

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION**

ORDER NO. 97-104

**WASTE DISCHARGE REQUIREMENTS
FOR
WHEELABRATOR WATER TECHNOLOGIES, INC.
BIO GRO DIVISION, OWNER/OPERATOR
BIOSOLIDS LAND APPLICATION
Chuckwalla Hydrologic Unit - Riverside County**

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

1. On April 27, 1997, Wheelabrator Water Technologies, Inc., Bio Gro Division (hereinafter also referred to as the discharger), 18500 Von Karman, Suite 900, Irvine CA 92612, submitted a Report of Waste Discharge for land application of municipal sludge (biosolids within the Chuckwalla Hydrologic Unit of Riverside County).
2. The discharger submitted the Bio Gro Management Plan (updated April 1995) for the Beneficial Use of Municipal biosolids for Eastern and Central Riverside County (hereinafter Management Plan). The Management Plan was formulated to meet the requirements of this Board Order, Riverside County Ordinances and Federal Regulations as specified in Title 40 of the Code of Federal Regulations, Part 503.
3. On March 26, 1996, Riverside County adopted Ordinance No. 696, "An Ordinance of the County of Riverside Regulating the Land Application of Sewage Sludge". The stated purpose and intent of the Ordinance is to regulate the land application of sludge in a manner that is consistent with agronomic rates; and to protect public health, ground water quality, surface water quality and agricultural markets.
4. The discharger proposes to truck treated biosolids from various wastewater treatment plants to Riverside County for application to fields at agronomic rates. The Management Plan states that biosolids will be transported to fields in Riverside County using covered and sealed trucks. Each load of biosolids shall be weighed before leaving the treatment facility. Records outlining the date, quantity, source and destination of each load shall be maintained by the discharger.
5. Biosolids will be applied on fields which produce non-food chain crops, processed food chain crops and or animal feed.
6. The discharger states that biosolids will be applied uniformly to land until the application rate for the field is reached. After spreading, the biosolids will be disked into the soil. Liquid biosolids may be injected directly into the soil.
7. The Report of Waste Discharge states that biosolids will only be applied to fields which do not generate tailwater.

8. Biosolids contain fertilizer and soil amendment characteristics which are beneficial to plant life as follows:
 - a. Nitrogen is a basic nutrient for plant growth. It is present in the forms of ammonia, nitrates and organic nitrogen in concentration from two to ten percent by weight on a dry weight basis. The ammonia and nitrate forms of nitrogen are immediately available for plant usage. Organic nitrogen is released slowly over many months, providing a continuing supply of nitrogen for crops and minimizing the potential for movement of nitrogen to the ground water.
 - b. Phosphorus is a basic nutrient for plant growth and is present in all biosolids in varying concentrations.
 - c. Organic material improves soil structure, reduces soil erosion, and aids soil moisture retention, improves tilability, and helps hold fertilizer and metals in the root zones for plant usage.
9. Biosolid applications will be limited to sites approved by the Riverside County Department of Environmental Health.
10. Biosolids may have characteristics which can create water quality and public health problems if improperly treated, managed, and regulated. Characteristics which can affect water quality are as follows:
 - a. Pathogens (disease causing organism) can be treated. Unless the biosolids have been specially treated or disinfected to destroy pathogens, significant concentrations of bacteria, virus, and parasites remain. Public health problems can be presented with appropriate control over public access to the application areas and restriction on the type and usage of crops grown on the application sites. Buffer zones around water supply wells, surface water drainage courses, and public areas will prevent transmission of pathogens to the public.
 - b. Heavy metals can be present. If heavy metals are over-applied to a field, they can cause ground water pollution, toxicity to the plants, or buildup in the plant tissue with a potential entry into the food chain. Future cropping or other land uses could be restricted. Only some of the metals commonly found in biosolids are known to cause water quality or public health problems. Application rates for those metals can be set to eliminate the problems.
 - c. Nitrogen can be over-applied, allowing buildup of nitrogen in the soil. All excess nitrogen can eventually be converted to nitrate and migrate to the ground water. Excess nitrate in the ground water can result in the exceedance of drinking water standards and pose a public health threat. Nitrogen over-application can be prevented by matching the application rate of the nitrogen to the nitrogen usage rate of the crops and to soil permeability and soil retention capability.
 - d. Odor and insect nuisance can be caused if the biosolids have not been adequately treated (stabilized) prior to application. Compliance with Federal and County standards for stabilization of the biosolids will minimize the potential for odors and insect nuisances. Proper management at the application site will prevent serious odor and insect nuisances. Properly stabilized biosolids may generate limited, transient odors in the immediate vicinity of the application operations, but proper site selection and management will eliminate nuisances by providing adequate buffer zones around residences and public areas.

- e. Organic matter, when discharged to surface waters, can deplete oxygen in the water. Discharge of organic material to surface waters can be prevented by control of field runoff, avoiding wet weather application, and incorporating the biosolids or septage into the soil soon after application. The water quality threat of organic matter discharging to surface waters due to the organic content of the biosolids is not greater than for a similar quantity of other organic soil amendments, such as steer manure.
11. The Riverside County Management Plan states that site-specific information required under Ordinance 696 will be forwarded to the Riverside County Department of Health Services and the Regional Water Quality Control Board for approval prior to any sludge application.
12. The discharger in a letter dated June 6, 1997, stated that the application of sludge in Riverside County will be in conformance with Riverside County Ordinance No. 696.
13. The United States Environmental Protection Agency (USEPA) has promulgated biosolids and septage reuse regulations in 40 CFR 503, "Standards for the Use and Disposal of Sewage Sludge", which establish management criteria for the protection of ground and surface waters, set application and cumulative loading rates for heavy metals, and establishes stabilization and disinfection criteria.
14. The discharger in a letter dated June 6, 1997 stated that the application of sludge in Riverside County will be in conformance with the requirements of the Code of Federal Regulations, 40 CFR 503.
15. Some standards in the USEPA, 40 CFR 503 are used in this Board Order. However, the Regional Board is not the implementing agency for the 503 Regulations. The discharger may have permitting, reporting and other compliance responsibilities with the USEPA. Compliance with this Board Order does not constitute compliance with the 503 Regulations.
16. The Water Quality Control Plan for the Colorado River Basin Region of California (Basin Plan) was adopted on November 17, 1993 and designates the beneficial uses of ground and surface waters in this Region
17. The designated beneficial uses of ground waters in the Chuckwalla Hydrologic Units are:
 - a. Municipal (MUN)
 - b. Industrial (IND)
 - c. Agricultural (AGR)
18. This Board Order sets minimum standards for the use of biosolids as agricultural site soil amendments, and does not preempt or supersede the authority of local agencies to prohibit, restrict, or control the use of biosolids subject to their control.
19. The biosolids to be applied are non-hazardous decomposable wastes, which are applied as soil amendments pursuant to best management practices, and are exempt from the requirements of Title 23, California Code of Regulations (CCR), Section 2510, and Section 2511 (f).
20. In accordance with the California Environmental Quality Act, the County of Riverside, acting as the lead agency, prepared and approved a Negative Declaration SCH. No. 94042005 for Bio Gro's application of sludge in Riverside County.

21. The Regional Board has notified the discharger and all known interested agencies and persons of its intent to prescribe waste discharge requirements for said discharger and has provided them with an opportunity for a public meeting and an opportunity to submit comments.

IT IS HEREBY ORDERED, that in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, the discharger shall:

A. Prohibitions

1. Sludge shall be applied on areas with less than 4 percent in slope.
2. Biosolids treatment, storage, use or disposal shall not pollute ground water.
3. The discharge of biosolids to surface waters or surface water drainage courses is prohibited.
4. No biosolids shall enter the wetlands or other waters of the United States.
5. The discharge of waste classified as "hazardous" or "designated" as defined in Section 2521(a) and Section 2522 (a) of Title 23 of the California Code of Regulation is prohibited.
6. Application of biosolids at rates in excess of the nitrogen requirements of the vegetation, or at rates that would allow excess nutrients or metals to leach to ground water, is prohibited.
7. Discharge of biosolids with pollutant concentrations greater than those shown below is prohibited:

<u>Constituent</u>	<u>Maximum Concentration mg/kg dry weight</u>
Arsenic	75
Cadmium	85
Copper	4300 ¹
Lead	840
Mercury	57 ¹
Molybdenum	75
Nickel	420
Selenium	100
Zinc	7500 ¹

¹ Total Threshold Limit Concentration (TTLC) prescribed in the California Code of Regulations are as follows: Copper 2500 mg/kg, Mercury 20 mg/kg, and Zinc 5000 mg/kg on a wet weight basis. Biosolids which contain metals at or above the TTLC wet weight concentrations are define as "hazardous" and may not be discharged under this Order. If any biosolids sample contains Copper, Mercury, or Zinc in dry weight concentrations, the sample concentration must be recalculated on a wet basis and compared to the TTLC values to verify whether the biosolids are "hazardous".

8. Biosolids applied to land are prohibited in amounts which cause the following cumulative loading rates to be exceeded:

<u>Constituent</u>	<u>Maximum Concentration Kilograms-per-Hectare</u>	<u>Pounds-per-Acre</u>
Arsenic	41	37
Cadmium	39	35
Copper	1500	1338
Lead	300	2766
Mercury	17	15
Nickel	420	375
Selenium	100	89
Zinc	2800	2498

9. Biosolids applied to land are prohibited in amounts which cause the annual (365 days) pollutant loading rate to exceed the following limits:

<u>Constituents</u>	<u>Cumulative Loadings</u>	
	<u>Kilograms-per-Hectare</u>	<u>Pounds-per-Acre</u>
Arsenic	2.0	1.78
Cadmium	1.9	1.69
Copper	75.0	66.91
Lead	15.0	13.38
Mercury	0.85	0.76
Nickel	21.0	18.73
Selenium	5.0	4.46
Zinc	140.0	124.89

10. Application of biosolids not meeting the pathogen reduction requirements specified in Section 503.32(b) of Title 40 of the Code of Federal Regulations is prohibited.
11. The discharge of biosolids is prohibited unless a Pre-Application Report was submitted and was approved for the project, or individual waste discharge requirements or a waiver of waste discharge requirements was adopted for the project.
12. No discharge of tailwater, stormwater, or other field runoff to surface water or surface water drainage courses is allowed within ninety days following the application of sludge to the field. Any noncompliance with this prohibition shall be reported to the Regional Board office by telephone (760) 346-7491 within 24 hours of the occurrence. If the office is closed, a recorded voice message shall be left.
13. Tailwater shall not be discharged from any field on which sludge has been applied unless such discharge has been approved by the Riverside County Department of Environmental Health.
14. Biosolids application will be limited to sites approved by both the Riverside County Department of Health Services and the Regional Water Quality Control Board.
15. The discharge of biosolids outside of the Chuckwalla Hydrologic Unit is not permitted by this Board Order.

B. Specifications

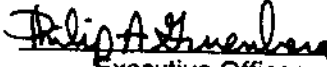
1. The treatment or disposal of wastes at this facility shall not cause pollution as defined in Section 13050 (I) of Division 7 of the California Water Code.
2. If biosolids are incorporated into the ground, tillage practices shall minimize the erosion of soils at the application site from wind, storm water, or irrigation water.
3. Sludge application shall be at least:
 - a. 500 feet from domestic supply wells;
 - b. 50 feet from non-domestic supply wells;
 - c. 100 feet from surface waters including ephemeral streams.
4. Biosolids shall be in conformance with Riverside County Ordinance No. 696 and with Federal Regulations as promulgated in 40 CFR 503.

C. Provisions

1. The discharger shall comply with "Monitoring and Reporting Program No. 97-104", and future revisions thereto, as specified by the Regional Board's Executive Officer.
2. The discharger shall submit a Pre-Application Report for each field or distinct application area prior to each application of biosolids or septage. Pre-application Reports shall be submitted for Regional Board staff review and approval at least 30 days prior to application of biosolids to land.
3. The discharger shall submit a Post-Application Report for each application of sludge or septage, as required by "Monitoring and Reporting Program No. 97-104"
4. 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 shall 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 parameters at this location.
5. The discharger shall 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.
6. 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.

7. Adequate measures shall be taken to assure that flood or surface drainage waters do not erode portions of the land application site.
8. The discharger shall furnish, under penalty of perjury, technical monitoring program reports. Such reports shall be submitted in accordance with the specifications prepared by the Regional Board's Executive Officer, and are subject to periodic revisions as may be warranted
9. Prior to any material modifications in any aspect of the sludge management plan, the discharger shall report in writing to the Regional Board allowing sufficient time for consideration and action.
10. Property owners where discharges occur are ultimately responsible for ensuring compliance with the requirements of this Board Order. Persons responsible for site operations retain primary responsibility for compliance with the requirements of this Board Order, including on-going monitoring. Enforcement actions may be initiated against landowners in the event that enforcement actions against site operators are ineffective or would be futile, or when enforcement actions are necessary to protect the environment.
11. In the event of any change in control or ownership of land described herein, the discharger shall notify the succeeding owner or operator of the existence of this Order by letter, a copy of which shall be forwarded to this office.
12. The discharger shall ensure that all site operating personnel and the landowner are familiar with the content of this Order.
13. This Order does not convey any property rights of any sort or any exclusive privileges, nor does it authorized any injury to private property or any invasion of personal rights, nor any infringement of federal, state, or local laws or regulations.

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, September 24, 1997


Executive Officer

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION**

**MONITORING AND REPORTING PROGRAM NO. 97-104
FOR**

**WHEELABRATOR WATER TECHNOLOGIES, INC.
BIO GRO DIVISION, OWNER/OPERATOR
BIOSOLIDS LAND APPLICATION
Chuckwalla Hydrologic Unit - Riverside County**

PRE-APPLICATION REPORT

A Pre-Application Report shall be submitted for each field or distinct application area prior to each application of biosolids, in accordance with the waste discharge requirements. Where biosolids are applied on a continuing basis to a single area, the Pre-Application Report may cover ongoing operations and need not be submitted for each load applied. For continuing operations an updated Pre-Application Report must be submitted annually. The Pre-Application Report shall be signed by the Owner/Operator of the biosolids application operation, and by the Property Owner. The Property Owner may submit written authorization to allow a representative of the Property Owner, such as a tenant or land management company, to sign the Pre-Application Report.

A Pre-Application Report form is included as an attachment to this Monitoring and Reporting Program. The form details the minimum information required for complete Report submission. If additional space is needed, or additional information is being submitted, the Pre-Application Report form should be completed as fully as possible and the additional information submitted on separate sheets of paper. The additional information should be referenced on the Pre-Application form (for example, "See Attached Sheet"). The Pre-Application Report form may be modified by the Executive Officer as the need arises. With the concurrence of Board staff, the discharger may submit a Pre-Application Report in a different format for projects involving multiple fields, crops, etc. Any alternative format for submittal of the Pre-Application Report must contain the equivalent data specified in the attachment.

Pre-Application Reports should be submitted as part of monthly reports.

POST-APPLICATION REPORT

A monthly Post-Application Report shall be submitted. This report shall include:

1. Identification of the application area(s), including a map clearly showing each field or site covered by the post-application report.
2. Calculations of the agronomic rates.
3. Total volume (cubic yards) and weight (dry tons) of biosolids applied.
4. Tons of wet biosolids per acre and tons of dry biosolids per acre applied.
5. Kilograms per hectare of metals and pounds per acre of total nitrogen applied.
6. Any variations from the pre-application report.
7. Slope of property.

8. Distance from wells.

An Annual Report shall be submitted. This report shall provide the following information for each site where sludge was applied:

1. Identification of the application area(s), including a map clearly showing each field or site covered by the post application report.
2. Total volume (cubic yards), weight (wet tons), and weight (dry tons) of biosolids applied.
3. Tons of wet biosolids per acre and tons of dry biosolids per acre applied.
4. Number of crops grown on each parcel of land.
5. Number of tons of sludge obtained from each discharger.
6. A statement concerning compliance with the requirements of this Board Order.

REPORTING

The collection, preservation and holding times of all samples shall be in accordance with U. S. Environmental Protection Agency approved procedures. All analyses shall be conducted by a laboratory certified by the State Department of Health Services to perform the required analyses.

Pre-Application Reports shall be submitted for Regional Board staff review and approval at least 30 days prior to application of biosolids or septage to land.

Post-Application Reports shall be submitted monthly and annually:

Monthly reports shall be submitted by the 15th day of the following month. Annual reports shall be submitted by January 15 of following year.

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

The results of any monitoring done more frequently than required at the locations specified in the Monitoring and Reporting Program shall be reported to the Board.

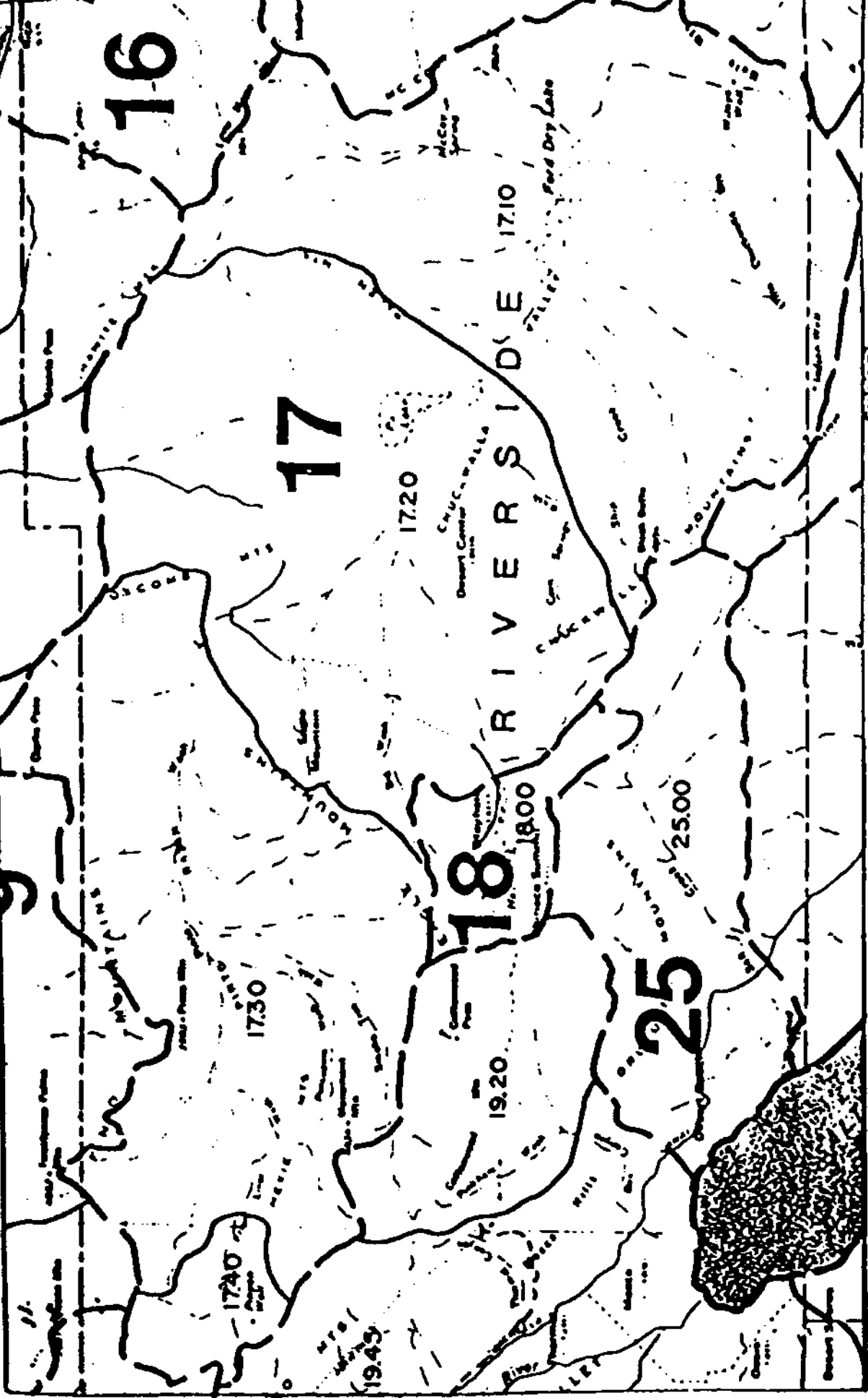
Mail reports to:

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. Greenberg
Executive Officer

September 24, 1997

Date



Scale in miles



Scale 1:500,000

CHUCKWALLA HYDROLOGIC UNIT

- 717.00 Ford MA
- 717.10 Palen MA
- 717.20 Pince MA
- 717.30 Pleasant MA
- 717.40

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 BIO GRO DIVISION, OWNER/OPERATOR
 BIO SOLIDS LAND APPLICATION
 Chuckwalla Hydrologic Unit - Riverside County