DRAFT ORDER R3-2013-0029
NPDES NO. CA0050628

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

Table 1. Discharger Information

Discharger	Freeport-McMoRan Oil and Gas
Name of Facility	Produced Water Reclamation Facility
Facility Address	1821 Price Canyon Road
	Arroyo Grande, CA 93420
	San Luis Obispo County

Discharges by Freeport-McMoRan Oil and Gas from the discharge point identified below are 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	Produced Water	35º 11' 10.8" N	120º 37' 3.7" W	Pismo Creek

Table 3. Administrative Information

This Order was adopted by the Central Coast Water Board on:	**December 5, 2013**
This Order shall become effective on:	**February 1, 2014**
This Order shall expire on:	**February 1, 2019**
The Discharger shall file a Report of Waste Discharge as an application for reissuance of waste discharge requirements in accordance with title 23, California Code of Regulations, and an application for reissuance of a National Pollutant Discharge Elimination System (NPDES) permit no later than:	**August 1, 2018**
The U.S. Environmental Protection Agency (USEPA) and the Central Coast Water Board have classified this discharge as follows:	**Major**

I, Kenneth A. Harris Jr., Executive Officer, do hereby certify that this Order with all attachments is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, Central Coast Region, on the date indicated above.

_____

Kenneth A. Harris Jr., Executive Officer

Contents

Tables

Attachments

I. FINDINGS

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

A. Legal Authorities. This Order serves as Waste Discharge Requirements (WDR's) pursuant to article 4, chapter 4, division 7 of the California Water Code (commencing with section 13260). This Order is also 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 Water Code (commencing with Section 13370). It shall serve as a National Pollutant Discharge Elimination System (NPDES) permit for point source discharges from this facility to surface waters. This Order also serves as a Master Recycling Permit pursuant to article 4, chapter 7, division 7 of the Water Code (commencing with section 13500).

B. Background and Rationale for Requirements. The Central Coast Water Board developed the requirements in this Order based on information submitted as part of the NPDES renewal application, through monitoring and reporting programs, and other available information. The Fact Sheet (Attachment F) contains background information and rationale for this Order's requirements, and is hereby incorporated into this Order and constitutes part of this Order's Findings. Attachments A through E and F are also incorporated into this Order.

C. Provisions and Requirements Implementing State Law. The provisions/requirements in subsections III.B , III.C, and IV.B of this Order are included to implement state law only. These provisions/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.

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

E. Consideration of Public Comment. The Central Coast 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.

THEREFORE, IT IS HEREBY ORDERED, that Order No. R3-2008-0004 is rescinded upon the effective date of this Order except for enforcement purposes, and, in order to meet the provisions contained in division 7 of the Water Code (commencing with section 13000) and regulations adopted thereunder, and the provisions of the CWA and regulations and guidelines adopted thereunder, the Discharger shall comply with the requirements in this Order. This action in no way prevents the Central Coast Water Board from taking enforcement action for past violations of the previous Order. If any part of this Order is subject to a temporary stay of enforcement, unless otherwise specified, the Discharger shall comply with the analogous portions of the previous Order, which shall remain in effect for all purposes during the pendency of the stay.

II. DISCHARGE PROHIBITIONS

A. The discharge of any waste not specifically regulated by this Order, excluding storm water regulated by General Permit No. CAS000001 (Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities), is prohibited.

B. Discharge of treated wastewater at a location other than Discharge Point No. 001, as described by this Order, is prohibited, unless the discharge is regulated by General Permit No. CAS000001 or another discharge permit.

C. The overflow or bypass of wastewater from the Discharger's collection, treatment, or disposal facilities and the subsequent discharge of untreated wastewater, except as provided for in Attachment D, Standard Provision I.G (Bypass), is prohibited.

D. Creation of a condition of pollution, contamination, or nuisance, as defined by Section 13050 of the CWC, is prohibited.

E. Effluent flow shall not exceed the 0.84 MGD design flow capacity of the treatment facility.

III. EFFLUENT LIMITATIONS AND DISCHARGE SPECIFICATIONS

A. Effluent Limitations - Discharge Point No. 001

1. Final Effluent Limitations – Discharge Point No. 001

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location EFF-001 as described in the attached Monitoring and Reporting Program (MRP):

Table 4. Effluent Limitations

Parameter	Units	Effluent Limitations[1]		
		Instantaneous Maximum	Average Monthly	Maximum Daily
Total Dissolved Solids (TDS)	mg/L	--	--	450
	lbs/day	--	--	3.1×10^3
pH	s.u.	7.0 – 8.3 at all times		
Oil and Grease	mg/L	--	--	35
Benzene	µg/L	--	1.0	2.0
Phenol	µg/L	--	1.0	2.0

[1] Based on a flow rate of 0.84 MGD.

b. Dry Weather Flow. Effluent average dry weather flow shall not exceed a monthly average of 0.84 MGD.

c. Acute Toxicity. Survival of aquatic organisms in 96-hour bioassays of undiluted waste shall be no less than:

i. 70 percent, minimum for any one bioassay; and

ii. 90 percent, median for any three consecutive bioassays.

d. Chronic Toxicity. There shall be no chronic toxicity in the effluent discharge.

B. Land Discharge Effluent Specifications – Not Applicable

C. Reclamation Specifications

1. The Discharger shall maintain compliance with the reclamation discharge specifications below. Compliance shall be measured as described in the attached MRP:

Table 5. Reclamation Discharge Specifications

Parameter	Units	Effluent Limitations[1]		
		Instantaneous Maximum	Average Monthly	Maximum Daily
TDS	mg/L	--	--	450
pH	s.u.	6.5 – 8.4 at all times		
Oil and Grease	mg/L	--	--	35
Benzene	µg/L	--	1.0	2.0
Phenol	µg/L	--	1.0	2.0

[1] Based on a flow rate of 0.84 MGD.

2. Reclaimed water used for landscape irrigation shall not exceed water quality objectives for agricultural water use specified in the Basin Plan Table 3-4.

3. Reclaimed water shall not be allowed to run off to Pismo Creek or tributary streams.

IV. RECEIVING WATER LIMITATIONS

A. Surface Water Limitations

Receiving water limitations are based on water quality objectives contained in the Basin Plan and are a required part of this Order. The discharge shall not cause the following in the Pismo Creek:

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 cause nuisance or adversely affect 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. This may require effluent oil and grease to be less than 35 mg/L.

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. Concentrations of toxic metals and inorganic chemicals in waters shall not be increased in such a manner that may adversely affect beneficial uses.

10. 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. 5 NTU, where natural turbidity is less than 25 NTU.

b. 20 percent, where natural turbidity is between 25 and 50 NTU.

c. 10 NTU, where natural turbidity is between 50 and 100 NTU.

d. 10 percent, where natural turbidity is greater than 100 NTU.

11. The pH value shall not be depressed below 7.0 nor raised above 8.3. The change in normal ambient pH levels shall not exceed 0.5 units.

12. Dissolved oxygen concentrations in receiving waters shall not be reduced below 7.0 mg/L at any time.

13. Natural temperature of receiving waters shall not be altered unless it can be demonstrated to the satisfaction of the Central Coast Water Board that such alteration in temperature does not adversely affect beneficial uses. At no time or place shall the temperature be increased by more than 5° F above natural receiving water temperature.

14. 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.

15. The discharge of wastes shall not cause concentrations of un-ionized ammonia (NH_3) to exceed 0.025 mg/L (as N) in the receiving water.

16. 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 where existing concentrations are presently nondetectable or where beneficial uses would be impaired by concentrations in excess of nondetectable levels, total identifiable chlorinated hydrocarbon pesticides shall not be present 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.

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

Table 6. Organic Substances Water Quality Objectives

Parameter	Water Quality Objective
Methylene Blue Activated Substances	0.2 mg/L
Phenols	1.0 µg/L
PCBs[1]	0.3 µg/L
Phthalate Esters	0.002 µg/L

[1] PCBs refer to sum of PCB 1016, 1221, 1232, 1242, 1248, 1254, and 1260.

18. 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.

19. Receiving waters shall not contain concentrations of chemical constituents in excess of the primary 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.

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

21. Receiving waters shall not contain concentrations of chemical constituents in excess of those levels specified for irrigation and livestock watering in Section III, Table 3-4 of the Basin Plan. Salt concentrations for irrigation waters shall be controlled through implementation of the anti-degradation policy to the effect that mineral constituents of currently or potentially usable waters shall not be increased.

22. Receiving waters shall not contain concentrations of chemical constituents known to be deleterious to fish or wildlife in excess of the levels presented in Section III, Table 3-5 of the Basin Plan.

23. Cadmium shall not exceed 0.003 mg/L, when hardness in receiving waters is greater than 100 mg/L as $CaCO_3$, nor shall cadmium exceed 0.0004 mg/L when hardness in receiving waters is equal to or less than 100 mg/L as $CaCO_3$.

24. Fecal coliform concentration, based on a minimum of not less than five samples for any 30-day period, shall not exceed a log mean of 200 organisms/100 mL, nor shall more than 10 percent of samples collected during any 30-day period exceed 400 organisms/100 mL.

B. Groundwater Limitations

Activities at the Facility shall not cause exceedance/deviation from the following water quality objectives for groundwater established by the Basin Plan. The Central Coast Water Board may require the Discharger to investigate the cause of exceedances in the groundwater before determining whether the Discharger caused any water condition that exceeds the following groundwater limitations.

1. Groundwater shall not contain taste or odor-producing substances in concentrations that adversely affect beneficial uses.

2. The Discharger shall not cause a statistically significant increase of mineral constituent concentrations in underlying groundwaters as determined by comparison of samples collected from wells located up-gradient and down-gradient of the waters affected by the discharge.

3. 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 circumstances shall groundwater contain concentrations of radionuclides in excess of the MCLs for radioactivity presented in Table 4 of Title 22 California Code of Regulations, Division 4, Chapter 15, Article 5.

4. The median concentration of coliform organisms in groundwater, over any seven-day period, shall be less than 2.2 organisms/100 mL.

5. Groundwater shall not contain concentrations of chemical constituents in excess of the primary 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.

6. Groundwater shall not contain concentrations of chemical constituents in amounts that adversely affect the agricultural supply beneficial use. Interpretation of adverse effects shall be as described in University of California Agricultural Extension Service guidelines provided in Table 3-3 of the Basin Plan.

7. Groundwater used for irrigation and livestock watering shall not exceed concentrations of chemical constituents in excess of those levels specified for irrigation and livestock watering in Section III, Table 3-4 of the Basin Plan.

V. PROVISIONS

A. Standard Provisions

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

2. The Discharger shall comply with the following provisions. In the event that there is any conflict, duplication, or overlap between provisions specified by this Order, the more stringent provision shall apply.

3. Failure to comply with provisions or requirements of this Order, or violation of other applicable laws or regulations governing discharges from this facility, may subject the Discharger to administrative or civil liabilities, criminal penalties, and/or other enforcement remedies to ensure compliance. Additionally, certain violations may subject the Discharger to civil or criminal enforcement from appropriate local, state, or federal law enforcement entities.

B. MRP Requirements

The Discharger shall comply with the Monitoring and Reporting Program, and future revisions thereto, in Attachment E of this Order. All monitoring shall be conducted according to 40 C.F.R. 136, *Guidelines Establishing Test Procedures for Analysis of Pollutants* or other equivalent methods approved in advance by the Executive Officer.

C. Special Provisions

1. Reopener Provisions

This Order may be reopened for modification, or revocation and reissuance, as a result of the detection of a reportable priority pollutant generated by special conditions included in this Order. These special conditions may be, but are not limited to, fish tissue sampling, whole effluent toxicity, monitoring requirements on internal waste stream(s), and monitoring for surrogate parameters. Additional requirements may be included in this Order as a result of the special condition monitoring data.

2. Special Studies, Technical Reports, and Additional Monitoring Requirements

a. Toxicity Reduction Requirements

When acute toxicity is detected in the effluent greater than the applicable effluent limitation established in section III.A.1.c., or chronic toxicity is detected greater than a chronic toxicity trigger of 1 TUc, and the discharge is continuing, the Discharger shall resample immediately, retest, and report the results to the Executive Officer, who will determine whether to initiate an enforcement action, require a Toxicity

Reduction Evaluation (TRE) in accordance with the Discharger's TRE Workplan, or implement other measures.

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, 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.

Within 90 days of the effective date of this Order, the Discharger shall submit to the Central Coast Water Board, a TRE Workplan, which describes steps that the Discharger intends to follow in the event that a toxicity effluent limitation or toxicity trigger established by this Order is exceeded in the discharge. The workplan shall be prepared in accordance with current technical guidance and reference material, including EPA/600/2-88/062, and shall include, at a minimum:

i. Actions that will be taken to investigate/identify the causes/sources of toxicity;

ii. Actions that will be evaluated to mitigate the impact of the discharge, to correct the non-compliance, and/or to prevent the recurrence of acute or chronic toxicity (this list of action steps may be expanded, if a TRE is undertaken); and

iii. A schedule under which these actions will be implemented.

When monitoring measures toxicity in the effluent above a limitation or toxicity trigger established by this Order, if the discharge is continuing, the Discharger shall resample immediately, and retest for the applicable acute or chronic toxicity. Results of an initial failed test and results of subsequent monitoring shall be reported to the Executive Officer as soon as possible following receipt of monitoring results. The Executive Officer will determine whether to initiate enforcement action, whether to require the Discharger to implement a TRE, or to implement other measures. When the Executive Officer requires the Discharger to conduct a TRE, the TRE shall be conducted giving due consideration to guidance provided by the USEPA's Toxicity Reduction Evaluation Procedures, Phases 1, 2, and 3 (USEPA document Nos. EPA 600/R-91/003, 600/R-92/080, and 600/R-92/081, respectively). A TRE, if necessary, shall be conducted in accordance with the following schedule.

Table 7. 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 Executive Officer.
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 Executive Officer.

3. Best Management Practices and Pollution Prevention

a. Best Management Practices. The Discharger shall develop and implement a Best Management Practices (BMP) plan to ensure that no contaminated storm water leaves the treatment and disposal facilities and flow to surface waters. A BMP plan is designed to prevent, or minimize the potential for release of toxic substances from ancillary activities to the water of the State through plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw materials storage. BMP plans may either be source controls, which prevents a discharge, or treatment controls, which remove pollutants from a discharge before reaching surface or ground waters. BMPs should be certified by the State Water Resources Quality Control Board to be considered "best". Further information regarding BMP plans is found in Chapter 4 of the Basin Plan, and the appropriate Best Management Practices Handbook.

If a storm water pollution prevention plan (SWPPP) is developed for compliance with the General Permit No. CAS000001, pursuant to Provision VI.C.6, below, the SWPPP will satisfy this BMP plan requirement.

b. Pollutant Minimization Program – Not Applicable

4. Construction, Operation and Maintenance Specifications – Not Applicable

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

6. Other Special Provisions

a. Discharges of Storm Water. For the control of storm water discharged from the site of the produced water facilities, if applicable, the Discharger shall seek authorization to discharge under and meet the requirements of the State Water Board's Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS0000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities.

7. Compliance Schedules – Not Applicable

VI. 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 reportable 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 reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

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.

C. Chronic Whole Effluent Toxicity Effluent Limitation (Section III.A.2). Compliance with the accelerated monitoring and TRE/TIE provisions of Provision V.C.2.a shall constitute compliance with the effluent limitation.

ATTACHMENT A – DEFINITIONS

Arithmetic Mean (μ)
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 = μ = Σx / 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 are substances that are known to cause cancer in living organisms.

Coefficient of Variation (CV)
CV is 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 this Order), 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 1 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)
DNQ are those sample results less than the RL, but greater than or equal to the laboratory's MDL. Sample results reported as DNQ are estimated concentrations.

Dilution Credit
Dilution Credit is 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)
ECA is 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
Enclosed Bays means 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 the headlands or outermost harbor works is less than 75 percent of the greatest dimension of the enclosed portion of San Francisco Bay. Enclosed bays include, but are not limited to, Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Morro Bay, Los Angeles-Long Beach Harbor, Upper and Lower Newport Bay, Mission Bay, and San Diego Bay. Enclosed bays do not include inland surface waters or ocean waters.

Estimated Chemical Concentration
The estimated chemical concentration that results from the confirmed detection of the substance by the analytical method below the ML value.

Estuaries
Estuaries means waters, including coastal lagoons, located at the mouths of streams that serve as areas of mixing for fresh and ocean waters. Coastal lagoons and mouths of streams that are temporarily separated from the ocean by sandbars shall be considered estuaries. Estuarine waters shall be considered to extend from a bay or the open ocean to a point upstream where there is no significant mixing of fresh water and seawater. Estuarine waters include, but are not limited to, the Sacramento-San Joaquin Delta, as defined in California Water Code section 12220, Suisun Bay, Carquinez Strait downstream to the Carquinez Bridge, and appropriate areas of the Smith, Mad, Eel, Noyo, Russian, Klamath, San Diego, and Otay rivers. Estuaries do not include inland surface waters or ocean waters.

Inland Surface Waters
All surface waters of the State that do not include the ocean, enclosed bays, or estuaries.

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, over a calendar day (or 24-hour period). For pollutants with limitations expressed in units of mass, the daily discharge is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the daily discharge is calculated as the arithmetic mean measurement of the pollutant over the day.

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).

Method Detection Limit (MDL)
MDL is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero, as defined in 40 C.F.R., part 136, Attachment B, revised as of July 3, 1999.

Minimum Level (ML)
ML is the concentration 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
Mixing Zone is 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)
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. Discharges to ocean waters are regulated in accordance with the State Water Board's California Ocean Plan.

Persistent pollutants
Persistent pollutants are substances for which degradation or decomposition in the environment is nonexistent or very slow.

Pollutant Minimization Program (PMP)
PMP means 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 a priority pollutant(s) 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 Central Coast 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 California Water Code section 13263.3(d), shall be considered to fulfill the PMP requirements.

Pollution Prevention
Pollution Prevention means 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 California 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 Central Coast Water Board.

Reporting Level (RL)
The RL is 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.

Sanitary Sewer Overflow is any overflow, spill, release, discharge, or diversion of untreated or partially treated wastewater from a sanitary sewer system. Sanitary sewer overflows include: (1) overflows or releases of untreated or partially treated wastewater that reach waters of the United States; (2) overflows or releases of untreated or partially treated wastewater that do not reach waters of the United States; and (3) wastewater backups into buildings and on private property that are caused by blockages or flow conditions within the publically owned portion of a sanitary sewer system.

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 Central Coast Water Board Basin Plan.

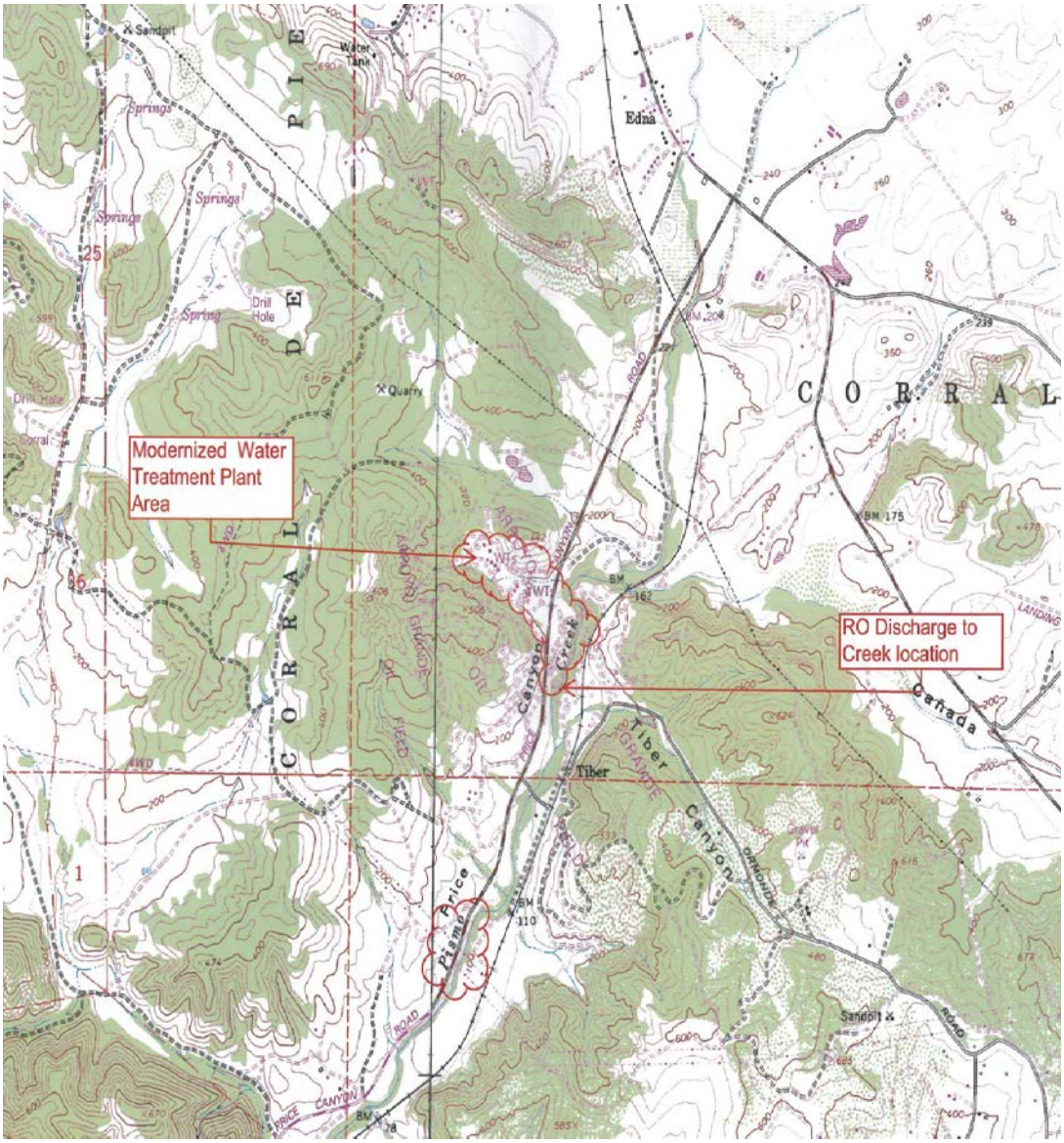
Standard Deviation (σ)
Standard Deviation is a measure of variability that is calculated as follows:

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

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)
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.)

ATTACHMENT B – FACILITY MAP



ATTACHMENT C – PROCESS FLOW DIAGRAM

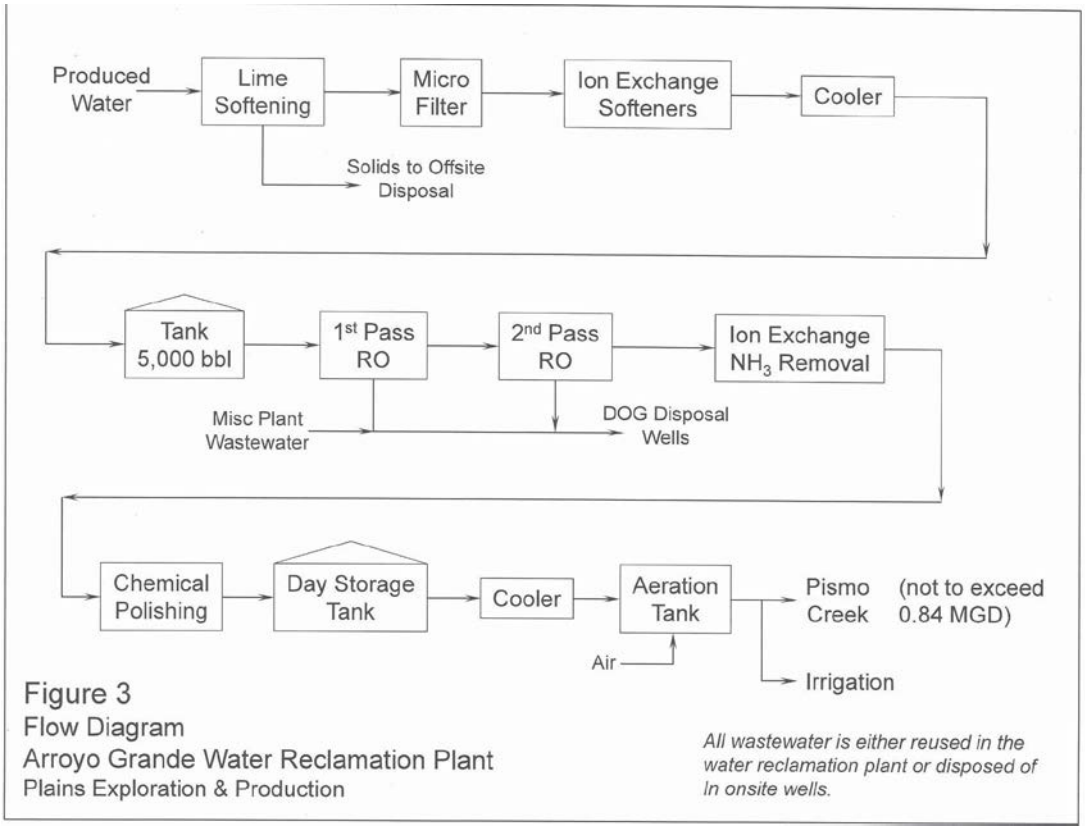


Figure 3
Flow Diagram
Arroyo Grande Water Reclamation Plant
Plains Exploration & Production

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 C.F.R. § 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 C.F.R. § 122.41(a)(1).)

B. Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the 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 C.F.R. § 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 C.F.R. § 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 the Discharger only when necessary to achieve compliance with the conditions of this Order (40 C.F.R. § 122.41(e)).

E. Property Rights

1. This Order does not convey any property rights of any sort or any exclusive privileges. (40 C.F.R. § 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 C.F.R. § 122.5(c).)

F. Inspection and Entry

The Discharger shall allow the Central Coast 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 C.F.R. § 122.41(i); Wat. 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(m)(2).)

3. Prohibition of bypass. Bypass is prohibited, and the Central Coast Water Board may take enforcement action against the Discharger for bypass, unless (40 C.F.R. § 122.41(m)(4)(i)):

    a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage (40 C.F.R. § 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 C.F.R. § 122.41(m)(4)(i)(B)); and

    c. The Discharger submitted notice to the Central Coast Water Board as required under Standard Provisions – Permit Compliance I.G.5 below. (40 C.F.R. § 122.41(m)(4)(i)(C).)

4. The Central Coast Water Board may approve an anticipated bypass, after considering its adverse effects, if the Central Coast Water Board determines that it will meet the three conditions listed in Standard Provisions – Permit Compliance I.G.3 above. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(n)(3)):

   a. An upset occurred and that the Discharger can identify the cause(s) of the upset (40 C.F.R. § 122.41(n)(3)(i));

   b. The permitted facility was, at the time, being properly operated (40 C.F.R. § 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 C.F.R. § 122.41(n)(3)(iii)); and

   d. The Discharger complied with any remedial measures required under Standard Provisions – Permit Compliance I.C above. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.41(b).)

C. Transfers

This Order is not transferable to any person except after notice to the Central Coast Water Board. The Central Coast Water Board may require modification or revocation and reissuance of this 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 C.F.R. § 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 C.F.R. § 122.41(j)(1).)

B. Monitoring results must be conducted according to test procedures under 40 C.F.R., part 136 or, in the case of sludge use or disposal, approved under 40 C.F.R., part 136 unless otherwise specified in 40 C.F.R., part 503 unless other test procedures have been specified in this Order. (40 C.F.R. § 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 40 C.F.R., 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 C.F.R. § 122.41(j)(2).)

B. **Records of monitoring information shall include**:

1. The date, exact place, and time of sampling or measurements (40 C.F.R. § 122.41(j)(3)(i));

2. The individual(s) who performed the sampling or measurements (40 C.F.R. § 122.41(j)(3)(ii));

3. The date(s) analyses were performed (40 C.F.R. § 122.41(j)(3)(iii));

4. The individual(s) who performed the analyses (40 C.F.R. § 122.41(j)(3)(iv));

5. The analytical techniques or methods used (40 C.F.R. § 122.41(j)(3)(v)); and

6. The results of such analyses. (40 C.F.R. § 122.41(j)(3)(vi).)

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

1. The name and address of any permit applicant or Discharger (40 C.F.R. § 122.7(b)(1)); and

2. Permit applications and attachments, permits and effluent data. (40 C.F.R. § 122.7(b)(2).)

V. STANDARD PROVISIONS – REPORTING

A. Duty to Provide Information

The Discharger shall furnish to the Central Coast Water Board, State Water Board, or USEPA within a reasonable time, any information which the Central Coast 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 Central Coast Water Board, State Water Board, or USEPA copies of records required to be kept by this Order. (40 C.F.R. § 122.41(h); Wat. Code, § 13267.)

B. Signatory and Certification Requirements

1. All applications, reports, or information submitted to the Central Coast 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 C.F.R. § 122.41(k).)

2. All permit applications shall be signed by either a principal executive officer or ranking elected official. For purposes of this provision, a principal executive officer of a federal agency includes: (i) the chief executive officer of the agency, or (ii) a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrators of USEPA). (40 C.F.R. § 122.22(a)(3).).

3. All reports required by this Order and other information requested by the Central Coast 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 C.F.R. § 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 C.F.R. § 122.22(b)(2)); and

   c. The written authorization is submitted to the Central Coast Water Board and State Water Board. (40 C.F.R. § 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 Central Coast Water Board and State Water Board prior to or together with any reports, information, or applications, to be signed by an authorized representative. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 122.22(l)(4).)

2. Monitoring results must be reported on a Discharge Monitoring Report (DMR) form or forms provided or specified by the Central Coast Water Board or State Water Board for reporting results of monitoring of sludge use or disposal practices. (40 C.F.R. § 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 Central Coast Water Board. (40 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 become 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 C.F.R. § 122.41(l)(6)(i).)

2. The following shall be included as information that must be reported within 24 hours under this paragraph (40 C.F.R. § 122.41(l)(6)(ii)):

a. Any unanticipated bypass that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(A).)

b. Any upset that exceeds any effluent limitation in this Order. (40 C.F.R. § 122.41(l)(6)(ii)(B).)

3. The Central Coast 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 C.F.R. § 122.41(l)(6)(iii).)

F. Planned Changes

The Discharger shall give notice to the Central Coast 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 C.F.R. § 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 C.F.R. § 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 C.F.R. § 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 C.F.R.§ 122.41(l)(1)(iii).)

G. Anticipated Noncompliance

The Discharger shall give advance notice to the Central Coast 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 C.F.R. § 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 C.F.R. § 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

Central Coast Water Board, State Water Board, or USEPA, the Discharger shall promptly submit such facts or information. (40 C.F.R. § 122.41(l)(8).)

VI. STANDARD PROVISIONS – ENFORCEMENT

A. The Central Coast Water Board is authorized to enforce the terms of this Order 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 Central Coast Water Board as soon as they know or have reason to believe (40 C.F.R. § 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 C.F.R. § 122.42(a)(1)):

   a. 100 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(1)(i));

   b. 200 µg/L for acrolein and acrylonitrile; 500 µg/L for 2,4-dinitrophenol and 2-methyl-4,6-dinitrophenol; and 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(1)(ii));

   c. Five (5) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(1)(iii));

   d. The level established by the Central Coast Water Board in accordance with section 122.44 (f). (40 C.F.R. § 122.42(a)(1)(iv).)

2. That any activity has occurred or will occur that would result in the discharge, on a non-routine or infrequent 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 C.F.R. § 122.42(a)(2)):

   a. 500 micrograms per liter (µg/L) (40 C.F.R. § 122.42(a)(2)(i));

   b. 1 milligram per liter (mg/L) for antimony (40 C.F.R. § 122.42(a)(2)(ii));

   c. Ten (10) times the maximum concentration value reported for that pollutant in the Report of Waste Discharge (40 C.F.R. § 122.42(a)(2)(iii)); or

   d. The level established by the Central Coast Water Board in accordance with section 122.44(f). (40 C.F.R. § 122.42(a)(2)(iv).)

VII. CENTRAL COAST WATER BOARD STANDARD PROVISIONS

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 §307(a) of the Clean Water Act (CWA) 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 nuisance or pollution, as defined by California Water Code (CWC) §13050.

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 of in a manner approved by the Executive Officer.

5. Wastewater treatment plants shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Title 23 of the California Code of Regulations.

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.

   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.

   e. Other causes set forth under Sub-part D of 40 CFR Part 122.

9. Safeguards shall be provided to ensure 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 effect of accidental discharges shall:

   a. identify possible situations that could cause "upset," "overflow," "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. The discharger shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the discharger to achieve compliance with the conditions of this order. Electrical and mechanical equipment shall be maintained in accordance with appropriate practices and standards, such as NFPA 70B, *Recommended Practice for Electrical Equipment Maintenance*; NFPA 70E, *Standard for Electrical Safety in the Workplace*; ANSI/NETA MTS *Standard for Maintenance: Testing Specifications for Electrical Power Equipment and Systems*, or procedures established by insurance companies or other industry resources.

12. If the discharger's facilities are equipped with SCADA or other systems that implement wireless, remote operation, the discharger should implement appropriate safeguards against unauthorized access to the wireless systems. Standards such as NIST SP 800-53, *Recommended Security Controls for Federal Information Systems*, can provide guidance.

13. Production and use of recycled water is subject to the approval of the Central Coast Water Board. Production and use of recycled water shall be in conformance with reclamation criteria established in Chapter 3, Title 22, of the California Code of Regulations and Chapter 7, Division 7, of the California Water Code. An engineering report pursuant to section 60323, Title 22, of the California Code of Regulations is required and a waiver or water reclamation requirements from the Central Coast Water 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 copper is monitored annually and results exceed the six-month median numerical effluent limitation in the permit, monitoring of copper 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 Public Health (DPH) for the constituents being analyzed. Bioassays performed to monitor compliance with this permit shall be in accord with guidelines approved by the State Water Resources Control Board (State Water Board) and the State Department of Fish and Game

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 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 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.

   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 electronically to the:
   California Regional Water Quality Control Board
   Central Coast Region
   centralcoast@waterboards.ca.gov
   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
   USEPA, 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 a 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 CWA §308 (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 USEPA. Please also see Federal Standard Provision – Records IV.C.

8. By February 1st of each year, the discharger shall submit an annual report to the Central Coast Water Board. The report shall contain the following:

   a. Both tabular and graphical summaries of the monitoring data obtained during the previous year.

   b. A discussion of the previous year's compliance record and corrective actions taken, or which may be needed, to bring the discharger into full compliance.

   c. An evaluation of wastewater flows with projected flow rate increases over time and the estimated date when flows will reach facility capacity.

   d. A discussion of operator certification and a list of current operating personnel and their grades of certification.

   e. The date of the facility's Operation and Maintenance Manual (including contingency plans as described in Provision B.9), the date the manual was last reviewed, and whether the manual is complete and valid for the current facility.

   f. A discussion of the laboratories used by the discharger to monitor compliance with effluent limits and a summary of performance relative to Section C, General Monitoring Requirements.

   g. 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.

   h. If appropriate, 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 Program."

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 by the date specified therein or, 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 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 sewering 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 that create a fire or explosion hazard in the treatment works.

   b. Wastes that will cause corrosive structural damage to treatment works, or 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 that cause obstruction to flow in sewers or that 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.

   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:

   Log Mean = (C1 x C2 x...x Cn)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:

    mass emission rate (lbs/day) = 8.34 x Q x C; and,

    mass emission rate (kg/day) = 3.79 x Q x 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 flowrate or the average of measured daily flowrates over the period of interest.

11. "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.

    Average = (X1 + X2 + ... + Xn) / n

    in which “n" is the number of days that 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, stormwaters, 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):

$C_{Effluent}$ Removal Efficiency (%) = 100 x (1 – $C_{effluent}$ / $C_{influent}$)

20. "Severe property damage" means substantial physical damage to property, damage to treatment facilities that causes them to become inoperable, or substantial and permanent loss to natural resources that 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:

    a. Discharge a daily pollutant loading in excess of that allowed by contract with the "Discharger" or by federal, state, or local law;

    b. 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, that 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 Board.

ATTACHMENT E – MONITORING AND REPORTING PROGRAM

Contents

Tables

ATTACHMENT E – MONITORING AND REPORTING PROGRAM (MRP)

The Code of Federal Regulations 40 C.F.R. § 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 (Central Coast 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 California Department of Public Health (DPH), 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 Central Coast 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 C.F.R. 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 (CTR) 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) (SIP).

G. Monitoring and sampling periods are defined as follows unless otherwise specified in this MRP:

1. Daily: Midnight through 11:59 PM, or any 24-hour period that reasonably represents a calendar day for purposes of sampling.

2. Weekly: Sunday through Saturday (Note: *For weekly monitoring and sampling periods that start in one monthly reporting period but end in the next, the Discharger may report the weekly data in the monthly monitoring report containing the last day of the weekly period*.)

3. Monthly: 1st day of calendar month through last day of calendar month

4. Quarterly: First Quarter: January 1st through March 31st
Second Quarter: April 1st through June 30th
Third Quarter: July 1st through September 30th
Fourth Quarter: October 1st through December 31st

5. Semi-Annually: First Half: January 1st through June 30th
Second half: July 1st through December 31st

6. Annually: January 1st through December 31st

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

Type of Sampling Location	Monitoring Location Name	Monitoring Location Description
Influent	INF-001	Influent wastewater, prior to discharge to the treatment facilities.
Effluent	EFF-001	Location representative of final effluent following full treatment, prior to contact with the receiving water or other waste streams.
Reclaimed Water	REC-001	Location representative of reclaimed water following full treatment, prior to distribution.
Upstream Receiving Water	RW-001	Pismo Creek immediately upstream of Discharge Point No. 001 where representative samples of background conditions in the receiving water, not influenced by this discharge, can be collected.
Downstream Receiving Water	RW-002	Pismo Creek immediately downstream of Discharge Point No. 001 where representative samples of downstream conditions in the commingled stream can be collected.

III. INFLUENT MONITORING REQUIREMENTS

A. Monitoring Location INF-001

The Discharger shall monitor the influent at Monitoring Location INF-001 as follows.

Table E-2. Influent Monitoring

Parameter	Units	Sample Type	Minimum Sampling Frequency
Flow	MGD	continuous	Continuous[1]
Max Daily Flow	MGD	calculated	1/Month
Mean Daily Flow	MGD	calculated	1/Month

Footnotes to Table E-2:

Units:

MGD = million gallons per day

[1] Continuous monitoring for flow and daily reporting.

IV. EFFLUENT MONITORING REQUIREMENTS

A. Monitoring Location EFF-001

The Discharger shall monitor the discharge at Monitoring Location EFF-001 as follows:

Table E-3. Effluent Monitoring Location EFF-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Flow	MGD	Continuous	Daily
Mean Daily Flow	MGD	--	Monthly
Maximum Daily Flow	MGD	--	Monthly
pH [1]	s.u.	Grab	Daily
Total Ammonia (as N) [1]	mg/L	Grab	Quarterly
Nitrate (as N)	mg/L	Grab	Quarterly
Phosphorus	mg/L	Grab	Quarterly
Biochemical Oxygen Demand (BOD_5)	mg/L	C-24	Monthly
Total Dissolved Solids (TDS)	mg/L	C-24	Weekly
Total Suspended Solids (TSS)	mg/L	C-24	Monthly
Temperature [1]	ºF	Grab	Monthly
Benzene	µg/L	Grab	Monthly
Phenol	µg/L	Grab	Monthly
Oil and Grease	mg/L	Grab	Monthly
Acute Toxicity [2]	TUa	C-24	2/Year
Chronic Toxicity [2]	TUc	C-24	2/Year
Radium-226 and 228, combined [3]	pCi/L	Grab	Quarterly
Hardness	mg/L $CaCO_3$	Grab	Quarterly
Metals [3] [4]	µg/L	C-24	Quarterly
CTR Pollutants 13-126 [5]	µg/L	C-24/Grab	1/Year
Title 22 Pollutants [6]	µg/L	C-24	1/Year

Parameter	Units	Sample Type	Minimum Sampling Frequency

Footnotes to Table E-3

Units:

MGD	=	million gallons per day
mg/L	=	milligrams per liter
mg/L $CaCO_3$	=	milligrams per liter as calcium carbonate
µg/L	=	micrograms per liter
pCi/L	=	picocuries per liter
s.u	=	standard units
C-24	=	24-hour composite

[1] Temperature and pH shall be measured simultaneously with the sample taken for measurement of total ammonia. Results shall be used to calculate un-ionized ammonia concentration.

[2] Whole effluent acute and chronic toxicity monitoring shall be conducted according to the requirements established in section V of this Monitoring and Reporting Plan. Acute and chronic testing will alternate each quarter, such that each are tested twice per year.

[3] Monitoring shall continue on a quarterly basis for eight consecutive monitoring events (2 years), at which time monitoring frequency may be reduced to one time per year following written approval by the Central Coast Water Board Executive Officer.

[4] Metals include the CTR metals identified as pollutant numbers 1-13 at 40 C.F.R. 131.38 (b), the Title 22 metals for which maximum contaminant levels are established by Table 64431-A, in Title 22 of the California Code of Regulations, Section 64431; and those metals with applicable water quality objectives established in Tables 3-4 and 3-5 of the Basin Plan for the protection of agriculture and aquatic life beneficial uses – aluminum, antimony, arsenic, barium, beryllium, boron, cadmium, chromium (+3 and +6), cobalt, copper, iron, lead, lithium, manganese, mercury, molybdenum, nickel, selenium, silver, thallium, vanadium, and zinc.

[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 year. Analyses, compliance determination, and reporting for these pollutants shall adhere to applicable provisions of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). The Discharger shall instruct its analytical laboratory to establish calibration standards so that the Minimum Levels (MLs) presented in Appendix 4 of the SIP are the lowest calibrated standards. The Discharger and its analytical laboratory shall select MLs, which are below applicable water quality criteria of the CTR; and when applicable water quality criteria are below all MLs, the Discharger and its analytical laboratory shall select the lowest ML. Monitoring for the CTR pollutants in effluent shall occur simultaneously with monitoring required for the CTR pollutants in receiving water.

[6] The Title 22 pollutants are those for which primary Maximum Contaminant Levels (MCLs) 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. Analytical methods shall adhere to the Detection Limits for Purposes of Reporting (DLRs) established by Title 22 of the California Code of Regulations, Division 4, Chapter 15, section 64432 and 64445.1. Monitoring for the Title 22 pollutants in effluent shall occur simultaneously with monitoring required for the Title 22 pollutants in receiving water.

V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

A. Whole Effluent Acute Toxicity – Monitoring Location EFF-001

1. The Discharger shall perform monitoring for acute toxicity as specified in Table E-3. Bioassays shall be conducted using the fathead minnow (*Pimephales promelas*) and the water flea (*Ceriodaphnia dubia*), unless the Executive Officer specifies in writing otherwise. The fathead minnow shall be used to study the effluent effect on larval survival and the water flea shall be used to study the effluent effect on survival.

Table E-4. Approved Test for Acute Toxicity

Species	Scientific Name	Effect	Test Duration (days)
Fathead Minnow	*Pimephales promelas*	Larval Survival	7
Water Flea	*Ceriodaphnia dubia*	Survival	7

2. All bioassays shall be performed in accordance with *Methods for Measuring the Acute Toxicity of Effluents and Receiving Water to Freshwater and Marine Organisms,* 5th Edition (EPA 821-R-02-012), or subsequent editions.

B. Whole Effluent Chronic Toxicity – Monitoring Location EFF-001

1. Chronic Toxicity Monitoring Requirements

a. Toxicity Trigger. A toxicity trigger of 1 TUc is established for the discharge of effluent through Discharge Point No. 001.

b. Sampling. The Discharger shall collect 24-hour composite samples of the effluent at EFF-001, as specified in Table E-3 above, for critical life stage toxicity testing as indicated below. For toxicity testing requiring renewals, 24-hour composite samples collected on consecutive days are required. The Discharger may request approval from the Executive Officer for an alternative to the renewal sampling requirements above.

c. Test Species. The test species shall be *Pimephales promelas*. The Executive Officer may change the test species if data suggest that another test species is more sensitive to the discharge.

Table E-5. Short-Term Methods for Estimating Chronic Toxicity – Fresh Water

Species	Scientific Name	Effect	Test Duration (days)
Fathead Minnow	*Pimephales promelas*	Larval Survival	7

d. Methodology. Sample collection, handling, and preservation shall be in accordance with USEPA protocols. In addition, bioassays shall be conducted in compliance with the most recently promulgated test methods, as shown in Appendix E-1 and *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Marine and Estuarine Organisms,* currently third edition (EPA-821-R-02-014) and/or *Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms*, currently fourth Edition (EPA-821-R-02-013), with exceptions granted the Discharger by the Executive Officer and the Environmental Laboratory Accreditation Program (ELAP).

e. Dilution Series. The Discharger shall conduct tests at 100%, 75%, 50%, 25%, and 12.5%. The "%" represents percent effluent as discharged. The Discharger

may use the biological buffer MOPS (3-(N-Morpholino)propanesulfonic Acid) to control pH drift and ammonia toxicity caused by increasing pH during the test.

2. Chronic Toxicity Reporting Requirements

a. Routine Reporting. Toxicity test results for the current reporting period shall include, at a minimum, for each test:

i. Sample dates

ii. Test initiation date

iii. Test species

iv. End point values for each dilution (e.g. number of young, growth rate, percent survival)

v. NOEC values in percent effluent

vi. IC_{15}, IC_{25}, IC_{40}, and IC_{50} values (or EC_{15}, EC_{25} ... etc.) in percent effluent

vii. TUc values (100/NOEC, 100/IC_{25}, or 100/EC_{25})

viii. Mean percent mortality (±s.d.) after 96 hours in 100% effluent (if applicable)

ix. NOEC and LOEC values for reference toxicant tests

x. IC_{50} or EC_{50} values for reference toxicant tests

xi. Available water quality measurements for each test (pH, dissolved oxygen, temperature, conductivity, hardness, salinity, ammonia)

b. Compliance Summary. The results of the chronic toxicity testing shall be provided in the next Self-Monitoring Report and shall include a summary table of chronic toxicity data from at least eleven of the most recent samples. The information in the table shall include the items listed above under 2.a., item numbers i, iii, v, vi (IC_{25} or EC_{25}), vii, and viii.

C. Quality Assurance

1. 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).

2. 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.).

3. 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.

4. 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.

D. Accelerated Monitoring Requirements

1. When acute toxicity is detected in the effluent above an effluent limitation established by this Order or when the chronic toxicity trigger of 1 TUc is exceeded during regular toxicity monitoring, and the testing meets all test acceptability criteria, the Discharger shall resample immediately to verify the effluent toxicity. If the retest results in acute toxicity less than 90 percent survival or chronic toxicity greater than 1 TUc, the Discharger shall initiate accelerated monitoring.

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, or as otherwise instructed by the Executive Officer. Test results shall be submitted to the Central Coast Water Board within 15 days of the conclusion of each test.

3. Unless otherwise specified by the Executive Officer, if the implementation of the generic Toxicity Reduction Evaluation (TRE) work plan indicates the source of the exceedance of the effluent limitation or toxicity trigger (for instance, a temporary plant upset), then only one additional test is necessary. If exceedance of the effluent limitation or 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. Unless otherwise specified by the Executive Officer, if none of the three tests indicated exceedance of the effluent limitation or toxicity trigger, then the Discharger may return to the normal bioassay testing frequency.

E. Conducting Toxicity Identification Evaluations (TIE) and Toxicity Reduction Evaluations (TRE)

1. Unless otherwise specified by the Executive Officer, if toxicity is confirmed to be present in the effluent during accelerated monitoring. A TIE may be required as part of the TRE.

   Toxicity shall be confirmed if the acute toxicity effluent limitations established in section III.A.1.c are not met or chronic toxicity tests result in greater than 1 TUc.

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) (EPA-600-6-91-005F);

b. Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures, Second Edition (USEPA, 1991a) (EPA-600-R-91-003);

c. Methods for Aquatic Toxicity Identification Evaluations: Phase II Toxicity Identification Procedures for Sampling Exhibiting Acute and Chronic Toxicity (USEPA, 1993a) (EPA-600-R-92-080); and

d. Methods for Aquatic Toxicity Identification Evaluations: Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity (USEPA, 1993b) (EPA-600-R-92-081).

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 includes the following:

a. Generalized Methodology for Conducting Industrial Toxicity Recduction Evaluations (TREs) (USEPA, April 1989) (EPA/600/2-88/070);

b. Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants (USEPA, 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. RECLAIMED WATER MONITORING REQUIREMENTS

1. The Discharger shall maintain records of the volumes of water delivered to each reclamation site. For each location of reclamation/reuse, the following information shall be maintained and reported:

   - Location and uses of reclaimed water.
   - Land owners on which reclaimed water is used.
   - Total volume and maximum daily volume of water reclaimed during the reporting period.
   - Percent of total flow that is reclaimed.

2. Reclaimed water shall be monitored as specified below at Monitoring Location REC-001 in order to demonstrate compliance with section III.C of the Order.

Table E-6. Reclaimed Water - Monitoring Location REC-001

Parameter	Units	Sample Type	Minimum Sampling Frequency
Total Flow	MGD	Continuous	Daily
Mean Daily Flow	MGD	--	Monthly
Maximum Daily Flow	MGD	--	Monthly
pH	s.u.	Grab	Daily
Total Dissolved Solids (TDS)	mg/L	C-24	Weekly
Benzene	µg/L	Grab	Monthly
Phenol	µg/L	Grab	Monthly
Oil and Grease	mg/L	Grab	Monthly

VIII. RECEIVING WATER MONITORING REQUIREMENTS

A. Receiving Water Monitoring – RW-001 and RW-002

1. The Discharger shall monitor the receiving water into Pismo Creek at Monitoring Stations RW-001 and RW-002 in accordance with the following schedule:

Table E-7. Receiving Water Monitoring Requirements- RW-001 and RW-002

Parameter	Units	Sample Type	Minimum Sampling Frequency
Hardness (as $CaCO_3$)	mg/L	Grab	Every other year [1]
TDS	mg/L	Grab	Every other year [1]
Temperature	°F	Grab	Every other year [1]
Oil and Grease	mg/L	Grab	Every other year [1]
CTR Pollutants [2]	µg/L	Grab	Every other year [1]
Title 22 Pollutants [3]	µg/L	Grab	Every other year [1]
Basin Plan Table 3-3 Pollutants [4]	vary	Grab	Every other year [1]
Basin Plan Table 3-4 Pollutants [5]	mg/L	Grab	Every other year [1]

[1] Monitoring shall include sampling in a dry season and in a wet season during the expected five-year permit term that begins at the time of permit adoption.

[2] Those pollutants identified in the CTR at 40 C.F.R. 131.38. Analyses, compliance determination, and reporting for these pollutants shall adhere to applicable provisions of the *Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP).*

[3] Those pollutants with primary MCLs established at Tables 64431-A and 64444-A of the California Code of Regulations, Title 22, Division 4, Chapter 15.

[4] Those pollutants with water quality standards established by the Basin Plan at Table 3-3, Guidelines for Interpretation of Quality of Water for Irrigation.

[5] Those pollutants with water quality standards established in the Basin Plan at Table 3-4, Water Quality Objectives for Agricultural Water Use.

IX. OTHER MONITORING REQUIREMENTS – NOT APPLICABLE

X. REPORTING REQUIREMENTS

A. General Monitoring and Reporting Requirements

The Discharger shall comply with all Federal Standard Provisions and Central Coast Water Board Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.

B. Self-Monitoring Reports (SMRs)

1. The Discharger shall submit electronic SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website (http://www.waterboards.ca.gov/water_issues/programs/ciwqs/). The CIWQS website will provide additional directions for SMR submittal in the event of a service interruption for electronic submittal. The Discharger shall use the current version of the Permittee Entry Template (PET) tool to configure data into the applicable CIWQS Data Format, and shall update that template according to this Order (e.g., add/delete parameters, revise limits, update monitoring locations, etc). Blank versions of the latest PET tool are available at:

http://www.waterboards.ca.gov/water_issues/programs/ciwqs/chc_npdes.shtml.

2. The Discharger shall report in the SMR the results for all monitoring specified in this MRP under sections III through X. The Discharger shall submit 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. Sampling and monitoring as required by this MRP shall begin on the effective date of this Order. The Discharger shall complete all required monitoring and reporting according to the following schedule unless otherwise directed by the Executive Officer:

Table E-8. SMR Schedule

SMR Name	Permit Section for Monitoring & Sampling Data Included in Report	SMR Submittal Frequencies	SMR Due Date
NPDES Monitoring Report - General	MRP Section III (Influent) and Section IV.A (Effluent)	Monthly	First day of second calendar month following period of sampling

SMR Name	Permit Section for Monitoring & Sampling Data Included in Report	SMR Submittal Frequencies	SMR Due Date
NPDES Monitoring Report – Recycled Water	MRP Section VII Table E-5 (Recycled Water)	Monthly	First day of second calendar month following period of sampling
NPDES Monitoring Report - Quarterly Constituents	MRP Section IV.A Table E-3 (Effluent)	Quarterly	1st Quarter: May 1st 2nd Quarter: Aug 1st 3rd Quarter: Nov 1st 4th Quarter: Feb 1st
NPDES Monitoring Report - Chronic Toxicity	MRP Section IV Table E-3 (Effluent)	Semi-annually	1st half: May 1st (following 1st Qtr sampling) 2nd half: Nov 1st (following 3rd Qtr sampling)
NPDES Monitoring Report - Acute Toxicity	MRP Section IV Table E-3 (Effluent)	Semi-annually	1st half: Aug 1st (following 2nd Qtr sampling) 2nd half: Feb 1st (following 4th Qtr sampling)
NPDES Monitoring Report – CTR and Title 22	MRP Section IV.A Table E-3 (Effluent)	Annually	February 1st (following calendar year of sampling)
Summary Report	Attachment D, Standard Provision VIII.D.8	Annually	February 1st (following calendar year of sampling)
NPDES Monitoring Report – Receiving Water	MRP Section VIII.A Table E-6 (Receiving Water)	Biannually	February 1st, 2015, 2017, and 2019 (following sampling in calendar year 2014 dry season, 2016 wet season, and 2018 wet or dry season)

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Reporting Level (RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 C.F.R. 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 RL shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).

b. Sample results less than the RL, 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. 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 (+ 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. Discharge Monitoring Reports

1. Similar to section X.B.1 above, at any time during the term of this permit, the State or Central Coast Water Board may notify the Discharger to electronically submit (DMRs). Until such notification is given specifically for the submittal of DMRs, the Discharger shall submit DMRs in accordance with the requirements described below.

2. DMRs must be signed and certified as required by the standard provisions (Attachment D). The Discharger shall submit the original DMR and one copy of the DMR to one of the addresses listed below:

Standard Mail	FedEx/UPS/Other Private Carriers
State Water Resources Control Board Division of Water Quality c/o DMR Processing Center PO Box 100 Sacramento, CA 95812-1000	State Water Resources Control Board Division of Water Quality c/o DMR Processing Center 1001 I Street, 15th Floor Sacramento, CA 95814

3. All discharge monitoring results must be reported on the official USEPA pre-printed DMR forms (EPA Form 3320-1) or on self-generated forms that follow the exact same format of EPA Form 3320-1.

D. Other Reports

The Discharger shall report the results of any special studies, monitoring, and reporting required by section V.C (Special Studies, Technical Reports, and Additional Monitoring) of the Order with the first monthly SMR following the respective due date.

ATTACHMENT F - FACT SHEET

Contents

Tables

ATTACHMENT F – FACT SHEET

As described in section I of this Order, the Central Coast Water Board incorporates this Fact Sheet as findings of the Central Coast Water Board supporting the issuance 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" fully apply to this Discharger.

I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

Table F-1. Facility Information

WDID	3 400412441
Discharger	Freeport-McMoRan Oil and Gas
Name of Facility	Produced Water Reclamation Facility
Facility Address	1821 Price Canyon Road Arroyo Grande, CA 93420 San Luis Obispo County
Facility Contact, Title, Phone	David Rose, EH&S Manager, (805) 934-8220
Authorized Person to Sign and Submit Reports	David Rose, EH&S Manager, (805) 934-8220
Mailing Address	201 S. Broadway Orcutt, CA 93455
Billing Address	SAME
Type of Facility	Treatment of Produced Water Derived from Crude Oil Extraction
Major or Minor Facility	Major
Threat to Water Quality	2
Complexity	A
Pretreatment Program	No
Reclamation Requirements	Yes
Facility Permitted Flow	0.84 million gallons per day (MGD)
Watershed	Pismo Creek
Receiving Water	Pismo Creek (below the Hyla Crossing)
Receiving Water Type	Inland Fresh Surface Water

A. Freeport-McMoRan Oil and Gas (hereinafter the Discharger), formerly Plains Exploration and Production, is the owner and operator of the Produced Water Reclamation Facility (hereinafter the Facility), a wastewater treatment plant.

For the purposes of this Order, references to the "dischargers" or "permittee" in applicable federal and state laws, regulations, plans, and policies are held to be equivalent to references to the Discharger herein.

B. The Facility discharges wastewater to Pismo Creek, a water of the United States, tributary to the Pacific Ocean within the Estero Bay Watershed. The Discharger was previously regulated by Order No. R3-2008-0004 and National Pollutant Discharge Elimination System (NPDES) Permit No. CA0050628 adopted on May 9, 2008. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

Prior to making any change in the point of discharge, place of use, or purpose of use of treated wastewater that results in a decrease of flow in any portion of a watercourse, the Discharger must file a petition with the State Water Resources Control Board (State Water Board), Division of Water Rights, and receive approval for such a change. The State Water Board retains the jurisdictional authority to enforce such requirements under Water Code section 1211.

C. The Discharger filed a report of waste discharge (ROWD) and submitted an application for reissuance of its Waste Discharge Requirements (WDRs) and National Pollutant Discharge Elimination System (NPDES) permit on October 29, 2012.

II. FACILITY DESCRIPTION

A. Description of Wastewater and Biosolids Treatment or Controls

The Discharger owns and operates a crude oil recovery facility within the Arroyo Grande Oil Field, and has recently completed construction on a new wastewater reclamation facility for treatment of the produced water generated by the oil extraction process. Produced water is all water associated with oil and gas producing formations when the reservoir is produced and brought to the surface. The water may include flow from above or below the hydrocarbon zone or flow from an injection recovery facility. The treatment plant utilizes two phases. The first phase consists of warm-lime softening, microfiltration to remove particulates, strong-acid cation softening, and cooling of the produced water as a pretreatment before the second phase. Miscellaneous plant wastewater is incorporated into the wastestream before the beginning of the second phase. The second series of treatments include a two pass reverse osmosis (RO) system, weak-ion exchange NH_3 removal, chemical polishing, storage, cooling, and aeration. The treated water goes into both irrigation uses and the rest is discharged into the Pismo Creek, with volumes not to exceed 0.84 MGD. The produced water reclamation facility is located approximately 1,700 feet from Pismo Creek. As of the October 26, 2012 submittal date of the ROWD by the Discharger, the Facility had not yet commenced operation of the produced water treatment system, nor had any discharges from the Facility occurred.

B. Discharge Points and Receiving Waters

Effluent from the Facility is discharged to Pismo Creek below the Hydra Crossing, a water of the United States, located within the Estero Bay hydrologic unit.

Table F-2. Outfall Locations

Discharge Point	Effluent Description	Discharge Point Latitude	Discharge Point Longitude	Receiving Water
001	Produced Water	35º 11' 10.8"	120º 37' 3.7"	Pismo Creek

On July 11, 2006, the Discharger submitted a report, titled "Revised Hydrologic , Water Quality, and Biological Characterization of the Pismo Creek Report", in which Pismo Creek was characterized as possessing measured base flow conditions ranging from 0.58 to 1.1 MGD (0.9 to 1.76 cubic feet per second; cfs). As of the submittal date of the ROWD, no discharge has yet occurred at the Facility, however, the anticipated discharge volume of treated produced water from the Facility to Pismo Creek is approximately 0.84 MGD (1.3 cfs)

A 2002 Department of Water Resources report, titled "Water Resources of the Arroyo Grande – Nipomo Mesa", states that groundwater in the area of the discharge is recharged by stream infiltration from Pismo Creek. Based on this information and the fact that agricultural wells are located immediately downstream from the discharge location, the Central Coast Water Board has determined that the discharge contributes to recharging groundwater used for agricultural purposes downstream of the discharge point.

The 2002 Department of Water Resources report does not clearly indicate whether seawater intrusion (which had been identified in an earlier report) was occurring in the Pismo Creek basin. However, the report does clearly warn of potential seawater intrusion into the groundwater basin if groundwater extraction rates exceed the rate of recharge. Because the discharge has been found to contribute to groundwater recharge, the discharge also serves to prevent and/or reduce the potential for seawater intrusion into groundwater sources.

A 2009 Department of Fish and Game report, titled "Pismo Creek/Edna Area Water Management Plan" (prepared on behalf of the Pismo Creek/Edna Area Steering Committee) states that ocean water, at high tide, flows into Pismo Creek for about 0.5 miles, up to a point where there is a levee protecting the Pismo Beach Wastewater Treatment Plant. The Facility is upstream of the Pismo Beach Wastewater Treatment Plant, and as inflows are stopped at the WWTP, the receiving waters of Pismo Creek at the Facility can be inferred to be freshwater.

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

Effluent limitations contained in the existing Order for discharges from Discharge Point No. 001 and representative monitoring data for Monitoring Location EFF-001, for the term of the previous Order are as follows:

Table F-3. Historic Effluent Limitations and Monitoring Data

Parameter	Units	Effluent Limitations			Monitoring Data (From May 2008 – October 2012)[1]		
		Instantaneous Maximum	Average Monthly	Daily Maximum	Instantaneous Max	Highest Monthly Average	Highest Daily Discharge
Flow	MGD	0.84	--	--	NA	NA	NA
TDS	mg/L	--	--	450	NA	NA	NA
	lbs/day	--	--	3,100	NA	NA	NA
pH	s.u.	7.0 – 8.3 at all times			NA	NA	NA
Oil and Grease	mg/L	--	--	35	NA	NA	NA
Acute Toxicity	TUa	--	--	1.0	NA	NA	NA
Benzene	µg/L	--	1.0	2.0	NA	NA	NA
Phenol	µg/L	--	1.0	2.0	NA	NA	NA

Footnotes to Table F-3:

mg/L = milligrams per liter
s.u. = Standard Units
lbs/day = pounds per day
µg/L = micrograms per liter
TUa = acute toxicity units
NA = Not Available

[1] The Discharger reported that no discharges had occurred between the date of the adoption of the previous Order and the date that the ROWD was submitted.

D. Compliance Summary

No discharges have occurred at the Facility during the term of the previous Order.

E. Planned Changes

Currently no changes are planned. The Discharger recently completed construction on the Arroyo Grande Produced Water Reclamation Facility, and anticipates discharges will begin in 2013.

III. APPLICABLE PLANS, POLICIES, AND REGULATIONS

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

A. Legal Authorities

This Order serves as Waste Discharge Requirements (WDRs) pursuant to article 4, chapter 4, division 7 or the California Water Code (commencing with section 13260). This Order is also 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 Water Code (commencing with Section 13370). It shall serve as a National Pollution Discharge Elimination System (NPDES) permit for point source discharges from this facility to surface waters. This Order also serves as a Master Recycling Permit pursuant to article 4, chapter 7, division 7 of the Water Code (commencing with Section 13500).

B. California Environmental Quality Act (CEQA)

Under Water Code Section 13389, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of CEQA (commencing with section 21100) of Division 13 of the Public Resources Code.

C. State and Federal Laws, Regulations, Policies, and Plans

1. **Water Quality Control Plans**. The California Water Resources Control Board, Central Coast Region (Central Coast Water Board) adopted a Water Quality Control Plan for the Central Coast Region (hereinafter the Basin Plan) first in 1975, with the most recent update approved on June 8, 2011, that designates beneficial uses, establishes water quality objectives, and contains implementation programs and policies to achieve those objectives for receiving waters addressed through the plan. Requirements in this Order implement the Basin Plan. 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, should be considered suitable or potentially suitable for municipal or domestic supply. Beneficial uses established by the Basin Plan for Pismo Creek are presented below.

Table F-4. Basin Plan Beneficial Uses of Pismo Creek

Discharge Point	Receiving Water Name	Beneficial Uses
001	Pismo Creek	Municipal and Domestic Supply (MUN) Agricultural Supply (AGR) Industrial Service Supply (IND) Ground Water Recharge (GWR) Water Contact Recreation (REC-1) Non-contact Water Recreation (REC-2) Wildlife Habitat (WILD) Cold Fresh Water Habitat (COLD) Warm Fresh Water Habitat (WARM) Migration of Aquatic Organisms (MIGR) Spawning, Reproduction, and/or Early Development (SPWN) Preservation of Biological Habitats of Special Significance (BIOL) Rare, Threatened, or Endangered Species (RARE) Freshwater Replenishment (FRESH) Commercial and Sport Fishing (COMM)

Groundwater throughout the Central Coast Region is suitable for agricultural water supply, municipal and domestic water supply, and industrial use. Requirements of this Order implement the Basin Plan.

2. **Thermal Plan.** The State Water Board adopted a Water Quality Control Plan for Control Temperature in the Coastal and Interstate Waters and Enclosed Bays and

Estuaries of California (Thermal Plan) on January 7, 1971, and amended this plan on September 18, 1975. This plan contains temperature objectives for inland surface waters. Requirements of this Order implement the Thermal Plan.

3. **National Toxics Rule (NTR) and California Toxics Rule (CTR).** USEPA adopted the NTR on December 22, 1992, and amended it on May 4, 1995, and November 9, 1999. About 40 criteria in the NTR apply 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 apply 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* (hereinafter State Implementation Policy or SIP*).* The SIP became effective on April 28, 2000, with respect to the priority pollutant criteria USEPA promulgated for California through the NTR and the priority pollutant objectives the Central Coast Water Board established in the Basin Plan. The SIP became effective on May 18, 2000, with respect to the priority pollutant criteria USEPA promulgated 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. **Antidegradation Policy.** Federal regulation at 40 C.F.R. section 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 Central Coast Water Board's Basin Plan implements and incorporates by reference both the State and federal antidegradation policies. As discussed in section IV.D.2 of this Fact Sheet, the permitted discharge is consistent with the antidegradation provisions of 40 C.F.R. section 131.12 and State Water Board Resolution No. 68-16.

   Effluent limitation guidelines at 40 C.F.R. 435 for the Oil and Gas Extraction Point Source Category prohibit discharges from such facilities. However, the Discharger meets an exception to this prohibition described in 40 C.F.R. 435 Subpart E for discharges of produced water for use in agricultural and/or wildlife propagation. 40 C.F.R. 435 Subpart E establishes effluent limits for those onshore facilities that qualify for this discharge exception. Such an exception may be granted only for circumstances where discharges will provide substantial benefit for receiving water or downstream agricultural uses. As discussed earlier, discharge water is helpful in recharging groundwater in the area. The Discharger employs high levels of

wastewater treatment to assure high quality effluent that will not result in diminished water quality from that required by applicable law, guidance, and policy, including policy established in the Basin Plan. The Central Coast Water Board has determined that due to the benefit to be provided to agricultural or wildlife beneficial uses and due to the high level of produced water treatment at the Facility, authorization of the discharge by this Order is consistent with applicable State and federal anti-degradation policy.

6. **Anti-Backsliding Requirements.** CWA Sections 402(o)(2) and 303(d)(4) and 40 C.F.R. section 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 limitations and requirements of this Order are consistent with anti-backsliding requirements of the CWA and NPDES Regulations.

7. **Endangered Species Act Requirements.** 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, §§ 2050 to 2097) or the Federal Endangered Species Act (16 U.S.C.A. §§ 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, including protecting rare and endangered species. The discharger is responsible for meeting all requirements of the applicable Endangered Species Act.

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 (LAs) for non-point sources.

The USEPA approved the State's 2010 303(d) list of impaired water bodies on November 12, 2010. The 2010 303(d) list identifies Pismo Creek as impaired for *E. coli*, fecal coliform, low dissolved oxygen, and salinity (sodium and chloride). Currently there are no TMDLs established for Pismo Creek. TMDLs are scheduled to be completed in 2021.

Although effluent data is not available for review, due to the type of discharge and the high level of treatment provided to the effluent, the Discharger is not expected to contribute to the impairment of the receiving water.

E. Other Plans, Polices and Regulations

1. **Storm Water Management.** For the control of storm water discharged from the site of the wastewater treatment facilities, the Order requires the Discharger to seek authorization to discharge under and meet the requirements of the State Water Resource Control Board's Water Quality Order No. 97-03-DWQ, NPDES General Permit No. CAS000001, *Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities*, if applicable.

2. **Recycled Water Policy.** The State Water Board's Recycled Water Policy, which was adopted via Resolution No. 2009-0011, calls for the development of regional groundwater basin/sub-basin salt/nutrient management plans. Pursuant to the letter from statewide water and wastewater entities dated December 19, 2008 and attached to Resolution No. 2009-0011, the local water and wastewater entities, together with local salt/nutrient contributing stakeholders, will fund locally driven and controlled, collaborative processes open to all stakeholders that will prepare salt and nutrient management plans for each basin/sub-basin in California, including compliance with CEQA and participation by Central Coast Water Board staff. The policy was added to establish participation in development of a regional groundwater basin/sub-basin salt/nutrient management plan.

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. NPDES regulations establish two principal bases for effluent limitations. At 40 C.F.R. 122.44(a) permits are required to include applicable technology-based limitations and standards; and at 40 C.F.R. 122.44(d) permits are required to include water quality-based effluent limitations (WQBELs) to attain and maintain applicable numeric and narrative water quality criteria to protect the beneficial uses of the receiving water. When numeric water quality objectives have not been established, but a discharge has the reasonable potential to cause or contribute to an excursion above a narrative criterion, WQBELs may be established using one or more of three methods described at 40 C.F.R. 122.44(d) - 1) WQBELs may be established using a calculated water quality criterion derived from a proposed State criterion or an explicit State policy or regulation interpreting its narrative criterion; 2) WQBELs may be established on a case-by-case basis using USEPA criteria guidance published under CWA Section 304(a); or 3) WQBELs may be established using an indicator parameter for the pollutant of concern.

Several specific factors affecting the development of limitations and requirements in this Order are discussed below.

A. Discharge Prohibitions

1. **Discharge Prohibition III.A** (Discharge of waste not specifically regulated by this Order is prohibited): This prohibition is similar to the previous Orders and is based on 40 C.F.R. 122.21(a), duty to apply, and CWC Section 13260, which requires filing a ROWD before discharges can occur. Discharges not described in the ROWD, and subsequently in this Order, are prohibited.

2. **Discharge Prohibition III.B** (No discharge at a location or in a manner except as described by this Order). The Order authorizes a single, specific point of discharge to surface waters, and the limitations and conditions established by the Order are based on specific information provided by the Discharger and gained by the Regional Water Board through site visits, monitoring reports, and other information. Discharges to surface waters at locations not contemplated by this Order or discharges of a character not contemplated by this Order are therefore viewed as inconsistent with 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 has been retained from the previous Order.

3. **Discharge Prohibition III.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). The discharge of untreated or partially treated produced water from the Discharger's collection, treatment, or disposal facilities represents an unauthorized bypass pursuant to 40 C.F.R. 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. This prohibition has been retained from the previous Order.

4. **Discharge Prohibition III.D** (Creation of pollution, contamination, or nuisance, as defined by CWC Section 13050, is prohibited). This prohibition is newly established in the Order and is based on CWC Section 13050.

5. **Discharge Prohibition III.E** (Discharge flow shall not exceed 0.84 MGD.) The purpose of the prohibition is to assure that the treatment plant's design capacities are not exceeded, and thereby, to assure efficient treatment of wastewater.

B. Technology-Based Effluent Limitations

1. Scope and Authority

Section 301(b) of the CWA and implementing USEPA permit regulations at 40 C.F.R. 122.44 (a) require that permits include applicable technology-based limitations and standards, at a minimum, and any more stringent effluent limitations necessary to meet applicable water quality standards. The discharge authorized by this Order is required to meet minimum federal technology-based requirements

drawn from Effluent Limitations Guidelines and Standards for the Oil and Gas Extraction Point Source Category in 40 C.F.R. 435, as well as meet Best Professional Judgment (BPJ) in accordance with 40 C.F.R. 125, specifically, 40 C.F.R. 125.3.

2. Applicable Technology-Based Effluent Limitations

The Discharger's Produced Water Reclamation Facility is subject to technology-based effluent limitations established in 40 C.F.R. 435, Effluent Guidelines and Standards for the Oil and Gas Extraction Point Source Category, Subpart C (Onshore Subcategory). The Effluent Guidelines and Standards prohibit discharges from these facilities, certain exceptions to the discharge prohibitions are allowed.

Prior to the adoption of the previous Order, the Discharger submitted documentation to the Central Coast Water Board justifying the exception to the discharge prohibition established at 40 C.F.R. 435 Subpart E, for the Agricultural and Wildlife Water Use Subcategory. This exception permits discharges of produced water when it has a use in agriculture or wildlife propagation, meaning that the produced water is of high enough quality to be used for wildlife or livestock watering or other agricultural uses and that the produced water is actually put to such use during periods of discharge [40 C.F.R. 435.51 (c)]. USEPA established this exception because, in arid portions of the western United States, low salinity produced waters are often a significant source of usable water for agricultural and wildlife propagation purposes [44 Fed. Reg. 22069, 22072 (April 13, 1979)]. For a Discharger to qualify, the discharge must be necessary for irrigation or animal watering, among other uses [41 Fed. Reg. 44942, 4948 (October 13, 1976)].

As discussed in section II.B of this Fact Sheet, the Discharger submitted documentation that the discharge contributes to recharging groundwater used for agricultural purposes downstream. Additionally, the Discharger submitted documentation stating that the discharge will contribute to recharging groundwater in a manner that will help prevent and/or reduce potential seawater intrusion. Discharged water quality (as per requirements in this permit) is adequate to support wildlife in and around Pismo Creek. Due to this qualification, the discharge meets applicable criteria for exception to the federal prohibition of discharge, based upon its use in agricultural and wildlife propagation.

Applicable Effluent Guidelines and Standards for the Agricultural and Wildlife Water Use Subcategory require that there be no discharge of pollutants from any source (other than produced water) associated with production, field exploration, drilling, well completion, or well treatment (i.e., drilling muds, drill cuttings, and produced sands); and that oil and grease in discharges of produced water shall not exceed a daily maximum effluent limitation of 35 milligrams per liter (mg/L). These requirements are incorporated into the permit.

The following table summarizes technology-based effluent limitations established by the Order.

Table F-5. Technology-Based Effluent Limitations

Parameter	Units	Effluent Limitations		
		Average Monthly	Average Weekly	Maximum Daily
Oil and Grease	mg/L	---	---	35

C. Water Quality-Based Effluent Limitations (WQBELs)

1. Scope and Authority

Section 301(b) of the CWA and 40 C.F.R. 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, including numeric and narrative objectives within a standard.

40 C.F.R. Section 122.44(d)(1)(i) requires 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).

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 WQOs and criteria that are contained in other state plans and policies, or any applicable water quality criteria contained in the CTR and NTR.

2. Applicable Beneficial Uses and Water Quality Objectives

Beneficial uses described by the Basin Plan for Pismo Creek are presented in section III.C, Table F-4 of the Fact Sheet. Water quality criteria applicable to this receiving water are established by the CTR, the NTR, and by the Basin Plan. The Discharger reported that no discharge had occurred during the term of the previous Order. As such, effluent data was not available for analysis and performance of an RPA based on new data was infeasible.

3. Determining the Need for WQBELs

NPDES regulations at 40 C.F.R. 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 Water Board to use all available, valid, relevant, and representative receiving water and effluent data and information to conduct a reasonable potential analysis. Since no discharges occurred during the term of the previous Order, effluent data was unavailable for analysis. Consequently, collection of receiving water data was deferred until the Facility commences operation and effluent data becomes available.

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 previous Order utilized a minimum observed receiving water hardness concentration of 270 mg/L as $CaCO_3$ which has been retained in this Order due to the lack of current effluent or receiving water data.

To conduct the reasonable potential analysis, the Central Coast Water 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 this 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.

During the term of the previous Order, the Discharger submitted data from three sampling events in January 2007 of untreated produced water. This "worst-case" dataset was used in the RPA for the previous Order, and was also submitted in a document titled *Revised Hydrologic Water Quality and Biological Characterization of Pismo Creek*. This resulted in reasonable potential findings (by Trigger 1) for both benzene and phenol.

The following table summarizes the RPA for each priority, toxic pollutant or Title 22 pollutant that was measured in effluent during monitoring events from May 2008 through October 2012. Since no discharges occurred at the Facility during the term of the previous Order, effluent and receiving water data were unavailable for analysis. It should be noted that the Discharger marked all pollutants in Part B of EPA Form 2C of the ROWD as, "Believed Absent".

Table F-6. Summary of RPA Results

CTR #	Priority Pollutants	MEC or Minimum DL [(1),(2)] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [(1),(2)] (µg/L)	RPA Results [(3)]
1	Antimony	Not Available	6.0	Not Available	Cannot Determine
2	Arsenic	Not Available	10	Not Available	Cannot Determine
3	Beryllium	Not Available	4.0	Not Available	Cannot Determine
4	Cadmium	Not Available	5.0	Not Available	Cannot Determine
5a	Chromium (III)	Not Available	50	Not Available	Cannot Determine
5b	Chromium (VI)	Not Available	11	Not Available	Cannot Determine
6	Copper	Not Available	22	Not Available	Cannot Determine
7	Lead	Not Available	11	Not Available	Cannot Determine
8	Mercury (303d listed)	Not Available	0.050	Not Available	Cannot Determine
9	Nickel	Not Available	100	Not Available	Cannot Determine
10	Selenium	Not Available	10	Not Available	Cannot Determine
11	Silver	Not Available	22	Not Available	Cannot Determine
12	Thallium	Not Available	1.7	Not Available	Cannot Determine
13	Zinc	Not Available	200	Not Available	Cannot Determine

CTR #	Priority Pollutants	MEC or Minimum DL [1],[2] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [1],[2] (µg/L)	RPA Results [3]
14	Cyanide	Not Available	5.2	Not Available	Cannot Determine
15	Asbestos	Not Available	No Criteria	Not Available	Cannot Determine
16	2,3,7,8-TCDD (303d listed)	Not Available	0.000000013	Not Available	Cannot Determine
17	Acrolein	Not Available	320	Not Available	Cannot Determine
18	Acrylonitrile	Not Available	0.059	Not Available	Cannot Determine
19	Benzene	Not Available	1.0[4]	Not Available	Cannot Determine
20	Bromoform	Not Available	4.3	Not Available	Cannot Determine
21	Carbon Tetrachloride	Not Available	0.25	Not Available	Cannot Determine
22	Chlorobenzene	Not Available	30	Not Available	Cannot Determine
23	Chlorodibromomethane	Not Available	0.40	Not Available	Cannot Determine
24	Chloroethane	Not Available	No Criteria	Not Available	Cannot Determine
25	2-Chloroethylvinyl ether	Not Available	No Criteria	Not Available	Cannot Determine
26	Chloroform	Not Available	No Criteria	Not Available	Cannot Determine
27	Dichlorobromomethane	Not Available	0.56	Not Available	Cannot Determine
28	1,1-Dichloroethane	Not Available	5.0	Not Available	Cannot Determine
29	1,2-Dichloroethane	Not Available	0.38	Not Available	Cannot Determine
30	1,1-Dichloroethylene	Not Available	0.057	Not Available	Cannot Determine
31	1,2-Dichloropropane	Not Available	0.52	Not Available	Cannot Determine
32	1,3-Dichloropropylene	Not Available	0.50	Not Available	Cannot Determine
33	Ethylbenzene	Not Available	300	Not Available	Cannot Determine
34	Methyl Bromide	Not Available	48	Not Available	Cannot Determine
35	Methyl Chloride	Not Available	No Criteria	Not Available	Cannot Determine
36	Methylene Chloride	Not Available	4.7	Not Available	Cannot Determine
37	1,1,2,2-Tetrachloroethane	Not Available	0.17	Not Available	Cannot Determine
38	Tetrachloroethylene	Not Available	0.80	Not Available	Cannot Determine

CTR #	Priority Pollutants	MEC or Minimum DL [1],[2] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [1],[2] (µg/L)	RPA Results [3]
39	Toluene	Not Available	150	Not Available	Cannot Determine
40	1,2-Trans-Dichloroethylene	Not Available	10	Not Available	Cannot Determine
41	1,1,1-Trichloroethane	Not Available	200	Not Available	Cannot Determine
42	1,1,2-Trichloroethane	Not Available	0.60	Not Available	Cannot Determine
43	Trichloroethylene	Not Available	2.7	Not Available	Cannot Determine
44	Vinyl Chloride	Not Available	0.50	Not Available	Cannot Determine
45	2-Chlorophenol	Not Available	120	Not Available	Cannot Determine
46	2,4-Dichlorophenol	Not Available	93	Not Available	Cannot Determine
47	2,4-Dimethylphenol	Not Available	540	Not Available	Cannot Determine
48	2-Methyl- 4,6-Dinitrophenol	Not Available	13	Not Available	Cannot Determine
49	2,4-Dinitrophenol	Not Available	70	Not Available	Cannot Determine
50	2-Nitrophenol	Not Available	No Criteria	Not Available	Cannot Determine
51	4-Nitrophenol	Not Available	No Criteria	Not Available	Cannot Determine
52	3-Methyl 4-Chlorophenol	Not Available	No Criteria	Not Available	Cannot Determine
53	Pentachlorophenol	Not Available	0.28	Not Available	Cannot Determine
54	Phenol	Not Available	100[4]	Not Available	Cannot Determine
55	2,4,6-Trichlorophenol	Not Available	2.1	Not Available	Cannot Determine
56	Acenaphthene	Not Available	1,200	Not Available	Cannot Determine
57	Acenaphthylene	Not Available	No Criteria	Not Available	Cannot Determine
58	Anthracene	Not Available	9,600	Not Available	Cannot Determine
59	Benzidine	Not Available	0.00012	Not Available	Cannot Determine
60	Benzo(a)Anthracene	Not Available	0.0044	Not Available	Cannot Determine
61	Benzo(a)Pyrene	Not Available	0.0044	Not Available	Cannot Determine
62	Benzo(b)Fluoranthene	Not Available	0.0044	Not Available	Cannot Determine
63	Benzo(ghi)Perylene	Not Available	No Criteria	Not Available	Cannot Determine

CTR #	Priority Pollutants	MEC or Minimum DL [1],[2] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [1],[2] (µg/L)	RPA Results [3]
64	Benzo(k)Fluoranthene	Not Available	0.0044	Not Available	Cannot Determine
65	Bis(2-Chloroethoxy)Methane	Not Available	No Criteria	Not Available	Cannot Determine
66	Bis(2-Chloroethyl)Ether	Not Available	0.030	Not Available	Cannot Determine
67	Bis(2-Chloroisopropyl)Ether	Not Available	1,400	Not Available	Cannot Determine
68	Bis(2-Ethylhexyl)Phthalate	Not Available	1.8	Not Available	Cannot Determine
69	4-Bromophenyl Phenyl Ether	Not Available	No Criteria	Not Available	Cannot Determine
70	Butylbenzyl Phthalate	Not Available	3,000	Not Available	Cannot Determine
71	2-Chloronaphthalene	Not Available	1,700	Not Available	Cannot Determine
72	4-Chlorophenyl Phenyl Ether	Not Available	No Criteria	Not Available	Cannot Determine
73	Chrysene	Not Available	0.0044	Not Available	Cannot Determine
74	Dibenzo(a,h)Anthracene	Not Available	0.0044	Not Available	Cannot Determine
75	1,2-Dichlorobenzene	Not Available	600	Not Available	Cannot Determine
76	1,3-Dichlorobenzene	Not Available	400	Not Available	Cannot Determine
77	1,4-Dichlorobenzene	Not Available	5.0	Not Available	Cannot Determine
78	3,3 Dichlorobenzidine	Not Available	0.040	Not Available	Cannot Determine
79	Diethyl Phthalate	Not Available	23,000	Not Available	Cannot Determine
80	Dimethyl Phthalate	Not Available	313,000	Not Available	Cannot Determine
81	Di-n-Butyl Phthalate	Not Available	2,700	Not Available	Cannot Determine
82	2,4-Dinitrotoluene	Not Available	0.11	Not Available	Cannot Determine
83	2,6-Dinitrotoluene	Not Available	No Criteria	Not Available	Cannot Determine
84	Di-n-Octyl Phthalate	Not Available	No Criteria	Not Available	Cannot Determine
85	1,2-Diphenylhydrazine	Not Available	0.040	Not Available	Cannot Determine
86	Fluoranthene	Not Available	300	Not Available	Cannot Determine
87	Fluorene	Not Available	1,300	Not Available	Cannot Determine
88	Hexachlorobenzene	Not Available	0.00075	Not Available	Cannot Determine

CTR #	Priority Pollutants	MEC or Minimum DL [1],[2] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [1],[2] (µg/L)	RPA Results [3]
89	Hexachlorobutadiene	Not Available	0.44	Not Available	Cannot Determine
90	Hexachlorocyclopentadiene	Not Available	50	Not Available	Cannot Determine
91	Hexachloroethane	Not Available	1.9	Not Available	Cannot Determine
92	Indeno(1,2,3-cd)Pyrene	Not Available	0.0044	Not Available	Cannot Determine
93	Isophorone	Not Available	8.4	Not Available	Cannot Determine
94	Naphthalene	Not Available	No Criteria	Not Available	Cannot Determine
95	Nitrobenzene	Not Available	17	Not Available	Cannot Determine
96	N-Nitrosodimethylamine	Not Available	0.00069	Not Available	Cannot Determine
97	N-Nitrosodi-n-Propylamine	Not Available	0.0050	Not Available	Cannot Determine
98	N-Nitrosodiphenylamine	Not Available	5.0	Not Available	Cannot Determine
99	Phenanthrene	Not Available	No Criteria	Not Available	Cannot Determine
100	Pyrene	Not Available	960	Not Available	Cannot Determine
101	1,2,4-Trichlorobenzene	Not Available	5.0	Not Available	Cannot Determine
102	Aldrin	Not Available	0.00013	Not Available	Cannot Determine
103	Alpha-BHC	Not Available	0.0039	Not Available	Cannot Determine
104	beta-BHC	Not Available	0.014	Not Available	Cannot Determine
105	gamma-BHC	Not Available	0.019	Not Available	Cannot Determine
106	delta-BHC	Not Available	No Criteria	Not Available	Cannot Determine
107	Chlordane (303d listed)	Not Available	0.00057	Not Available	Cannot Determine
108	4,4'-DDT (303d listed)	Not Available	0.00059	Not Available	Cannot Determine
109	4,4'-DDE (linked to DDT)	Not Available	0.00059	Not Available	Cannot Determine
110	4,4'-DDD	Not Available	0.00083	Not Available	Cannot Determine
111	Dieldrin (303d listed)	Not Available	0.00014	Not Available	Cannot Determine
112	Alpha-Endosulfan	Not Available	0.060	Not Available	Cannot Determine
113	beta-Endosulfan	Not Available	0.060	Not Available	Cannot Determine

CTR #	Priority Pollutants	MEC or Minimum DL [1],[2] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [1],[2] (µg/L)	RPA Results [3]
114	Endosulfan Sulfate	Not Available	110	Not Available	Cannot Determine
115	Endrin	Not Available	0.036	Not Available	Cannot Determine
116	Endrin Aldehyde	Not Available	0.76	Not Available	Cannot Determine
117	Heptachlor	Not Available	0.00021	Not Available	Cannot Determine
118	Heptachlor Epoxide	Not Available	0.00010	Not Available	Cannot Determine
119-125	PCBs sum (303d listed)	Not Available	0.00017	Not Available	Cannot Determine
126	Toxaphene	Not Available	0.00020	Not Available	Cannot Determine
Drinking Water Quality Objectives					
	Aluminum	Not Available	1,000	Not Available	Cannot Determine
	Barium	Not Available	1,000	Not Available	Cannot Determine
	Boron	Not Available	750	Not Available	Cannot Determine
	Fluoride	Not Available	1,000	Not Available	Cannot Determine
	cis-1,2-Dichloroethylene	Not Available	6.0	Not Available	Cannot Determine
	Methyl-tert-butyl ether	Not Available	13	Not Available	Cannot Determine
	Styrene	Not Available	100	Not Available	Cannot Determine
	Trichlorofluoromethane	Not Available	150	Not Available	Cannot Determine
	1,1,2-Trichloro-1,2,2-Trifluoroethane	Not Available	1,200	Not Available	Cannot Determine
	Xylenes	Not Available	1,750	Not Available	Cannot Determine
	Alachlor	Not Available	2.0	Not Available	Cannot Determine
	Atrazine	Not Available	1.0	Not Available	Cannot Determine
	Bentazon	Not Available	18	Not Available	Cannot Determine
	Carbofuran	Not Available	18	Not Available	Cannot Determine
	2,4-D	Not Available	70	Not Available	Cannot Determine
	Dalapon	Not Available	200	Not Available	Cannot Determine
	Dibromochloropropane (1,2-Dibromo-3-chloropropane)	Not Available	0.20	Not Available	Cannot Determine

CTR #	Priority Pollutants	MEC or Minimum DL [1],[2] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [1],[2] (µg/L)	RPA Results [3]
	Di(2-ethylhexyl)adipate	Not Available	400	Not Available	Cannot Determine
	Dinoseb	Not Available	0.010	Not Available	Cannot Determine
	Diquat	Not Available	20	Not Available	Cannot Determine
	Endothall	Not Available	100	Not Available	Cannot Determine
	Ethylene Dibromide	Not Available	0.020	Not Available	Cannot Determine
	Glyphosate	Not Available	700	Not Available	Cannot Determine
	Methoxychlor	Not Available	30	Not Available	Cannot Determine
	Molinate	Not Available	20	Not Available	Cannot Determine
	Oxamyl	Not Available	50	Not Available	Cannot Determine
	Picloram	Not Available	500	Not Available	Cannot Determine
	Simazine	Not Available	4.0	Not Available	Cannot Determine
	Thiobencarb	Not Available	70	Not Available	Cannot Determine
	2,4,5-TP (Silvex)	Not Available	10	Not Available	Cannot Determine
	Nitrate (as NO3) (mg/L)	Not Available	10	Not Available	Cannot Determine
	Nitrate+Nitrite (sum as nitrogen) (mg/L)	Not Available	10	Not Available	Cannot Determine
	Nitrite (as nitrogen) (mg/L)	Not Available	1.0	Not Available	Cannot Determine
	Perchlorate	Not Available	6.0	Not Available	Cannot Determine
R3 Basin Plan WQO					
	Cobalt	Not Available	50	Not Available	Cannot Determine
	Iron	Not Available	5,000	Not Available	Cannot Determine
	Lithium	Not Available	2,500	Not Available	Cannot Determine
	Manganese	Not Available	200	Not Available	Cannot Determine
	Molybdenum	Not Available	10	Not Available	Cannot Determine
	Vanadium	Not Available	100	Not Available	Cannot Determine

CTR #	Priority Pollutants	MEC or Minimum DL [1],[2] (µg/L)	Governing WQO/WQC (µg/L)	Maximum Background or Minimum DL [1],[2] (µg/L)	RPA Results [3]

Footnotes to Table F-6:

(1) The MEC or maximum background concentration is the actual detected concentration. Where detection values were available and the pollutant was not detected, the detection value was provided with a "<" before it. Where the pollutant was non-detect and a detection value was not available, "ND" was entered. Where NA is entered, it is because there is no receiving water data and the Discharger reported that all data was Believed Absent, as such, there are no MDLs to report.

(2) The MEC or maximum background concentration is "Not Available" when there are no monitoring data for the constituent.

(3) RPA Results = Yes, if MEC => WQO/WQC, or B > WQO/WQC and MEC is detected;
= No, if MEC and B are < WQO/WQC or all effluent data are undetected;
= Undetermined (Ud), if no criteria have been promulgated;
= Cannot Determine, if there are insufficient data.

(4) Based on Basin Plan, section II.A.2.a, Other Organics.

Because effluent data was not available to evaluate reasonable potential, reasonable potential results from an RPA conducted for the previous permit term, based on three monitoring events in January 2007 to characterize untreated produced water from the Arroyo Grande oil field, have been carried over. These results assumed no treatment, and thus represent the worst-case scenario for effluent quality. For hardness dependent metals, the minimum receiving hardness of 270 (as $CaCO_3$) mg/L was used.

The previous RPA determined reasonable potential for benzene (reported concentration of 23 µg/L) and phenol (reported concentration of 100 µg/L). Thus, effluent limitations for benzene and phenol must be established in this Order.

4. WQBEL Calculations

a. If reasonable potential exists to exceed applicable water quality criteria or objectives, then a WQBEL must be established in accordance with one or more of the three procedures contained in Section 1.4 of the SIP. These procedures include:

i. If applicable and available, use of the wasteload allocation (WLA) established as part of a TMDL.

ii. Use of a steady-state model to derive MDELs and AMELs.

iii. Where sufficient effluent and receiving water data exist, use of a dynamic model, which has been approved by the Regional Water Board.

b. Since many of the streams in the Region have minimal upstream flows, mixing zones and dilution credits are usually not appropriate. Therefore, in this tentative Order, no dilution credit is being allowed.

c. WQBELs Calculation Example

The following demonstrates how WQBELs are established when reasonable potential exists.

Concentration-Based Effluent Limitations

Two sets of AMEL and MDEL values are calculated separately, one set for the protection of aquatic life and the other for the protection of human health. The AMEL and MDEL limitations for aquatic life and human health are compared, and the most restrictive AMEL and the most restrictive MDEL are selected as the WQBEL.

Calculation of aquatic life AMEL and MDEL:

Step 1: For each constituent requiring an effluent limitation, identify the applicable water quality criteria or objective. For each criteria determine the effluent concentration allowance (ECA) using the following steady state equation:

$ECA = C + D(C-B)$ when $C > B$, and
$ECA = C$ when $C \leq B$,

Where C = The priority pollutant criterion/objective, adjusted if necessary for hardness, pH and translators.
D = The dilution credit, and
B = The ambient background concentration

As discussed above, for this Order, dilution was not allowed; therefore:

$ECA = C$

Step 2: 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). The multiplier is a statistically based factor that adjusts the ECA to account for effluent variability. The value of 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. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 3 of the SIP and will not be repeated here.

$$LTA_{acute} = ECA_{acute} \times Multiplier_{acute\ 99}$$

$$LTA_{chronic} = ECA_{chronic} \times Multiplier_{chronic\ 99}$$

The CV for the data set must be determined before the multipliers can be selected and will vary depending on the number of samples and the standard deviation of a data set. If the data set is less than 10 samples, or at least 80% of the samples in the data set are reported as non-detect, the CV shall be set equal to 0.6. All samples were reported as non-detect, and as such a CV of 0.6 was used for all.

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

$$LTA = \text{most limiting of } LTA_{acute} \text{ or } LTA_{chronic}$$

Step 4: Calculate the WQBELs by multiplying the LTA by a factor (multiplier). WQBELs are expressed as AMEL and MDEL. The multiplier is a statistically based factor that adjusts the LTA for the averaging periods and exceedance frequencies of the criteria/objectives and the effluent limitations. The value of the multiplier varies depending on the probability basis, the CV of the data set, the number of samples (for AMEL) and whether it is a monthly or daily limit. Table 2 of the SIP provides pre-calculated values for the multipliers based on the value of the CV and the number of samples. Equations to develop the multipliers in place of using values in the tables are provided in Section 1.4, Step 5 of the SIP and will not be repeated here.

$$AMEL_{aquatic\ life} = LTA \times AMEL_{multiplier\ 95}$$
$$MDEL_{aquatic\ life} = LTA \times MDEL_{multiplier\ 99}$$

AMEL multipliers are based on a 95^{th} percentile occurrence probability, and the MDEL multipliers are based on the 99^{th} percentile occurrence probability. If the number of samples is less than four (4), the default number of samples to be used is four (4).

Calculation of human health AMEL and MDEL:

Step 5: For the ECA based on human health, set the AMEL equal to the $ECA_{human\ health}$

$$AMEL_{human\ health} = ECA_{human\ health}$$

Step 6: Calculate the MDEL for human health by multiplying the AMEL by the ratio of the $Multiplier_{MDEL}$ to the $Multiplier_{AMEL}$. Table 2 of the SIP provides pre-calculated ratios to be used in this calculation based on the CV and the number of samples.

$$MDEL_{human\ health} = AMEL_{human\ health} \times (Multiplier_{MDEL} / Multiplier_{AMEL})$$

Step 7: Select the lower of the AMEL and MDEL based on aquatic life and human health as the water-quality based effluent limit for the Order.

d. Calculated Effluent Limitations.

i. **Benzene.** The criteria for benzene (1 µg/L) is based on Table 3-1 of the Basin Plan, for the protection of human health. Consistent with Step 5 above, the AMEL is set equal to the ECA of 1 µg/L. Consistent with Step 6 above, the MDEL is computed by multiplying the AMEL of 1 µg/L by the ratio (MDEL/AMEL multiplier) provided in Table 2 of the SIP based on a CV of 0.6. For a CV of 0.6, a multiplier of 2.01 is provided, resulting in a AMEL of 2.0 µg/L.

ii. **Phenol.** The criteria for phenol (1 µg/L) is based on section III of the Basin Plan, for the protection of human health. Consistent with Step 5 above, the AMEL is set equal to the ECA of 1 µg/L. Consistent with Step 6 above, the MDEL is computed by multiplying the AMEL of 1 µg/L by the ratio (MDEL/AMEL multiplier) provided in Table 2 of the SIP based on a CV of 0.6. For a CV of 0.6, a multiplier of 2.01 is provided, resulting in a AMEL of 2.0 µg/L.

The calculated effluent limitations for benzene and phenol are consistent with the WQBELs contained in the previous Order, thus State and federal anti-backsliding regulations have been satisfied.

5. Whole Effluent Toxicity (WET)

WET limitations protect receiving water quality from the aggregated toxic effect of a mixture of pollutants in 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 requires that 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 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.

The previous Order included an effluent limitation for acute toxicity of 1.0 TU_a). Because TU_a is determined by the concentration of effluent that is lethal to half the test organisms (TU_a = 100/LC50), the current effluent limitation allows for survival

rates in 100 percent effluent as low as 50 percent. This effluent limitation is not protective of the Basin Plan's narrative water quality objective stated above.

The acute toxicity effluent limitation has been revised to require a 3-sample median of 90 percent survival, and a single sample minimum of 70 percent.

Because impacts of toxicity are not always lethal and not detectable through acute toxicity, and effluent data is not available for the discharge, a narrative chronic toxicity effluent limitation and monitoring requirements have been established to evaluate compliance with the Basin Plan's narrative toxicity objective.

The Discharger is required to conduct acute and chronic WET testing and/or monitoring, as specified in the Monitoring and Reporting Program (Attachment E, section V). Special Provision V.C.2.a of this Order requires the Discharger to investigate the causes of, and identify and implement corrective actions to reduce or eliminate effluent toxicity. If the discharge demonstrates toxicity exceeding the acute toxicity effluent limitations or numeric chronic toxicity monitoring trigger, the Discharger may be required to initiate a Toxicity Reduction Evaluation (TRE) in accordance with an approved TRE workplan. The numeric chronic toxicity monitoring trigger is not an effluent limitation; it is the toxicity threshold at which the Discharger is required to perform accelerated chronic toxicity monitoring, as well as the threshold to evaluate the need to initiate a TRE if effluent toxicity has been demonstrated.

6. Basin Plan

a. pH. The Basin Plan establishes a WQO for pH of between 6.5 to 8.3 standard units for the protection of receiving waters with the beneficial use of Municipal and Domestic Supply (MUN), Agricultural Supply (AGR), and Water Recreation (REC1 and REC2). In addition, the Basin Plan establishes a WQO for pH between 7.0 to 8.5 standard units for the beneficial use of Freshwater Habitat (COLD and WARM) and Fish Spawning (SPWN). The previous Order established an effluent limitation of 7.0 to 8.3 and this limitation is retained in the current permit.

b. Total Dissolved Solids (TDS). Produced waters generated during the production of crude petroleum and natural gas will contain a variety of dissolved salts with concentrations varying and dependent upon geographical locations. A 1976 USEPA study showed levels in produced waters from onshore facilities in California ranging from 580 mg/L to 27,300 mg/L [USEPA, Developmental Document for Interim Final Effluent Limitations Guidelines and Proposed New Source Performance Standards for the Oil and Gas Extraction Point Source Category, EPA 440/I-76/055-a (1976)]. Due to use of the Facility's produced waters for agricultural purposes and the potential for elevated levels of TDS in the produced waters, the Central Coast Water Board established a water quality based effluent limitation for TDS of 450 mg/L in the previous Order, reflecting a recommended standard for waters used in agriculture. [Regional Water Quality

Control Board, Central Coast Region, *A Compilation of Water Quality Goals* (August 2000)]. Further, this effluent limitation is protective of the median ground water objectives and surface water objectives for TDS in the San Luis Obispo Creek sub-area of the Estero Bay sub-basin of 900 mg/L and 650 mg/L, respectively.

Based on the treatment facility to be used by the Discharger, the effluent is not expected to contain high levels of salinity or TDS, however effluent data is not available to verify that there is no reasonable potential to exceed applicable water quality standards for TDS. Thus, the effluent limitation for TDS has been retained in the current permit.

D. Final Effluent Limitation Considerations

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 retains effluent limitations equal to or more stringent than those established in the previous Order for acute toxicity, benzene, oil and grease, pH, phenol, and TDS.

An acute toxicity limitation has been carried over from the previous permit and a narrative chronic toxicity effluent limitation and numeric chronic toxicity trigger have been established in order to comply with the Basin Plan's narrative objective for toxicity. The numeric chronic toxicity trigger will ensure appropriate best management practices and toxicity reduction measures are implemented by the Discharger. The narrative chronic toxicity effluent limitation, combined with the chronic toxicity trigger, TRE requirements, and acute toxicity limitation shall ensure the Discharger operates the Facility in a manner to comply with toxicity water quality objectives and does not represent less stringent requirements.

2. Satisfaction of Antidegradation Policy

Provisions of the Order are consistent with applicable anti-degradation policy expressed by NPDES regulations at 40 C.F.R. 131.12 and by State Water Board Resolution No. 68-16. This Order does not authorize increases in discharge rates or pollutant loadings, and its limitations and conditions otherwise assure maintenance of the existing quality of receiving waters.

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 consists of restrictions on oil and grease. 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.

4. Summary of Final Effluent Limitations – Discharge Point No. 001

a. The Discharger shall maintain compliance with the following effluent limitations at Discharge Point No. 001, with compliance measured at Monitoring Location E-001 as described in the attached Monitoring and Reporting Program (MRP) (Attachment E).

Table F-7. Effluent Limitations

Parameter	Units	Effluent Limitations		
		Instantaneous Maximum	Average Monthly	Maximum Daily
TDS	mg/L	--	--	450
	lbs/day[1]	--	--	3.1×10^3
pH	s.u.	7.0 – 8.3 at all times		
Acute Toxicity	TUa	--	--	1.0
Oil and Grease	mg/L	--	--	35
Benzene	µg/L	--	1.0	2.0
Phenol	µg/L	--	1.0	2.0

[1] Based on a flow rate of 0.84 MGD.

b. Dry Weather Flow. Effluent average dry weather flow shall not exceed a monthly average of 0.84 MGD.

E. Interim Effluent Limitations – Not Applicable

F. Land Discharge Effluent Limitations and Specifications – Not Applicable

G. Reclamation Specifications

This Order includes reclamation specifications reflecting Basin Plan water quality objectives for agricultural supply water. The reclamation limitations are consistent with effluent limitations described above, except that a broader range of pH (6.5 to 8.4) is allowed due to the less pH sensitive use and consistent with Basin Plan criteria. Also, toxicity limitations applicable to the stream discharge (for protection of aquatic life) are not applicable to irrigation uses and do not appear in the reclamation limitations.

Reclamation requirements have been carried over from Order No. R3-2008-0004.

V. RATIONALE FOR SURFACE 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 WQOs 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 the Order. All receiving water limitations are retained from the previous Order. In addition, applicable limitations for chemical constituents identified in Tables 3-3, 3-4, and 3-5 of the Basin Plan have been established.

B. Groundwater

Groundwater limitations included in section V.B of the Order include general objectives as established in Chapter 3, Section II.A.4 of the Basin Plan and specific numeric WQOs for groundwater within the Pismo Creek sub area of the Estero Bay groundwater unit as established in Table 3-8 of the Basin Plan. All groundwater limitations in this Order are retained from the previous Order.

VI. RATIONALE FOR MONITORING AND REPORTING REQUIREMENTS

40 C.F.R. section 122.48 require that all NPDES permits specify requirements for recording and reporting monitoring results. Water Code sections 13267 and 13383 also authorize the Central Coast Water Board to require technical and monitoring reports. The Monitoring and Reporting Program (MRP), Attachment E of this Order, establishes monitoring and reporting requirements that implement federal and state requirements. The following provides the rationale for the monitoring and reporting requirements contained in the MRP for this facility.

A. Influent Monitoring

Influent monitoring requirements have been newly established in order to support reclaimed water monitoring requirements which require the Discharger to evaluate the proportion of the reclaimed influent flow.

B. Effluent Monitoring

Effluent monitoring is necessary to determine compliance with effluent limitations and evaluate compliance with applicable water quality objectives and criteria. Effluent monitoring requirements from the previous Order for Discharge Point No. 001 are retained in this Order.

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 for acute toxicity, establishes a chronic toxicity trigger of 1 TUc, and established monitoring requirements for acute and chronic toxicity for Discharge Point No. 001.

D. Reclaimed Water Monitoring

Reclaimed water monitoring is necessary to determine compliance with applicable limitations and evaluate compliance. Monitoring requirements are retained from the previous Order, with frequencies established consistent with effluent monitoring requirements.

E. Receiving Water Monitoring

1. Surface Water

Surface water receiving water monitoring requirements are retained from the previous Order as necessary to determine compliance with surface water limitations and for the protection of public health.

F. Land Discharge Monitoring Requirements – Not Applicable

G. Other Monitoring Requirements – Not Applicable

VII. RATIONALE FOR PROVISIONS

A. Standard Provisions

Standard Provisions, which apply to all NPDES permits in accordance with 40 C.F.R. section 122.41, and additional conditions applicable to specified categories of permits in accordance with 40 C.F.R. section 122.42, are provided in Attachment D. The discharger must comply with all standard provisions and with those additional conditions that are applicable under section 122.42.

40 C.F.R. section 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 C.F.R. section 123.25(a)(12) allows the State to omit or modify conditions to impose more stringent requirements. In accordance with 40 C.F.R. section 123.25, this Order omits federal conditions that address enforcement authority specified in 40 C.F.R. sections 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. Special Provisions

1. Reopener Provisions

The Order may be modified in accordance with the requirements set forth at 40 C.F.R. 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 Order retains the requirement to perform a TRE, if the acute toxicity limitation is exceeded or if chronic toxicity is detected in the effluent above 1 TUc. When toxicity monitoring measures acute or chronic toxicity in the effluent above the limitation or trigger established by the Order, the Discharger is required to resample and retest. When all monitoring results are available, the Executive Officer can determine whether to initiate enforcement action, whether to require the Discharger to implement TRE requirements, or whether other measures are warranted.

3. Best Management Practices and Pollution Prevention

a. Best Management Practices. The Discharger is required to develop a Best Management Practices (BMP) plan which prevents, or minimizes the potential for, release of toxic substances from ancillary activities to the waters of the United States through plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs include “methods, measures, or practices, selected by an agency to meet its nonpoint source control needs.” BMP plans may include structural and nonstructural controls and operation and maintenance procedures. This Order requires the Discharger to implement and update the BMP plan on an ongoing basis to ensure that no contaminated storm water leaves the Facility’s property and enters surrounding surface waters.

4. Construction, Operation, and Maintenance Specifications – Not Applicable

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

6. Other Special Provisions

a. Discharges of Storm Water. For the control of storm water discharged from the site of wastewater treatment and disposal facilities, if applicable, the Discharger

shall seek authorization to discharge under and meet the requirements of the State Water Resources Quality Control Board's Water Quality Order 97-03-DWQ, NPDES General Permit No. CAS000001, Waste Discharge Requirements for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities.

7. Compliance Schedules – Not Applicable

VIII. PUBLIC PARTICIPATION

The Central Coast Water Board is considering the issuance of WDRs that will serve as an NPDES permit for Freeport-McMoRan Oil and Gas' Produced Water Reclamation Facility. As a step in the WDR adoption process, the Central Coast Water Board staff has developed tentative WDRs. The Central Coast Water Board encourages public participation in the WDR adoption process.

A. Notification of Interested Parties

The Central Coast Water Board has notified the Discharger and interested agencies and persons of its intent to prescribe WDRs for the discharge and has provided them with an opportunity to submit their written comments and recommendations. Notification was provided through written publication in the Telegram Tribune newspaper and posted on the Central Coast Water Board website.

B. Written Comments

Central Coast Water Board staff determinations are tentative. Interested persons are invited to submit written comments concerning these tentative WDRs. Comments must be submitted either in person or by mail to the Executive Office at the Water Board at the address above on the cover page of this Order.

To receive a full response from the Central Coast Water Board staff and to be considered by the Central Coast Water Board, written comments should be received at the Central Coast Water Board offices by 5:00 p.m. on **October 4, 2013.**

C. Public Hearing

The Central Coast Water Board will hold 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 5, 2013**
Time: **8:30 am**
Location: **Central Coast Water Board**
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401

Interested persons are invited to attend. At the public hearing, the Central Coast Water Board heard testimony pertinent to the discharge, WDRs, and permit. For accuracy of the record, important testimony was requested in writing.

D. Reconsideration of Waste Discharge Requirements

Any person affected by the action of the Central Coast Water Board to adopt this Order may petition the State Water Resources Control Board (State Water Board) to review the action In accordance with Water Code section 13320 and California Code of Regulations, title 23, section 2050. Information for filing a petition will be provided upon request to the State Water Board. Any person affected by this Order may also request the Central Coast Water Board to reconsider the Order. To be timely, such a request must be made within 30 days of the date of this Order. Note that even if reconsideration by the Central Coast Water Board is sought, filing a petition with the State Water Board within the time is necessary to preserve the petitioner's legal rights. If the Discharger chooses to request reconsideration of this Order or file a petition with the State Water Board, the Discharger must comply with the Order while the request for reconsideration and/or petition is being considered. The petition must be submitted within 30 days of the Central Coast 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 (ROWD), other supporting documents, and comments received are on file and may be inspected at the address above at any time between 8:30 a.m. and 4:45 p.m., Monday through Friday. Copying of documents may be arranged through the Central Coast 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 Central Coast 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 Katie DiSimone at (805) 542-4638 or Katie.DiSimone@waterboards.ca.gov.