

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 93-032

WASTE DISCHARGE REQUIREMENTS
FOR
U.S. MARINE CORPS BASE
WASTEWATER TREATMENT PLANT
Twentynine Palms - San Bernardino County

The California Regional Water Quality Control Board, Colorado River Basin Region, finds that:

1. A Report of Waste Discharge (ROWD) was received for the U.S. Marine Corps Base, Twentynine Palms (hereinafter referred to as the discharger) from the Natural Resources and Environmental Affairs (NREA) Directorate, Marine Corps Air Ground Combat Center (MCAGCC), Box 788110, Twentynine Palms, CA 92278-8110. Currently, the discharger owns and operates the facility located at this site.
2. The main sewage treatment facility, located in the NW $\frac{1}{4}$ of Section 29, T2N, R9E, SBB&M, treats a peak flow of 3.65 million gallons per day (MGD) of domestic sewage from the main camp area. The facility has a design capacity of 6.9 MGD and serves the current population of 15,000. The treatment facility consists of one aerated grit chamber, three (3) primary clarifiers, three (3) oxidation ponds and six (6) infiltration ponds.
3. Wastewater from the infiltration/evaporation basins is used to irrigate vegetation on the Base. The parade field, athletic fields and trees are irrigated with evaporation basin effluent after the effluent is chlorinated. Also, this effluent is stored in cement lined basins at the Ocotillo Heights housing development for golf course irrigation. Upon demand, this stored effluent is chlorinated and used on the golf course.
4. This discharge has been subject to waste discharge requirements adopted in Board Order No. 88-010.
5. There are no domestic wells within 500 feet of the wastewater discharge facilities described in Finding No. 2, above.
6. The Water Quality Control Plan for the Colorado River Basin Region of California was adopted May 15, 1991 and designates the beneficial uses of ground and surface waters in this Region.
7. The beneficial uses of ground waters in the Dale Hydrologic Unit are:
 - a. Municipal supply (MUN)
 - b. Industrial supply (IND)
 - c. Agricultural supply (AGR)

SUPERSEDED BY
BOARD ORDER NO. 87-2002-0006

03-13-02

8. Studies in and around the Twentynine Palms Base have reported the ground water depth is greater than 250 feet below ground surface.
9. Federal regulations for storm water dischargers were issued by the U.S. Environmental Protection Agency on November 16, 1990 (40 Code of Federal Regulations (CFR) Parts 122, 123, and 124). In conformance with these regulations, the State Water Resources Control Board adopted a general permit for storm water discharges associated with industrial activities, Water Quality Order No. 91-13-DWQ (as amended by Water Quality Order 92-12-DWQ, NPDES No. CAS000001, on September 17, 1992. Industrial facilities, including sewage treatment plants, are required to obtain NPDES permits for their storm water discharges.
10. The Board has notified the discharger and all known interested agencies and persons of its intent to update waste discharge requirements for this discharge.
11. The Board in a public meeting heard and considered all comments pertaining to this discharge.
12. In accordance with Section 15301, Chapter 3, Title 14 of the California Code of Regulations, the issuance of these waste discharge requirements, which govern the operation of an existing facility involving negligible or no expansion of use beyond that previously existing, is exempt from the provisions of the California Environmental Quality Act (Public Resources Code, Section 21000 et seq.).

IT IS HEREBY ORDERED, that Board Order No. 88-010 is rescinded and in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, the discharger shall comply with the following:

A. Discharge Specifications

1. The treatment or disposal of wastes at this facility shall not cause pollution or nuisance as defined in Sections 13050(1) and 13050(m) of Division 7 of the California Water Code.
2. Wastewater effluent discharged to evaporation/infiltration basins from treatment facilities shall not contain constituents in excess of the following limits:

<u>Constituent</u>	<u>Unit</u>	<u>30-Day¹ Arithmetic Mean Discharge Rate</u>	<u>7-Day² Arithmetic Mean Discharge Rate</u>
20°C BOD ₅	mg/l ³	45	65
Suspended Solids	mg/l	95	--
Settleable Matter	ml/L ⁴	0.3	0.5

3. Sewage sludge shall not be discharged to any natural or artificial channel, or waterway.
4. There shall be no surface flow of wastewater away from the designated disposal areas, which includes all areas irrigated with reclaimed water.
5. Objectionable odors originating at this facility shall not be perceivable beyond the limits of the wastewater treatment and disposal area.
6. The 30-day average daily dry weather discharge flow shall not exceed 6.9 MGD.
7. As a means of discerning compliance with Discharge Specification No. 5 for discharge percolation ponds, the dissolved oxygen content in the upper zone (1 foot) of wastewater ponds shall not be less than 1.0 mg/L.
8. Bypass or overflow or untreated or partially treated waste is prohibited unless approved by the Regional Board's Executive Officer.
9. Ponds shall be managed to prevent breeding of mosquitoes. In particular,
 - a. An erosion control program should assure that small coves and irregularities are not created around the perimeter of the water surface.
 - b. Weeds shall be minimized through control of water depth, harvesting, or herbicides.
 - c. Dead algae, vegetation, and debris shall not accumulate on the water surface.

¹ 30-Day Mean - The arithmetic mean of pollutant parameter values of samples collected in a period of 30 consecutive days.

² 7-Day Mean - The arithmetic mean of pollutant parameter values of samples collected in a period of 7 consecutive days.

³ mg/L - milligrams per Liter

⁴ ml/L - milliliters per Liter

10. Public contact with undisinfected wastewater shall be precluded through such means as fences, signs, and other acceptable alternatives.
11. Ponds shall have sufficient capacity to accommodate allowable wastewater flow and design seasonal precipitation and ancillary inflow and infiltration during the non-irrigation season. Design seasonal precipitation shall be based on total annual precipitation using a return period of 100 years, distributed monthly in accordance with historical rainfall patterns. Freeboard shall never be less than two feet (measured vertically).
12. Storm water associated with industrial activities generated within the facility is contained on-site in an impoundment pond or directed to the headworks for treatment and subsequent discharge.
13. Storm water discharges from the facility shall not cause or threaten to cause pollution, contamination, or nuisance.
14. The discharger shall provide a plan as to the method, treatment, handling and disposal of sludge that is consistent with all state and federal laws and regulations. In addition, the discharger shall submit an annual report which gives the amount (in tons) and the method of all sludge disposal for the previous year.
15. The discharger shall allow the Regional Board's Executive Officer, or his/her authorized representatives, to sample or monitor influent, effluent and sludge for the purposes of determining compliance with this Board Order and other applicable requirements regarding sludge use and disposal.
16. The discharger may be required to submit technical reports as directed by the Regional Board's Executive Officer.
17. The discharge shall not cause degradation of any water supply.
18. A minimum depth of freeboard of two (2) feet shall be maintained at all times in basins.
19. No wastewater other than domestic sewage shall be discharged to this facility.
20. The oxidation basins and evaporation/infiltration basins shall be maintained so they will be kept in aerobic conditions.
21. Reclaimed water, used for the irrigation of golf courses and landscapes where the public has access or exposure, shall be at all times adequately disinfected, oxidized, coagulated, filtered wastewater or a wastewater treated by a sequence of unit processes that will assure an equivalent degree of treatment and reliability. The reclaimed water shall meet the following criteria:
 - a. The wastewater shall be considered adequately disinfected if the median number of fecal coliform organisms in the effluent does not exceed 2.2 per 100 milliliters, as determined from the bacteriological results of the last 7 days for which analyses have been completed, and the maximum

number of fecal coliform organism does not exceed 23 per 100 milliliters in any sample.

b. Filtered wastewater means an oxidized, coagulated, clarified wastewater which has been passed through natural undisturbed soils or filter media, such as sand or diatomaceous earth. The wastewater shall be considered adequately filtered if the turbidity, as determined by an approved laboratory method, does not exceed 5 NTU units more than 5 percent of the time during any 24-hour period.

22. Infiltration and holding facilities shall be maintained and operated so as to maximize infiltration and minimize the increase in salinity of the wastewater discharge.

B. Provisions

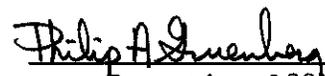
1. Adequate measures shall be taken to assure that flood or surface drainage waters do not erode or otherwise render portions of the wastewater treatment and discharge facilities inoperable.
2. Prior to any modifications in this facility which would result in material change in the quality or quantity of wastewater treated or discharged, or any material change in the location of discharge, the discharger shall report all pertinent information in writing to the Regional Board; and obtain revised requirements before any modifications are implemented.
3. The discharger shall ensure that all site-operating personnel are familiar with the content of this Board Order.
4. This Board Order does not authorize violation of any federal, state, or local laws or regulations.
5. Facilities shall be available to keep the plant in operation in the event of commercial power failure.
6. The discharger's wastewater treatment plant shall be supervised and operated by persons possessing certification of appropriate grade pursuant to Chapter 4, Division 4, Title 23 of the California Code of Regulations.
7. The discharger shall provide a plan as to the method, treatment, handling and disposal of sludge that is consistent with all state and federal laws and regulations.
8. The discharger shall comply with "Monitoring and Reporting Program No. 93-032", and future revisions thereto, as specified by the Regional Board's Executive Officer.
9. The discharger shall develop and implement a Storm Water Pollution Prevention Plan for this facility. The plan must be submitted to the Regional Board's Executive Officer for review and approval not later than 90 days after the adoption of this Board Order.
10. All storm water discharges from this facility must comply with the lawful requirements of municipalities, counties, drainage districts, and other

local agencies, regarding discharges of storm water to storm drains systems or other courses under their jurisdiction.

11. The following information shall be submitted to the Regional Board's Executive Officer within 90 days of the effective date of this Board Order and updated as changes occur:
 - a. Annual sludge production in dry tons and percent of solids.
 - b. A schematic diagram showing sludge handling facilities (e.g. digesters, lagoons, drying beds, incinerators) and a solids flow diagram.
 - c. A narrative description of sludge dewatering and other treatment processes, including process parameters. For example, if sludge is digested, report average temperature and retention time of the digester. If drying beds are used, report depth of application and drying time. If composting is used, report the depth of application and drying time and the temperature achieved and duration.
12. The discharger shall maintain a permanent log of all solids hauled away from the treatment facility for use/disposal elsewhere and shall provide a monthly summary of the volume, type (screening, grit, raw sludge, digested sludge), use (agriculture, composting, etc.) and destination. The sludge produced at this facility shall be characterized in accordance with the "Monitoring and Reporting Program No. 93-032." Collected screenings, sludge, and other solids removed from liquid waste shall be disposed of in a manner approved by the Regional Board's Executive Officer.
13. The discharger shall provide a report to the Regional Board when it determines that the treatment plant is operating at 80 percent of the design capacity as specified in Finding No. 2. the report should indicate what steps, if any, the discharge intends to take, to provide for expected wastewater treatment capacities necessary.
14. This Board Order does not authorize violation of any federal, state, or local laws or regulations.
15. Facilities shall be available to keep the plant in operation on the event of commercial power failure.
16. The discharger shall allow the Regional Board, or an authorized representative, upon presentation of credentials and other documents as may be required by law, to:
 - a. Enter upon the premises regulated by this Board Order, or the place where records must be kept under the conditions of this Board Order.
 - b. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Board Order.
 - c. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Board Order; and

- d. Sample or monitor at reasonable times, for the purpose of assuring compliance with this Board Order or as otherwise authorized by the California Water Code, any substances or parameter at this location.
17. The discharger must comply with all of the conditions of this Board Order. Any noncompliance with this Board Order constitutes a violation of the Porter-Cologne Water Quality Control Act and is grounds for enforcement action.
18. 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 this Board 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 which are installed by a discharger only when necessary to achieve compliance with the conditions of this Board Order.
19. The discharger shall comply with the following:
- a. Samples and measurements taken for the purposes of monitoring shall be representative of the monitored activity.
 - b. 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 Board Order and records of all data used to complete the application for this Board Order for a period of at least 5 years from the date of the sample, measurement, report or application. This period may be extended by request from the Regional Board's Executive Officer at any time.
20. The discharger shall furnish, under penalty of perjury, technical monitoring program reports, and such report shall be submitted in accordance with specifications prepared by the Regional Board's Executive Officer. Such specifications are subject to periodic revisions as may be warranted.

I, Philip A. Gruenberg, Executive Officer, do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, Colorado River Basin Region, on May 19, 1993.



Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
 COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 93-032
 FOR
 U.S. MARINE CORPS BASE
 WASTEWATER TREATMENT PLANT
 Twentynine Palms - San Bernardino County

Location of Discharge: NW¼ of Section 29, T2N, R9E, SBB&M

1. Effluent discharged to oxidation basins shall be monitored for the following:

<u>Constituents</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
BOD	mg/L ¹	Grab	Weekly
Total Suspended Solids	mg/L	Grab	Weekly
Volatile Organic Compounds (EPA Methods 601 & 602)	µg/L ²	Grab	Quarterly
Settleable Matter	ml/L ³	Grab	Weekly
Flow	MGD ⁴	Daily	Daily ⁵
TDS	mg/L	Grab	Quarterly
Nitrate	mg/L	Grab	Quarterly
Total Nitrogen	mg/L	Grab	Quarterly

2. Effluent used for irrigation of any areas including the parade fields, golf courses and landscape shall be monitored for the following:

<u>Constituents</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Coliform Organisms	MPN/100 ml ⁶	Grab ⁷	Daily ⁵
Flow	MGD ⁴	Average Daily	Daily ⁵
Turbidity	NTU	Grab	Daily ⁵

¹ mg/L - milligrams per Liter

² µg/L - micrograms per Liter

³ ml/L - milliliters per Liter

⁴ MGD - Million Gallons per Day

⁵ Reported for each day with average monthly flow calculated

⁶ MPN - Most Probable Number per 100 milliliters

⁷ Samples must be collected when wastewater characteristics are most demanding on the disinfection system.

3. Base water supply shall be monitored for the following:

<u>Constituents</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Total Dissolved Solids	mg/L	Grab	Annually ⁸

4. Treated domestic sewage sludge shall be monitored for the following:

<u>Constituents</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Arsenic	mg/kg ⁹	Grab	Annually
Cadmium	mg/kg	Grab	Annually
Chromium	mg/kg	Grab	Annually
Copper	mg/kg	Grab	Annually
Lead	mg/kg	Grab	Annually
Mercury	mg/kg	Grab	Annually
Molybdenum	mg/kg	Grab	Annually
Nickel	mg/kg	Grab	Annually
Selenium	mg/kg	Grab	Annually
Zinc	mg/kg	Grab	Annually
Fecal Coliform	MPN	Grab	Annually

The discharger shall report quarterly on the quantity, location and method of disposal of all sludge and similar solid materials being produced at the wastewater treatment plant facility.

REPORTING

1. Monthly monitoring reports shall be submitted to the Regional Board by the 15th day of the following month.
2. Quarterly Monitoring reports shall be submitted to the Regional Board by January 15, April 15, July 15 and October 15 of each year.
3. Yearly monitoring reports shall be submitted to the Regional Board by the 15th day of January.
4. Monitoring reports shall include:
 - a. The date, exact location, and time of sampling or measurement
 - b. The individual(s) who performed the sampling or measurement
 - c. The date(s) analyses were performed
 - d. The individual(s) who performed the analyses

⁸ Weighted average of all sources.

⁹ mg/kg - Milligrams per kilogram on a dry weight basis.

e. The results of such analyses

5. The discharger shall arrange the data in tabular form so that the specified information is readily discernable. The data should be summarized in such a manner as to clearly illustrate whether the treatment system is operating in compliance with the discharge limitations.
6. Each report shall contain the following statement:

"I declare under the penalty of law that this document and all the attachments are 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".
7. The collection, preservation and holding times of all samples shall be in accordance with EPA-approved procedures. All analyses shall be conducted by a laboratory certified by the State Department of Health Services to perform the required analyses.

Submit monitoring reports to:

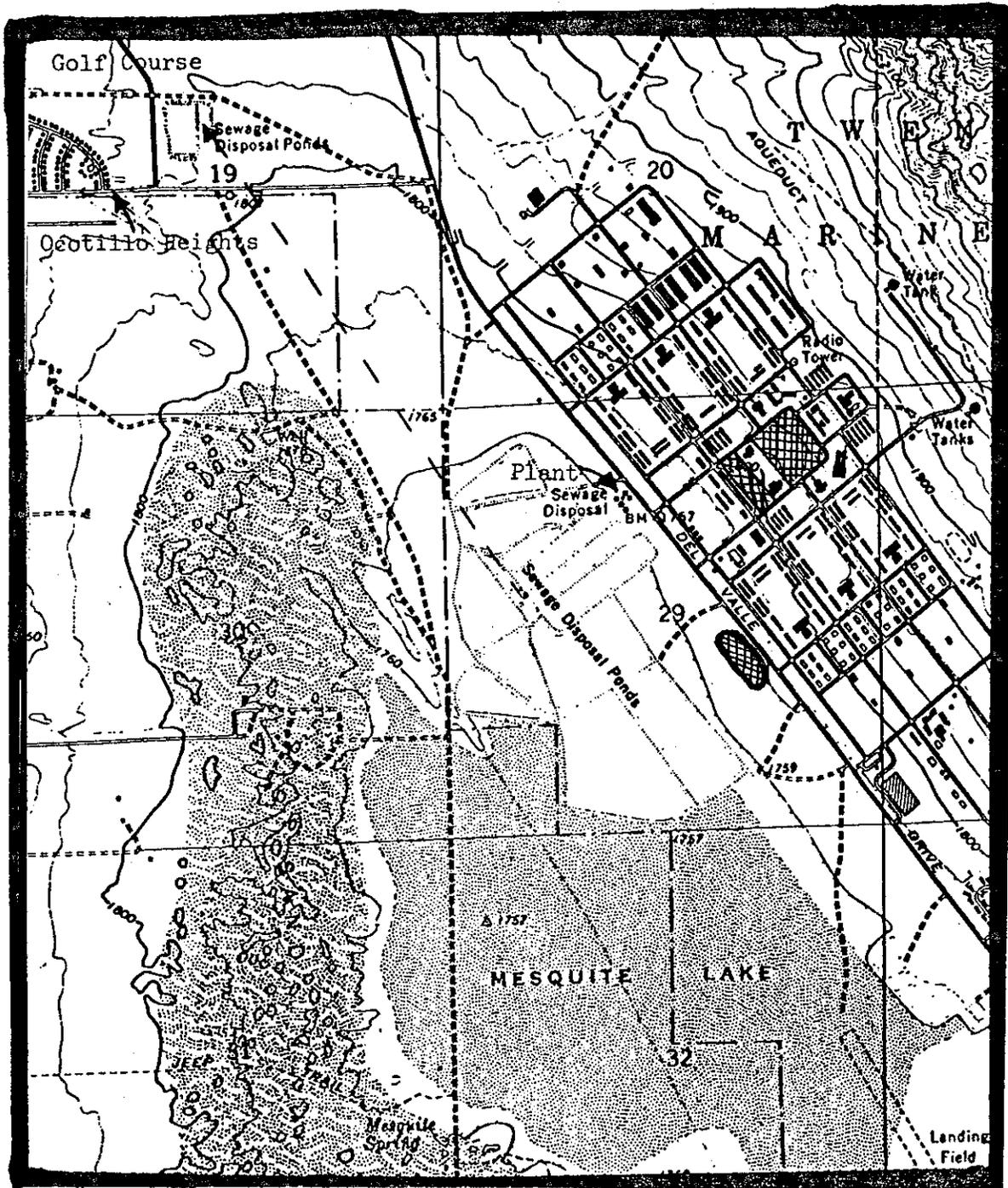
California Regional Water Quality Control Board
Colorado River Basin Region
73-720 Fred Waring Drive, Suite 100
Palm Desert, CA 92260

ORDERED BY:

Philip A. Gumbert
Executive Officer

May 19, 1993

Date



Irrigation Areas

- - - - Sewage Pipeline

SITE MAP

U. S. MARINE CORPS BASE
 WASTEWATER TREATMENT PLANT
 Twentynine Palms - San Bernardino County
 NW¼ of Section 29, T2N, R9E, SBB&M
 USGS Twentynine Palms 15 Min. Topographic Map

Board Order No. 93-032