. The Thermal Plan contains temperature objectives for inland surface waters, which are applicable to the Discharger. The general objective for temperature from Section II.A.2.a. of the Basin Plan is more limiting, however, and is included as a receiving water limitation in the Order along with temperature limits developed and proposed by the California Department of Fish and Game and others for a previously permitted Pajaro River discharge (Order No. R3-2004-0099) that are protective of all life stages of steelhead.

- 3. National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and later amended it on May 4, 1995 and November 9, 1999. About forty criteria in the NTR applied in California. On May 18, 2000, USEPA adopted the CTR. The CTR promulgated new toxics criteria for California and, in addition, incorporated the previously adopted NTR criteria that were applicable in the state. The CTR was amended on February 13, 2001. These rules contain water quality criteria for priority pollutants that are applicable to the receiving water for discharges from the Facility.
- 4. State Implementation Policy.** On March 2, 2000, the State Water Board adopted the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California* (State Implementation Policy or SIP). The SIP became effective on April 28, 2000 with respect to the priority pollutant criteria promulgated for California by the USEPA through the NTR and to the priority pollutant objectives established by the Regional Water Board in the Basin Plan. The SIP became effective on May 18, 2000 with respect to the priority pollutant criteria promulgated by the USEPA through the CTR. The State Water Board adopted amendments to the SIP on February 24, 2005 that became effective on July 13, 2005. The SIP establishes implementation provisions for priority pollutant criteria and objectives and provisions for chronic toxicity control. Requirements of this Order implement the SIP.
- 5. Alaska Rule.** On March 30, 2000, USEPA revised its regulation that specifies when new and revised state and tribal water quality standards (WQS) become effective for CWA purposes (40 CFR 131.21, 65 Fed. Reg. 24641 (April 27, 2000)). Under the revised regulation (also known as the Alaska rule), new and revised standards submitted to USEPA after May 30, 2000, must be approved by USEPA before being used for CWA purposes. The final rule also provides that standards already in effect and submitted to USEPA by May 30, 2000, may be used for CWA purposes, whether or not approved by USEPA.
- 6. Antidegradation Policy.** Section 131.12 requires that the state water quality standards include an antidegradation policy consistent with the federal policy. The State Water Board established California's antidegradation policy in State Water Board Resolution No. 68-16. Resolution No. 68-16 incorporates the federal antidegradation policy where the federal policy applies under federal law. Resolution No. 68-16 requires that existing water quality be maintained unless degradation is justified based on specific findings. The Regional Water Board's Basin Plan implements, and incorporates by reference, both the State and federal antidegradation policies. The permitted discharge must be consistent with the antidegradation provision of section 131.12 and State Water Board Resolution No. 68-16.
- 7. Anti-Backsliding Requirements.** Sections 402(o)(2) and 303(d)(4) of the CWA and federal regulations at title 40, Code of Federal Regulations section 122.44(l) prohibit backsliding in NPDES permits. These anti-backsliding provisions require that effluent limitations in a reissued permit must be as stringent as those in the previous permit, with some exceptions in which limitations may be relaxed.

D. Impaired Water Bodies on CWA 303(d) List

CWA section 303(d) requires states to identify specific water bodies where water quality standards are not expected to be met after implementation of technology-based effluent limitations on point sources. For all 303(d) listed water bodies and pollutants, the Regional Water Board must develop and implement total maximum daily loads (TMDLs) that will specify waste load allocations (WLAs) for point sources and load allocations for non-point sources.

California's 2006 303 (d) list of impaired water bodies, which was approved by USEPA in June 2007, identifies the Pajaro River as being impaired for boron and fecal coliform.

A Total Maximum Daily Load (TMDL) for fecal coliform bacteria for the Pajaro River watershed, which includes the Pajaro River and Llagas Creek, has been adopted by the Regional Water Board (Water Board Order No. R3-2009-0008). TMDLs have also been adopted and approved by USEPA for sediment (Resolution No. R5-2005-0132) and nitrate (Resolution No. R5-2005-0131) for the Pajaro River watershed. The TMDL for fecal coliform prohibits all fecal coliform loading from human sources to the Pajaro River, which is not applicable to the Discharger. The TMDL for nitrate finds that current actions of the Regional Water Board adequately implement the TMDL and will be adequate to correct the impairment due to nitrate. The TMDL for sediment includes a wasteload allocation (WLA) applicable to discharges from the Facility. The TMDL for boron is anticipated to be developed by 2019. This Order includes requirements of all TMDLs that are applicable to the Facility.

E. Other Plans, Policies and Regulations

- 1. Discharges of Stormwater.** For the control of stormwater discharged from the quarry site, the Order requires the Discharger to seek authorization to discharge under and meet the requirements of the State Water Resources Control Board's Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Stormwater Associated with Industrial Activities Excluding Construction Activities.

IV. RATIONALE FOR EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

The CWA requires point source dischargers to control the amount of conventional, non-conventional, and toxic pollutants that are discharged into the waters of the United States. The control of pollutants discharged is established through effluent limitations and other requirements in NPDES permits. There are two principal bases for effluent limitations in the Code of Federal Regulations: section 122.44(a) requires that permits include applicable technology-based limitations and standards; and section 122.44(d) requires that permits include water quality-based effluent limitations to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water.

A. Discharge Prohibitions

- 1. Discharge Prohibition III A** (No discharge to locations except as described in the Order). The Order authorizes a single, specific point of discharge to the Pajaro River; and this prohibition reflects CWA section 402's prohibition against discharges

of pollutants except in compliance with the Act's permit requirements, effluent limitations, and other enumerated provisions. This prohibition is also retained from the previous permit.

- 2. Discharge Prohibition III B** (No discharge of wastewaters, except as described in the Order). Because limitations and conditions of the Order have been prepared based on specific information provided by the Discharger and specific wastes described by the Discharger, the limitations and conditions of the Order do not adequately address waste streams not contemplated during drafting of the Order. To prevent the discharge of such waste streams that may be inadequately regulated, the Order prohibits the discharge of any waste that was not described by to the Regional Water Board during the process of permit reissuance.
- 3. Discharge Prohibition III C** (Overflows and bypasses prohibited). The discharge of untreated or partially treated wastewater from the Discharger's collection, treatment, or disposal facilities represents an unauthorized bypass pursuant to 40 CFR 122.41 (m) or an unauthorized discharge, which poses a threat to human health and/or aquatic life, and therefore, is explicitly prohibited by the Order.
- 4. Discharge Prohibition III D** (No adverse impacts to beneficial uses or threatened or endangered species). This prohibition is retained from the previous Order and is based on the Basin Plan, which, in accordance with CWC Section 13241, must include water quality objectives to ensure the reasonable protection of beneficial uses and the prevention of nuisance.
- 5. Discharge Prohibition III E** (Creation of a condition of pollution, contamination, or nuisance, as defined by Section 13050 of the CWC, is prohibited). This prohibition is retained from the previous permit.
- 6. Discharge Prohibitions III F, G, and H** (Flooding prohibition, discharge flow limitations, and discharge flow restrictions). These prohibitions were added to the previous Order to address potential concerns regarding downstream flooding, and are retained in this Order.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at section 122.44, title 40 of the Code of Federal Regulations, require that permits include conditions meeting applicable technology-based requirements at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order must meet minimum federal technology-based requirements based on Effluent Limitations Guidelines and Standards for the Mineral Mining and Processing Category in 40 CFR Part 436 and Best Professional Judgment (BPJ) in accordance with 40 CFR Part 125, section 125.3

The CWA requires that technology-based effluent limitations be established based on several levels of controls:

- a. Best practicable treatment control technology (BPT) is based on the average of the best performance by plants within an industrial category or subcategory. BPT standards apply to toxic, conventional, and nonconventional pollutants.
- b. Best available technology economically achievable (BAT) represents the best existing performance of treatment technologies that are economically achievable within an industrial point source category. BAT standards apply to toxic and nonconventional pollutants.
- c. Best conventional pollutant control technology (BCT) is a standard for the control of conventional pollutants, including BOD, TSS, fecal coliform, pH, and oil and grease, from existing industrial point sources. The BCT standard is established after considering the “cost reasonableness” of the relationship between the cost of attaining a reduction in effluent discharge and the benefits that would result, and also the cost effectiveness of additional treatment beyond BPT.
- d. New source performance standards (NSPS) reflect the best available demonstrated control technology; i.e., they require state-of-the-art treatment technology for new sources.

The CWA requires USEPA to develop effluent limitations, guidelines and standards (ELGs) representing application of BPT, BAT, BCT, and NSPS. Section 402(a)(1) of the CWA and section 125.3 of the Code of Federal Regulations authorize the use of BPJ to derive technology-based effluent limitations on a case-by-case basis where ELGs are not available for certain industrial categories and/or pollutants of concern. Where BPJ is used, the permit writer must consider specific factors outlined in section 125.3.

2. Applicable Technology-Based Effluent Limitations

Effluent limitations, guidelines and standards for discharges from this Facility are covered under the Mineral Mining and Processing Point Source Category, Subpart B - Crushed Stone Subcategory (40 CFR 436.22). The following effluent limitations, representing the degree of effluent reduction attainable by the application of BPT, for discharges from the Facility shall not exceed the following limitations:

Table F-4. Effluent Limitations Guidelines for Discharges of Process Generated Waste Water Pollutants from Facilities that Recycle Waste Water for Use in Processing

Effluent Characteristic	Effluent Limitations	
	Maximum for any 1 day	Average of daily values for 30 consecutive days shall not exceed—
pH	[1]	[1]

[1] Within the range 6.0 to 9.0.

In addition, technology-based effluent limitations contained in this Order and previous orders have been established for other pollutants of concern using BPJ. The following technology-based limitations for turbidity and total suspended solids (TSS) are retained from Order No. R3-2005-0044.

Table F-5. Technology-Based Effluent Limitations Based on BPJ

Parameter	Units	Effluent Limitations	
		Maximum Daily	Average Monthly
Turbidity	NTUs	50	--
TSS	mg/L	--	50

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

NPDES regulations at 40 CFR 122.44(d) require that permits include limitations more stringent than applicable federal technology-based requirements where necessary to achieve applicable water quality standards, including numeric and narrative objectives within a standard.

The process for determining “reasonable potential” and calculating WQBELs, when necessary, is intended to protect the designated uses of receiving waters as specified in the Basin Plan, and achieve applicable water quality objectives and criteria that are contained in the Basin Plan and in other applicable State and federal rules, plans, and policies, including applicable water quality criteria from the CTR and the NTR.

Where reasonable potential has been established for a pollutant, but there is no numeric criterion or objective for the pollutant, WQBELs must be established in accordance with the requirements of 40 CFR 122.44(d)(1)(vi), using (1) USEPA criteria guidance under CWA section 304(a), supplemented where necessary by other relevant information; (2) an indicator parameter for the pollutant of concern; or (3) a calculated numeric water quality criterion, such as a proposed State criterion or policy interpreting the State’s narrative criterion, supplemented with other relevant information.

2. Applicable Beneficial Uses and Water Quality Criteria and Objectives

Beneficial uses described by the Basin Plan for the Pajaro River are presented in section II.H of the Order. Water quality criteria applicable to this receiving water are established by the CTR, the NTR, and by the Basin Plan.

3. Determining the Need for WQBELs

NPDES regulations at 40 CFR 122.44(d) require effluent limitations to control all pollutants which are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard.

The SIP, statewide policy that became effective on May 22, 2000, establishes procedures to implement water quality criteria from the NTR and CTR and for priority, toxic pollutant objectives established in the Basin Plan. The implementation procedures of the SIP include methods to determine reasonable potential (for pollutants to cause or contribute to excursions above state water quality standards) and to establish numeric effluent limitations, if necessary, for those pollutants which show reasonable potential.

The SIP Section 1.3 requires the Regional Board to use all available valid, relevant, and representative receiving water and effluent data and information to conduct a reasonable potential analysis (RPA). Effluent data for the discharge at Discharge Point 001 was not available because there were no discharges at Discharge Point 001 during the previous permit term. However, the Discharger provided monitoring data from the Quarry Storage Reservoir in October 2004 (as reported in the Report of Waste Discharge). These data, though not considered by the Discharger to be representative of the actual condition of the discharged effluent, have been used to conduct the RPA for discharges to the Pajaro River at Discharge Point 001. In addition, monitoring data from the last recorded discharge in January 2002, as well as monitoring data from the Quarry Storage Reservoir provided by the Discharger in May 2002 (which is also not considered by the Discharger to be representative of the actual condition of the discharged effluent discharge) were used to evaluate reasonable potential. Although it is recognized that the data from May 2002 and October 2004 are not from actual discharges from the Facility, the data should provide an indication of which pollutants may be of concern when a discharge does occur from the Facility.

The Discharger also provided as part of the Report of Waste Discharge, ambient data from the Pajaro River upstream of the location of Discharge Point 001. Specifically, data for Pajaro River were provided for January 2005, April 2009, and May 2009.

Some freshwater water quality criteria for metals are hardness dependent; i.e., as hardness decreases, the toxicity of certain metals increases and the applicable water quality criteria become correspondingly more stringent. The RPA has been performed using a receiving water hardness value of 346 mg/L CaCO₃. In three samples of the Pajaro River, collected between January 2005 and August 2008, the receiving water hardness ranged from 346 mg/L to 457 mg/L, and averaged 408 mg/L.

To conduct the RPA, the Regional Board identified the maximum observed effluent (MEC) and background (B) concentrations for each priority toxic pollutant from receiving water and effluent data provided by the Discharger and compared these data to the most stringent applicable water quality criterion (C) for each pollutant from the NTR, CTR, and the Basin Plan. Section 1.3 of the SIP establishes three triggers for a finding of reasonable potential.

Trigger 1. If the MEC is greater than C, there is reasonable potential, and an effluent limitation is required.

Trigger 2. If B is greater than C, and the pollutant is detected in effluent (MEC > ND), there is reasonable potential, and an effluent limitation is required.

Trigger 3. After reviewing other available and relevant information, a permit writer may decide that a WQBEL is required. Such additional information may include, but is not limited to: the facility type, the discharge type, solids loading analyses, lack of dilution, history of compliance problems, potential toxic impact of the discharge, fish tissue residue data, water quality and beneficial uses of the receiving water, CWA 303(d) listing for the pollutant, and the presence of endangered or threatened species or their critical habitat.

The following table summarizes the RPA for each pollutant that was detected in effluent during the monitoring events on 2002 through 2009 (as reported in the Report of Waste Discharge and as provided by the Discharger). No other pollutants with applicable numeric water quality criteria from the NTR, CTR, and the Basin Plan (including the Title 22 pollutants) were measured above detectable concentrations during that monitoring period.

Table F-6. Reasonable Potential Analysis

Pollutant	Units	C (Basis)	MEC	B	RPA Result
Total Dissolved Solids	mg/L	1,000 (Basin Plan Table 3-7, specific water quality objectives for Pajaro River)	1,300	770	Yes
Chloride	mg/L	250 (Basin Plan Table 3-7, specific water quality objectives for Pajaro River)	--	96	No
Sulfate as SO ₄	mg/L	250 (Basin Plan Table 3-7, specific water quality objectives for Pajaro River)	565	160	Yes
Boron	mg/L	1.0 (Basin Plan Table 3-7, specific water quality objectives for Pajaro River)	0.49	0.61	No
Sodium	mg/L	200 (Basin Plan Table 3-7, specific water quality objectives for Pajaro River)	200	100	No
Antimony	µg/L	6.0 (Basin Plan [Title 22] human health)	0.4	0.6	No
Arsenic	µg/L	50 (Basin Plan Table 3-2 for human health)	2.5	4.1	No
Cadmium	µg/L	5.0 (Basin Plan [Title 22] human health)	1	0.06	No
Chromium (VI)	µg/L	11 (CTR freshwater chronic aquatic life)	0.7	Not Available	No
Copper	µg/L	27 (CTR freshwater chronic aquatic life)	6.6	13	No
Mercury	µg/L	0.05 (CTR human health)	160	0.34	Yes
Nickel	µg/L	100 (Basin Plan [Title 22] human health)	5.6	26	No
Selenium	µg/L	10 (Basin Plan Table 3-2 for human health)	28	2.5	Yes
Silver	µg/L	34 (CTR freshwater acute aquatic life)	1.2	Not Available	No

Pollutant	Units	C (Basis)	MEC	B	RPA Result
Zinc	µg/L	200 (Basin Plan Table 3-5 for chronic aquatic life)	5.9	39	No
Cyanide	µg/L	5.2 (CTR freshwater chronic aquatic life)	7	Not Available	Yes
Aluminum	µg/L	1,000 (Basin Plan Table 3-2 for human health)	1600	6960	Yes
Barium	µg/L	1,000 (Basin Plan Table 3-2 for human health)	29	130	No
Fluoride	µg/L	1,000 (Basin Plan Table 3-4 for human health)	450	Not Available	No
Cobalt	µg/L	50 (Basin Plan Table 3-4 for human health)	0.1	Not Available	No
Iron	µg/L	1,000 (National Ambient Water Quality Criteria)	160	10,100	Yes
Manganese	µg/L	200 (Basin Plan Table 3-4 for human health)	29	152	No
Molybdenum	µg/L	10 (Basin Plan Table 3-4 for human health)	17	Not Available	Yes

Based on analysis of effluent and receiving water data, it appears as if reasonable potential to cause or contribute to in-stream excursions above applicable water quality criteria may exist for total dissolved solids, sulfate, aluminum, cyanide, iron, mercury, molybdenum, and selenium. Therefore, this Order establishes WQBELs for those pollutants with applicable water quality criteria from CTR and NTR. For those pollutants that exceed Basin Plan objectives (including Title 22 criteria), more frequent monitoring will be required to collect the data necessary to perform a RPA in the future.

4. WQBEL Calculations

Final WQBELs for all priority pollutants have been determined using the methods described in Section 1.4 of the SIP.

Step 1: For each water quality criterion/objective, an effluent concentration allowance (ECA) is calculated from the following equation to account for dilution and background levels of each pollutant.

$$ECA = C + D (C - B), \text{ where}$$

C = the applicable water quality criterion (adjusted for receiving water hardness and expressed as the total recoverable metal, if necessary)

D = the dilution credit

B = the background concentration

In a letter dated December 16, 2009, and as part of its Report of Waste Discharge, the Discharger requested a mixing zone and dilution credits for its discharge to the Pajaro River. It should be noted that prior to adoption of Order No. R3-2005-0044, the Discharger had requested a mixing zone and dilution credits for discharges

during the wet season. That request was denied because a mixing zone “...provides relief to a discharger in that compliance with certain water quality criteria is not required within the zone. Because such relief is not automatic, the Regional Board takes the position that conditions must exist which warrant the special circumstance of a mixing zone. During the term of Order No. 00-007 (May 19, 2000 to the present) there was a single period of discharge from the facility. Due to the treatment and storage capability within the facility’s process water circuit, actual discharges will remain infrequent and will become even more infrequent over the term of Order No. R3-2005-0044, as the storage capacity of Soda Lake is increased. Effluent data from samples collected during that discharge event on December 1, 2001 showed that all parameters were in compliance with effluent limitations, except for mercury. As the Regional Board chooses to consider the relief provided by a mixing zone for demonstrable, not theoretical or potential need, there is insufficient present justification for consideration of a mixing zone for discharges from this facility.” The Regional Water Board is denying the new request for a mixing zone at this time in part because the infrequent discharge situation at the Facility has not changed. Although the Discharger, in its new request for dilution credits, demonstrates that complete mix likely occurs based on the relative high velocity of the discharge, as well as the relative small volume of effluent discharged in relation the flows expected in the Pajaro River when discharges do occur, additional or revised information and analyses should be provided to indicate that the mixing zone and associated dilution credit sufficiently meet the conditions set forth in section 1.4.2.2 of the SIP. For example:

- Toxicity tests of samples taken from the Facility under non-discharge conditions are used as the basis for indicating that the discharge would not cause acutely toxic conditions or compromise the integrity of the entire water body. First, dilution credits are granted on a pollutant-specific basis, thus a pollutant-specific analysis demonstrating the absence of acutely toxic conditions or no impacts to the integrity of the entire water body should be performed. Second, the results of the acute toxicity test were based on one sample taken in 2009; the chronic toxicity test results were from October 2004 and December 2001. Although the October 2004 chronic test results indicate there was a significant decrease in reproduction for *Ceriodaphnia dubia*, the Facility also noted in their application that the sample for these tests were “not composed of rainwater to the extent that it would be in the event of a discharge.” Prior to allowing a mixing zone, samples of actual effluent should be used to make the determination that no impact would result from the granting of a mixing zone. This would also hold true for the chemical-specific data.
- The Discharger proposes the use of the average Pajaro River flow during the wet season as the basis for calculating the dilution ratio. Additional analyses would be required to determine how this average flow relates to the critical flow period that would be necessary for protection of aquatic life and human health as identified in the SIP.

Step 2: For each ECA based on an aquatic life criterion (e.g., copper), the long-term average discharge condition (LTA) is determined by multiplying the ECA times a factor (multiplier), which adjusts the ECA to account for effluent

variability. The multiplier varies depending on the coefficient of variation (CV) of the data set and whether it is an acute or chronic criterion/objective. Table 1 of the SIP provides pre-calculated values for the multipliers based on the value of the CV. When the data set contains less than 10 sample results, or 80 percent or more of the data are reported as non-detect (ND), the CV is set equal to 0.6. Derivation of the multipliers is presented in Section 1.4 of the SIP.

From Table 1 of the SIP, multipliers for calculating the LTAs at the 99th percentile occurrence probability are 0.32 (acute multiplier) and 0.53 (chronic multiplier). LTAs are determined as follows:

Table F-7. Calculation of Long-Term Averages

Pollutant	ECA		ECA Multiplier		LTA (µg/L)	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Copper	45	27	0.32	0.53	14.4	14.2

Step 3: WQBELs, including an average monthly effluent limitation (AMEL) and a maximum daily effluent limitation (MDEL) are calculated using the most limiting (the lowest) LTA. The LTA is multiplied times a factor that accounts for averaging periods and exceedance frequencies of the effluent limitations, and for the AMEL, the effluent monitoring frequency. Here, the CV is calculated from the effluent data set as 0.6, and the sampling frequency is set equal to 4 (n = 4). The 99th percentile occurrence probability was used to determine the MDEL multiplier and a 95th percentile occurrence probability was used to determine the AMEL multiplier. From Table 2 of the SIP, the MDEL multiplier is 3.11 and the AMEL multiplier is 1.55. Final WQBELs for copper are calculated as follows.

Table F-8. Calculation of Aquatic Life WQBELs

Pollutant	LTA	MDEL Multiplier	AMEL Multiplier	MDEL (µg/L)	AMEL (µg/L)
Copper	14.2	3.11	1.55	44	22

Step 4: When the most stringent water quality criterion is a human health criterion (e.g., chlorodibromomethane), the AMEL is set equal to the ECA, and the MDEL is calculated by multiplying the ECA times the ratio of the MDEL multiplier to the AMEL multiplier.

From Table 2 of the SIP, when CV = 0.6 and n = 4, the MDEL multiplier at the 99th percentile occurrence probability equals 3.11, and the AMEL multiplier at the 95th percentile occurrence probability equals 1.55. Final WQBELs for chlorodibromomethane are determined as follows.

Table F-9. Calculation of Human Health WQBELs

Pollutant	ECA	MDEL/AMEL Multiplier	MDEL (µg/L)	AMEL (µg/L)
Chlorodibromomethane	0.40	3.11/1.55 = 2.01	0.80	0.40

5. Whole Effluent Toxicity (WET)

Whole effluent toxicity (WET) limitations protect receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. WET tests measure

the degree of response of exposed aquatic test organisms to an effluent. The WET approach allows for protection of the narrative “no toxics in toxic amounts” criterion while implementing numeric criteria for toxicity. There are two types of WET tests - acute and chronic. An acute toxicity test is conducted over a short time period and measures mortality. A chronic toxicity test is conducted over a longer period of time and may measure mortality, reproduction, and growth.

The Basin Plan specifies a narrative objective for toxicity, requiring that all waters be maintained free of toxic substances in concentrations that are toxic to, or which produce detrimental physiological responses in human, plant, animal, or aquatic life. Survival of aquatic organisms in surface waters subjected to a waste discharge or other controllable water quality conditions shall not be less than that for the same water body in areas unaffected by the waste discharge or for another control water.

Section 4.0 of the Basin Plan requires a chronic toxicity limitation for all discharges that will cause, have the reasonable potential to cause, or contribute to chronic toxicity in receiving waters. Because discharges from the Facility occur infrequently and only for short durations, Order No. R3-2005-0044 only included an acute limitation. A chronic limitation is not meaningful (i.e., the discharge will not cause, have the reasonable potential to cause, or contribute to chronic toxicity in the receiving waters) and is not practical in such circumstances. Section 8.3.2 of the chronic WET methods manual (*Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, Fourth Edition, October 2002, EPA-821-R-02-013) states that when “tests are conducted off-site, a minimum of three samples are collected. If these samples are collected on Test Days 1, 3, and 5, the first sample would be used for test initiation and for test solution renewal on Day 2. The second sample would be used for test solution renewal on Days 3 and 4. The third sample would be used for test solution renewal on Days 5, 6, and 7.” Here, because the Discharger is expected to discharge for periods of only a few days, the chronic WET test methods are generally inappropriate, and potential chronic effects are diminished due to the short expected duration of any discharges. The Discharger’s continuing efforts to re-use process water to the extent possible at the Facility have resulted in discharges that occur less frequently and for shorter durations – discharges too infrequent and too short to cause, have the potential to cause, or contribute to chronic toxicity in the receiving water. Therefore, consistent with Order No. R3-2005-0044, this Order does not contain chronic toxicity effluent limitations or monitoring requirements.

Consistent with Order No. R3-2005-0044, this Order includes an acute toxicity limitation that requires survival of test organisms exposed to 100 percent effluent to not be significantly reduced, as determined by a t-test, when compared to the survival of control organisms. The Discharger must maintain a Toxicity Reduction Evaluation (TRE) Workplan, which describes the steps that the Discharger intends to follow in the event that acute toxicity is detected in the discharge to the Pajaro River. When monitoring measures acute toxicity in the effluent above the limitation established by the Order, the Discharger must resample, if the discharge is continuing, and retest for acute toxicity. The Executive Officer will then determine whether to initiate enforcement action, whether to require the Discharger to implement a TRE, or to implement other measures.

6. pH

The Basin Plan requires that the pH shall not be depressed below 7.0 or raised above 8.5. Order No. R3-2005-0044 required a more stringent maximum pH limitation of 8.3 based on the requirements contained in the previous Order. Effluent limitations for pH are established in this Order for discharges at Discharge Point 001 consistent with Order No. R3-2005-0044, which are protective of the receiving water beneficial uses.

7. Suspended Sediment

In 2005, the Central Coast Regional Water Board adopted Resolution No. R5-2005-0132, establishing TMDLs and implementation plans for suspended solids in the Upper Pajaro River and Llagas Creek. Consistent with the TMDL, effluent limitations implementing the TMDL for the Facility have been established that reflect the maximum allowable suspended solids concentrations (SSC) over varying durations (exposure) periods.

It is important to note that SSC measurement used in the TMDL is not the same as TSS measurement typically regulated under the NPDES permit program. The EPA approved TSS analytical method fails to capture, and thus significantly under reports, larger diameter suspended solids (e.g., in the 100 to 1000 micron range).

8. Intake Credits

In a letter dated December 16, 2009 and as part of its Report of Waste Discharge, the Discharger requested consideration for intake credits for TDS, chloride, boron, sodium, mercury, and copper. The Regional Water Board will not provide intake credits at this time based on the following:

- Water in Quarry Storage Reservoir is used as the source of production water throughout the Facility. The Quarry Storage Reservoir is made up of recycled process water (treated water from the Fines Treatment Plant), and collected rainfall and stormwater runoff. As needed, the Quarry Storage Reservoir is supplemented by groundwater via the Orchard Well. The intake credit request is based on the fact that Orchard Well water is used as make-up water in the Quarry Storage Reservoir. However, according to the Report of Waste Discharge (top of page 2 in the Form 200 Appendix), “... *Intake from the Orchard Well rarely occurs during the wet season, as its use is inversely proportional to rainfall inputs.*” Therefore, intake credits are being requested during the season when Orchard Well water is not likely to be present in the discharge.
- Orchard Well water makes up only a portion of the discharge at any given time. Intake credits are not applicable for the other water in the Quarry Storage Reservoir (i.e., rainfall, recycled process water). Because any discharge from the Facility will be storm-event driven, the potential make-up of a discharge from the Facility (i.e., make-up in terms of the relative proportion of well water, recycled water, rainfall, and stormwater) will be dependent on the size and duration of a storm.

In addition, Section 1.4.4 of the SIP states:

“Where a facility discharges pollutants from multiple sources that originate from the receiving water body and from other water bodies, the RWQCB may derive an effluent limitation reflecting the flow-weighted amount of each source of the pollutant provided that adequate monitoring to determine compliance can be established and is included in the permit.”

Therefore, application of intake credits would require that each source be characterized prior to a discharge event so that the relative contribution from the Orchard Well could be quantified to allow for accurate flow-weighting.

These conclusions are also consistent with the discussion in the Fact Sheet for Order No. R3-2005-0044 which stated *“...In the circumstances of the Arthur R. Wilson Quarry, the Regional Board cannot consider granting intake credits as the hydrologic connection between the facility’s well water makeup source and the receiving water (the Pajaro River) is unclear, and intake water characteristics are significantly altered through recycling, reuse, treatment, and commingling with stormwater before discharge”* (emphasis added).

A summary of all WQBELs applicable at Discharge Point 001 are presented in the table below.

Table F-10. Summary of WQBELs – Discharge Point 001

Constituent	Units	Effluent Limits	
		Average Monthly	Maximum Daily
pH	s.u.	7.0 - 8.3 at all times	
Total Suspended Solids (TSS)	mg/L	50	--
Total Dissolved Solids (TDS)	mg/L	1,000	--
Turbidity	NTUs	--	50
Acute Toxicity	TU	--	1 ^{[1][2]}
Mercury, Total Recoverable	µg/L	0.050	0.10
Selenium, Total Recoverable	µg/L	10	20
Cyanide, Total (as CN)	µg/L	4.3	8.5
Aluminum, Total Recoverable	µg/L	1,000	5,000
Iron, Total Recoverable	µg/L	1,000	--
Suspended Sediments	mg/L	[3]	[3]

^[1] Or the background toxicity of the receiving water as determined by concurrent toxicity testing using upstream receiving water samples; the greater of the two shall apply.

^[2] Survival of test organisms exposed to 100 percent effluent shall not be significantly reduced when compared of control organisms using a t-test.

^[3] The discharge of suspended settlement shall not exceed the following limits:

- For a discharge duration of 1 day (24 hours) or less, the suspended sediments concentration (SSC) cannot exceed 1,807 mg/L.
- For a discharge duration of 2 days (48 hours), the SSC cannot exceed 665 mg/L for both days.
- For a discharge duration of 2 to 14 days (48 to 336 hours), the SSC cannot exceed 244 mg/L for each day.
- For a discharge duration of 14 to 49 days (336 to 1,176 hours), the SSC cannot exceed 90 mg/L for each day.
- For a discharge duration of greater than 49 days (1,176 hours), the SSC cannot exceed 90 mg/L for each day.

D. Final Effluent Limitations

Final, technology-based and water quality-based effluent limitations established by the Order are discussed in the preceding sections of the Fact Sheet.

1. Satisfaction of Anti-Backsliding Requirements

The Order satisfies applicable anti-backsliding provisions of the Clean Water Act, as all limitations and requirements of the Order are at least as stringent as those of the previous permit. The Order retains effluent limitations established by the previous permit for pH, TSS, turbidity, mercury (total), and acute toxicity.

2. Satisfaction of Antidegradation Policy

Provisions of the Order are consistent with applicable antidegradation policies expressed by NPDES regulations at 40 CFR 131.12 and by State Water Board Resolution No. 68-16. Limitations and conditions of the Order assure maintenance of the existing quality of receiving waters and do not authorize increased rates of discharge or increased pollutant loadings to the receiving water above that authorized by the previous Order.

3. Stringency of Requirements for Individual Pollutants

This Order contains both technology-based and water quality-based effluent limitations for individual pollutants. The technology-based effluent limitations consist of restrictions on pH, TSS and turbidity. Restrictions on these pollutants are discussed in section IV.B of the Fact Sheet. This Order's technology-based pollutant restrictions implement the minimum, applicable federal technology-based requirements. In addition, this Order contains effluent limitations more stringent than the minimum, federal technology-based requirements that are necessary to meet water quality standards. These limitations are not more stringent than required by the CWA.

Final, technology and water quality based effluent limitations are summarized in sections IV.B and C of this Fact Sheet.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Specifications – Not Applicable

G. Reclamation Specifications – Not Applicable

V. RATIONALE FOR RECEIVING WATER LIMITATIONS

A. Surface Water

Receiving water quality is a result of many factors, some unrelated to the discharge. This Order considers these factors and is designed to minimize the influence of the discharge on the receiving water. Specific water quality objectives established by the Basin Plan to meet this goal for all inland surface waters are included as Receiving Water Limitations in Section V.A of this Order.

B. Groundwater – Not Applicable

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

NPDES regulations at 40 CFR 122.48 require that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 also authorize the Regional Water Board to require technical and monitoring reports. Rationale for the monitoring and reporting requirements contained in the Monitoring and Reporting Program (MRP), which is presented as Attachment E of this Order, is presented below.

A. Influent Monitoring – Not Applicable

B. Effluent Monitoring

Effluent monitoring requirements of the previous permit for Discharge Point 001(at Monitoring Location EFF-001) are retained in this Order, with the following exceptions/changes:

1. For those pollutants that exhibited reasonable potential based on the limited effluent data, weekly grab samples are required when a discharge occurs. These pollutants include aluminum, cyanide, iron, molybdenum, and selenium.
2. Daily monitoring when a discharge occurs is required for SSC to determine compliance with the applicable TMDL WLAs.
3. Routine (grab samples once per year during discharge) monitoring has been included for all other pollutants for which new effluent limitations have been established in this Order.
4. Single permit term sampling of the Lower Hole stormwater catchment basin, which may become mixed in with the Quarry Storage Reservoir.

C. Whole Effluent Toxicity Testing Requirements

Whole effluent toxicity (WET) limitations protect receiving water quality from the aggregate toxic effect of a mixture of pollutants in the effluent. Acute toxicity testing measures mortality in 100 percent effluent over a short test period and chronic toxicity testing is conducted over a longer period of time and may measure mortality, reproduction, and/or growth. This Order retains limitations and monitoring requirements for acute toxicity for Discharge Point 001 from the previous Order. Since discharges from this Facility occur infrequently and for short duration, only acute WET limitations and monitoring requirements are set forth in this Order.

D. Receiving Water Monitoring

1. Surface Water

Most receiving water and surface water monitoring requirements are unchanged and are retained from the previous Order. The MRP establishes monitoring requirements for the CTR and Title 22 pollutants (including total trihalomethanes) to generate background data for use in future reasonable potential analyses for these pollutants.

2. Groundwater – Not Applicable

E. Process Water Supply Monitoring

Due to the potential contribution of pollutants from the Orchard Well to the quality of effluent from the Quarry Lake Reservoir, annual process water supply monitoring requirements have been carried over from Order R3-2005-0044 for flow, TDS, chloride, sodium, sulfate, boron, nitrate and hardness.

F. Other Monitoring Requirements – Not Applicable

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 CFR 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 CFR 122.42, are provided in Attachment D to the Order.

NPDES regulations at 40 CFR 122.41 (a)(1) and (b - n) establish conditions that apply to all state-issued NPDES permits. These conditions must be incorporated into the permits either expressly or by reference. If incorporated by reference, a specific citation to the regulations must be included in the Order. 40 CFR 123.25 (a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 CFR 123.25, this Order omits federal conditions that address enforcement authority specified in 40 CFR 122.41 (j)(5) and (k)(2), because the enforcement authority under the Water Code is more stringent. In lieu of these conditions, this Order incorporates by reference Water Code section 13387 (e).

B. Monitoring and Reporting Program (MRP) Requirements

The Discharger shall comply with the MRP, and future revisions thereto, in Attachment E of this Order.

C. Special Provisions

1. Reopener Provisions

The Order may be modified in accordance with the requirements set forth at 40 CFR 122 and 124, to include appropriate conditions or limits based on newly available information, or to implement any, new State water quality objectives that are approved by the USEPA. As effluent is further characterized through additional monitoring, and if a need for additional effluent limitations becomes apparent after additional effluent characterization, the Order will be reopened to incorporate such limitations.

2. Special Studies and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

The requirement to maintain a Toxicity Reduction Work Plan is retained from Order No. R3-2005-0044. When toxicity monitoring measures acute toxicity in the effluent above the limitation established by the Order, the Discharger is required to resample and retest, if the discharge is continuing. When all monitoring results are available, the Executive Officer can determine whether to initiate enforcement action, whether to require the Discharger to implement toxicity reduction evaluation (TRE) requirements, or whether other measures are warranted.

3. Best Management Practices and Pollution Prevention – Not Applicable

4. Construction, Operation, and Maintenance Specifications

a. Erosion and Sediment Control

The requirement to inspect, install, and have in proper operational condition all erosion and sediment control systems necessary to assure compliance with this Order is retained from Order No. R3-2005-0044.

5. Special Provisions for Municipal Facilities (POTWs Only) – Not Applicable

6. Other Special Provisions

a. Discharges of Stormwater

Order No. R3-2010-0025 applies to discharges of treated wastewater from Discharge Point 001. This wastewater consists of process water plus stormwater runoff from the processing area and stock piles, as well as stormwater that falls on the Quarry Storage Reservoir and Soda Lake. All other stormwater runoff from the Arthur R. Wilson Quarry can be discharged only in accordance with the requirements of General Permit No. CAS000001 - *Waste Discharge Requirements for Discharges of Stormwater Associated with Industrial Activities*.

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The Central Coast Regional Water Quality Control Board is considering the issuance of waste discharge requirements (WDRs) that will serve as a National Pollutant Discharge Elimination System (NPDES) permit for Granite Rock's Arthur R. Wilson Quarry. As a step in the WDR adoption process, Regional Water Board staff has developed tentative WDRs. The Regional Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Regional Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe waste discharge requirements for the discharge and has

provided them with an opportunity to submit their written comments and recommendations. The Discharger provided notification in a local newspaper or in a daily newspaper of general circulation by April 13, 2010, for the first draft of the proposed Order. Draft waste discharge requirements were mailed to interested parties on March 29, 2010. The Water Board received substantial comments, including an email from Granite Rock on April 26, 2010, which staff responded to on May 12, 2010. In response, Water Board staff modified the draft Order. The Water Board then provided a second public comment period to review these modifications. The Discharger provided notification in the Watsonville Register Pajaronian on **September 30, 2010**. The new draft waste discharge requirements were mailed to interested parties on **August 31, 2010**.

B. Written Comments

The staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments should be submitted either in person or by mail or by email to the contact person at the Regional Board at the address above on the cover page of this Order.

To be considered and receive a full response from Regional Board staff, written comments were required to be received at the Regional Board offices by 5:00 p.m. on **October 28, 2010**. Regional Board staff or the Chair of the Regional Board may accept later comments upon request, in appropriate circumstances. Address any requests to submit late comments to the contact person on the cover page. After the comment period closes, the Regional Board may limit written comments on the order to any changes that Regional Board staff recommends after reviewing the public comments.

As of October 28, 2010, comments were received from the Discharger in the form of an email dated October 14, 2010, and a letter dated October 28, 2010. Two additional letters were received from the County of Santa Cruz Department of Public Works and the, Monterey County Water Resources Agency on May 11 and May 13, 2010, respectively via facsimile and email. The letters are provided as Attachment G – Comments for the record and reference. The following discussion provides staff's responses to comments and action taken. The Discharger's and interested parties' comments are not repeated here for brevity and are referenced by number and section of the Order they pertain to. Portions of the Discharger's and interested parties' comments may be paraphrased or quoted in staff responses for clarification as necessary.

Granite Rock May 13, 2010 letter:

1. WQBELs are not needed for the majority of pollutants to protect the beneficial uses of the Pajaro River

Staff Response: Initially, Water Board staff included effluent limits for CTR and NTR priority pollutants because sufficient monitoring data that are representative of the effluent discharged to the Pajaro River were not available. Regional Water Board staff determined that there is a reasonable potential for the discharge to cause or contribute to exceedances of water quality criteria for all pollutants with applicable water quality criteria from the CTR and NTR. The Discharger challenged Water Board staff's determination on the basis that the SIP states in Section 1.3 – Step 8:

"If data are unavailable or insufficient, as described in section 1.2, to conduct the above analysis for the pollutant, or if all reported detection limits of the pollutant in the effluent are greater than or equal to the C value, the RWQCB may require periodic monitoring of the pollutant."

In response to the comment, Water Board staff considered the available data and other information provided by the Discharger to assist in determining what pollutants would have a reasonable potential to be present in a discharge. Additional monitoring of the stormwater effluent will help to characterize the potential constituents present in the effluent.

Staff Action: Water Board staff eliminated effluent limits for constituents not detected in the provided wastewater analysis (Section IV.A Tables 6 and 7). Additional monitoring of the stormwater was added into the MRP (Attachment E, Section IV.A.1) in order to assess stormwater runoff characteristics from the Lower Hole, which has not been previously monitored and is occasionally mixed in with the Quarry Storage Reservoir water.

2. The Draft Order's denial of dilution credits criteria is not compatible with SIP Section 1.4.2.1

Staff Response: Section 1.4.2 of the SIP states that the allowance of mixing zones is discretionary and shall be determined on a discharge-by-discharge basis. Further, the SIP states that a Regional Water Board may consider allowing mixing zones and dilution credits only for discharges with a physically identifiable point of discharge that is regulated through an NPDES permit. However, Section 1.4.2.1 does not require that the Regional Water Board establish a mixing zone. The remaining portion of Section 1.4.2 of the SIP identifies minimum requirements the Regional Water Board must consider when it determines a mixing zone or dilution credits are necessary or applicable.

Because the allowance of mixing zones and dilution credits allows for the exceedance of water quality criteria/objectives within the immediate vicinity of the discharge and the potential for increased loading of pollutants into the receiving water, this Regional Water Board allows dilution credits only when necessary for compliance once all other options for meeting water quality criteria/objectives have been exhausted and adequate data are available to determine that the requirements of Section 1.4.2.2 of the SIP are met. The Regional Water Board only considers the relief provided by a mixing zone for demonstrable, not theoretical or potential, need, and other than the stated need by the Discharger, there are insufficient data and justification for consideration of a mixing zone for discharges from this Facility.

Section 1.4.2.2 of the SIP establishes minimum requirements for mixing zones, including prohibiting mixing zones from causing acutely toxic conditions to aquatic life passing through the mixing zone. Acutely toxic conditions may be present when applicable criteria, such as CTR criteria, are exceeded. In response to a statement in the Fact Sheet, "First, dilution credits are granted on a pollutant-specific basis, thus a pollutant-specific analysis demonstrating the absence of acutely toxic conditions or no impacts to the integrity of the entire water body should be performed," the Discharger argues that additional tests to determine if acutely toxic conditions will be present at the

discharge location are not necessary. The Discharger agrees that dilution credits are assessed on a pollutant-by-pollutant basis, but argues that a pollutant specific toxicity test is not necessary given the testing already completed. The Discharger has submitted results for a single representative chronic toxicity test from December 2001 and averaged Pajaro River concentrations for various pollutants from 2001 to present.

To determine the available dilution in the receiving water on a pollutant-by-pollutant basis, sufficient data for the receiving water are necessary. Because the Regional Water Board must consider dilution under all reasonable worst-case scenarios, censored or averaged data are not sufficient to use in the analysis. The censored or averaged data provided by the Discharger are not representative of reasonable worst-case scenarios, or even the worst-case scenario during which the Discharger sampled. In the consideration of dilution credits, sufficient data, with applicable maximum receiving water concentrations, must be used to determine assimilative capacity in the receiving water. These values may then be used, in concert with critical low flows in the receiving water and a maximum effluent flow to determine assimilative capacity in the receiving water and to ensure acutely toxic conditions are not created in the mixing zone.

Demonstrating that average receiving water concentrations are less than applicable water quality criteria for various pollutants does not demonstrate dilution credits are applicable and does not demonstrate the available assimilative capacity in the receiving water so that appropriate dilution may be determined. Without an appropriate analysis of the available assimilative capacity, and thus available dilution, dilution credits cannot be granted.

The Discharger argues that the results of whole effluent toxicity tests are sufficient to determine that dilution is available, stating, "If no toxicity is observed in the whole effluent testing, then it is highly unlikely toxicity would be observed in a pollutant specific testing." Whole effluent toxicity testing does not provide the necessary data to determine assimilative capacity on a pollutant-by-pollutant basis (as discussed above). Thus, as discussed above, the application of dilution credits based on chronic toxicity data is not possible.

Further, if the effluent is highly unlikely to have pollutants greater than toxic levels, then the Discharger's effluent is unlikely to result an exceedance of water-quality based effluent limitations, and as previously discussed, the need for dilution is not justified.

Further, as stated in the Fact Sheet, sufficient representative data are not available to determine compliance with the minimum requirements established in section 1.4.2.2 of the SIP. Specifically, the Fact Sheet states (Section C.4):

"Toxicity tests of samples taken from the Facility under non-discharge conditions are used as the basis for indicating that the discharge would not cause acutely toxic conditions or compromise the integrity of the entire water body. First, dilution credits are granted on a pollutant-specific basis, thus a pollutant-specific analysis demonstrating the absence of acutely toxic conditions or no impacts to the integrity of the entire water body should be performed. Second, the results of the acute toxicity test were based on one sample taken in 2009; the chronic toxicity test results were from October 2004 and December 2001. Although the

October 2004 chronic test results indicate there was a significant decrease in reproduction for *Ceriodaphnia dubia*, the Discharger also noted in their application that the sample for these tests were “not composed of rainwater to the extent that it would be in the event of a discharge.” Prior to allowing a mixing zone, samples of actual effluent should be used to make the determination that no impact would result from the granting of a mixing zone. This would also hold true for the chemical-specific data”.

The Discharger comments that the use of critical flows identified in Table 3 of the SIP are for year-round dilution credit models, which are not applicable to the Facility because the Facility’s discharges are most likely to occur during the rainy season, and that a rainy season flow would be the best in modeling mixing zones for this facility. However, the Discharger did not request, and the permit does not limit the Facility to discharging only during the rainy season. Thus, the Regional Water Board must consider discharges during all time frames when a discharge may occur. The use of the average wet season flow for the calculation of dilution credits must be further evaluated in regards to the critical low flows likely to occur during all periods of potential discharge.

Staff Action: No Action

3. The Orchard Well has been shown to not comply with past limits, specifically mercury, Total Dissolved Solids (TDS), chloride, sulfate, boron, and sodium

Staff Response: It is acknowledged that the facility continually recycles water for use in its processing operations, and that a fraction of the re-used water contains Orchard Well water. It is also acknowledged that the processing operations themselves (e.g., aggregate wash in the wet processing plant) may not chemically or physically alter the pollutants in the Orchard Well water. However, it is uncertain if the closed-loop system used to manage water at the facility (i.e., collected rainfall and Orchard Well water are periodically used to supplement re-used water, which is constantly recycled through the facility) physically or chemically alters the pollutants in a manner that adversely affects water quality and beneficial uses. The Discharger suggests that some chemical reactions may improve re-used water quality; however, no data are provided to support this assertion. As described further in the fact sheet, limited data are available that characterize the potential discharge from the facility, and the data that do exist are not considered by the Discharger as being representative of the potential discharge. Therefore, it is uncertain whether the discharge, which always includes some fraction of Orchard Well water, would adversely affect the water quality and beneficial uses of the Pajaro River.

Denial of intake credits at this time is also based on the uncertainty related to application of the intake credit. According to the SIP:

“Where the above conditions are met, the RWQCB may establish effluent limitations allowing the facility to discharge a mass and concentration of the intake water pollutant that is no greater than the mass and concentration found in the facility’s intake water. A discharger may add mass of the pollutant to its waste stream if an equal or greater mass is removed prior to discharge, so there is no net addition of the pollutant in the discharge compared to the intake water.”

and,

“The permit shall specify how compliance with mass- and concentration-based limitations for the intake water pollutant will be assessed. This may be done by basing the effluent limitation on ambient background concentration data. Alternatively, the RWQCB may determine compliance by simultaneously monitoring the pollutant concentrations in the intake water and in the effluent.”

The Discharger in its Report of Waste Discharge suggests that the effluent limitations be set equal to the concentration of the intake waters in accordance with the SIP. This suggested approach is not appropriate, as it would not ensure there is no net addition of a pollutant in the discharge as it doesn't account for the pollutant contributions from other sources (e.g., stormwater). Due to the fact that water is constantly recycled and Orchard Well water is only periodically used to supplement re-used water, use of simultaneous monitoring in the intake and effluent to ensure no net addition is also not an option.

Staff Action: No Action

4. The CTR and NPDES regulations support use of dissolved metals to assess impact and compliance.

Staff Response: As explained in USEPA's October 1, 1993 memorandum titled *Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria*, EPA recommends that water quality standards be based on dissolved metal concentrations because dissolved metal more closely approximates the bioavailable fraction of metal in the water column than does total recoverable metal. However, 40 CFR 122.45(c) specifies that effluent limitations for metals must be expressed in terms of total recoverable metal, except when an effluent guideline specifies the limitation in another form of the metal, the approved analytical methods measure only dissolved metal, or the permit writer expresses a metals limit in another form when required to carry out provisions of the Clean Water Act. As also explained in USEPA's October 1, 1993 memorandum titled *Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria*, total recoverable metal is used because the chemical conditions in ambient waters frequently differ substantially from those in the effluent, and there is no assurance that effluent particulate metal would not dissolve after discharge. The NPDES regulations do not require that state water quality standards be expressed as total recoverable; rather, the NPDES regulations require permit writers to translate between different metal forms in the calculation of the permit limit so that a total recoverable limit can be established. Attachment 3 to the 1993 USEPA memorandum suggests approaches for translation for instances where the water quality criterion for a metal is expressed in the dissolved form in the water quality standards. These approaches include development of a site-specific translator and calculation of the total recoverable effluent limitation using a water effects ratio (WER) of 1 (unless a site-specific WER has been developed).

Further, Section 5.7.3 of USEPA's *Technical Support Document for Water Quality-based Toxics Control*, EPA/505/2-90-001, March 1991 (TSD) states that, where the water quality standards are expressed directly as dissolved, the permit writer will need to reconcile the different expressions of the metal, and suggests four permitting

approaches. These approaches include assuming no difference between the dissolved or total recoverable phases; developing a site-specific relationship between the phases of the metal; using a relationship developed by USEPA from national data, or using a geochemical model.

The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (State Implementation Policy or SIP) at Section 1.4.B, Step 2 states that water quality criteria for calculation of the effluent concentration allowance (ECA) shall be expressed as total recoverable, unless inappropriate. Section 1.4.1 of the SIP also states:

“To derive total recoverable effluent limitations for aquatic life metals and selenium criteria/objectives that are expressed in the dissolved form, a translator first must be applied to the criterion/objective to express it as total recoverable. The translator shall be the U.S. EPA conversion factor (see Appendix 3) that applies to the dissolved aquatic life metals criterion as specified in the CTR (i.e., the dissolved criterion/objective would be divided by the applicable U.S. EPA conversion factor to calculate a total recoverable criterion) unless:

A. the discharger, in the permit application, (1) commits to (a) completing a defensible site-specific translator study and (b) proposing a dissolved to total recoverable translator to the RWQCB, and (2) describes the method(s) to be used in developing the translator; and

B. the discharger, within a time period specified by the RWQCB not exceeding two years from the date of issuance/reissuance of the permit, submits to the RWQCB (1) the proposed translator, and (2) all data and calculations related to its derivation.”

Consistent with the federal regulations at 40 CFR 122.45(c), USEPA guidance, and the SIP, and in the absence of site-specific data, a default water effects ratio (WER) of 1 and the default metal translators specified in the SIP and CTR (except for mercury, as explained below) were used to determine the applicable total recoverable effluent limitations for metals in the proposed permit. If the Discharger were to perform studies to determine site-specific WERs and/or site-specific dissolved-to-total metal translators, the proposed Order could be reopened to modify the effluent limitations for the applicable metals, as allowed by the SIP and CTR.

Finally, the Discharger comments that the exception for situations where an effluent guideline requires the use of another form is applicable to the discharge because the CTR criteria are expressed in dissolved concentrations. However, the effluent guidelines referred to in the exception are the technology-based requirements established at 40 CFR Parts 405 through 499 for specific industries. The CTR criteria on which the effluent limitations in the proposed permit are based are not effluent limitation guidelines, but rather are water quality criteria included in the applicable water quality standard for the receiving water.

Staff Action: None.

Monterey County Water Resources Agency's (MCWRA) May 13, 2010 letter and Santa Cruz Department of Public Works' (SCPW) May 11, 2010 letter (responded to together due to similar nature of comments):

1. MCWRA and SCPW comment that issuing Order No. R3-2010-0025 would allow the Facility to discharge process water into the Pajaro River at river stage elevations above the flood warning level (monitoring stage). MCWRA and SCPW comment that the flood stage of the Pajaro River at Chittenden monitoring station is 32 feet and the monitoring stage is 25 ft. Both agencies recommend prohibiting the discharge at or above monitoring stage and that the Facility be required to notify downstream public agencies prior to proposed releases scheduled when Chittenden stage levels are within two feet of the monitoring stage level.

Staff Response: This same issue regarding flow contributions to the Pajaro River from the Facility during flooding was brought to the attention of the Central Coast Water Board prior to adoption of Order No. R3-2005-0044. In response, the Board included two specific prohibitions.

First, Prohibition III.F (kept in this Order) states that the discharge “shall not cause or contribute to downstream flooding.” The Regional Water Board rationale in the response to comments contained in the Fact Sheet was that any discharge flow to the Pajaro River from the Facility during downstream flood conditions may be considered a contributing factor to flooding regardless of measurable effects. As such, it was the Regional Board’s intent to limit the discharge to avoid and not contribute to downstream flooding.

Second, Prohibition III.H (kept in this Order) states that “the discharge of facility process water from the Quarry Storage Reservoir to the Pajaro River shall not occur when Pajaro River flows are greater than 13,000 MGD (corresponding to a Pajaro River stage of approximately 31.3 feet) as measured at the Chittenden gauging station.” The Regional Water Board rationale in the response to comments contained in the Fact Sheet was that the Regional Water Board maintained this prohibition in order to limit flow discharges to the Pajaro River so as to avoid and not contribute to downstream flooding nor impact water quality beneficial uses. The Regional Water Board continues to regulate the Discharger’s effluent flow volume by carrying over Order No. R3-2005-0044 prohibitions into the tentative Order.

The Monterey County Water Resources Agency and County of Santa Cruz (Petitioners) filed petitions for review of Order No. R3-2005-0044. This is documented in the administrative record for SWRCB/OCC FILE A-1702 ‘Petition of Monterey County Water Resources Agency and County of Santa Cruz.’ The Water Board responded to the petition. At that time, Water Board staff determined that the administrative record supported the Central Coast Water Board’s findings that the discharge will not contribute to flood stage water levels. The Order is sufficiently protective of water quality and will prevent the discharge from causing or contributing to flooding on downstream reaches of the Pajaro River. The issues were discussed in more detail in the response letter from the Water Board dated August 4, 2005. That response letter is included in Attachment G for further reference. The State Water Resources Control Board denied the stay request by both Petitioners on August 26, 2005, citing reasons of insufficient

proof of all three of the prerequisites for a stay as specified in California Code of Regulations, title 23, section 2053.

Staff Action: None.

Granite Rock October 14, 2010 email:

1. Comment regarding discrepancy between Water Board and Granite Rock calculated effluent limits for total cyanide.

Staff Response:

The following describes the methodology used to derive the effluent limitations for Cn:

Step 1: Identify the applicable water quality criteria or objective. According to the SIP Section 1.4, Step1 of the SIP, “for each criteria determine the effluent concentration allowance (ECA) using the following steady state equation:”

$$\begin{aligned} \text{ECA} &= C + D(C-B) \quad \text{when } C > B, \text{ and} \\ \text{ECA} &= C \quad \quad \quad \text{when } C \leq B, \end{aligned}$$

Where: C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators.

D = The dilution credit,

B = The ambient background concentration

For Granite Rock, D = 0, so :

$$\text{ECA}_{\text{acute}} = C_{\text{acute}}$$

$$\text{ECA}_{\text{chronic}} = C_{\text{chronic}}$$

For cyanide, the applicable water quality criteria are:

$$\text{ECA}_{\text{acute}} = 22 \mu\text{g/L}$$

$$\text{ECA}_{\text{chronic}} = 5.20 \mu\text{g/L}$$

Note: It seems that this is where our calculations differ. Granite Rock made ECA_{acute} and ECA_{chronic} both equal to the most stringent water quality objective; so :

$$\text{ECA}_{\text{acute}} = 5.20 \mu\text{g/L}$$

$$\text{ECA}_{\text{chronic}} = 5.20 \mu\text{g/L}$$

Step 2: According to Section 1.4, Step 2 of the SIP, “for each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier).”

$$\text{LTA}_{\text{acute}} = \text{ECA}_{\text{acute}} \times \text{Multiplier}_{\text{acute}} \quad 99$$

$$\text{LTA}_{\text{chronic}} = \text{ECA}_{\text{chronic}} \times \text{Multiplier}_{\text{chronic}} \quad 99$$

Where: CV = 0.6

Multiplieracute 99 = 0.321
Multiplierchronic 99 = 0.527

Setting CV = 0.6:

LTAacute = 22 µg/L x 0.321 = 7.1 µg/L
LTAchronic = 5.20 µg/L x 0.527 = 2.74 µg/L

Note: Granite Rock made both ECAacute and ECAchronic equal to the most stringent WQO, 5.20 µg/L, so:

LTAacute = 5.20 µg/L x 0.321 = 1.67 µg/L
LTAchronic = 5.20 µg/L x 0.527 = 2.74 µg/L

Since they made ECAacute = ECAchronic, the most limiting LTA in their calculations is 1.67 µg/L.

Step 3: Select the most limiting (lowest) of the LTA.

LTA = most limiting of LTAacute or LTAchronic
For cyanide, the most limiting LTA was the LTAchronic
LTA = 2.74 µg/L

We calculated the most stringent LTA to be 2.74 µg/L based on the ECAacute being much larger than the ECAchronic. Granite Rock's calculations had both ECAacute and ECAchronic equal to the most stringent WQO, resulting in a different LTA. However, according to Section 1.4, Step 2 of the SIP, "for each ECA based on aquatic life criterion/objective, determine the long-term average discharge condition (LTA) by multiplying the ECA by a factor (multiplier)." Therefore, ECAacute should be used to calculate a different LTAacute, and ECAchronic should be used to calculate LTAchronic, with the most stringent LTA being used to calculate the final AMEL and MDEL.

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier).

AMELaquatic life = 2.74 µg/L x 1.55 = 4.26 µg/L

MDELaquatic life = 2.74 µg/L x 3.11 = 8.54 µg/L

Staff Action: None.

2. Comment regarding ECA calculation using dissolved metal translators.

Staff Response:

For effluent limitations established based on CTR human health criteria (i.e., mercury), no conversion factors are used (the conversion factors in Appendix 3 of the SIP only apply to acute and chronic aquatic life criteria).

For aluminum, the effluent limitations are based on direct application of the Basin Plan criteria (1,000 µg/L for average monthly based on Table 3-2 value to protect MUN use, and 5,000 µg/L for maximum daily based on Table 3-4 value to protect AGR use).

For molybdenum, the effluent limitation was based on the Table 3-4 value to protect AGR use).

For selenium, the effluent limitations are based on direct application of the Basin Plan criteria (10 µg/L for average monthly based on Table 3-2 value to protect MUN use, and 20 µg/L for maximum daily based on Table 3-4 value to protect AGR use).

Staff Action: None.

3. Comment regarding translation factors for aluminum, molybdenum, and selenium.

Staff Response:

As described above, no conversion factors are included in the SIP and CTR for human health criteria (i.e., they only apply to aquatic life criteria), and therefore none were applied in deriving effluent limitations for non-aquatic life protection criteria.

Staff Action: None.

4. Comment regarding Graniterock takes the position that effluent limitations established for metals should be in the dissolved form, and not the total form.

Staff Response:

Water Board staff concur that EPA states that dissolved criteria are more appropriate when determining compliance with water quality standards in the water column, but this is different than determining compliance with effluent limitations end-of-pipe (i.e., EPA definitely recommends setting ambient water quality criteria based on the dissolved form). However, as EPA states in several of its policy guidance documents, application of effluent limitations in the total form is required "...because the chemical conditions in ambient waters frequently differ substantially from those in the effluent, and there is no assurance that effluent particulate metal would not dissolve after discharge." If there are concerns regarding the stringency of the criteria due to site-specific factors, then EPA (and the SIP at section 1.4.1) allow for the derivation and use of site-specific translators.

Staff Action: None.

Granite Rock October 28, 2010 letter:

1. Dissolved form of metals is scientifically defensible and recommended by the EPA and CTR/SIP

Staff Response:

USEPA strongly suggests that ambient water quality criteria be in the dissolved form, but the regulations require effluent limitations to be in the total form. Please see response to comment No. 4, Granite Rock October 14, 2010 email.

Effluent guidelines are technology-based effluent limitations established in 40 CFR Parts 400-471, which are not applicable in this instance. The EPA Metal's Translator Guidance's position is that "The rebuttable presumption is that the metal is dissolved to the same extent as it was during criteria development. The default translator value should be that the translator equals the conversion factor, this represents a worst case." Essentially, EPA recommends that the default translator be 1. The default in the Discharger's case makes sense because translators don't exist for mercury, aluminum, molybdenum, and selenium. In fact, the CTR specifically states that because selenium is a bioaccumulative compound in freshwater, it is inappropriate to adjust the criterion.

Staff Action: None.

2. If Board sets metal effluent limits in the total form, then proposed effluent limits in the dissolved form must be translated to total form.

Staff Response:

Water Board staff will follow 40 CFR 122.45(c), which requires effluent limitations for metals be expressed as total recoverable. The Discharger requests the use of metals translators in Appendix 3 of the SIP. The referenced table provides translators for two of the metals detected in the Discharger's effluent. The first one, selenium, has a conversion factor of 1 due to its toxic, bioaccumulative properties. The second metal, mercury, has a stated translator factor of 0.85, which is not supported by the final rule. The USEPA reserved the aquatic life criteria on May 18, 2000, for mercury for reasons as described in Section M in order to ensure the continued protection of federally listed threatened and endangered species and to protect their critical habitat (65 Federal Register page 31709). Table 2 to paragraph (b)(2) of 40 CFR Section 131.38 reserves the translator for mercury.

Section 1.4.1 of the SIP states that, "While a translator study is being conducted, a final effluent limitation based on the applicable US EPA conversion factor shall be included in the provisions of the permit and interim requirements shall be established (in accordance with section 2.2.2)." Water Board staff is using a conservative value of '1' as the current translator factor until the Discharger has collected data to show that different ratio should be used. A conservative value of '1' is the recommended translator factor as per Attachment 3 of the USEPA technical memorandum dated October 1, 1993, "Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria." Water Board staff agrees with the Discharger's developing site-specific translators for the metals detected in their effluent.

Staff Action: Water Board staff will work with the Discharger in creating an acceptable work plan that will detail steps taken to establish site specific metal translators.

3. If Board sets metal effluent limits in the total form, then a compliance schedule will be needed

Staff Response:

As stated in Staff Response No. 2, Section 1.4.1 of the SIP states that, "While a translator study is being conducted, a final effluent limitation based on the applicable US EPA conversion factor shall be included in the provisions of the permit and interim requirements shall be established (in accordance with section 2.2.2)." This requires the Discharger to collect more data. Additionally, State Water Board Resolution No. 2008-0025 prohibits compliance schedules in NPDES permits for permit limitations implementing criteria promulgated in the CTR, as amended (40 C.F.R. section 131.38, revised as of July 1, 2005).

Special Provision in Section VI.C.1 of this Order allows the Water Board to modify the Order in accordance with the requirements set forth at 40 CFR 122 and 124, to include appropriate conditions or limits based on newly available information. The Discharger may further characterize their effluent through additional monitoring, and if a need for additional or modified effluent limitations becomes apparent after additional effluent characterization, the Order will be reopened to incorporate such limitations.

Staff Action: Water Board staff will work with the Discharger in creating an acceptable work plan that will detail steps taken to establish site specific metal translators.

4. SIP Allows for Intake Credits for the Orchard Well Intake Water

Staff Response:

See Staff Response No. 3 of Granite Rock's May 13, 2010 letter.

Staff Action: No action.

C. Public Hearing

The Regional Water Board held a public hearing on the tentative WDRs during its regular Board meeting on the following date and time and at the following location:

Date: **December 9, 2010**
Time: **8:30 AM**
Location: **Watsonville City Council Chambers**

Interested persons were invited to attend. At the public hearing, the Regional Water Board will hear testimony, if any, pertinent to the discharge, WDRs, and permit.

D. Waste Discharge Requirements Petitions

Any aggrieved person may petition the State Water Resources Control Board to review the decision of the Regional Water Board regarding the final WDRs. The petition must be submitted within 30 days of the Regional Water Board's action to the following address:

State Water Resources Control Board
Office of Chief Counsel
P.O. Box 100, 1001 I Street
Sacramento, CA 95812-0100

E. Information and Copying

The Report of Waste Discharge (RWD), related documents, tentative effluent limitations and special provisions, comments received, and other information are on file and may be inspected at the address above at any time between 8:00 a.m. and 5:00 p.m., Monday through Friday. Copying of documents may be arranged through the Regional Water Board by calling (805) 549-3147.

F. Register of Interested Persons

Any person interested in being placed on the mailing list for information regarding the WDRs and NPDES permit should contact the Regional Water Board, reference this facility, and provide a name, address, and phone number.

G. Additional Information

Requests for additional information or questions regarding this Order should be directed to Cecile DeMartini at (805) 542-4782.

ATTACHMENT G – PUBLIC COMMENT CORRESPONDENCE

Table of Contents

I.	Granite Rock Arthur Wilson – Email Comments April 26, 2010	G-2
II.	Granite Rock Arthur Wilson –Comment Letter May 13, 2010.....	G-3
III.	Santa Cruz County – Comment Letter May 11, 2010	G-4
IV.	Monterey County Water Resources Agency – Comment Letter May 13, 2010	G-5
V.	Central Coast Water Board Petition Response Letter August 4, 2005	G-6
VI.	Granite Rock Arthur Wilson – Email Comments October 14, 2010	G-7
VII.	Granite Rock Arthur Wilson –Comment Letter October 28, 2010.....	G-8

ATTACHMENT G – PUBLIC COMMENT CORRESPONDENCE

I. GRANITE ROCK ARTHUR WILSON – EMAIL COMMENTS APRIL 26, 2010

Cecile DeMartini - Graniterock WDO renewal questions

From: Tina Lau <tlau@Graniterock.com>
To: CDeMartini@waterboards.ca.gov
Date: Monday, April 26, 2010 9:20 AM
Subject: Graniterock WDO renewal questions
CC: ajohnstonkaras@Graniterock.com

Hi Cecile,

Thanks for checking on the possibility of moving the hearing date, I appreciate that. I agree with you, having the permit on the consent decree would be the best! To achieve that goal and to ensure a smooth process, we should make sure we're on the same page about how the permit should look ahead of the hearing date (whenever it may be). Below are some questions and clarifications I had. As I mentioned, this is just the initial round of questions; I'm still furthering my understanding on some other aspects of the permit, and your responses below will help me with that. Also, I think breaking down the issues into smaller bits like this makes the communication trail easier to follow.

- In Attachment E, Section V, Table E.3, the table notes that the testing should last for 7 days and track Larval Survival and Growth. However, Acute Toxicity is for 96 hours and tracks only survival. I suspect there was some mix-up with chronic testing requirements. Can we modify the protocol to reflect acute testing requirements? Similarly, item B.5 in that section mentions test sensitivity assessment through calculating PMSD. However, I checked with our lab and they noted that PMSD testing is for chronic testing, and is not part of the EPA methodology for acute testing. Can we remove the PMSD standard?
- As part of our application, we included a list of tentative effluent limits that we calculated per the SIP guidelines. Reading through Attachment F, it appears that you have been using the same guidelines. Yet our results are significantly different! This will take some detective work, so if you send over your calculations I can compare them against ours, and figure out for us where the discrepancies are.
- On Page F.17, there is a question about our use of the average Pajaro River flow during the wet season as the basis for calculating the dilution ratio. The Fact Sheet states that "Additional analyses would be required to determine how this average flow relates to the critical flow period that would be necessary for protection of aquatic life and human health as identified in the SIP." What type of analysis does the Board want to see? The SIP notes that when determining the appropriate available receiving water flow, we may take into account actual and seasonal variations of the receiving water and the effluent (page 15). Since any discharge would most likely occur during the wet season, it seemed reasonable that the wet season flow would be the most appropriate flow. However, I would be happy to develop further analysis to satisfy the Board, please let me know what type of assessment you're looking for.
- Table F.6 in Attachment F summarizes the Reasonable Potential Analysis (RPA) results. Please note we are not entirely clear about the RPA treatment and determinations especially for our minor, rare and seasonal discharge, and we're still assessing the methodologies. But an initial review shows that the RPA analysis concludes that some of the constituents do not cause, have the reasonable potential to cause, or could contribute to an excursion above the water quality criteria. Accordingly, some of these constituents do not show up in the effluent limit list. Yet there is an effluent limit attached to some of these no-risk constituents (specifically Antimony, Arsenic, Cadmium, Chromium (VI), Copper, Nickel, Silver, and Zinc) and some effluent monitoring requirements attached to others (Chloride, Boron, Sodium). It seems like there's a discrepancy in the way the no-risk pollutants are presented, and they should be pulled from the effluent limits list and the effluent monitoring list.
- Additionally, the RPA notes that no other pollutants with applicable numeric water quality criteria

from the NTR, CTR, and the Basin Plan (including the Title 22 pollutants) were measured above detectable concentrations. If the constituent is not detected in our effluent source water (which can only present a worse case representation of actual discharge, since actual discharge would have a higher portion of rain water and we would thus expect the concentrations to be even lower) or in the receiving water body, then we are having difficulties understanding how a determination could find that our discharge can cause, have the reasonable potential to cause, or could contribute to an excursion above the water quality criteria. That is, we do not understand how there can be effluent limits attached to constituents for which our discharge does not cause, have the reasonable potential to cause, or could contribute to an excursion above the water quality criteria.

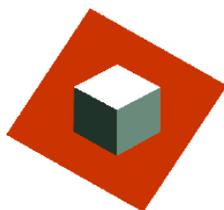
- It appears that there was a waste load allocation set for us through the TMDL program. I remember that there was some confusion initially as to how to calculate the WLA, so I would appreciate seeing how these numbers were derived. Can you send over the TMDL calculations?
- Finally, we are surprised to see limits for total mercury and other metals, instead of the dissolved concentrations. We thought this issue was thoroughly resolved during the last permit renewal, and in the referenced water quality documents (i.e. CTR, SIP). The use of total metal concentrations is not representative of toxic effects of many metals; as noted in the CTR, "use of dissolved metal to set and measure compliance with aquatic life water quality standards is the recommended approach, because dissolved metal more closely approximates the bioavailable fraction of the metal in the water column than does total recoverable metal." (page 10 of the CTR, or page 31,690 of the Federal Register in which the CTR is located). Further, the hundreds of toxic tests performed to develop the ambient standards necessitated the addition of salts and acids to convert the metals into dissolved (hence toxic) forms. Is there another source document the Board is using to establish the new requirements for total metal concentrations or were translators for the total metals not included in the permit calculations?

I look forward to hearing from you, and thank you in advance for your time.

Cheers,

Tina

II. GRANITE ROCK ARTHUR WILSON –COMMENT LETTER MAY 13, 2010



Graniterock®

MATERIAL SUPPLIER / ENGINEERING CONTRACTOR • LICENSE # 22

May 13, 2010

California Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, California

Dear Cecile DeMartini and Members of the Board:

We respectfully submit the following comments regarding the proposed waste discharge requirements for Graniterock's A.R. Wilson Quarry in Aromas, complementing our emailed request for clarification submitted on April 23, 2010 and responded to on May 12, 2010. Please note that there have been significant changes in this proposed permit compared to the existing permit, and as such our comments are detailed and substantive in responding to the new requirements and expectations. We regret that the Regional Board would not grant an extension of the comment period initially. We now request that you delay the hearing to accommodate the many unresolved issues we have been unable to fully address by today.

I. **WOBELs are not needed for the majority of pollutants to protect the beneficial uses of the Pajaro River**

Many effluent limits in this permit are inappropriately included and are unsupported at this time. The Fact Sheet notes that "because sufficient monitoring data is not available that is representative of the effluent discharged to the Pajaro River, the Regional Water Board finds that there is a reasonable potential to cause or contribute to water quality criteria for all pollutants with applicable water quality criteria from the CTR and NTR" (emphasis added, Fact Sheet, p. F-15).

Graniterock concurs with the Board that there may be insufficient data that is representative of effluent discharged to the Pajaro River. There is insufficient data because of the lack of discharged effluent. Graniterock has made numerous and costly improvements to its equipment and facility processes to increase the re-use of the recycled water and rain water in order to

minimize the frequency and the volume of discharges as much as possible. For example, Graniterock has installed a system of pumps and piping that diverts storm water runoff away from the recycled water system, thus increasing the system's ability to contain recycled process water and minimize discharges. There also have been several years of drought during this previous permit's term, which may also contribute to the lack of discharge. While zero discharge is in essence "perfect" water quality, this has resulted in a lack of representative water quality data.

The Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP) has guidance in place for when there is insufficient data:

If data are unavailable or insufficient, as described in section 1.2, to conduct the above analysis for the pollutant, or if all reported detection limits of the pollutant in the effluent are greater than or equal to the C value, the RWQCB shall require additional monitoring for the pollutant in place of a water quality-based effluent limitation (SIP, p.5).

Thus, if the Board does not believe there is sufficient data, then adherence to the SIP would not allow the establishment of water quality based effluent limits (WQBELs). Instead, monitoring data that is representative of the effluent would need to be collected so that accurate, scientifically defensible effluent limitations can be established.

Graniterock would support the establishment of a monitoring program to collect representative data that is necessary for the development of scientifically defensible effluent limits that are in line with the SIP. In fact, at the Board staff's direction in the past, we have conducted analyses on concentrated process waters that did not have the benefit of rain water dilution (which we would expect to a large proportion in an actual discharge scenario). We believe that this permit can be used as one way to obtain such representative effluent data, and would willingly work with the Board to develop a clearly defined, scientifically sound sample collection program. However, we cannot support the assignment of numeric effluent limits for all CTR and NTR constituents based on insufficient and non-representative data.

If the Board chooses to utilize the insufficient and non-representative data in its assessment of whether water quality based effluent limitations are necessary, then Graniterock requests the Board follow the conclusions of the Reasonable Potential Analysis, performed per the SIP as described in the Fact Sheet. The SIP outlines the scenarios in which an effluent limit would be appropriate:

1. When the observed maximum pollutant concentration for the effluent (MEC) is greater than the (most stringent) water quality criterion or objective for the pollutant applicable to the receiving water (C).
2. When the maximum ambient background concentration for the pollutant (B) is greater than the C and the pollutant is detected in the effluent
3. Review other information available to determine if a water quality-based effluent limitation is required, notwithstanding the above analysis in *Steps 1* through *6*, to protect beneficial uses.

The Board appeared to have followed the SIP steps in determining whether there was reasonable potential for a pollutant to cause or contribute to an excursion; Table F-6 in the Fact Sheet outlines the results. The Board's RPA demonstrated that for the majority of pollutants, Graniterock's discharge does not have the reasonable potential to cause or to contribute to an excursion above the most stringent water quality standard. That is, the Board's study concluded that WQBELs are not needed for the majority of pollutants to protect the beneficial uses of the Pajaro River.

Then, disregarding the conclusions of their own analysis, the draft Order imposes effluent limits even for those pollutants for which there is no reasonable potential to cause or to contribute to an excursion above the most stringent water quality standard.

Graniterock recognizes that the SIP allows the Board to use other information available to determine if a WQBEL is needed to protect beneficial uses. However, we have not been supplied with any such information even after our requests. It is recognized by the Board that Graniterock is a low volume discharge, and thus by definition would likely not have a significant adverse impact on water quality. We are identified in the permit as a low-volume discharger on the first page, we believe in recognition of the infrequent forces of nature that would force a discharge and of the minimal quantities discharged. Our discharge is rare, and is of a minor volume relative to the likely conditions of the Pajaro River; as previously discussed with the Board, our discharge volume would comprise of about 0.2% of the Pajaro River flow at a flood stage of 25 feet. Graniterock does not have a history of compliance problems and many of the sample results, even those analyzing undiluted process water, have "non-detected" levels of the pollutants. In addition, whole effluent toxicity testing data has not suggested toxic impacts from our discharge. In short, there is no additional information that would suggest that WQBELs are needed to protect beneficial uses.

The Fact Sheet notes that the Board has chosen to implement WQBELs apparently because the Board does not feel there is sufficient monitoring data. This reasoning is in contrast to Step 7 of the SIP for assessing WQBEL applicability, which allows for the Board to use additional data in its decision for requiring WQBEL but it does not allow for the Board to use a *lack* of data as a basis to decide to include limits. In fact, as noted above, if there is insufficient data then the SIP requires additional monitoring instead of imposing WQBELs.

In short, the Board must take one path or the other: either the data are insufficient and additional monitoring is needed instead of WQBELs, or the data are sufficient to assess the need for WQBELs, in which case the results of the RPA should be upheld.

The WQBELs contained in this Draft Permit are not supported by findings, and the findings made are not supported by evidence. The arbitrary application of WQBELs is clearly in conflict with the following decisions requiring that the Board's decisions be based on findings supported by evidence in the record: *Topanga Association for a Scenic Community v. County of Los Angeles*, 11 Cal.3d 506, 515; *California Edison v. SWRCB*, 116 Cal. App.3d 751, 761 (4th Dt. 1981); *see also In the Matter of the Petition of City and County of San Francisco, et al.*, State Board Order No. WQ-95-4 at 10 (Sept. 21, 1995).

II. The Draft Order's denial of dilution credits criteria is not compatible with SIP Section 1.4.2.1

The Fact Sheet bases a denial of Graniterock's request for dilution credits for certain pollutants on the belief that Graniterock does not need them due to our infrequent discharges that are compliant with effluent limits. However, dilution credits assessment should be conducted independently of the frequency of discharge. Considerations of historical compliance with effluent limitations should also be limited because it ignores uncontrollable circumstances that may affect future compliance, such as the amount of rain fall we receive.

The evaluation of dilution credits should not be separated from the identification of source of the constituent (in our case, groundwater) nor should it ignore mass balancing principals and pollutant loadings from natural processes. While we appreciate the recognition of the low risk posed by our discharge, Graniterock believes that, in fact, we do need the dilution credit to properly account for the facility's current conditions, which are different than those under the previous permit application, and for changing natural conditions.

The Fact Sheet's denial of dilution credits appears to rest upon mistaken assumptions. It appears to be based in part on the previously proposed expansion of Soda Lake and thus of our facility's increased storage capacity and subsequent reduction in discharge potential. In fact, the Soda lake expansion will no longer take place. After several years and hundred of thousands of dollars of permitting and environmental assessment costs, the project application has been terminated by the County. It is highly unlikely that the Soda Lake expansion will take place in the foreseeable future. Therefore Graniterock anticipates having less, not more, storage capacity for the term of this permit, and expects the chances of discharge to increase.

In addition, the decreased storage volume will lead to an increase in potential pollutant loading: less storage means we can hold less storm water. We will need to rely more on our intake water source, the Orchard Well. We would get less dilution of the naturally occurring pollutants found in the groundwater because we have less storage space for additional storm water. If we were to discharge, the proportion of well water would be higher than previously anticipated; the makeup of the discharge would look more like the groundwater and less like rain water.

The Orchard Well has been shown to not comply with past limits, specifically mercury, Total Dissolved Solids (TDS), chloride, sulfate, boron, and sodium. We would thus expect to see more concentrations of pollutants in our discharged effluent. We are also likely to see more normal rain patterns in the future compared to the multi-year drought cycle we have seen for the majority of previous permit's term. In short, we anticipate having less capacity, less rain water in the discharge water, and believe that discharges would be more frequent in the future.

Even if there were not a need for the dilution credit, the SIP does not support denial of a dilution credit due to speculative circumstances. Instead dilution credits must be evaluated relative of risk to water quality objectives. The SIP notes that:

The RWQCB shall deny or significantly limit a mixing zone and dilution credit as necessary to protect beneficial uses, meet the conditions of this Policy, or comply with

other regulatory requirements. Such situations may exist based upon the quality of the discharge, hydraulics of the water body, or the overall discharge environment (including water column chemistry, organism health, and potential for bioaccumulation).

The SIP allows for dilution credit denial if there is a risk to the beneficial use or to compliance; denial should be based on scientific, objective parameters and not on a subjective interpretation of need that fails to consider the threat (or lack thereof) to beneficial uses. Again, the findings do not support the conclusions noted in the current draft of the Order and are inconsistent with past court decisions.

In addition, the Fact Sheet suggested that additional analyses need to be done. It noted that dilution credits are on a pollutant-specific basis, and argued that thus an acute toxicity test is needed for each and every pollutant. The SIP does require that dilution credits are pollutant-specific. In fact, Graniterock calculated and submitted with its Report of Waste Discharge a pollutant by pollutant assessment of dilution credit applicability. We provided details about our calculations in our application submitted on January 8, 2010, in which we described our pollutant-by-pollutant comparison of background concentrations against the most stringent water quality criteria. We also included our calculations of pollutant specific dilution credit values and the subsequent calculated effluent limits of each pollutant for which dilution credits apply.

While dilution credits are assessed pollutant-by-pollutant, we do not believe that a pollutant specific toxicity test is necessary (given the testing already completed); nor is it required under the SIP. When conducting toxicity tests, organisms are placed in the whole effluent water and monitored (i.e. for percent survival, reproductive rates, growth rates, etc). If no toxicity is observed in the whole effluent testing (as is the case with Graniterock's results), then it is highly unlikely toxicity would be observed in a pollutant specific testing. Such targeted testing would be redundant. In addition, we are not convinced that pollutant specific toxicity testing is even required under the SIP.

Section 1.4.2.2 of the SIP states:

A mixing zone shall not:

- (1) Compromise the integrity of the entire water body;
- (2) Cause acutely toxic conditions to aquatic life passing through the mixing zone;

While dilution credits are granted on a pollutant specific basis, mixing zones are calculated based on the total effluent flow and total receiving water body flow. The SIP does not require or expect discussion of an individual pollutant's impact on mixing zone toxicity. The language in the SIP demonstrates that the concern is with the toxicity of the mixing zone as a whole. Graniterock's past toxicity results have shown (as submitted in our renewal application) that our effluent is not expected to cause acutely toxic conditions to aquatic life or to compromise the integrity of the water body. This is especially true in light of the relatively miniscule proportion our discharge flow would have relative to the Pajaro River volume.

The Fact Sheet also notes that the toxicity testing of the actual effluent in December 2001 was for chronic toxicity, not acute toxicity, and requests that additional acute toxicity data of actual effluent discharged be conducted. Graniterock agrees that analysis of effluent that was actually

discharged is the most representative data and is most appropriate for this type of analysis. In fact, the toxicity data from December 2001 was from a discharge event, and as such should be the focus of this assessment. This testing was for chronic toxicity, which requires the target species be immersed in the effluent for 6-7 days. This is more likely to expose a toxic effect and, when factoring in the infrequent and minor volume of our discharge, represents a highly cautious approach. Conversely the acute toxicity testing lasts only for 96-hours. Based on our discussion with a toxicity testing laboratory, chronic toxicity testing should capture acute toxicity impacts as well, given the increased and overlapping testing timeframe. This is especially true since the chronic toxicity requested by Graniterock for this discharge event included percent survival, which is the same end-point for acute toxicity. In short, we would expect that any toxic impacts that would show up in an acute toxicity test would also appear in a chronic toxicity test. Thus, we believe that it is fitting to use the chronic toxicity testing from the actual discharge event in December 2001 to demonstrate our discharge's lack of potential toxic impacts to the Pajaro River.

The Fact Sheet also had a comment about our recommended use of the average Pajaro River flow during the wet season as the basis for calculating the dilution ratio. Specifically, the Board noted that "additional analyses would be required to determine how this average flow relates to the critical flow period that would be necessary for protection of aquatic life and human health as identified in the SIP." The critical flows identified in Table 3 of the SIP are for year-round dilution credit models. The facility retains and re-uses water on site, and only discharges when rainfall intensity and/or frequency exceed our Quarry Storage Reservoirs' capacity above a safe level. Since the facility's discharge is most likely to occur during the rainy season, we do not believe a year-round dilution credit is necessary. Instead, we believe that using a rainy season flow would be the best in modeling mixing zones for this facility.

In section 1.4.2.1 of the SIP, it states: "in determining the appropriate available receiving water flow, the RWQCBs may take into account actual and seasonal variations of the receiving water and the effluent. For example, a RWQCB may prohibit mixing zones during seasonal low flows and allow them during seasonal high flows." Again, our discharge would likely be during a seasonal high flow. As described in our original application, Graniterock employed a rainy season scenario for our model and researched flows within the Pajaro River during the rainy season, defined as October 1st through May 31st in the General Storm Water Permit. We believe using this rainy season average flow is the most appropriate because it models the behavior of the Pajaro River in the time period we would most likely discharge. In addition, it is protective of the water body because it includes the low flow periods typically expected at the start and end of the rainy season (October/ September, and April/May, respectively) when there is less rain than in the middle of the rainy season, and when we would expect not to discharge.

III. SIP Allows for Intake Credits for the Orchard Well Intake Water

The Fact sheet has denied Graniterock's request for intake credits for constituents contained in intake water from the Orchard Well, citing several reasons. The first reason is noted in the Fact Sheet:

‘However, according to the Report of Waste Discharger (top of page 2 in the Form 200 Appendix), “Intake from the Orchard Well rarely occurs during the wet season, as its use is inversely proportional to rainfall inputs.” Therefore, intake credits are being requested during the season when Orchard Well water is not likely to be present in the discharge.

This is factually incorrect. Because the facility continually recycles, some water from the Orchard Well will *always* be present in the discharge. The water from the Orchard Well is intermingled with the existing water and as such is always a part of the water that is re-used; there is no mechanism that removes Orchard Well water from the discharge during the rainy season. The discharge water will always have a fraction of Orchard Well water in it, and this fraction varies with the season and the amount of rain fall experienced.

The second reason for denying the credit appears to be rooted in an assumption that there needs to be a method of calculating the exact ratio of Orchard Well water in the discharge for intake credits to be applicable. However, the SIP does not appear to support this interpretation.

The Fact Sheet describes the discharge water as being composed of recycled water, Orchard Well water, and rainfall. However, this definition should be clarified. Recycled water is a component of the discharge water, and it also *is* the discharge water at this site. The recycled water is composed of accumulated rainfall and Orchard Well water over the years of plant operation, and it is this water that is continuously re-used in operations (including the Fines Treatment Plant). Thus, recycled water (which is supplemented by and composed of rainwater and Orchard Well water) is the water that discharges from Quarry Storage Reservoir.

Graniterock concurs with the Board that intake credits are not applicable for the other source of water at the Quarry Storage Reservoir (i.e. rainfall) if the CTR is strictly followed (although this appears to be an admission that even rain runoff could not comply with effluent limits proposed). But we are not requesting intake credits for rainfall runoff at this time. We are only asking for intake credits for the Orchard Well. The Fact Sheet notes that:

In addition, Section 1.4.4 of the SIP states: ‘Where a facility discharges pollutants from multiple sources that originate from the receiving water body and from other water bodies, the RWQCB may derive an effluent limitation reflecting the flow-weighted amount of each source of the pollutant provided that adequate monitoring to determine compliance can be established and is included in the permit.’ Therefore, application of intake credits would require that each source be characterized prior to a discharge event so that the relative contribution from the Orchard Well could be quantified to allow for accurate flow-weighting.

Per the SIP, flow-weighting may be appropriate when a facility receives a pollutant from multiple sources, and an intake credit is needed for each of these multiple sources. However, Graniterock is not requesting intake credits from multiple sources; we are only requesting intake credits for the contribution of pollutants from one source: the Orchard Well. The other potential source of pollutant this site is rainfall which, unlike the Orchard Well, is not a source that originates from the receiving water body (although without our operation would flow to the receiving water unchecked). In addition, we do not anticipate rainfall to have a significant impact

on the pollutants for which we are requesting intake credits, unless atmospheric deposition increases (for example, of mercury as studied by the San Francisco Bay Atmospheric Deposition Pilot Study). Regardless, we are only requesting application of intake credits from a single source, and flow-weighting as described in the SIP is not necessary or appropriate.

It appears that the third reason the Fact Sheet denies Graniterock's request for intake credits is based on the argument that "intake water characteristics are significantly altered through recycling, reuse, treatment, and commingling with storm water before discharge" (emphasis added).

While we were unable to find an excerpt from the SIP that exactly matches the prohibition against altering intake water characteristics implied by the above statement, Graniterock found the following prohibition on page 19 of the SIP:

(4) The facility does not alter the intake water pollutant chemically or physically in a manner that adversely affects water quality and beneficial uses; and

There is no prohibition in the SIP against any alteration of the intake water; the prohibition is against altering the intake water *pollutants* in such a way to adversely affect water quality. The pollutants for which Graniterock is requesting intake water credits (i.e. mercury, Total Dissolved Solids (TDS), Chloride, Boron, Sodium, and Copper) are not chemically or physically altered by the facility's manufacturing process. For example, there is no mechanism in the Quarry Storage Reservoir to increase metal toxicity found in the intake water stream. Even if alterations of these pollutants were to occur, any such potential alterations would not adversely affect water quality. For example, some chemical reactions with clays may reduce the availability of trace metals but would not adversely affect water quality. If anything, the co-mingling with storm water before discharge would likely have a positive effect on water quality and beneficial uses compared against the original intake water.

Based on our analysis, we believe that the denial of Graniterock's request for intake credits is not supported by the SIP or the evidence at hand, and is inconsistent with past court decisions (see previously referenced citations). We thus request the Board reconsider this decision.

IV. CTR and NPDES Regulations Support Use of Dissolved Metals to Assess Impact and Compliance

Graniterock would like to reiterate the point that any effluent limitations established for metals should be in the dissolved form, and not the total form. **The use of total metal concentrations is not representative of toxic effects of many metals; as noted in the CTR, "use of dissolved metal to set and measure compliance with aquatic life water quality standards is the recommended approach, because dissolved metal more closely approximates the bioavailable fraction of the metal in the water column than does total recoverable metal"** (CTR p.10).

While, as noted in the Board's May 12, 2010 response, 40 CFR 122.45(c) requires that effluent limitations for metals be expressed as total recoverable, it does grant an exception if the permit writer expresses a metal's limit in another form (*e.g.*, dissolved, specific valence, or total). That is, the NPDES regulations give flexibility for the permit writers to develop criteria that would be the most appropriate and protective of water quality. As noted above, the CTR's guidelines note that dissolved metal criteria are recommended over total criteria because it most closely models the actual risk to the environment. In a total metal analysis, the collected water sample is mixed with a 1:1 dilution of acids and "cooked down" with heat. Any solid particulates in the total metal sample would get dissolved in this strongly acidic and heated process. These laboratory induced acidic conditions are rare in naturally occurring water bodies, and definitely do not exist in the Pajaro River. Thus, the total metal samples tend to drastically over estimate the concentrations of metal in the water. In the natural world, such particulates would settle out and pose little risk to organisms; as written in the CTR, total metal analyses do not accurately assess real risk to beneficial uses. This position has also already been accepted by the Board, as the previous permit's mercury limit was in dissolved form, not total form.

Further, the NPDES regulations allow for the use of dissolved metal criteria if an effluent guideline specifies the limitation in another form of the metal. The effluent limits specified in the CTR are in dissolved form, not total, and Graniterock believes that any WQBEL established in this permit should be consistent with the guidelines established in the CTR. Thus, because the NPDES regulations allow for it, the past permit included it, the CTR recommends it, and because it is the most scientifically defensible, Graniterock requests that metal criteria be expressed in dissolved forms.

We thank you and the Board for your assistance in preparation of this Order and look forward to working with you in these matters. Graniterock recognizes that there are numerous issues that remain unresolved, and we believe that the questions surrounding Water Quality Based Effluent Limits, dilution credits, intake credits, and metal forms are of paramount importance. We again request that you delay the hearing so that we can finalize the issues we have been unable to fully address.

If you have any questions or require additional information, please do not hesitate to contact me at (831) 768-2009 or by e-mail at tlau@graniterock.com.

Sincerely,

Tina Lau



Environmental Specialist
Sustainable Resource Development
GRANITE ROCK COMPANY

III. SANTA CRUZ COUNTY – COMMENT LETTER MAY 11, 2010



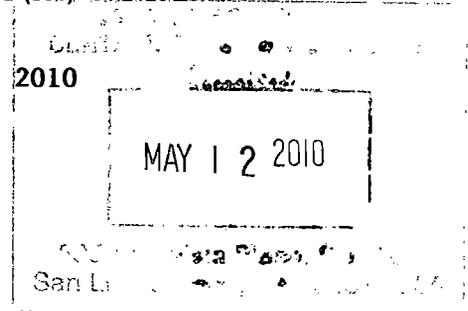
County of Santa Cruz

DEPARTMENT OF PUBLIC WORKS

701 OCEAN STREET, ROOM 410, SANTA CRUZ, CA 95060-4070
(831) 454-2160 FAX (831) 454-2385 TDD (831) 454-2123

JOHN J. PRESLEIGH
DIRECTOR OF PUBLIC WORKS

May 11, 2010



ROGER BRIGGS, EXECUTIVE DIRECTOR
California Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906

SUBJECT: ORDER NO. R3-2010-0025 DRAFT WASTE DISCHARGE REQUIREMENTS
FOR GRANITE ROCK AUTHUR WILSON QUARRY, SAN BENITO COUNTY,
NPDES PERMIT NO. CA0005274

Dear Mr. Briggs:

This letter responds to Public Notice Draft WDR R3-2010-0025 (Comments due: May 13, 2010, Hearing date: July 8, 2010) wherein the Granite Rock Company (Discharger) has applied to the California Regional Water Quality Control Board (RWQCB) to renew a National Pollutant Discharge Elimination System (NPDES) permit to discharge treated wastewater and storm water runoff from the Arthur R. Wilson Quarry into the Pajaro River. The Discharger is requesting water releases to occur at river stages up to 31.3 feet measured at the Pajaro River Chittenden Gauge (at Chittenden); however, 31.3 feet at Chittenden is grossly above the Flood Warning Stage of 25 feet at Chittenden. Prior NPDES permit conditions prohibited discharges into the Pajaro River when the stage was above Flood Warning level.

Flood thresholds for the Pajaro River at Chittenden are as follows: 32 feet = Flood Stage; 25 feet = Flood Warning Stage; 23 feet = Flood Watch Stage. The Flood Watch Stage of 23 feet triggers the ALERT monitoring system alarm. Given these thresholds, it is evident that no discharge should be allowed above the Flood Watch Stage of 23 feet. In fact, discharge should be prevented at levels well below this threshold. Accordingly, 31.3 feet exceeds the danger zone and should be revised to a threshold of well below 23 feet.

Public Works requests that you do not approve the renewal of this permit and reconsider a much lower discharge threshold for a revised application. With this letter we are notifying our Flood Control District Board Chairman, County Administrative Officer, and County Counsel of your proposed actions.

The downstream end of the Pajaro River is bounded by 12.5 miles of levees that run along the boundary line between Santa Cruz and Monterey Counties. Built in 1949, the levees are over 60 years old. Though built with the intention of containing a 50-year flood, and a 100-year flood with encroachment into freeboard, the U.S. Army Corps of Engineers has determined that the current level of flood protection provided by the levees is only an 8-year storm (with 90 percent confidence).

A Federal project to reconstruct the levees is currently in the planning and environmental review phases. Until new levee construction is completed, the area is drastically under protected from potential flood devastation. The flood of March 1995, recorded at stage 32.2 feet, broke the levees and resulted in at least one death. Hundreds of families were displaced from their homes for months, and local businesses suffered severe financial losses. Urban damages were estimated to be \$28 million. The flood destroyed hundreds of farming operations and covered over 3,300 acres of agricultural land. Crop damages were estimated at \$67 million. The 1995 flood caused over \$95 million in total economic loss to the community. Subsequent flooding in February 1998 caused millions of dollars of additional damages. With such vastly undersized levees, it is dangerous to approve the release of additional discharges into the Pajaro River when the river stage is already above Flood Warning Stage. For this reason, we strongly oppose even a de minimis discharge at levels approaching 23 feet, as those flows would exacerbate dangerous water levels, volumes, and velocities.

Per the Order within Section III. Discharge Prohibitions, Item F, "The discharge shall not cause or contribute to downstream flooding within the Pajaro River." For you to approve release of additional flows into the Pajaro River, 0.7 feet below Flood Stage as proposed, directly violates Item F. Furthermore, discharge at river stage elevations near and above Flood Warning Stage, would, in our opinion, make both the Regional Board and Granite Rock liable for potential damages resulting from flood events.

Of special note, the County of Santa Cruz wrote similar legal notice in a letter to Roger Briggs from our Director, dated May 10, 2005, in reference to RWQCB Order No. R3-2005-0044. In reference to the same order number, the County of Monterey also gave similar legal notice to you with these concerns in a letter to Roger Briggs from Curtis Weeks, General Manager of the Monterey County Water Resources Agency, dated May 12, 2005.

Despite our protests, the RWQCB chose to approve the Arthur R. Wilson Quarry 's discharges at that time. As this matter is again being considered presently, we are repeating our request that you deny this application. Your assistance in cooperating with this request is sincerely appreciated.

Yours truly,

JOHN J. PRESLEIGH
Director of Public Works

By: 

Bruce Laclergue
Flood Control Program Manager

BLC:mh

Copy to: Tony Campos, Chairman, Zone 7 Board of Directors
Susan Mauriello, County Administrative Officer
Dana McRae, County Counsel
Monterey County Water Resources Agency
City of Watsonville Public Works

granitearthurwilsonmh.wpd

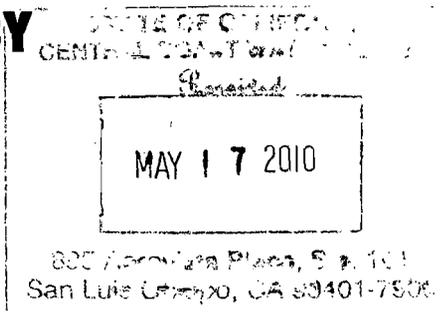
**IV. MONTEREY COUNTY WATER RESOURCES AGENCY – COMMENT LETTER MAY 13,
2010**

MONTEREY COUNTY

WATER RESOURCES AGENCY

PO BOX 930
SALINAS, CA 93902
(831)755-4860
FAX (831) 424-7935

CURTIS V. WEEKS
GENERAL MANAGER



STREET ADDRESS
893 BLANCO CIRCLE
SALINAS, CA 93901-4455

May 13, 2010

Mr. Roger Briggs, Executive Officer
California Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-5411

Re: Tentative Draft of Waste Discharge Requirements Order
No. R3-2010-0025, National Pollution Discharge Elimination
System (NPDES) Permit No. CA0005274 – Granite Rock Company, Inc. –
Arthur R. Wilson Quarry, San Benito County, WDID 3 3552000001

Dear Mr. Briggs,

Our Agency has become aware that Regional Board staff is considering reissuing Granite Rock Company, Inc., Arthur Wilson Quarry's Waste Discharge Requirements (Order No. R3-2005-0044) to make discharges into the Pajaro River at stages above flood warning level. As we understand it, this would allow discharge of facility process water into the Pajaro River at river stage elevations (measured at Chittenden) above flood warning level. Prior to Order R3-2005-0044, conditions prohibited discharges into the river when stage was above flood warning level.

A few facts that you may not be aware of: Granite Rock proposes allowing discharges from their facility up to River Stage 31.3. Flood Stage is 32.0.

- Alert Stage is every major storm in the watershed, regardless of stage
- Monitoring Stage is 25 feet
- Flood Stage is 32 feet
- At 31.3 it is probable that the town of Pajaro and portions of Watsonville would have already been evacuated
- At 31.3 the Corps of Engineers and/or DWR will likely be on site for a flood fight
- At 31.3 the river banks are eroding
- At 31.3 adding any additional flow to the River is counter productive to the flood fight efforts taking place near Pajaro and Watsonville

Mr. Roger Briggs
Page 2
May 13, 2010

The safe design capacity of a levee calls for 3 feet of free board – or 29 feet in this case. Any additional flow above 29 feet would add to the risk to life and property in Pajaro and Watsonville and increase the probability of levee failure or over topping.

At 25 feet – river monitoring stage – crews from Monterey County and Santa Cruz County are already patrolling the levees looking for trouble areas. Any flow above this stage is recognized as a potential risk to life and property.

From a water quality standpoint having a levee over top or fail will result in significant erosion of the farm fields. That eroded material will ultimately end up in the Pajaro River. That seems to be a policy counter to the mission of the SWRCB.

Given the events of 1995 and 1998 it would seem that a Corporate Citizen of the Pajaro Valley and a State Agency would choose a safer operating practice that minimizes the risks to life and property along the lower Pajaro River.

As you may be aware, Monterey County, Santa Cruz County, and the State of California were deemed to have substantial liability for flood damage from 1995 floods. For that reason alone we strongly oppose even a de minimis discharge that could exacerbate dangerous water levels, volumes or velocities.

The levees in the Pajaro River Flood Control project area below Chittenden are over 50 years old. Under these circumstances, we would expect the Regional Board and Granite Rock to assume full liability in potential damages arising from such a decision.

In addition to prohibiting any discharge at or above flood warning levels, our Agency would recommend that any order approved by your Board also incorporate a requirement that down stream public agencies be notified prior to proposed releases scheduled when Chittenden stage levels are within two feet of flood warning stage.

Your assistance in cooperating with this request is greatly appreciated.

Sincerely,

A handwritten signature in black ink, appearing to read "Curtis V. Weeks, Dep. Gen. Mgr.", written in a cursive style.

Curtis V. Weeks
General Manager

V. CENTRAL COAST WATER BOARD PETITION RESPONSE LETTER AUGUST 4, 2005



California Regional Water Quality Control Board

Central Coast Region



Alan C. Lloyd,
Ph.D.
Secretary for
Environmental
Protection

Internet Address: <http://www.waterboards.ca.gov/centralcoast>
895 Aerovista Place, Suite 101, San Luis Obispo, California 93401
Phone (805) 549-3147 • FAX (805) 543-0397

Arnold Schwarzenegger
Governor

TO: Marleigh Wood
Office of the Chief Counsel
SWRCB

SWRCB/OCC FILE A-1702

FROM: Roger W. Briggs
Executive Officer

DATE: August 4, 2005

**SUBJECT: PETITION OF MONTEREY COUNTY WATER RESOURCES AGENCY
AND COUNTY OF SANTA CRUZ (WASTE DISCHARGE
REQUIREMENTS ORDER NO. R3-2005-0044 [NPDES NO. CA0005274]
FOR ARTHUR R. WILSON QUARRY), CENTRAL COAST REGION:
PETITION RESPONSE**

**Enclosed are the following in response to the County of Santa Cruz and Monterey County
Water Resources Agency Petitions for Review:**

1. August 4, 2005, Central Coast Regional Water Quality Control Board Memorandum -
Petition Response
2. Master Index and Administrative Record

Please call Matthew Keeling at (805) 549-3685 or Regional Board Counsel, Lori Okun at (916)
341-5165 if you have any questions regarding this matter.

S:\NPDES\NPDES Facilities\San Benito Co\Arthur Wilson Quarry\Appeal A-1702\A-1702 petition transmittal.DOC

cc; with enclosure 1 only:

Mr. Tom Bolich
County of Santa Cruz
Department of Public Works
701 Ocean Street, Room 410
Santa Cruz, CA 95060

Ms. Lori Okun, Esq.
Office of Chief Counsel
State Water Resources Control Board
1001 I Street, 22nd Floor [95814]
P.O. Box 100
Sacramento, CA 95812-0100

California Environmental Protection Agency



Ms. Dana McRae, Esq.
Office of County Counsel
County of Santa Cruz
701 Ocean Street, Suite 505
Santa Cruz, CA 95060-4068

Mr. Charles McKee, Esq.
County of Monterey
168 W. Alisal, 3rd Floor
Salinas, CA 93902

Mr. Aaron Johnston-Karas
Granite Rock Company
P.O. Box 50001
Watsonville, CA 95077

Mr. Curtis Weeks
Monterey County Water Resources Agency
P.O. Box 930
Salinas, CA 93902

Ms. Katharine Wagner, Esq.
Downey Brand
555 Capitol Mall, 10th Floor
Sacramento, CA 95814



California Regional Water Quality Control Board

Central Coast Region



Alan C. Lloyd,
Ph.D.
Secretary for
Environmental
Protection

Internet Address: <http://www.waterboards.ca.gov/centralcoast>
895 Aerovista Place, Suite 101, San Luis Obispo, California 93401
Phone (805) 549-3147 • FAX (805) 543-0397

Arnold Schwarzenegger
Governor

Via Facsimile (916) 341-5199 and U.S. Mail

TO: Marleigh Wood
Office of the Chief Counsel
SWRCB

FROM:  Roger W. Briggs
Executive Officer

DATE: August 4, 2005

Signature: 

**SUBJECT: PETITION OF MONTEREY COUNTY WATER RESOURCES AGENCY
AND COUNTY OF SANTA CRUZ (WASTE DISCHARGE
REQUIREMENTS ORDER NO. R3-2005-0044 [NPDES NO. CA0005274]
FOR ARTHUR R. WILSON QUARRY), CENTRAL COAST REGION:
PETITION RESPONSE
SWRCB/OCC FILE A-1702**

The Monterey County Water Resources Agency and County of Santa Cruz (Petitioners) filed petitions (received June 14, 2005, and June 13, 2005, respectively) for review of the Central Coast Regional Water Quality Control Board's (Central Coast Water Board) Order (Waste Discharge Requirements Order No. R3-2005-0044) allowing Granite Rock Company, Inc. (Granite or Discharger) to discharge aggregate processing wastewater and storm water to the Pajaro River from the Arthur R. Wilson Quarry facility (Facility).

The Petitioners question the appropriateness of allowing controlled releases to the Pajaro River when river flows are at or above the flood monitor stage of 25 feet and request that discharges from the Facility be restricted to a Pajaro River stage of up to 24 feet corresponding to a river flow of 6,004 million gallons per day (MGD). The Petitioners' supporting argument is the poorly maintained downstream flood control project and the 1995 flood event that caused extensive property damage. As a result of the 1995 flood, the Petitioners incurred significant financial liability for not aggressively managing the flood control project. Central Coast Water Board staff considered downstream flooding issues when preparing the Order and the Order adopted by the Central Coast Water Board contains discharge prohibitions that restrict discharges to prescribed discharge and Pajaro River flows and prohibits surface-water discharges from causing or contributing to flooding within downstream portions of the Pajaro River. The administrative record supports the Central Coast Water Board's findings that the discharge will not contribute to flood stage water levels. The Order is sufficiently protective of water quality and will prevent the discharge from causing or contributing to flooding on downstream reaches of the Pajaro River. These issues are discussed in more detail below.

California Environmental Protection Agency



This memorandum is broken down into three main sections, consisting of a factual summary, response to petition, and summary and conclusions. The factual summary provides background information about the Facility operations and discharge, Department of Water Resources flow gauging and stage definitions, the Central Coast Water Board's action; and the evidence supporting the Central Coast Water Board's action. Each of the Petitioners' comments is addressed in the response to petition section, followed by a summary and conclusions.

This memorandum transmits the Master Index by Reference (Attachment A) for this case. We sent the administrative record to you under separate cover on August 4, 2005

FACTUAL SUMMARY

Facility Background

The Discharger owns and operates a granite quarry and aggregate processing Facility adjacent to the Pajaro River and State Route 129. The Facility covers approximately 1,570 acres and has been in operation since 1900. The Discharger mines, processes, and stockpiles granite rock aggregates at the Facility, which are used as basic construction materials and as feed materials in on-site and off-site asphalt and concrete manufacturing plants. Process water is used in the wet processing plant to wash the aggregates to remove sand and fine silt and clay particles (fines). The process water is collected, treated to remove sand and fines, and is stored in the Quarry Storage Reservoir (Reservoir) for reuse in the wet processing plant. This is a closed-loop process water circuit that maximizes recycling and minimizes the use of makeup water from the Facility water supply well (Orchard Well). The Reservoir covers approximately 10 acres and can hold about 200 million gallons of water depending on freeboard and depth of sediment. One foot of freeboard in the Reservoir can contain approximately 3.5 million gallons (10 acre-ft) of excess storage. The Discharger generally operates the Reservoir with approximately two to two and one half feet of excess freeboard.

The Facility's process water circuit recycles process water between the wet processing plant and the Reservoir. As part of the process water circuit the Discharger also operates a 92-acre settling basin known as the Soda Lake Facility, located across the Pajaro River, for the removal and storage of fines. Prior to recycling, process water effluent from the aggregate washing operations is treated in a fines treatment plant to remove sand and fines. The fines treatment plant consists of a primary clarifier and five meshed-belt filter presses. Sand recovered from the wet processing facility effluent is stockpiled and sold as product and the suspended solids are either pumped as a slurry to the Soda Lake Facility or are mixed with overburden to be used in site reclamation activities. The clarified process water flows back to the Reservoir for reuse, but can also be pumped to the Soda Lake Facility settling basin if additional storage is required. The Reservoir also provides additional settling/treatment and accumulated sediment is periodically dredged from the Reservoir and pumped to the Soda Lake Facility to maintain sufficient capacity in the Reservoir. Although the primary purpose of the Soda Lake Facility is to provide storage of the recovered fines, it also provides process water storage and storm water retention for the water circuit. Clarified process water from the slurry, stored process water, and storm water retained at the Soda Lake Facility are directed back to the Reservoir via a gravity flow pipe as needed for reuse.

The Facility borders an approximately 2.6-mile reach of the Pajaro River (approximately 1.4 miles upstream and 1.2 miles downstream of the discharge point). Prior to 2000 the Facility had five storm water discharge points to the Pajaro River. All but two of the discharge points have been eliminated; one storm water discharge point was retained along with the process water/storm water Discharge Point 001 subject to the Order and discharge in question. The Facility also has a series of three storm water retention ponds tributary to the remaining storm water discharge point. Storm water discharges from the Facility's remaining storm water discharge point are regulated by General NPDES Permit No. CAS000001 (Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities). However, some site storm water enters the process water circuit as a result of storm water runoff from various processing and stockpile areas tributary to the Reservoir, and storm water that falls on the Reservoir and Soda Lake Facility settling basin. Storm water retained in the Facility's storm water retention ponds is also periodically used to supplement process water in the Reservoir on a seasonal and as needed basis to offset the use of makeup water from the Orchard Well.

Discharges from the Reservoir to the Pajaro River occur at Discharge Point 001. Process water/storm water is pumped from the surface of the Reservoir to a concrete reinforced bank that serves to dissipate energy and minimize erosion during discharge events. Discharges to the Pajaro River from the Reservoir are seasonal and intermittent and occur only as a result of heavy and/or prolonged rainfall events that generate storm water volumes in excess of the process water circuit storage capacity. Consequently, discharges from the Reservoir are essentially storm water discharges mixed with recycled process water and makeup groundwater. As a result of the Facility's ability to store and recycle process water and retain storm water tributary to the process water circuit, there are infrequent discharges of process water from the Facility.

From 2000 through 2004, discharges from the Reservoir only occurred during fifteen days between December 1, 2001, and January 3, 2002, and for approximately 25 days during the first quarter of 2000. The 2001/2002 discharge event occurred during a Pajaro River stage range, as measured at Chittenden Station, of approximately 9 to 12 feet, corresponding to river flows of approximately 412 MGD to 931 MGD, respectively (See discussion of gauging information and stage definitions below). The maximum recorded Pajaro River stage during the first quarter of 2000 was approximately 20.2 feet, corresponding to a river flow of approximately 3,748 MGD (USGS National Water Information System). These discharges were required as a result of cumulative rainfalls of 3.6 and 3.4 inches at the Facility over relatively short time periods (eight and thirteen days, respectively). No other discharges from the Reservoir have occurred since 2000 and discharges prior to 2000 are not well documented.

Pajaro River Flow Gauging Information and Stage Definitions

The United States Geological Survey (USGS) and Department of Water Resources (DWR) Division of Flood Management operate and maintain a gauging station (Chittenden Station) on the Pajaro River located at Chittenden Crossing. The Facility discharge location to the Pajaro River, identified as Discharge Point 001, is approximately one and one half miles downstream of Chittenden Station.

The term "stage" refers to the depth of flow at a specified point in the river (gauging station), but is sometimes used to refer to the actual river flow as determined by the gauging station for that depth.

The term 'Project' refers to a flood control project area for which federal authorization (Flood Control Act) provides for the installation, modification or extension of levees for flood protection. The federal 1966 Flood Control Act project provides for modification and extension of the existing levees along the lower 12.5 miles of the Pajaro River and along tributaries to increase flood protection to the Pajaro Valley area. The federal 1944 Flood Control Act project provided for levees in the Watsonville and Gilroy areas.

DWR has identified and uses two stages to define and monitor potential flooding conditions within gauged rivers and streams. The two stages, "monitor stage" and "flood stage" are defined below and have different definitions depending on whether or not the river or stream is leveed.

Monitor Stage

Non-Leveed Stream - The Stage at which initial action must be taken by concerned interests (livestock warning, removal of equipment from lowest overflow areas, or simply general surveillance of the situation). This level may produce overbank flows sufficient to cause minor flooding of low-lying lands and local roads.

Leveed Stream - The Project Stage at which patrol of flood control project levees by the responsible levee maintaining agency becomes mandatory, or the Stage at which flow occurs into bypass areas from project overflow weirs.

Flood Stage

Non-Leveed Stream - The Stage at which overbank flows are of sufficient magnitude to cause considerable inundation of land and roads and/or threat of significant hazard to life and property.

Leveed Stream - The Project Stage at which the flow in a flood control project is at maximum design capacity (U.S. Corps of Engineers "Project Flood Plane"). At this level there is a minimum freeboard of 3 feet to the top of levees.

The DWR also defines a "danger stage" as the following for Project areas:

Danger Stage - The Stage at which the flow in a flood control project is greater than maximum design capacity and where there is extreme danger with threat of significant hazard to life and property in the event of levee failure. This is generally one foot above project flood stage.

The DWR monitor stage and flood stage for the Pajaro River as measured at Chittenden Station are 25 feet and 32 feet, respectively. Corresponding Pajaro River flows at these stages are 6,785.9 MGD (10,500 cfs) and 13,765.6 MGD (21,300 cfs), respectively. Attachment B presents the DWR stages with respect to historic Pajaro River flow data from January 1990 to September 2003. In addition, the flow-stage rating curve for the Pajaro River at Chittenden Station is presented in the record along with the tabular data used to generate the curve. Although DWR does not indicate whether the monitor and flood stages for the Pajaro River pertain to non-leveed or leveed Project values, it is assumed they are for leveed conditions given the 1944 and 1996 Flood Control Act projects for the Pajaro River.

Central Coast Water Board Action

Central Coast Water Board staff sent the draft Order and associated documents to the Discharger, Petitioners, and other interested parties on April 25, 2005. The draft Order contained Discharge Prohibition III.3 (please note that the outline numbering of the public comment draft Order was incorrect and should have read, III.J) requiring that:

“The discharge of facility process water from the Quarry Storage Reservoir to the Pajaro River shall only occur when Pajaro River flows are below 6,004 MGD (corresponding to a California Department of Water Resources flood monitor stage of 25 feet) as measured at the Chittenden gauging station.”

No comments were received from the Petitioners in response to the April 25, 2005 draft Order. Based on additional discussion between staff and the Discharger and additional review of the Discharger's March 17, 2005 comment letter regarding this prohibition, staff proposed changing the prohibition (Discharge Prohibition III.H as presented in the May 13, 2005 agenda package) to the following:

“The discharge of facility process water from the Quarry Storage Reservoir to the Pajaro River shall only occur when Pajaro River flows are below ~~6,004~~ 13,766 MGD (corresponding to a the California Department of Water Resources flood ~~monitor~~ stage of ~~25~~ 32 feet) as measured at the Chittenden gauging station.”

The proposed change was presented in a supplemental sheet prepared on May 5, 2005. Central Coast Water Board staff sent the supplemental sheet to the Petitioners and other interested parties prior to the hearing. The County of Santa Cruz contested the proposed increase in the allowable Pajaro River flow discharge window in a letter dated May 10, 2005, and provided testimony during the May 13, 2005 hearing. After considering the information and testimony presented during the hearing, the Central Coast Water Board adopted the Order with a Pajaro River flow limit of 13,000 MGD. Discharge Prohibition III.H of the final Order reads as follows:

“The discharge of facility process water from the Quarry Storage Reservoir to the Pajaro River shall not occur when Pajaro River flows are greater than 13,000 MGD (corresponding to a Pajaro River stage of approximately 31.3 feet) as measured at the Chittenden gauging station.”

According to Item No. 9 of the Monterey County Water Resources Agency (MCWRA) Petition, its May 12, 2005 letter of protest (Attachment 2 to the MCWRA Petition) was hand delivered to Central Coast Water Board staff on May 12, 2005. The letter was reportedly faxed to the Watsonville City Council Chambers for delivery to staff at the May 12-13, 2005 hearing being held in Watsonville. We have no record of receiving the MCWRA May 12, 2005 letter contesting the proposed changes to Discharge Prohibition III.H and requesting the item be rescheduled to another date. In addition, no one from the MCWRA appeared at the May 13, 2005 hearing to provide testimony in opposition to the discharge prohibition.

Evidence Supporting Central Coast Water Board Action

The Central Coast Water Board acknowledges that flooding within the Pajaro Valley is a real concern and recent flooding events, particularly the 1995 floods, have resulted in significant property damage. The Central Coast Water Board is required to consider the need to prevent nuisance when issuing waste discharge requirements. (CWC §13263(a).) As such, the Central Coast Water Board considered flooding issues when preparing the Order and it is the Central Coast Water Board's intent, as specified in the Order, to limit discharges so they do not contribute to downstream flooding. The Order contains the following discharge prohibitions for the discharge of process water/storm water from the Reservoir that are intended to prevent downstream impacts on flooding:

- F. The discharge shall not cause or contribute to downstream flooding within the Pajaro River.
- G. The flow rate of the discharge of facility process water from the Quarry Storage Reservoir to the Pajaro River shall not exceed 9.0 MGD.
- H. The discharge of facility process water from the Quarry Storage Reservoir to the Pajaro River shall not occur when Pajaro River flows are greater than 13,000 MGD (corresponding to a Pajaro River stage of approximately 31.3 feet) as measured at the Chittenden gauging station.

Although a nine MGD discharge to the Pajaro River during flood conditions would result in nearly negligible increases in river flow, as discussed in more detail below, any discharge flow to the Pajaro River from the Facility during downstream flood conditions may be considered a contributing factor to flooding regardless of the relative flow contribution. Consequently, Discharge Prohibitions III.F, III.G and III.H were added to the Order to ensure that discharges do not occur at Pajaro River flows above the DWR flood stage of 13,766 MGD (32 feet) and to prohibit the discharge from causing or contributing to downstream flooding. Discharges from the Facility are restricted to Pajaro River flows of up to 13,000 MGD, and discharges occurring when Pajaro River flows exceed this limit will subject the Discharger to enforcement.

The Discharger argued in response to the draft Order that water from the supply well does not meet the Order's effluent limits for TDS, chloride, sodium, boron, and mercury, and that the lower Pajaro River flow limit of 6,004 MGD would require more frequent discharges and the increased use of water from the water supply well. Regardless of how much groundwater is used in the process water circuit, the discharge must still meet the effluent limitations and receiving water limitations within the Order, which are protective of the Pajaro River. The need for more frequent use of groundwater is considerably lessened with a Pajaro River flow limit of 13,000 MGD. Also, a need to develop and use recycled water exists within the region. The Discharger operates a recycled water system that allows it to reuse process water and storm water and use less groundwater. If Prohibitions III.F through III.H result in the Discharger having to discharge more frequently, the Discharger will recycle less water and use more groundwater to make up the imbalance. The Discharger could avoid this by increasing storage capacity to contain all storm water generated on the site. However, the Discharger testified that it would hypothetically cost \$1.6 million to acquire additional land for storage, but that no such land is available. Even if more frequent discharges (and less recycling) were necessary, there would still be a need to

prevent the discharge from causing or contributing to downstream flooding. The Discharger also testified that more frequent discharges would result in incrementally higher monitoring costs associated with more frequent effluent and receiving water sampling as required by the Order.

CENTRAL COAST WATER BOARD RESPONSE TO PETITION

Petition Summary and Response Format

The two Petitions are virtually identical except for a few minor differences in wording and format that do not vary the Petitioners' arguments and statements regarding the discharge prohibition in question. As such, the Central Coast Water Board is responding to the two Petitions collectively. The Petitioners' key arguments and statements are excerpted below in bold text and quotation marks, not necessarily in the order they appear in the Petitions, and will be addressed individually in the following discussion. The Petitioners' statements are also identified by the Item No. pertaining to the section in which they appear within the Petitions.

Petition Arguments and Central Coast Water Board Response

The primary argument in Item No. 4 of both Petitions is that the Central Coast Water Board's May 13, 2005 Order is **"inappropriate and improper because the Counties with responsibility for flood prevention believe it to be bad policy and precedent to allow controlled releases, regardless of the discharge quantity, to enter into the Pajaro River Flood Control Project when the river is at flood warning stage or higher as monitored at the Chittenden gage."** Consequently the Petitioner's specific action requested in Item No. 6 is that **"the State Water Board restore Discharge Prohibition III.H to the flow discharge window to a stage of equivalent to 6,004 MGD as measured at the Chittenden gage and as cited in the April 25, 2005 staff report."**

As noted above, the Order prohibits discharges when the Pajaro River flow is greater than 13,000 MGD. This is just below the flood stage of 13,766 MGD. It is assumed the Petitioners use the term "flood warning stage" to represent the "monitor stage" as utilized by DWR. The DWR began using the term "monitor stage" in place of "warning stage" on or around October 1, 2000.

The originally proposed Pajaro River flow limit of 6,004 MGD, corresponding to a river stage of 24 feet (one foot below the monitor stage), was derived from Order No. R3-2004-0099 for the upstream discharge of tertiary treated domestic wastewater from the South County Regional Wastewater Authority (SCRWA) wastewater treatment plant and was based on an evaluation conducted by Montgomery Watson Harza (Effluent Management Plan – South County Regional Wastewater Authority, May 2004 Final Report) in response to downstream stakeholder concerns. The SCRWA discharge point to the Pajaro River is approximately nine miles upstream from the Facility and Chittenden Station. Santa Cruz County recently petitioned Order No. R3-2004-0099 in part with regard to flooding concerns (SWRCB/OCC File A-1670). Specifically, Santa Cruz County requested that the upper Pajaro River flow discharge limit for the SCRWA discharge of nine MGD be reduced from a Pajaro River flow of 6,004 MGD (stage of 24 feet) to 2,779 MGD (stage of 18 feet) as measure at Chittenden. As in the prior petition, Santa Cruz County is now requesting the Pajaro River flow limit for the discharge in question be reduced to 6,004 MGD

without any supporting technical documentation. Santa Cruz County's petition of the SCRWA Order was dismissed on June 6, 2005.

Staff's initial intent in applying the 6,004 MGD Pajaro River discharge limit was to remain consistent with the Pajaro River flow limits of Order R3-2004-0099 (Discharge Specifications for Tertiary Effluent Disposal E.3) for all Pajaro River discharges. However, the Facility is notably different from the SCRWA facility with regard to the nature of the discharge, available storage capacity, discharger's ability to time discharges, and location of the discharge. In addition, the lower flow limit would have had adverse water quality impacts (see below), which was not the case at the SCRWA facility. Consequently, upon further consideration, Central Coast Water Board staff concluded that an adjustment of the Pajaro River flow limit was warranted to account for these differences. The Board agreed.

Petitioners' requested reduction in the Pajaro River flow discharge prohibition to 6,004 MGD would make it more difficult for the Discharger to manage the process water circuit and reduce the amount of process water and storm water reuse and may necessitate regular discharges throughout the wet season in anticipation of unforeseen and significant rainfall events. Historically the Facility has been able to restrict discharges to storm events significant enough to produce storm water volumes that exceed the excess capacity of the process water circuit, but that have not coincided with receiving water flows above the initially proposed 6,004 MGD limit as noted above in the facility background discussion. Altering the management of the Facility's process water circuit through more frequent discharges would reduce the amount of process water and storm water retained for reuse and could require the Discharger to utilize more groundwater from its water supply well and subject the Discharger to an increased risk of effluent and surface water limit violations. Groundwater from the Orchard Well used as make up process water supply is generally of poorer water quality than water retained in the Reservoir due to storm water inputs to the process water circuit. Process water, Pajaro River, and Orchard Well sampling data presented in the Discharger's report of water discharge and self monitoring reports indicate that groundwater from the Orchard Well is typically of poorer quality than the process water and receiving water with respect to mercury, total dissolved solids, chloride, sulfate, boron, and sodium and that groundwater quality exceeds the effluent and surface water limitations contained within the Order for these constituents.

The increase in the allowable Pajaro River flow discharge window to just below the DWR flood stage was intended to eliminate the need for more frequent discharges by the Discharger in anticipation of unforeseen significant storm events and emergency discharges at or above flood stage. An increased potential for emergency discharges during Pajaro River flows above flood stage could result from the formerly proposed Pajaro River flow limit of 6,004 MGD unless the Discharger scheduled discharges every wet season to increase the available amount of excess storage in anticipation of unforeseen significant storm events. However, it is still not certain whether regular discharges would completely eliminate the need for emergency discharges during flooding conditions. Consequently, the formerly proposed Pajaro River flow limit of 6,004 MGD could conceivably result in more frequent discharges to the Pajaro River and an increased risk of emergency discharges above flood stage that could theoretically cause or contribute to downstream flooding. More simply stated, the previously proposed prohibition language may have precluded discharges during Pajaro River flows below flood stage to avoid emergency discharges above flood

stage. The Central Coast Water Board maintains that Discharge prohibitions III.F through III.H adequately address potential nuisance conditions as a result of flooding while increasing the allowable discharge window based on Pajaro River flows.

The Petitioners provide no factual or technical information in support of their arguments that it is "inappropriate and improper" and "bad policy and precedent" to allow controlled releases to the Pajaro River at or above the monitor stage and for the request to reduce the Pajaro River flow discharge window to 6,004 MGD. In addition, the Petitioners provide no information that controlled releases to the Pajaro River above the monitor stage have caused or contributed to or will cause or contribute to downstream flooding. In fact, the Petitioners' statements excerpted below indicate that downstream flooding is a result of the poorly managed, aged and broken levee system that currently provides an inadequate level of protection to handle flood stage flows.

According to the Petitioners' statements in Item No. 5 of the Petitions, **"The levees are aged, have broken and been repaired previously and plans are underway for the reconstruction to a higher level of protection. The Counties of Santa Cruz and Monterey are responsible for public health and safety relative to flood prevention activity and have been successfully sued for not pursuing a course of action that included greater efforts and a more aggressive approach to overcoming funding and regulatory obstructions."**

Item No. 7 of the Petitions further states, **"Over the years, Pajaro River flooding has caused extensive damage to property, most recently in 1995. The [Petitioners] make year round efforts to reduce the chance that damaging floods occur. As a result of the 1995 flood, [the Petitioners] incurred more that twenty million dollars (\$20,000,000) in liability. [The Petitioners] must take all steps necessary to assure that such flood event does not occur in the future."**

These statements are the Petitioners' rationale for petitioning the Order, but provide no factual or technical information implicating controlled releases in causing or contributing to downstream flooding. In fact, these statements imply that the risk of downstream flooding has resulted from the *Petitioners'* historical failure to manage and maintain levees within the flood control project for which they are responsible, and not from the Discharger's proposed activities. There is a complete lack of factual and technical evidence in the Petitions, or elsewhere in the administrative record, supporting the arguments in favor of a request for a lower Pajaro River flow limit. Petitioners appear to be motivated not by policy or science, but the need to establish a record of opposing controlled discharges to the flood control project as part of a more aggressive course of action with regard to any controllable contributions to Pajaro River flows.

Flooding of the Pajaro River downstream of Chittenden Station has occurred historically as a result of the significant areal extent of the tributary watershed upstream of Chittenden Station, severe storm events within upstream portions of the watershed, and the poor condition of the existing flood control projects, and not as a result of the nearly negligible contributions of flow from controlled releases to the Pajaro River. Consequently, any such future flooding will occur regardless of, and not as a result of, controlled releases as long as the downstream flood control project remains in poor condition and is inadequate to handle flood stage flows as noted in the

Petitioners' arguments. However, even in the unfortunate event that flooding does occur, any contribution from the Discharger's activities would be negligible.

The Petitioners state in Item No. 4 that: **“Options were discussed at the Regional Board hearing wherein real-time weather data could be obtained or weather forecasting consultant services could be obtained to help the discharger in decisions relative to managing on-site storm water runoff and/or managing the frequency of discharging facility process water from the Quarry Storage Reservoir. The option to dredge sediments in the Quarry Storage Reservoir and thereby restore reservoir capacity was also discussed and discounted but is thought to have been under-explored in County staff's opinion.”** It is further indicated in Item No. 5 of the Petitions that, **“It is also County staff's opinion that the options discussed in response to item 4 above [excerpted above] are a reasonable course of conduct which could be approached by the discharger if the allowable discharge window was restored to the condition as stated in the Regional Board's April 25, 2005 staff report.”**

Regardless of whether the Pajaro River flow discharge window upper limit is reduced from 13,000 MGD to the formerly proposed limit of 6,004 MGD, it will still be in the Discharger's best interest to make use of real time weather data and forecasting and to implement management strategies to maximize available Reservoir storage capacity in an effort to comply with the discharge prohibitions of the Order. Although the Order does not specifically require the Discharger to implement weather forecasting and real time links to Chittenden Station gauging data, the use of these types of tools are inherent in the Discharger's ability to remain in compliance with the Order and have not been discounted as suitable management strategies regardless of the Pajaro River flow limit. The Central Coast Water Board's position on this issue is typified by the following statement excerpted from the staff response to the Discharger's comment no. 8 found in the Fact Sheet attached to the Order:

“The inherent difficulties in predicting significant storm events and relying on frequently unavailable Chittenden gauging station data to manage the recycled water system and remain in compliance with a Pajaro River flow discharge prohibition will likely require creative management strategies by the Discharger.”

The Discharger manages the process water circuit with approximately two feet to two and one half feet of freeboard in the Reservoir. This provides an excess storage capacity within the Reservoir to contain approximately seven million gallons of storm water. The Discharger testified at the hearing that the total amount of storage is also affected by the amount of accumulated sediment in the Reservoir and that the sediment is regularly dredged from the Reservoir to maintain capacity. However, the Discharger also testified that more frequent dredging of the Reservoir could potentially violate the 24-hour emission limits in the facility's Title V Federal Air Permit, which limits the amount of time the dredge-pump diesel motor can operate in combination with other Facility equipment. As to whether additional storage capacity could be added to the Facility to limit discharges, the Discharger testified that it would be cost prohibitive to acquire additional land for storage, and that no such land is currently available anyway.

Item No. 7 of the Petitions state, **“Because of the potential for significant delays in the time of transport of floodwaters in the Pajaro River, the [Petitioners] request that additional margins of safety be included in the Order. The staff report states that the Dischargers intend to cease discharging when the Pajaro River flow reaches a level of 32 feet of 13,000 MGD. A detailed analysis of flow frequencies in relation to the flow triggers was not completed by the Discharges or the Regional Board staff.”**

In addition to this statement, Santa Cruz County testified that the travel time from Chittenden Station to Watsonville is approximately one to one and one half hours based on average river flows and that an approximately 100 square mile drainage area contributes to the flow of the Pajaro River downstream of Chittenden Station. Historical Pajaro River flood flows have primarily originated in the upper reaches of the approximately 70 mile long San Benito River, which can contribute over half of the flow measured at Chittenden Station. Santa Cruz County testified that travel times from the upper reaches of the San Benito River to Chittenden are approximately 30 hours. Santa Cruz County further testified that the Uvas, Llagas and Pacheco Creek drainage areas tributary to the upper reaches of the Pajaro River also contribute significant flows as measured at Chittenden station and that travel times from these areas can range from approximately nine to fourteen hours. Based on Central Coast Water Board staff review of the watershed with regard to the nine MGD discharge, flow contributions to the Pajaro River downstream of Chittenden Station are relatively insignificant when compared to the flow contributions from upstream portions of the watershed. Central Coast Water Board staff testified at the hearing that the drainage area upstream of Chittenden Station is approximately 1,186 square miles, whereas the drainage area downstream of Chittenden to Salsipuedes Creek in Watsonville is about 86 square miles and comprises approximately 6.8% of the total drainage area upstream from that point (see Attachment C). Based on the relative watershed areas and travel times, discharges from the facility occurring below the flood stage as measured at Chittenden will not be likely to contribute to flooding since additional flows to the Pajaro River downstream of Chittenden will be relatively insignificant as compared to upstream contributions that have yet to pass Chittenden Station. In addition, any discharges to the Pajaro River prior to flood stage conditions will likely travel past Watsonville and on to the Pacific Ocean well before flood stage flows from upper portions of the watershed have a chance to reach portions of the Pajaro River downstream of Chittenden Station. As previously noted, discharge point 001 is only 1.5 miles downstream of Chittenden Station. The close proximity of the Facility discharge point to Chittenden Station eliminates the uncertainty of peak river flow lag times and will allow the Discharger to more accurately gauge river flows as they pass by the facility and time discharges so as to not cause or contribute to river flows above flood stage.

Although a detailed analysis of flow frequencies in relation to the flow triggers was not conducted, both the Discharger and the Central Coast Water Board staff did evaluate historic river flow data to estimate Pajaro River flow and water level (stage) increases resulting from the discharge, and historical storm event and discharge data for the Facility to predict future discharge scenarios.

Comparison of the discharge and receiving water flows indicates the relative flow contribution of nine MGD from the discharge is relatively insignificant and will be virtually impossible to detect within downstream portions of the Pajaro River. Even if the maximum allowable discharge flow

of nine MGD were to occur at flood stage, its contribution would be negligible. At the flood stage elevation of 32 feet as measured at Chittenden Station, corresponding to a Pajaro River flow of approximately 13,766 MGD, a discharge flow of nine MGD would constitute a flow contribution of approximately 0.07%. For a nine MGD discharge, Pajaro River flows of 6,004 MGD and 13,000 MGD correspond to Pajaro River flow to effluent flow ratios of approximately 667:1 (0.15 %) and 1,444:1 (0.07%), respectively. The corresponding increase in water level would be virtually undetectable anywhere downstream of the discharge. Interpolation of the Pajaro River Chittenden Station flow-stage rating curve indicates that a river flow increase of nine MGD due to the maximum proposed effluent discharge would result in an increase in water level of approximately 0.15 inches at Pajaro River flows of 6,004 MGD and 0.083 inches at Pajaro River flows of 13,766 MGD.

Cumulative impacts from controlled releases were discussed at the hearing. The only permitted non-storm water controlled release upstream of the Facility discharge point and Chittenden Station is from the SCRWA facility as mentioned above. In addition, there are no other permitted non-storm water controlled releases downstream of the Facility discharge. As such, the nine MGD flow contribution from SCRWA will be accounted for in the measurement of Pajaro River flow upstream of the Facility and any additional downstream contribution from storm water runoff is unlikely to cause downstream flows in excess of flood stage given the limited areal extent of the watershed tributary to downstream portions of the Pajaro River as noted above.

Given the extent of the watershed area tributary to portions of the Pajaro River upstream of the Facility discharge point and variability in storm intensity and location, it is virtually impossible to correlate Pajaro River flows at Chittenden Station with potential discharge conditions at the Facility. Discharge conditions at the Facility are generally independent of storm conditions in other portions of the watershed and Pajaro River flows measured at Chittenden Station. The frequency and duration of the discharge is dependent on the amount of available excess storage capacity within the Reservoir and Soda Lake Facility and the spacing, frequency and intensity of storm events at the Facility and are therefore very difficult to predict with any accuracy. Based on historical discharge events, future discharge events can be conservatively projected to occur once per year lasting 3 – 4 days with a maximum daily (eight hour work day) discharge of 7 – 8 million gallons (see section II.C of EPA Form 2C/NPDES). Although the rate of discharge is expected to be the same for any given discharge event due to discharge pump flow limitations, the amount of available storage in the process water circuit and runoff conditions during any given storm event(s) will dictate the timing and duration of discharges. Storms of different duration, intensity and/or recurrence interval can produce very different runoff conditions at the Facility. As discussed in the Facility Background discussion above, the two discharges from the Facility in the last five years have resulted from cumulative rainfall events at the Facility approaching four inches. However, these rainfall events did not result in discharges during Pajaro River stage levels in excess of 20.2 feet (3,748 MGD) or during documented flooding events in downstream portions of the Pajaro River. Undocumented discharge data available prior to 2000 are sporadic and inconclusive as to whether discharges occurred during the 1995 and 1998 documented flooding events.

In addition, a conservative storm water runoff analysis provided by the Discharger (see May 11, 2005 email regarding "Storm water runoff analysis"; this was also included in the Discharger's testimony at the hearing) indicates a nine MGD controlled discharge of process water/storm water from the Reservoir would be less than the estimated amount of storm water runoff from portions of the watershed tributary to the existing discharge point for undeveloped (natural) site conditions. As such the Discharger has mitigated the flow of storm water runoff from the Facility through operation of the process water circuit.

Based on the above discussion, a detailed analysis of flow frequencies in relation to the flow triggers as suggested by the Petitioners was not warranted because:

1. The relatively insignificant threat of the discharge causing or contributing to downstream flooding
2. The Order's prohibition of discharges above Pajaro River flows approaching the flood stage
3. The relatively insignificant flow and stage contribution from the discharge
4. The proximity of the discharge point to Chittenden Station
5. The limited areal extent of the watershed tributary to the Pajaro River downstream of Chittenden Station
6. The fact that the controlled discharge will likely be less than the amount of storm water runoff from the Facility area under natural conditions.

Notwithstanding a detailed analysis of the flow frequencies and triggers, the evidence did not show that the relative reduction of incremental risk from a discharge that would constitute less than 0.15% of the total flow in the Pajaro River at flows above 6,004 MGD would be significant enough to warrant limiting the upper Pajaro River flow trigger to 6,004 MGD. Therefore, the discharge specifications contained within the Order are sufficiently protective and a reduction in the upper flow limit is not warranted.

Item No. 7 of the Petitions state, "**As an operator of the downstream flood control improvements, [the Petitioners] need notification of when additional CONTROLLED DISCHARGES will take place. As caretaker and representative of down stream interests, [the Petitioners] also needs to receive and evaluate all relevant water quantity data from upstream tributaries and other discharges to the Pajaro River to ensure that downstream interests are adequately protected.**" Item No. 9 of the Santa Cruz County Petition further states, "**The issue regarding providing notice of discharges to the County of Santa Cruz was raised before the Regional Board. The County's request would assist the County of Santa Cruz prior to and during future potential flood events of the Pajaro River.**"

The Petitioners did not raise these issues before the Central Coast Water Board (see CD audio of Central Coast Water Board Meeting, May 13 2005 – Watsonville, Item #22 – Arthur Wilson Quarry) and provides no reason for not doing so. This contention is untimely (23 Cal.Code of Regs. §2050(a)(9).) However, the Central Coast Water Board does not object to the request for notification.

SUMMARY/CONCLUSIONS

The Central Coast Water Board must protect water quality and associated beneficial uses. The evidence in the record supports the Central Coast Water Board's findings that the discharge prohibitions within the Order are sufficiently protective of water quality and associated beneficial uses of receiving waters. In addition, the discharge prohibitions are sufficiently protective to prevent potential nuisance conditions. To wit, they prevent the discharge from causing or contributing to flooding within downstream portions of the Pajaro River. The Discharger has consistently operated the Facility process water circuit in a manner that limits discharges of process water and storm water to the Pajaro River and maximizes the reuse of process water and storm water. Additional restrictions and requirements beyond those that already exist in the Order would require the Discharger to discharge more frequently and supplement the process water supply with poorer quality groundwater that does not meet the effluent and receiving water limitation of the Order. In addition, a lower Pajaro River flow limit would not necessarily prevent discharges from contributing to downstream flows above flood stage even if more frequent discharges are required to comply with the Order. The Petitioner provides no sound technical basis for its arguments and approval of the Petitioner's requests would be unreasonably burdensome on Discharger with very little, if any, benefit to water quality or flood prevention. Consequently, the Order in question is consistent with the maximum benefit of the people of the state, will not contribute to downstream flooding or unreasonably affect present and anticipated beneficial uses of such water, and will not result in water quality less than that prescribed in water quality policies, including plans.

The administrative record supports the Central Coast Water Board's findings that the discharge will not contribute to flood stage water levels and that the Order specifically prohibits the discharge from causing or contributing to downstream flooding. The Order includes discharge prohibitions that restrict discharges to prescribed discharge and Pajaro River flows and prohibits surface-water discharges from causing or contributing to flooding within downstream portions of the Pajaro River.

The Central Coast Water Board requests the SWRCB to uphold the Order.

Attachments:

- A. Master Index by Reference
- B. Figure – Pajaro River Flow Data and Flow Triggers (USGS Chittenden Gauging Station – January 1990 to September 2003) (Power Point figure used during May 13, 2005 meeting)
- C. Pajaro River Watershed Map (Power Point figure used during May 13, 2005 meeting)

S:\NPDES\NPDES Facilities\San Benito Co\Arthur Wilson Quarry\Appeal A-1702\A-1702 petition resp memo final.DOC

MASTER INDEX
ADMINISTRATIVE RECORD
SWRCB/OCC FILE A-1702

PETITION OF MONTEREY COUNTY WATER RESOURCES AGENCY AND COUNTY OF SANTA CRUZ
(WASTE DISCHARGE REQUIREMENTS ORDER NO. R3-2005-0044 [NPDES NO. CA0005274] FOR ARTHUR
R. WILSON QUARRY), CENTRAL COAST REGION: PETITION RESPONSE

Date	Type: Engineering Reports/Correspondence Subject	To	Author
Volume 1			
(General Correspondence and Engineering Reports)			
5/31/2005	Instructions to Applicant for Waste Discharge Requirements (public notice confirmation with copy of published notice)	Matt (Keeling), RWQCB	Rebecca (Hager), Granite Rock
5/25/2005	Letter re: Transmittal of Waste Discharge Requirements Order No. R3-2005-0044, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0005274 - Granite Rock Company, Inc. - Arthur R. Wilson Quarry, San Benito County, WDID 3 352000001	Aaron Johnston-Karas (Granite Rock)	RWQCB Staff
Attachment to above letter	Waste Discharge Requirements Order No. R3-2005-0044, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0005274 - Granite Rock Company, Inc. - Arthur R. Wilson Quarry, San Benito County, WDID 3 352000001 (adopted May 13, 2005)	Adopted Order Granite Rock	RWQCB Staff
5/23/2005	Supplemental Sheet for Regular Meeting of May 12-13, 2005 (Prepared May 23, 2005 as revised at the hearing); Item Number 22; Subject: Reissuance of Waste Discharge Requirements, National Pollutant Discharge Elimination System Permit No. CA0005274 for Granite Rock Company, Inc., Arthur Wilson Quarry, San Benito County, Order No. R3-2005-0044	Prepared to clarify the record following the hearing	RWQCB Staff
5/13/2005	Audio CD: Audio recording of Central Coast Water Board Meeting, May 13, 2005 - Watsonville, Item 22 - Arthur Wilson Quarry		
5/13/2005	Power Point slides used by RWQCB staff at the May 13, 2005 meeting		Matt Keeling, RWQCB
5/12/2005	Email Re: Storm water runoff analysis	Matt Keeling, RWQCB	Aaron Johnston-Karas, Granite Rock
5/11/2005	Email Re: Storm water runoff analysis with attached 5/11/2005 discussion and Runoff Coefficient Calculations table	Matt Keeling, RWQCB	Tina Lau, Granite Rock
5/11/2005	Supplemental Sheet for Regular Meeting of May 12-13, 2005 (Prepared May 11, 2005); Item Number 22; Subject: Reissuance of Waste Discharge Requirements, National Pollutant Discharge Elimination System Permit No. CA0005274 for Granite Rock Company, Inc., Arthur Wilson Quarry, San Benito County, Order No. R3-2005-0044	Interested Parties List for Granite Rock Arthur Wilson Quarry	RWQCB Staff
5/10/2005	Letter re: Supplemental Amendment to Item 22, Discharge Prohibition III.H, Arthur Wilson Quarry	Roger Briggs, RWQCB	Bruce Laclergue, County of Santa Cruz

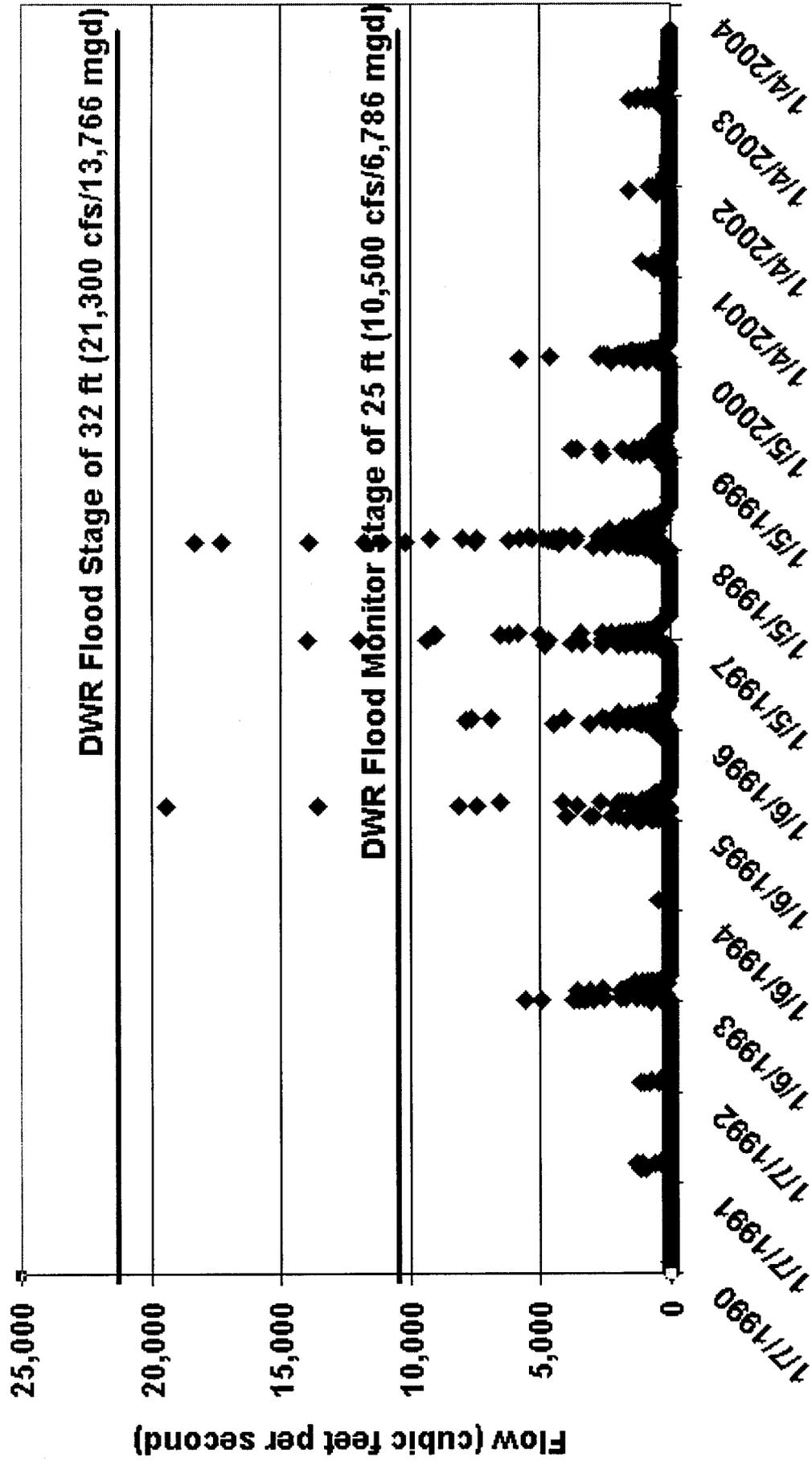
Date	Type: Engineering Reports/Correspondence Subject	To	Author
Volume 1 (Continued)			
5/5/2005	Supplemental Sheet for Regular Meeting of May 12-13, 2005 (Prepared May 5, 2005); Item Number 22; Subject: Reissuance of Waste Discharge Requirements, National Pollutant Discharge Elimination System Permit No. CA0005274 for Granite Rock Company, Inc., Arthur Wilson Quarry, San Benito County, Order No. R3-2005-0044	Interested Parties List for Granite Rock Arthur Wilson Quarry	RWQCB Staff
4/28/2005 (mailed)	Notice of Public Meeting, Central Coast Regional Water Quality Control Board Meeting, Thursday and Friday, May 12-13, 2005	Interested Parties List for Granite Rock Arthur Wilson Quarry	RWQCB Staff
4/15/2005	Staff Report for Regular Meeting of May 12-13, 2005 (Prepared May 15, 2005); Item Number 22; Subject: Reissuance of Waste Discharge Requirements, National Pollutant Discharge Elimination System Permit No. CA0005274 for Granite Rock Company, Inc., Arthur Wilson Quarry, San Benito County, Order No. R3-2005-0044	Interested Parties List for Granite Rock Arthur Wilson Quarry	RWQCB Staff
4/15/2005	Waste Discharge Requirements Order No. R3-2005-0044, NPDES No. CA0005274 (revised February 4, 2005 public comment draft), Proposed for Consideration at the May 12-13, 2005 public meeting	Final (second) Draft of Order for 5/12-13/05 Meeting	RWQCB Staff
3/17/2005	Letter re: Comments on Draft Order No. R3-2005-0044, NPDES No. CA0005274	Matt Keeling, RWQCB	Tina Lau, Granite Rock
3/17/2005	Email re: 011005 results data.xls with attached Excel spreadsheet of Quarry Reservoir and Pajaro River sampling data (hard copies of analytical data reports with QA/QC to follow)	Matt Keeling, RWQCB	Rebecca Hager, Granite Rock
3/17/2005	Hard copies of analytical data reports with QA/QC for October 2004 sampling event (follow up to previous email)	Matt Keeling, RWQCB	Various Laboratories
2/16/2005	Letter re: Graniterock A.R. Wilson Quarry Draft Permit Comment Permit No. CA0005274	Matt Keeling, RWQCB	Aaron Johnston-Karas, Granite Rock
2/4/2005	Transmittal letter of: Tentative Draft of Waste Discharge Requirements Order No. R3-2005-0044, National Pollutant Discharge Elimination System Permit No. CA0005274 for Granite Rock Company, Inc., Arthur Wilson Quarry, San Benito County, WDID 3 352000001	Aaron Johnston-Karas (Granite Rock)	RWQCB Staff
2/4/2005	Waste Discharge Requirements Order No. R3-2005-0044, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0005274 - Granite Rock Company, Inc. - Arthur R. Wilson Quarry, San Benito County, WDID 3 352000001 (February 4, 2005 Public Comment Draft)	Attached to above transmittal; sent to Interested	RWQCB Staff
2/2/2005	Email re: Graniterock (responses to request for clarification)	Matt Keeling, RWQCB	Scott Keen, Tetra Tech
2/2/2005	Email re: Graniterock (responses to request for clarification)	Matt Keeling, RWQCB	Scott Keen, Tetra Tech

Date	Type: Engineering Reports/Correspondence Subject	To	Author
Volume 1 (Continued)			
1/10/2005	Letter re: 12/29/04 RWQCB notice of violation letter	Roger Briggs, RWQCB	Aaron Johnston-Karas, Granite Rock
12/29/2004	Notice of Violation - September 13, 2004 Inspection; Granite Rock Company Arthur Wilson Quarry, San Benito County (NPDES No. CA0005274, WDR Order No. 00-007)	Aaron Johnston-Karas (Granite Rock)	RWQCB Staff
12/22/2004	Letter re: Renewal of NPDES Permit No. CA0005274 and Report of Waste Discharge for Granite Rock Company's A.R. Wilson Quarry and Soda Lake facilities in San Benito County	Matt Keeling, RWQCB	Rebecca Hager, Granite Rock
Volume 2			
(General Correspondence and Engineering Reports)			
11/24/2004	Renewal of NPDES Permit No. CA0005274 and Report of Waste Discharge for Granite Rock Company's A.R. Wilson Quarry and Soda Lake facilities in San Benito County	Roger Briggs, RWQCB	Granite Rock
11/8/2004	Draft NPDES Compliance Evaluation Inspection (CEI) reports	Harvey Packard, RWQCB	Wesley Ganter, Tetra Tech
7/27/2004	Letter re: Granite Rock Company, Arthur Wilson Quarry - Soda Lake Facility Expansion, San Benito County; Response to Waiver Request	Aaron Johnston-Karas (Granite Rock)	RWQCB Staff
7/20/2004	Letter re: Granite Rock Company, Arthur Wilson Quarry, San Benito County; Data Requirements for Permit Reissuance	Rebecca Hager, Granite Rock	Matt Keeling, RWQCB
7/15/2004	Letter re: Request for Waiver of Waste Discharge Requirements under Section A, General Waiver Conditions, of Resolution R3-2002-0115 for the groundwater collection and bypass around the Soda Lake expansion project	Matt Keeling, RWQCB	Aaron Johnston-Karas, Granite Rock
6/21/2004	Letter re: Graniterock A.R. Wilson Quarry WDR 00-007	Matt Keeling, RWQCB	Rebecca Hager, Granite Rock
4/20/2004	Letter re: Graniterock A.R. Wilson Quarry WDR 00-007	Matt Keeling, RWQCB	Aaron Johnston-Karas, Granite Rock
2/9/2004	Letter re: Granite Rock Company, Arthur Wilson Quarry, San Benito County; Response to Report of Waste Discharge	Benjamin Licari, Granite Rock	RWQCB Staff
9/22/2003	Letter/Transmittal re: Application for Revision of Waste Discharge Requirements Order No. 00-007	Matt Keeling, RWQCB	Benjamin Licari, Granite Rock
9/1/2003	Granite Rock Company Soda Lake Facility, Report of Waste Discharge Requirements	Matt Keeling, RWQCB	Resource Design Technology, Inc.
4/17/2003	Letter re: Action Plan for Soda Lake Pipe	Matt Keeling, RWQCB	Aaron Johnston-Karas, Granite Rock
3/17/2003	Letter re: Notice of Violation - Process Water Spill; Granite Rock Company, Arthur Wilson Quarry, San Benito County	Aaron Johnston-Karas, Granite Rock	RWQCB Staff

Date	Type: Engineering Reports/Correspondence Subject	To	Author
Volume 2 (Continued)			
2/6/2003	Letter re: Graniterock Company, A.R. Wilson Quarry, San Benito County, Waste Discharge Requirements/NPDES Permit No. 000-07	Matt Fabry, RWQCB	Aaron Johnston-Karas, Granite Rock
1/13/2003	Facsimile re: A.R. Wilson Facility spill report (spill report attached)	Matt Fabry, RWQCB	Aaron Johnston-Karas, Granite Rock
11/21/2002	Email re: Sampling for 2003, WDR/MRP 00-007	Matt Fabry, RWQCB	Aaron Johnston-Karas, Granite Rock
5/3/2002	Letter re: Graniterock Company, A.R. Wilson Quarry, San Benito County, Waste Discharge Requirements/NPDES Permit No. 000-07 and Industrial Storm Water Permit	Matt Fabry, RWQCB	Aaron Johnston-Karas, Granite Rock
7/25/2001	Letter re: Alteration to Method of Discharge, Arthur Wilson Quarry, San Benito County; Waste Discharge Requirements Order No. 00-007	Aaron Johnston-Karas, Granite Rock	RWQCB Staff
7/10/2001	Letter re: Graniterock Company, A.R. Wilson Quarry, San Benito County, Waste Discharge Requirements/NPDES Permit No. 000-07	Roger Briggs, RWQCB	Aaron Johnston-Karas, Granite Rock
2/26/2001	Letter re: Granite Rock Company A.R. Wilson Quarry, Water Discharge Investigation, Discharge Order 00-007	Matt Fabry, RWQCB	Aaron Johnston-Karas, Granite Rock
2/5/2001	Letter re: Granite Rock Company A.R. Wilson Quarry, Notice of Water Discharge, Discharge Order 00-007	Matt Fabry, RWQCB	Robert DuPuy, Granite Rock
5/19/2000	Waste Discharge Requirements Order No. 00-007, NPDES Permit No. CA0005274, Waste Discharger Identification No. 3352000001 for Granite Rock Company, Inc., Arthur R. Wilson Quarry, San Benito County	Granite Rock	RWQCB Staff
1/1/1985	California Regional Water Quality Control Board Central Coast Region, January, 1985, Standard Provisions and Reporting Requirements for National Pollutant Discharge Elimination System Permits	Attached to WDR/NPDES permit above	RWQCB staff
Volume 3			
(SCRWA Documents & USGS Chittenden Flow-Stage Rating Curve)			
10/5/2004	Letter re: Transmittal of Waste Discharge Requirements Order No. R3-2004-0099, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0049964 - South County Regional Wastewater Authority, Santa Clara County, WDID 3430100001	John Ricker, County of Santa Cruz	RWQCB Staff
5/20/2004	Transmittal of revised Figure 1-A for Effluent Management Plan (see report below)	MWH	RWQCB Staff
5/6/2004	Report: Effluent Management Plan - South County Regional Wastewater Authority, Final Report May 2004	MWH	Submitted to RWQCB
No date	Flow-Stage Rating Curve for Pajaro River at Chittenden Gage Station (Excel table, plot, and data spreadsheet used to evaluate Pajaro River flows and stage)		USGS

Date	Type: Engineering Reports/Correspondence Subject	To	Author
Volume 4			
(Discharger Monitoring Reports)			
4/20/2005	Graniterock A.R. Wilson Quarry 1st Quarter 2005 Monitoring Report, WDR 00-007	RWQCB	Rebecca Hager, Granite Rock
1/25/2005	Graniterock A.R. Wilson Quarry 4th Quarter 2004 and annual 2004 Monitoring Reports, WDR 00-007	RWQCB	Rebecca Hager, Granite Rock
10/18/2004	Graniterock A.R. Wilson Quarry 3rd Quarter 2004 Monitoring Report, WDR 00-007	RWQCB	Rebecca Hager, Granite Rock
7/13/2004	Graniterock A.R. Wilson Quarry 2nd Quarter 2004 Monitoring Report, WDR 00-007	RWQCB	Rebecca Hager, Granite Rock
4/20/2004	Graniterock A.R. Wilson Quarry 1st Quarter (2004) Monitoring Report, WDR 00-007	RWQCB	Rebecca Hager, Granite Rock
1/28/2004	Graniterock A.R. Wilson Quarry 4th Quarter 2003 and annual 2003 Monitoring Reports, WDR 00-007	RWQCB	Rebecca Hager, Granite Rock
10/23/2003	Graniterock A.R. Wilson Quarry 3rd Quarter 2003 Monitoring Report, WDR 00-007	RWQCB	Ben Inkster, Granite Rock
7/29/2003	Graniterock A.R. Wilson Quarry 2nd Quarter 2003 Monitoring Report, WDR 00-007	RWQCB	Ben Inkster, Granite Rock
4/28/2003	Graniterock A.R. Wilson Quarry 1st Quarter 2003 Monitoring Report, WDR 00-007	RWQCB	Ben Inkster, Granite Rock
2/6/2003	Graniterock A.R. Wilson Quarry 4th Quarter 2002 and annual 2002 Monitoring Report, WDR 00-007	RWQCB	Ben Inkster, Granite Rock
10/31/2002	Graniterock A.R. Wilson Quarry 3rd Quarter 2002 Monitoring Report, WDR 00-007	RWQCB	Ben Inkster, Granite Rock
7/31/2002	Graniterock A.R. Wilson Quarry 2nd Quarter 2002 Monitoring Report, WDR 00-007	RWQCB	Ben Inkster, Granite Rock
4/30/2002	Graniterock A.R. Wilson Quarry 1st Quarter 2002 Monitoring Report, WDR 00-007	RWQCB	Aaron Johnston-Karas, Granite Rock
1/25/2002	Graniterock A.R. Wilson Quarry 4th Quarter 2001 and annual 2001 Monitoring Reports, WDR 00-007	RWQCB	Aaron Johnston-Karas, Granite Rock
10/26/2001	Graniterock A.R. Wilson Quarry 3rd Quarter 2001 Monitoring Report, WDR 00-007	RWQCB	Ben Inkster, Granite Rock
7/31/2001	Graniterock A.R. Wilson Quarry 2nd Quarter 2001 Monitoring Report, WDR 00-007	RWQCB	Ben Inkster, Granite Rock
4/30/2001	Graniterock A.R. Wilson Quarry 1st Quarter 2001 Monitoring Report, WDR 00-007	RWQCB	Robert DuPuy, Granite Rock
1/31/2001	Graniterock A.R. Wilson Quarry 4th Quarter 2000 and annual 2000 Monitoring Reports, WDR 00-007	RWQCB	Robert DuPuy, Granite Rock
10/31/2000	Graniterock A.R. Wilson Quarry 3rd Quarter 2000 Monitoring Report, WDR 00-007	RWQCB	Robert DuPuy, Granite Rock
8/3/2000	Graniterock A.R. Wilson Quarry 2nd Quarter 2000 Monitoring Report, WDR 00-007	RWQCB	Robert DuPuy, Granite Rock
4/21/2000	Graniterock A.R. Wilson Quarry 1st Quarter 2000 Monitoring Report, WDR 00-007	RWQCB	Aaron Johnston-Karas, Granite Rock
2/1/2000	3 Species Bioassay Results: Samples Received 24-28 January 2000		Toxscan, Inc
1/19/2000	Graniterock A.R. Wilson Quarry 3rd and 4th Quarter 1999 Monitoring Report, WDR 00-007	RWQCB	Tony Warman, Granite Rock

**Pajaro River Flow Data and Flow Triggers
(USGS Chittenden Gauging Station - January 1990 to September 2003)**



VI. GRANITE ROCK ARTHUR WILSON – EMAIL COMMENTS OCTOBER 14, 2010

Cecile DeMartini - Questions about metals

From: Tina Lau <tlau@Graniterock.com>
To: "Cecile DeMartini" <CDeMartini@waterboards.ca.gov>
Date: Thursday, October 14, 2010 1:06 PM
Subject: Questions about metals
CC: "Aaron Johnston-Karas" <ajohnston@Graniterock.com>

Hi Cecile,

I hope you're doing well, and enjoying this lovely weather! I was reviewing the calculations for the effluent limits proposed in the draft WDO, and still had some questions. I've listed them out below, and perhaps you can help me with them. I would like this information as soon as possible, since this will impact other areas of our comments.

1. For the calculation of the Total Cyanide effluent limit, I followed the steps outlined in the SIP and the Fact Sheet. However, my calculations still come out different. Basically, here are my steps:
 - a. For Cyanide, effluent concentration allowance (ECA) = C because of the denial of dilution credits. C = the water quality criteria, which for cyanide = 5.2 ug/L
 - b. We need to calculate the long-term average discharge condition (LTA) by adjusting the ECA with a SIP provided multiplier. The LTAs are:
 For Acute: $LTA = ECA * 0.321 = 1.67$
 For Chronic: $LTA = ECA * 0.527 = 5.19$
 - c. We then use the lower of the 2 LTAs (1.67) to calculate the average monthly effluent limitation, AMEL, and Maximum daily effluent limitation, MDEL. We multiply the lowest LTA with SIP-provide multipliers:
 $AMEL\ Limit = 1.67 * 1.55 = 2.59$
 $MDEL\ Limit = 1.67 * 3.11 = 5.2$
 - d. In the permit, the Cyanide Average Monthly Limit = 4.3 and Max Daily = 8.5.
 - e. **The only thing I can think of to account for the difference is the conversion of the cyanide "C" value of 5.2 (which is in the dissolved form) to the total form. However, this wasn't explicitly described in the Fact Sheet. Can you confirm if the discrepancy is due to the conversion from dissolved to total in the calculation, or whether I'm missing a step? If it was converted, what was the conversion used since I didn't see a cyanide conversion in Appendix 3 of the SIP?**

2. When the ECA is based on a human health criteria (such as for aluminum, mercury, molybdenum, & selenium), then:
 - a. The AMEL Limit = C
 - b. The MDEL Limit = $(3.11/1.55)*C = 2.01*C$.
 - c. It was unclear from the Fact Sheet whether the C values (water quality criteria) were translated from dissolved to total. For example, the C value for mercury from the CTR is 0.05 ug/l, dissolved. The proposed AMEL in the permit for mercury is also 0.05 ug/l, but total. The translation factor from Appendix 3 of the SIP is 0.85, so if we're using the total form for an AMEL, it should be 0.05 divided by 0.85 = 0.06 ug/l (and 0.12 ug/l for the MDEL). Am I missing a step, or should the proposed limits be adjusted?

3. Additionally, I couldn't find translation factors in Appendix 3 for aluminum, molybdenum, & selenium. Was a conversion used, and if yes, what were the conversion factors? If conversions weren't used, we may have to start exploring the possibility of developing site specific translators.

Thanks for your help with this. We really want to comply with this permit, so I must understand where each limit came from, and if the limits will require a compliance schedule. It is my experience that using very low trace concentrations for metals like aluminum and mercury are very susceptible to background and laboratory

contamination. This problem is aggravated when the laboratory methods employ acids to digest all matter into dissolved forms.

Of course, Graniterock still takes the position that effluent limitations established for metals should be in the dissolved form, and not the total form. As noted in the CTR, **"use of dissolved metal to set and measure compliance with aquatic life water quality standards is the recommended approach, because dissolved metal more closely approximates the bioavailable fraction of the metal in the water column than does total recoverable metal"** (CTR p.10). That is, using total metal for effluent limitations does not represent actual impact to the environment, and will over state our impact and hence require a compliance schedule, and other legal protection. Using dissolved metal effluent limits are allowed under 40CFR 122.45(c)(1), which allows for it when there is already a limit in the form of dissolved (such as the criteria in the CTR and the limits in our previous permit).

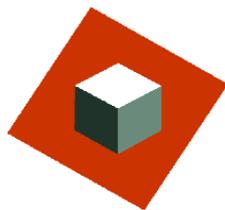
I'm not harping on this point just to create more work for the two of us (I know how overworked you already are!) It's just that this is a truly important point. Using total metals overstates the actual impacts and makes it that much more difficult (if not impossible) to comply. For example, attached I have a chart that shows some storm water samples I collected. The total levels significantly overstate the amount of the metal in the water (since it artificially dissolves everything in the sample). These samples were collected using trace metal clean protocols (i.e. Clean Hands, Dirty Hands methodology). All the bottles and gloves used were specially prepared and lab washed to remove any potential metal interference. Part of this methodology is the use of field blanks. As you probably know, field blanks are used to capture atmospheric or lab introduced contamination. I basically take the bottle with ultra-clean blank water and pour it directly into the specially cleaned sample bottle, then send it to the trace metal clean lab. Even with this brief exposure (lasting no more than 10-15 seconds), the field blanks come up with "hits" for metal, and especially after the metals are digested with acid to report total metal (likely from metal particulates floating around in the air). This means that simply sampling outside can contribute metals to the sample result. When the limits in the WDO are on the order of parts per trillion, even a little bit of interference can have a significant impact on compliance. Having the limit be in the dissolved form can help reduce the negative impacts from metal particles that are around us in the atmosphere, and it is the best means to assess the true environmental impacts of our discharge

Thanks for your help with this. I really want to understand this permit so that I can ensure we comply with all the complicated requirements. I would appreciate it if you could get back to me as soon as you can, since we'll need time if we are going to explore site specific metal translators or compliance schedules.

Thanks,

Tina

VII. GRANITE ROCK ARTHUR WILSON –COMMENT LETTER OCTOBER 28, 2010



Graniterock®

MATERIAL SUPPLIER / ENGINEERING CONTRACTOR • LICENSE # 22

October 28, 2010

California Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, California

Dear Cecile DeMartini and Members of the Board:

We respectfully submit the following comments regarding the Tentative Waste Discharge Requirements for Graniterock's A.R. Wilson Quarry in Aromas, issued September 16, 2010 (Draft Order No. R3-2010-0025). These comments supplement earlier communications with the Board regarding the draft order and the previous version issued, including those communications attached as Attachment G to the September 16, 2010 package.

There have been significant changes in this proposed permit compared to the existing permit, and as such our comments are detailed and substantive in responding to the new requirements and expectations.

I. Dissolved form of metals is scientifically defensible and recommended by the EPA and CTR/SIP.

Note that Graniterock continues to believe that the data used in the Reasonable Potential Analysis (RPA) for the development of effluent limits are not representative, because much of the data used were not from actual discharge events. Rather, the data were collected from the source of the effluent, the Quarry Storage Reservoir (QSR), and represent a "worst case" scenario because the QSR did not have the diluting effects of rainwater, which we would expect in an actual discharge. However, since this data were used in the RPA, Graniterock will also use this data to maintain consistency.

Graniterock would like to reiterate the point that any effluent limitations established for metals should be in the dissolved form, and not the total form, unless otherwise properly translated. **The**

use of total metal concentrations is not representative of toxic effects of many metals; as noted in the CTR, "use of dissolved metal to set and measure compliance with aquatic life water quality standards is the recommended approach, because dissolved metal more closely approximates the bioavailable fraction of the metal in the water column than does total recoverable metal" (CTR, p.31690).

Although use of total metals may be more protective in other types of facilities, using total metals in our situation creates an unreasonable limit that is not beneficial to water quality goals of the Pajaro River. Its use is also not consistent with naturally occurring waters found in the watershed. The Pajaro River typically has high Total Suspended Solids (TSS), especially during the times when a permitted discharge from the facility is likely (i.e. after intense or frequent rains, when the river flow would be turbid). Much of the TSS is from natural runoff from the surrounding areas.

Total metals tend to bind to suspended solids in a colloidal suspension, resulting in little to no bioavailability (for example, it cannot pass through fish gills). This is the foundation of the EPA and CTR's recommendations to use dissolved metals to measure compliance. Using total metal analyses will obscure the actual risk to the environment because we would be measuring metals bound to the suspended sediments, which are not bioavailable. Using total metal forms in this permit would not be a conservative approach, as it may be in the instance of a low TSS receiving water body like a lake. For this facility and this receiving water, with its high naturally occurring TSS, it would be a technically infeasible, arbitrary and unfairly burdensome approach.

Further, the EPA's Office of Water takes as its official stance: "It is now the policy of the Office of Water that the use of dissolved metal to set and measure compliance with water quality standards is the recommended approach, because dissolved metal more closely approximates the bioavailable fraction of metal in the water column than total recoverable metal does. This conclusion regarding metals bioavailability is supported by a majority of the scientific community within and outside the Agency." (*Memo*, p. 2).

While, as noted in the Board's May 12, 2010 response, 40 CFR 122.45(c) requires that effluent limitations for metals be expressed as total recoverable, it does grant an exception when an effluent limit guideline specifies the limitation as dissolved, such as the criteria in the CTR and the limits in our previous permit.

The currently proposed effluent limits treat dissolved metal water quality criteria as criteria in the total form; this is a significant deviation from the scientific consensus and from this facility's past permit. The rationale for this deviation is unclear and appears arbitrary.

The use of total metals is inappropriate in this permit, for this receiving water, for this watershed and for this facility. We do not anticipate the receiving water (Pajaro River) or the effluent to have pH levels low enough to turn total metals into dissolved metals. Nor has the Board indicated such conditions could exist. The EPA Guidance document on developing metal translators uses the example of a high pH effluent discharging into a low pH receiving water as a typical situation in which we would expect metals in the total form more likely to turn into the dissolved form, assuming low sediment loading and low organic particulates. This is not the case

at hand. Below are representative examples of the historical pH for the source of the effluent (the Quarry Storage Reservoir) and the Pajaro River:

Table 2: pH Results for the Pajaro River and Effluent Source (Quarry Storage Reservoir):

	1/10/05	12/07/04	5/16/02
Quarry Storage Reservoir	8.2	7.73	N/A
Pajaro River	8.6	N/A	8.58

As the results show, the pH for both the source of the effluent and the receiving water are not in the range at which we would expect total metal particulates to dissolve. In the natural world, metal particulates would settle out and pose little risk to organisms. Thus, total metal effluent limits would significantly overestimate the impact the effluent has on the receiving water and total metal analyses would not accurately assess real risk to beneficial uses. This logic is not overreaching and had been accepted by the Board, as the previous permit's mercury limit was in dissolved form, not total form.

Further, the NPDES regulations allow for the use of dissolved metal criteria if an effluent guideline specifies the limitation in another form of the metal. The effluent limits specified in the CTR are in dissolved form, not total, and Graniterock believes that any WQBEL established in this permit should be consistent with the guidelines established in the CTR. Thus, because the NPDES regulations allow for it, the past permit included it, the CTR recommends it, and because it is the most scientifically defensible, Graniterock requests that metal criteria be expressed in dissolved forms.

II. If Board sets metal effluent limits in the total form, then proposed effluent limits in the dissolved form must be translated to total form.

If the Board persists in using the total form of metals in setting effluent limits, Graniterock requests that an appropriate translator be used. Currently, the proposed effluent limits for aluminum, cyanide, mercury, molybdenum and selenium are in the total form. It is our understanding, based on correspondence from PG Environmental, that a translator was not used to convert from dissolved to total when developing the total effluent limit based on the dissolved criteria.

The levels from cyanide and mercury are based on the CTR criteria, which appear to be in dissolved forms (per footnote 4.iii of the CTR). The levels for aluminum, molybdenum and selenium are taken directly from the Basin Plan. The forms of these metals are not explicitly stated in the Basin Plan, but based on our analysis it appears that the metal values presented in the Basin Plan are in the dissolved form. We base our analysis on the reference to a total metal value in the footnotes for Table 3-5 and 3-6, suggesting that the values in the table themselves are in the dissolved form. Since there is no indication that the metals in the different tables are in different forms, we make the assumption that they are all in the same form, i.e. the dissolved form.

It is our understanding that these dissolved metal levels were taken from the CTR and the Basin Plan as-is, with no conversion. This is contrary to the steps outlined in the SIP, which states “To derive total recoverable effluent limitations for aquatic life metals and selenium criteria/objectives that are expressed in the dissolved form, a translator first must be applied to the criterion/objective to express it as total recoverable.” (SIP, pg. 5). The CTR also notes that, if total metal limits are used, then “expressing criteria as dissolved metal requires translation between different metal forms in the calculation of the permit limit so that a total recoverable permit limit can be established that will achieve water quality standards.” (CTR, pg. 31690). The implication is that without a translator, a total recoverable permit limit cannot be established that will achieve water quality standards.

We understand that the proposed total metal effluent limits were not translated, and that the translators provided in the SIP in Appendix 3 were not used, because the belief is that a translator is applicable only to aquatic life criteria. However, the need to convert between total and dissolved metal forms is not limited just to aquatic life criteria. Setting a total form effluent limit for a human health criteria based on dissolved metal forms will also need a translator because the two are inherently different: total form metals are not identical to dissolved form, and the effects of total form metals are not identical to those of dissolved metals.

The use of a translator is also supported by the EPA: “If a facility has a water quality based permit limit for a metal, and the State is adopting standards based on dissolved metals, then a translator is needed to produce a permit limit expressed as total recoverable metal.” (*Guidance*, pg. 2).

Graniterock requests that the Board use the translators provided in Appendix 3 for the SIP to convert between total and dissolved metal. We understand that these translators are developed for aquatic criteria however the freshwater factors should be a good approximation for this facility, and are a much better approximation than if no translator is used. A translator mimics the physical processes which partition metals into dissolved and colloidal (total) forms. It does not matter if the application is for aquatic life or human health criteria; the science of the partitioning remains the same. Thus, the conversion factors can be reasonably applied to other criteria if the intent is simply to translate from one form of the metal (i.e. dissolved) into the other (i.e. total).

If the Board chooses not to use the conversion factors provided in Appendix 3 of the SIP, then we request that a site specific translator be developed for use during this permit term. Note that Graniterock still takes the position that dissolved effluent limits should be used as this will ensure the most accurate assessment of risk and protection to the environment. If the limits are not in dissolved form, then Appendix 3 conversion factors should be used. However, in the event that the Board rejects both options, Graniterock suggest legal appeals can be avoided if the Board would work with the Company to complete a site/watershed-specific translator study.

Graniterock proposes to follow the methodologies outlined in the EPA 1996 guidance document entitled *The Metals Translator: Guidance for Calculating a Total Recoverable Permit Limit from a Dissolved Criterion* for establishing a translator based on the dissolved and total fractions. Note that the specific study plan will be developed in consultation with the RWQCB and likely

the California Department of Fish and Game (as discussed in the SIP), and therefore may differ from this proposed procedure. In addition, actual field conditions and safety concerns may necessitate slight deviations. Below is a preliminary proposal.

Samples ideally will be collected during discharge conditions, however if a discharge does not occur then samples will be collected from the effluent source (the Quarry Storage Reservoir) and the receiving water (the Pajaro River). These samples will be mixed per the EPA guidance document. Samples will be collected according to “Clean Hands/Dirty Hands” trace metal clean procedures and include field blanks and equipment blanks (as needed). To best model conditions of actual discharge, samples will be taken during the rainy season when the Pajaro River flows are high and the effluent source has a high proportion of collected rainfall. Samples will also be collected during the summer months when the Pajaro River flows are low and the Quarry Storage Reservoir is mainly comprised of make-up water from the Orchard Well, to confirm whether there are seasonal variations in the metals’ partitioning. Per the EPA recommendations, Graniterock will collect approximately 20 sample pairs of total and dissolved metals. Samples may be analyzed for pH, Total Suspended Solids (TSS), particulate organic carbon (POC), and dissolved organic carbon (DOC), hardness, aluminum, cyanide, mercury, molybdenum, and selenium.

Graniterock proposes completing the study within two years of the permit adoption date. Note this time frame may be adjusted to allow for the time needed for regulatory approvals, which may delay completion.

Once the site specific translator study is complete, Graniterock requests that these translators be used to develop site specific objectives for aluminum, cyanide, mercury, molybdenum, and selenium. Section 5.2 of the SIP requires the following considerations when developing site-specific objectives:

- (1) *A written request for a site-specific study, accompanied by a preliminary commitment to fund the study, subject to development of a workplan, is filed with the RWQCB;*

Graniterock is submitting this letter as the written request and preliminary commitment.

- (2) *Either:*

- (a) *a priority pollutant criterion or objective is not achieved in the receiving water; or*
 (b) *a holder of an NPDES permit demonstrates that they do not, or may not in the future, meet an existing or potential effluent limitation based on the priority pollutant criterion or objective; and*

The chart below lists the constituents for which we are requesting site specific objectives:

Table 3: Constituents for Site Specific Objectives

Constituent	Units	Average Monthly Effluent Limit	Maximum Daily Effluent Limit	Maximum Observed Effluent*
Aluminum, Total Recoverable	ug/l	1,000	5,000	1,600**

Cyanide, Total (as CN)	ug/l	4.3	8.5	7
Mercury, Total Recoverable	ug/l	0.05	0.1	160**
Molybdenum, Total Recoverable	ug/l	10	N/A	17
Selenium, Total Recoverable	ug/l	10	20	28

* Effluent data is from the source of the effluent (the Quarry Storage Reservoir) and not an actual discharge. Although we disagree as to the representativeness of this data, we are using this data to maintain consistency with the Board's approach in its Reasonable Potential Analysis for establishing the effluent limits.

**These values were taken from the Fact Sheet, however Graniterock was unable to locate the source of these values.

As the chart shows, these constituents will not meet the proposed effluent limitations (if they are to remain as total metal limits) based on past sample results.

(a) an analysis of compliance and consistency with all relevant federal and State plans, policies, laws, and regulations;

Graniterock has maintained compliance with all past permits and is currently in compliance with all relevant Federal and State plans, policies, laws and regulations.

(b) a thorough review of historical limits and compliance with those limits;

Graniterock has not exceeded permit limits in the past monitoring term and in fact has not discharged in the past 8 years. Graniterock has made numerous and costly improvements to its equipment and facility processes to increase the re-use of the recycled water and rain water in order to minimize the frequency and the volume of discharges as much as possible. For example, Graniterock has installed a system of pumps and piping that diverts storm water runoff away from the recycled water system, thus increasing the system's ability to contain recycled process water and minimize discharges. We also minimize the use of the make-up groundwater from the Orchard Well as much as possibly by relying on collected storm water. Facility personnel are trained on the recycled water system and use the Orchard Well less during the rainy season.

(c) a thorough review of current technology and technology-based limits; and

Graniterock cannot be assured of achieving the proposed effluent limits as-is, i.e. using dissolved metal criteria as total metal effluent limits. It is scientifically unreasonable to expect a total metal sample result to comply with a dissolved metal standard without translation. Further, to do so would require a technology that can treat natural conditions into conditions not observed in nature, i.e. ultra pure.

(d) an economic analysis of compliance with the priority pollutant criterion or objective of concern.

We are not aware of any treatment technologies to achieve these limits as they are written. If there were any, it would undoubtedly be prohibitively expensive to implement at our facility given our unique recycled water system. The economic burden to comply, if such a technology exists or is feasible, would be extremely high. Note that we are not aware of any economic analyses associated with the development of the draft order's limits.

III. **If Board sets metal effluent limits in the total form, then a compliance schedule will be needed.**

As discussed above, using total metals (especially in a high TSS environment) overstates the actual risk to the receiving water and creates limits that are not supported by science and are technically infeasible to comply with. Simply stated, if the permit sets the dissolved metal water quality criteria to be total metal effluent limits, Graniterock does not believe that compliance will be feasible (please also refer to Table 3). If the proposed limits are to remain as-is, Graniterock would request a compliance schedule to allow time for development of a translator study and evaluation of reasonable potential and appropriate effluent limits for aluminum, cyanide, mercury, molybdenum and selenium.

For the CTR based constituents (mercury and cyanide), the Board can issue a compliance schedule past May 18, 2010 through a case-by-case exception under Section 5.3 of the SIP.

The SIP puts in the following considerations for granting the exception:

Where site-specific conditions in individual water bodies or watersheds differ sufficiently from statewide conditions and those differences cannot be addressed through other provisions of this Policy, the SWRCB may, in compliance with the CEQA, subsequent to a public hearing, and with the concurrence of the U.S. EPA, grant an exception to meeting a priority pollutant criterion/objective or any other provision of this Policy where the SWRCB determines:

The special site-specific conditions here are the receiving water's high solids load during the periods during which discharge occurs from this facility, and the very infrequent discharge events. In addition, there are naturally occurring high levels of selenium and mercury which contribute to the unique characteristics in this watershed's groundwater. For example, Black et al observed that the groundwater in the Elkhorn Slough area appears to contain relatively high levels of methylmercury (*Black*). Note that studies demonstrating the groundwater and surface water connection and interactions in this watershed had already been cited in our original permit application letter dated January 7, 2010 (see Reuhl, Fisher et al; Hanson and USGS; Department of Water Resources). Finally, the conditions at this site are different from other areas in the state because we are at the conjunction of two watersheds (the Lower Pajaro and the Upper Pajaro), each of which is unique.

1. *The exception will not compromise protection of enclosed bay, estuarine, and inland surface waters for beneficial uses; and*

The exception will not compromise protection of beneficial uses of the Pajaro River. Rather, it actually helps the Board and Graniterock better assess potential impacts to the receiving water. A better assessment tool allows for an improved ability to protect beneficial uses. In addition, here there is no evidence of a negative impact of this discharge on surface waters, and it is clear that discharges are infrequent and unaffected by significant additions of pollutants.

2. *The public interest will be served.*

The public interest will be served by this exception because it will allow Graniterock and the Board the time needed to develop site specific metal translators. The development of these translators will serve the public by improving the body of science for the Pajaro River and can be used in other water quality applications to better model actual impacts to the Pajaro River.

IV. SIP Allows for Intake Credits for the Orchard Well Intake Water

The Fact sheet has again denied Graniterock's request for intake credits for constituents contained in intake water from the Orchard Well. The Fact Sheet acknowledges that the processing operations do not chemically or physically alter the pollutants in the Orchard Well water in an adverse way. However, the Fact Sheet claims that it is unclear whether the entire closed-loop system used to manage water at the facility (i.e., collected rainfall and Orchard Well water are periodically used to supplement re-used water, which is constantly recycled through the facility) physically or chemically alters the pollutants in a manner that adversely affects water quality and beneficial uses.

There is no evidence that the closed-loop system use to manage water at the facility alters the pollutants inherent in the groundwater from the Orchard Well such that beneficial uses and water quality are negatively impacted. In fact, toxicity testing of the Quarry Storage Reservoir indicates there is no toxicity in the source water for the effluent. The Fact Sheet agrees with Graniterock's position that the data being cited are from non-discharge events and thus are not truly representative of potential discharge. This is because this data presents a more conservative picture; that is, it represents a scenario that we would expect to have worse water quality than an actual discharge condition. However, Graniterock follows the Board's lead in using this non-representative data (i.e. this was the same data used in the Reasonable Potential Analysis for determining effluent limits) in this assessment of intake credit applicability. If there is no toxicity or adverse impacts to beneficial uses and water quality using this non-representative conservative data, then we would expect there to be even less adverse impacts when the effluent source water is comprised more of storm water and less of the pollutant laden Orchard Well Water.

The Fact Sheet also bases its rejection of our request for Intake Credits on the belief that storm water can contribute pollutants such as mercury, Total Dissolved Solids (TDS), Chloride, Boron, Sodium, and Copper to our recycled water system. If these constituents are present, they are present from sources other than facility operations. Note that at this time we are not requesting intake credits for the rainfall onto this facility; we are requesting intake credits **only** for the Orchard Well. The argument that rain fall contributes a significant amount of pollutants does not appear to be a well-founded rationale for denying intake credits for the Orchard Well intake

water. It should be reiterated that the Orchard Well has been shown to not comply with past limits, specifically Total Dissolved Solids (TDS), Chloride, Boron, Sodium, Mercury, and Copper. Without the intake credits, compliance with proposed effluent limits (especially for mercury) will be difficult, if not impossible, to comply with.

Denial of Graniterock's request for intake credits is not supported by the SIP or the evidence at hand, and is inconsistent with past court decisions (see previously provided citations). We thus request the Board reconsider this decision.

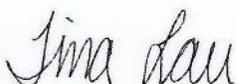
We thank you and the Board for your assistance in preparation of this Order and look forward to working with you in these matters. Graniterock recognizes that there are numerous issues that remain unresolved, and we believe there are significant questions surrounding the metal forms and intake credits. Unfortunately many unnecessary and overly conservative assumptions have been used in the development of these limits, leading to a significant deviation from previous permits and procedures. These new limits are unrealistic in the natural world, especially in this water shed and this river.

We request that you delay the issuance of the new effluent limits so that we can work with you to resolve the issues that still remain to be addressed.

If you have any questions or require additional information, please do not hesitate to contact me at (831) 768-2009 or by e-mail at tlau@graniterock.com.

Sincerely,

Tina Lau



Environmental Specialist
Sustainable Resource Development Services
GRANITE ROCK COMPANY

Charles Aaron Johnston



Director
Sustainable Resource Development Services
GRANITE ROCK COMPANY

References

1. US EPA. *Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule (California Toxics Rule, CTR)*. Revised February 2005.
2. US EPA, Office of Water. *Office of Water Policy and Technical Guidance on Interpretation and Implementation of Aquatic Life Metals Criteria (Memo)*. 1993.
3. US EPA, Office of Water. *The Metals Translator: Guidance For Calculating A Total Recoverable Permit Limit From A Dissolved Criterion (Guidance)*. June 1996.
4. State Water Resources Control Board. *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP)*. 2005.
5. Black, Frank; J., Flegal, A. Russell et al. *Submarine Groundwater Discharge of Total Mercury and Methylmercury to Central California Coastal Waters*. Environ. Sci. Technol., 2009, 43 (15), pp 5652–5659.