

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

**ORDER NO. 95-022
NPDES NO. CA0105040**

**NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
AND
WASTE DISCHARGE REQUIREMENTS
FOR
ORMESA GEOTHERMAL, FACILITY OWNER
U.S. DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT, LAND OWNER
PSC GEOTHERMAL SERVICES COMPANY, OPERATOR
ORMESA GEOTHERMAL I PROJECT
30 MW (GROSS) GEOTHERMAL BINARY POWER PLANT
COOLING TOWER BLOWDOWN
Southeast of Holtville - Imperial County**

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

1. PSC Geothermal Services Company, P.O. Box 838, 3302 East Evans Hewes Highway, Holtville, CA 92250, operates the Ormesa Geothermal I Project. On July 19, 1994, PSC Geothermal Services Company submitted a Report of Waste Discharge for discharge of cooling tower blowdown from the Ormesa Geothermal I Project.
2. Ormesa Geothermal I Project is owned by Ormesa Geothermal, c/o Ormat Geothermal, 860 Greg Street, Sparks, Nevada 89431.
3. The land on which the facility is located and the geothermal rights for this land are owned by the U.S. Department of Interior, Bureau of Land Management (BLM), 1661 S. 4th Street, El Centro, CA 92243.
4. This Board Order is issued to Ormesa Geothermal, BLM, and PSC Geothermal Services Company (hereinafter jointly referred to as the discharger).
5. The discharger uses East Highline Canal water or ground water (sweetwater) as cooling tower make-up water. The facility is designed for a maximum discharge of 1.44 million gallons-per-day of cooling tower blowdown. The average daily discharge is 0.43 million gallons-per-day when East Highline Canal water is used, and 0.71 million gallons-per-day when ground water is used. The cooling tower blowdown from the Ormesa Geothermal I Project is discharged into the Holtville Main Drain in the SE 1/4, SE 1/4, Section 25, T15S, R16E, SBB&M. The wastewater flows through the Holtville Main Drain, to the Alamo River and then into the Salton Sea.
6. The discharge mentioned in Finding No. 5, above combines with the cooling tower blowdown from Ormesa Geothermal IE Project which has its own NPDES Permit for discharge to the Holtville Main Drain. The combined cooling tower blowdown from the two facilities flows into the Holtville Main Drain through a single discharge point. However, analytical samples for the two NPDES permits are collected from sample ports located upstream of the point where the lines from the two facilities join together.

7. The Ormesa Geothermal I Project is a binary geothermal electrical generation facility (30 MW gross) and associated geothermal wellfield located within the East Mesa Known Geothermal Resource Area and the Imperial Hydrologic Unit. It is located approximately four miles north of Interstate 8 and approximately seven miles due east of Holtville, California (refer to Figure A) on Federal geothermal leases in all or portions of Sections 23, 24, 25, and 26, T15S, R16E, and Sections 19, 20, 21, 27, 28, 29, 30, 31, 32, 33, and 34, T15S, R17E, S8B&M, in Imperial County, California. The Ormesa Geothermal I Project's electric production is combined with the electric production from other plants, channeled through the Imperial Irrigation District's electric system, and sold to the Southern California Edison Company.
8. The Ormesa Geothermal I Project Power Plant utilizes production wells to bring to the surface geothermal fluid. The heat energy from this fluid is converted into electrical power and the cooled fluid is injected subsurface. The geothermal fluid is pumped through the modular binary generating system where it vaporizes the working fluid (isopentane). This expansion drives the turbine generators which produce electricity. The vaporized isopentane passes from the turbine into a shell-and-tube condenser, where cooling water from on-site evaporative cooling towers condenses the vapor. The condensed isopentane is recirculated through the system.
9. The cooling water system consists of cooling towers, water pumps, piping, the make-up water system and the cooling water blowdown system. The facility utilizes two separate five-cell mechanical draft cooling towers, each of which can be operated independently.
10. The facility obtains its cooling tower make-up water from the East Highline Canal under contract with the Imperial Irrigation District. It also maintains three ground water (sweetwater) wells as backup supply for use when the East Highline Canal water is unavailable.
11. The cooling tower water is currently treated with the following chemicals:

<u>CHEMICAL</u>	<u>PURPOSE OF TREATMENT</u>
Chlorine	Microbiocide
Chemco 5468	Scale Inhibitor
Sulfuric Acid	pH Control
Sodium Sulfite Solution	Dechlorination

12. This discharge has been subject to an NPDES Permit and to waste discharge requirements, Board Order No. 90-001 (NPDES No. CA0105040), adopted January 17, 1990, which allows discharge to the Holtville Main Drain.
13. 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.
14. The beneficial uses of waters in the Imperial Valley Drains are:
 - a. Fresh Water Replenishment of Salton Sea (FRSH)
 - b. Water Contact Recreation (REC I)
 - c. Noncontact Water Recreation (REC II)
 - d. Warm Water Habitat (WARM)
 - e. Wildlife Habitat (WILD)
 - f. Preservation of Rare, Endangered or Threatened Species (RARE)

15. The Board has notified the discharger, and all known interested agencies and persons of its intent to renew an NPDES Permit and waste discharge requirements for said discharge and has provided them with an opportunity for a public meeting and an opportunity to submit comments.
16. The Board in a public meeting heard and considered all comments pertaining to this discharge.
17. The action to adopt an NPDES Permit is exempt from the provisions of the California Environmental Quality Act (CEQA: Public Resources Code Section 21100, et. seq.), pursuant to Section 13389 of the California Water Code.
18. The U. S. Environmental Protection Agency and the Regional Board have classified this discharge as a minor discharge.
19. Effluent and receiving water limitations in this Board Order are based on the Federal Clean Water Act, Basin Plan, State Water Resources Control Board's plans and policies, U. S. Environmental Protection Agency guidance, best professional judgement, and best available technology economically achievable.
20. Effluent limitations and toxic and pretreatment effluent standards, established pursuant to Sections 301, 302, 304, and 307 of the Federal Clean Water Act (CWA) and amendments thereto are applicable to the discharge.

IT IS HEREBY ORDERED, that Board Order No. 90-001 is terminated, and in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder, and the provisions of the Federal Clean Water Act, and regulations and guidelines adopted thereunder, the discharger shall comply with the following:

A. Effluent Limitations

1. Wastewater discharged to the Holtville Main Drain shall not contain constituents in excess of the following limits:

<u>Constituent</u>	<u>Unit</u>	<u>30 Day Average Concentration</u>	<u>Maximum Daily Concentration</u>
Total Dissolved Solids	mg/L ¹	4,000	4,500
Suspended Solids	mg/L	50	100
Settleable Matter	ml/L ²	0.3	1.0
Total Residual Chlorine	mg/L	0.01	0.02
Oil and Grease	mg/L	15	20

2. The pH of the effluent shall be maintained within the limits of 6.0 to 9.0.

¹ mg/L - milligrams-per-Liter

² ml/L - milliliters-per-Liter

3. There shall be no discharge of any U.S. Environmental Protection Agency's designated 126 Priority Pollutants (40 CFR Part 423.15(j)(1)), which would adversely affect the beneficial uses of the receiving waters.
4. There shall be no acute toxicity in the effluent being discharged to the Holtville Main Drain. Acute toxicity is defined as less than ninety percent survival, fifty percent of the time, and less than seventy percent survival, ten percent of the time, of standard test organisms in undiluted effluent in a 96-hour static or continuous-flow test. Compliance with this effluent limitation shall be based annually from the most recent test results.
5. The dry weather discharge to Holtville Main Drain shall not exceed 1.44 million gallons-per-day.

B. Receiving Water Limitations

1. Wastewater discharged to Holtville Main Drain shall not:
 - a. Depress the dissolved oxygen content of water in Holtville Main Drain below 5.0 mg/L.
 - b. Cause the value for pH of Holtville Main Drain water to be outside the limits of 6.0 to 9.0.
2. Discharged wastewater shall not cause the temperature of the Holtville Main Drain to be increased by more than 5°C.
3. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board as required by the Federal Clean Water Act and regulations adopted thereunder.

C. Prohibitions

1. Discharge of treated wastewater at a location or in a manner different from that described in Finding No. 5, above, is prohibited.

D. Specifications

1. The treatment or disposal of wastes at this facility shall not cause pollution or nuisance as defined in Sections 13050(l) and 13050(m) of Division 7 of the California Water Code.
2. Bioassays shall be performed to evaluate the toxicity of the discharged wastewater in accordance with the following procedures unless otherwise specified by the Regional Board's Executive Officer or his designee.

Bioassays shall be conducted on species approved by the Regional Board's Executive Officer. The bioassays shall be conducted in accordance with the protocol given in EPA/600/4-89/001 - Short Term Methods for Estimating the Chronic Toxicity of Effluent and Receiving Waters to Freshwater Organisms.

3. If the discharge consistently exceeds the applicable chronic or acute toxicity limitation, a toxicity reduction evaluation (TRE) is required. The TRE shall include all reasonable steps to identify the source(s) of toxicity. Once the source(s) of toxicity is identified, the discharger shall take all reasonable steps necessary to reduce toxicity to the required level.

4. No changes in the type or amount of water treatment chemicals added to the process waters as described in Finding No. 11, above of this Board Order shall be made without the written approval of the Regional Board's Executive Officer.

E. Provisions

1. The discharger shall comply with "Monitoring and Reporting Program No. 95-022", and future revisions thereto, as specified by the Regional Board's Executive Officer.
2. The discharger shall ensure that all site operating personnel are familiar with the content of this Board Order, and shall maintain a copy of this Board Order at the site.
3. This Board Order does not authorize violation of any federal, state, or local laws or regulations.
4. 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.
5. The discharger shall comply with all conditions of this Board Order. Noncompliance constitutes a violation of the Federal Clean Water Act, and is grounds for enforcement action; for Board Order termination, revocation and reissuance, or modification; or denial of a Board Order renewal application.
6. The discharger is the responsible party for the waste discharge requirements, and the monitoring and reporting program for the facility. The discharger shall comply with all conditions of these waste discharge requirements. Violations may result in enforcement actions, including Regional Board Orders or court orders, requiring corrective action or imposing civil monetary liability, or in modification or revocation of these waste discharge requirements by the Regional Board.
7. The Federal Clean Water Act provides that any person who violates a permit condition implementing Sections 301, 302, 306, 307, 308, 318, or 405 of the Federal Clean Water Act is subject to a civil or criminal penalty.
8. This Board Order may be modified by the Regional Board prior to the expiration date to include effluent or receiving water limitations for toxic constituents determined to be present in significant amounts of discharges regulated in this Board Order.
9. This Board Order may be modified, revoked and reissued, or terminated for cause. The filing of a request by the discharger for a Board Order modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any Board Order condition. Causes for modification include the promulgation of new regulations, by the State Board or the Regional Board, including revisions to the Basin Plan.
10. This Board Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Federal Clean Water Act, as amended, and shall become effective at the end of ten (10) days from the date of the hearing at which this Permit was adopted by the Regional Board, provided the Regional Administrator, U. S. Environmental Protection Agency, has no objections.

11. This discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Regional Board or the State Water Resources Control Board as required by the Federal Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Federal Water Pollution Control Act or amendments thereto, the Regional Board will revise and modify this Permit in accordance with such more stringent standards.
12. The discharger shall comply with "Standard Provisions for National Pollutant Discharge Elimination System Permit", dated October 1990, which is attached and incorporated as part of this Board Order.
13. This Board Order expires five years from date of adoption, on March 29, 2000, and the discharger shall file a complete Report of Waste Discharge in accordance with Title 23, California Code of Regulations, at least 180 days in advance of such date as an application for issuance of a new Board Order.
14. 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.
15. Prior to any change in ownership or management of this operation, the discharger shall transmit a copy of this Board Order to the succeeding owner/operator, and forward a copy of the transmittal letter to the Regional Board.
16. The discharger shall comply with the following:
 - a. Samples and measurements taken for the purpose 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 five years from the date of the sample, measurement, report or application. This period may be extended by request of the Regional Board's Executive Officer at any time.
 - c. Records of monitoring information shall include:
 1. The date, exact place, and time of sampling or measurements.
 2. The individual(s) who performed the sampling or measurements.
 3. The date(s) analyses were performed.
 4. The individual(s) who performed the analyses.
 5. The results of such analyses.
 - d. Monitoring must be conducted according to test procedures under 40 CFR Part 136, unless other test procedures have been specified in this Board Order.

17. Unless otherwise approved by the Regional Board's Executive Officer, all analyses shall be conducted at a laboratory certified for such analyses by the State Department of Health Services. All analyses shall be conducted in accordance with the latest edition of "Guidelines Establishing Test Procedures for Analysis of Pollutants", promulgated by the United States Environmental Protection Agency.
18. 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.
19. The discharger shall furnish, under penalty of perjury, technical monitoring program reports, and such reports shall be submitted in accordance with the specifications prepared by the Regional Board's Executive Officer. Such specifications are subject to periodic revisions as may be warranted.
20. Storm water discharges from the facility shall not cause or threaten to cause pollution, contamination, or nuisance.

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 March 29, 1995.


Executive Officer

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

MONITORING AND REPORTING PROGRAM NO. 95-022 (REVISION NO.1)
FOR

ORMESA GEOTHERMAL, FACILITY OWNER
U.S. DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT, LAND OWNER
PSC GEOTHERMAL SERVICES COMPANY, OPERATOR
ORMESA GEOTHERMAL I PROJECT
30 MW (GROSS) GEOTHERMAL BINARY POWER PLANT
COOLING TOWER BLOWDOWN
Southeast of Holtville - Imperial County

Location of Discharge: Holtville Main Drain in the SE 1/4, SE 1/4, Section 25, T15S, R16E, SBB&M

MONITORING

1. 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.
2. Compliance with the discharge limitations shall be determined at the designated sampling point located upstream from the end of the discharge pipe.
3. If the facility is not in operation, or there is no discharge during a required reporting period, the discharger shall forward a letter to the Regional Board indicating that there has been no activity during the required reporting period.

COOLING TOWER BLOWDOWN WASTEWATER MONITORING

A sampling station shall be established at a point upstream of the confluence of the discharge lines and shall be located where representative samples of effluent can be obtained. Wastewater discharged into the Holtville Main Drain shall be monitored for the following constituents:

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Volume of Discharge to Holtville Main Drain	MGD ¹	Average Daily ²	Daily
Total Dissolved Solids	mg/L ³	24-Hr. Composite	Weekly

¹ MGD - Million Gallons-per-Day

² Reported monthly with monthly average daily flow calculated.

³ mg/L - milligrams-per-Liter

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Suspended Solids	mg/L	24-Hr. Composite	Weekly
Settleable Matter	ml/L ⁴	Grab at Peak Flow	Weekly
Total Residual Chlorine ⁵	mg/L	Grab	Daily
Oil & Grease	mg/L	Grab	Weekly
Total Petroleum Hydrocarbons (Diesel & Gasoline)	mg/L	Grab	Weekly
Sodium Chloride	mg/L	24-Hr. Composite	Weekly
Hydrogen Ion	pH Units	Grab	Daily
Bioassay	-	24-Hr. Composite	(See Section on Effluent Toxicity Testing)

RECEIVING WATER MONITORING

Representative samples upstream and downstream from the point of discharge shall be collected and analyzed in accordance with the following:

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Dissolved Oxygen	mg/L	Grab	Weekly
Hydrogen Ion	pH Units	Grab	Weekly
Temperature	°C	Measurement	Weekly

SUPPLY WATER MONITORING

The discharger shall monitor the supply water for the following constituents:

<u>Constituent</u>	<u>Unit</u>	<u>Type of Sample</u>	<u>Sampling Frequency</u>
Total Dissolved Solids	mg/L	24-Hr. Composite	Weekly
Sodium Chloride	mg/L	24-Hr. Composite	Weekly

⁴ ml/L - milliliters-per-Liter

⁵ The discharger may monitor for dechlorinating agent residual and report residual chlorine as non-detectable if the dechlorinating agent is present.

VERTEBRATE EFFLUENT TOXICITY TESTING

The discharger shall conduct toxicity testing on the wastewater as follows:

<u>Test</u>	<u>Units</u>	<u>Type of Sample</u>	<u>Minimum Frequency Test</u>
Chronic Toxicity	tu _c	Composite	Annually
Acute Toxicity	Percent Survival	Composite	Annually

The following test species shall be used to measure toxicity:

<u>Species</u>	<u>Effect</u>	<u>Test Duration (Days)</u>	<u>Reference</u>
Fathead Minnow (<u>Pimephales promelas</u>)	Larval Survival and Growth Rate	7	Horning & Weber, 1989

Toxicity Test Reference: Horning W. B. and C. I. Weber (eds). 1989. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organism. Second Edition. U. S. Environmental Protection Agency, Environmental Monitoring Systems Laboratory, Cincinnati, Ohio. EPA/600/4-89/001.

Dilution and control waters should be obtained from an unaffected area of the receiving waters. Standard dilution water should be used if the above source exhibits toxicity. The sensitivity of the test organism to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results.

Acute toxicity shall be expressed as percent survival of test organism over a ninety-six hour period.

Chronic toxicity shall be expressed and reported as toxic units (tu_c) where:

$$tu_c = 100/NOEL$$

and the No Observed Effect Level (NOEL) is expressed as the maximum percent effluent of test water that causes no observed effect on a test organism, as determined in a critical life stage toxicity test (indicated above).

INVERTEBRATE EFFLUENT CHRONIC TOXICITY TESTING

The discharger shall conduct chronic toxicity testing on the wastewater effluent as follows:

<u>Test</u>	<u>Units</u>	<u>Type of Samples</u>	<u>Minimum Frequency Test</u>
Chronic Toxicity	tu _c	Composite	Quarterly

Both test species given below shall be used to measure chronic toxicity:

<u>Species</u>	<u>Effect</u>	<u>Test Duration (Days)</u>	<u>Reference</u>
Water Flea (<u>Ceriodaphnia dubia</u>)	Number of Young	7	Horning & Weber, 1989

Toxicity Test Reference: Horning W. B. and C. I. Weber (eds). 1989. Short Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organism. Second Edition. U. S. Environmental Protection Agency, Environmental Monitoring Systems Laboratory, Cincinnati, Ohio. EPA/600/4-89/001.

Dilution and control waters should be obtained from an unaffected area of the receiving waters. Standard dilution water should be used if the above source exhibit toxicity greater than 1.0 tu_c . The sensitivity of the test organism to a reference toxicant shall be determined concurrently with each bioassay and reported with the test results.

If the wastewater effluent is believed to contain total dissolved solids in excess of 2,000 mg/L, the laboratory conducting the analysis may dilute the effluent to approximately 2,000 mg/L prior to testing the ceriodaphnia dubia.

Chronic toxicity shall be expressed and reported as toxic units (tu_c) where:

$$TU_c = 100/NOEL$$

and the No Observed Effect Level (NOEL) is expressed as the maximum percent effluent of test water that causes no observed effect on a test organism, as determined in a critical life stage toxicity test (indicated above).

Acute toxicity shall be calculated from the results of the chronic toxicity test described above and shall be reported along with the results of each chronic test. Acute toxicity shall be expressed as percent survival of test organism over a ninety-six hour period.

REPORTING

1. The discharger shall arrange the data in tabular form so that the specified information is readily discernible. The data shall be summarized in such a manner as to clearly illustrate whether the facility is operating in compliance with waste discharge requirements.
2. Records of monitoring information shall include:
 - a. The date, exact place, and time of sampling or measurement(s);
 - b. The individual(s) who performed the sampling or measurement(s);
 - c. The date(s) analyses were performed;
 - d. The individual(s) who performed the analyses;
 - e. The analytical techniques or method used; and
 - f. The results of such analyses.
3. Each report shall contain the following statement:

"I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is 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."

4. A duly authorized representative of the discharger may sign the documents if:
 - a. The authorization is made in writing by the person described above;
 - b. The authorization specified an individual or person having responsibility for the overall operation of the regulated disposal system; and
 - c. The written authorization is submitted to the Regional Board's Executive Officer.
5. Daily and weekly monitoring reports shall be submitted by the 15th day of the following month. Quarterly monitoring reports shall be submitted by January 15, April 15, July 15 and October 15 of each year. Annual monitoring reports shall be submitted to the Regional Board by January 15 of each year.

Submit monitoring reports to:

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

6. A copy of the Monitoring Report shall also be sent to:

Regional Administrator
U. S. Environmental Protection Agency
Region 9, Attn: 65/MR, W-1
75 Hawthorne Street
San Francisco, CA 94105

Ordered By: Philip A. Amenberg
Executive Officer

3-12-96
Date

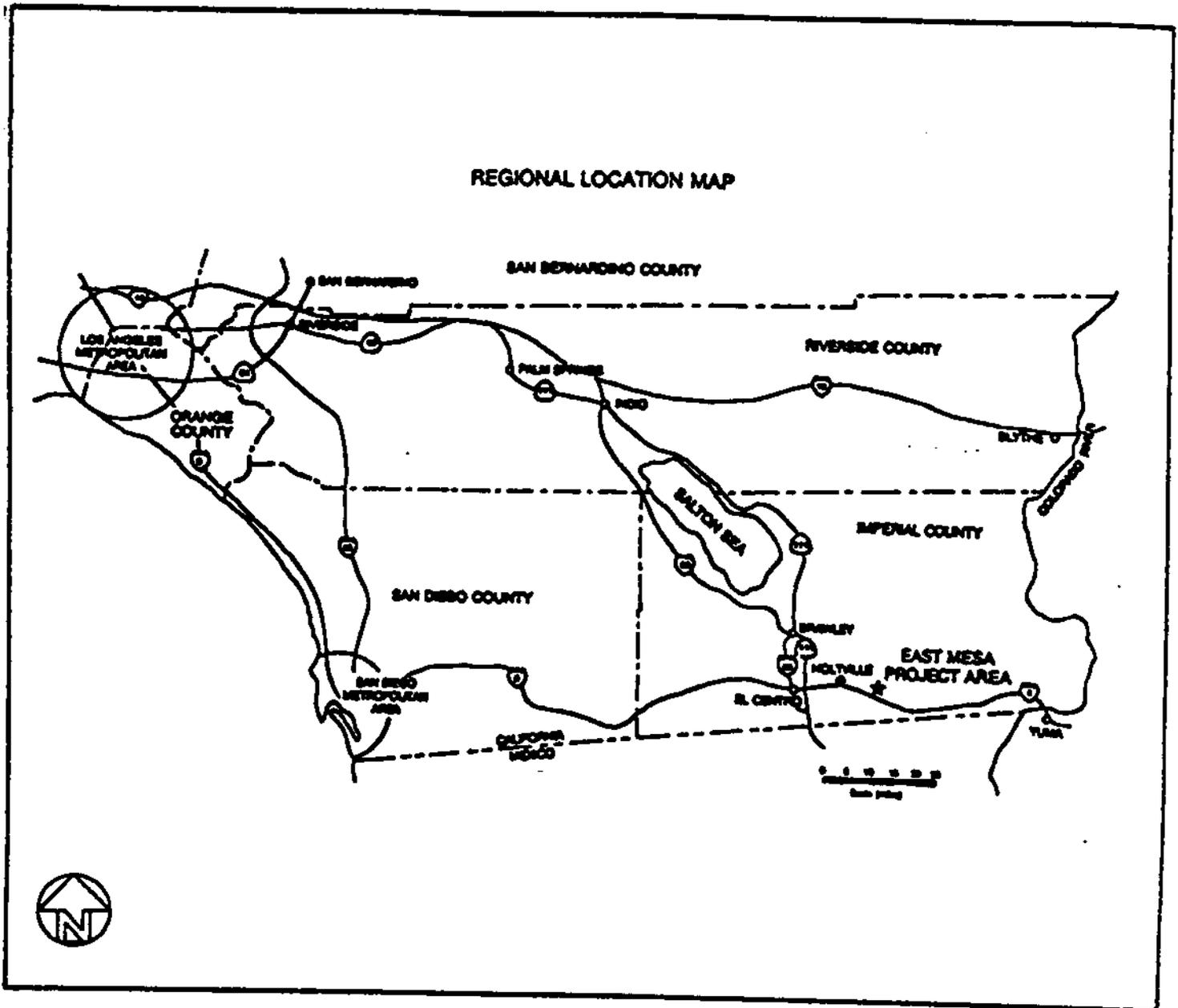


FIGURE "A"

ORMESA GEOTHERMAL, FACILITY OWNER
U.S. DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT, LAND OWNER
PSC GEOTHERMAL SERVICES COMPANY, OPERATOR
ORMESA GEOTHERMAL I PROJECT
30 MW (GROSS) GEOTHERMAL BINARY POWER PLANT
COOLING TOWER BLOWDOWN
Southeast of Holtville - Imperial County

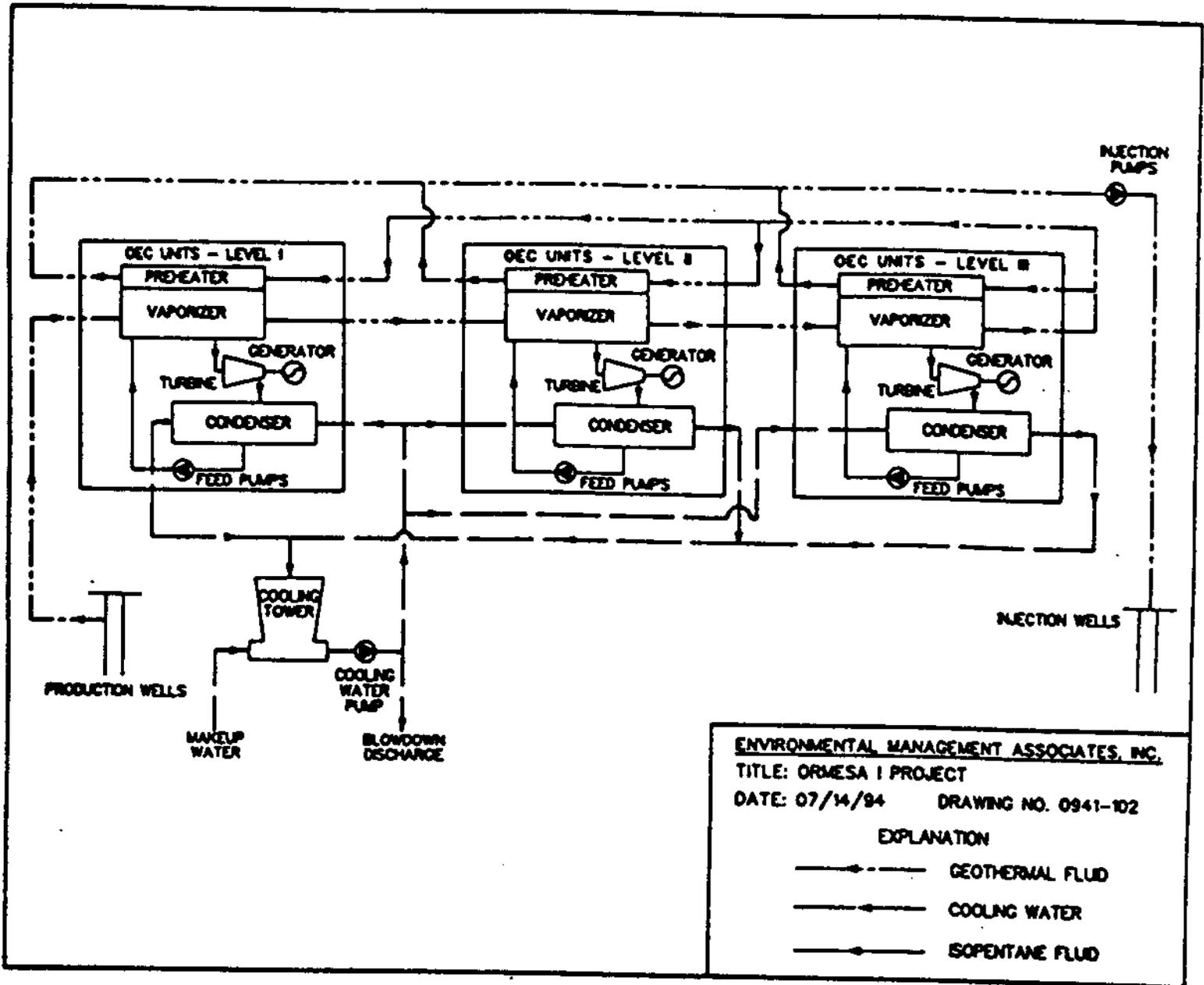


FIGURE "B"

**ORMESA GEOTHERMAL I PROJECT
 POWER PLANT MODULE FLOW DIAGRAM**

ORMESA GEOTHERMAL, FACILITY OWNER
 U.S. DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT, LAND OWNER
 PSC GEOTHERMAL SERVICES COMPANY, OPERATOR
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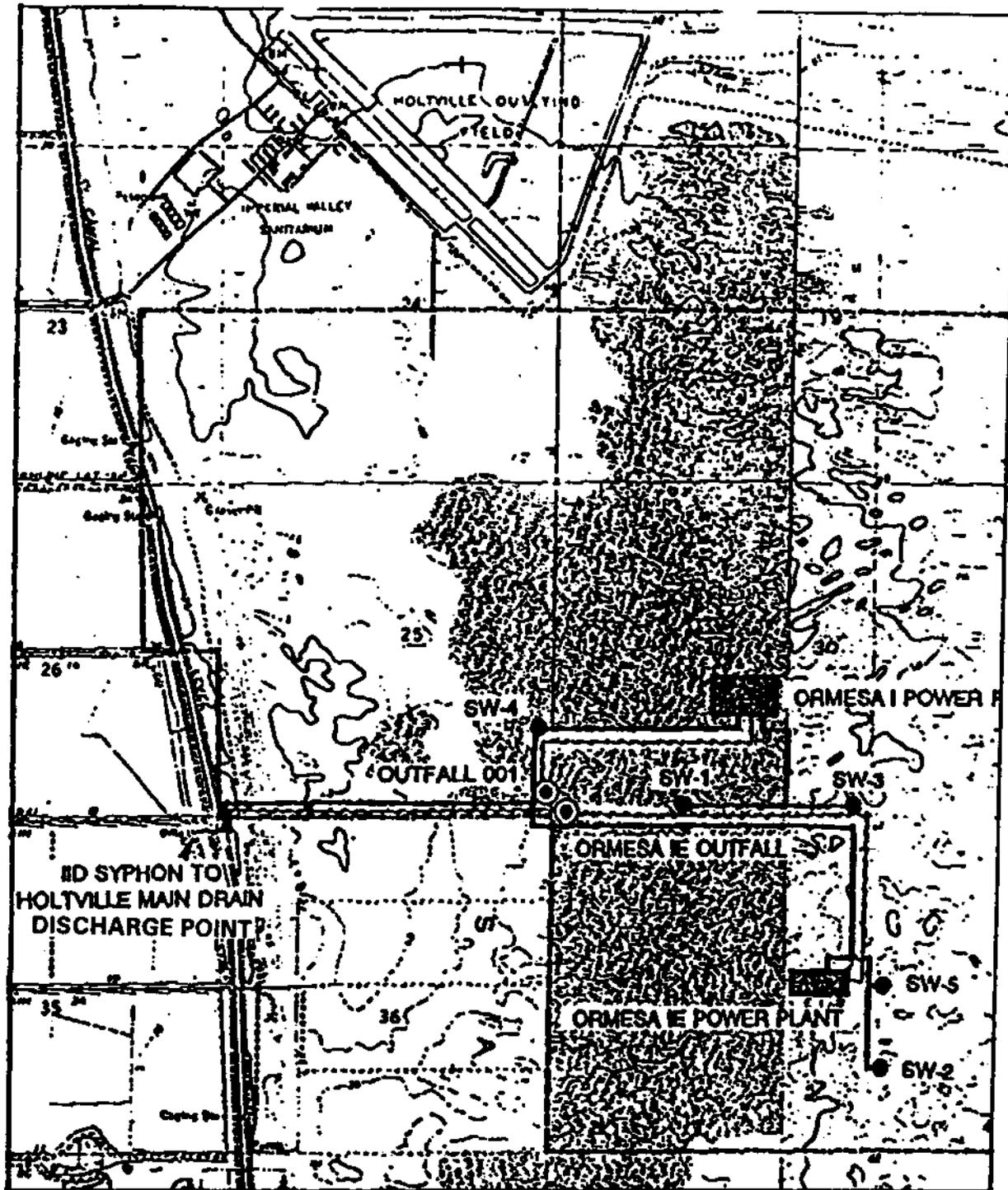


FIGURE "C"

DISCHARGE LOCATION

ORMESA GEOTHERMAL, FACILITY OWNER
 U.S. DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT, LAND OWNER
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 Southeast of Holtville - Imperial County
 SE 1/4, SE 1/4, Section 25, T15S, R16E, SBB&M
 USGS Holtville East 7.5 Min. Topographic Map

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

**FACT SHEET
APPLICATION FOR
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT
AND
WASTE DISCHARGE REQUIREMENTS
TO DISCHARGE TO STATE WATERS**

Public Notice No. 7-95-4
Application NPDES No. CA0105040
Board Order No. 95-022

Ormesa Geothermal I Project
3302 East Evan Hewes Highway
Holtville, CA 92250

On the basis of preliminary staff review and application of lawful standards and regulations, the Regional Board proposes to renew waste discharge requirements for the discharge. The tentative proposed determinations are described below.

I. Description of Proposed Discharge:

The discharger uses naturally occurring underground geothermal fluid to heat a working fluid which runs turbines, produces electricity and utilizes East Highline Canal water or ground water (sweetwater) in its cooling operations. Incoming water is treated with chemicals to prevent fouling, corrosion and algae growth. The discharger proposes to discharge a maximum average daily discharge of 0.71 MGD and a maximum discharge of 1.44 MGD of cooling tower blowdown.

The Ormesa Geothermal I Project is a binary geothermal electrical generation facility and associated geothermal wellfield located within the East Mesa Known Geothermal Resource Area and the Imperial Hydrologic Unit. The facility is located approximately four miles north of Interstate 8 and approximately seven miles east of Holtville. The discharge is into the Holtville Main Drain in the SE 1/4, SE 1/4, Section 25, T15S, R16E, SBB&M. The wastewater flows through the Holtville Main Drain to the Alamo River and then into the Salton Sea.

II. Rationale for Effluent and Receiving Water Limitations

A. Receiving Waters:

Holtville Main Drain
Alamo River
Salton Sea

B. Beneficial Uses of Water in the Imperial Valley Drains are:

- a. Fresh Water Replenishment of Salton Sea (FRSH)
- b. Water Contact Recreation (REC I)

- c. Noncontact Water Recreation (REC II)
- d. Warm Water Habitat (WARM)
- e. Wildlife Habitat (WILD)
- f. Preservation of Rare, Endangered or Threatened Species (RARE)

The beneficial uses of the waters in the Alamo River are:

- a. Fresh Water Replenishment of Salton Sea (FRSH)
- b. Water Contact Recreation (REC I)
- c. Noncontact Water Recreation (REC II)
- d. Warm Water Habitat (WARM)
- e. Wildlife Habitat (WILD)
- f. Preservation of Rare, Endangered or Threatened Species (RARE)

The beneficial uses of waters in the Salton Sea are:

- a. Aquaculture (AQ)
- b. Water Contact Recreation (REC I)
- c. Noncontact Water Recreation (REC II)
- d. Warm Water Habitat (WARM)
- e. Wildlife Habitat (WILD)
- f. Preservation of Rare, Endangered or Threatened Species (RARE)

C. Proposed Effluent Limitations:

Wastewater discharged to the Holtville Main Drain shall not contain constituents in excess of the following limits:

<u>Constituent</u>	<u>Unit</u>	<u>30 Day Average Concentration</u>	<u>Maximum Daily Concentration</u>
Total Dissolved Solids	mg/L ¹	4,000	4,500
Suspended Solids	mg/L	50	100
Settleable Matter	ml/L ²	0.3	1.0
Total Residual Chlorine	mg/L	0.01	0.02
Oil and Grease	mg/L	15	20

¹ mg/L - milligrams-per-Liter

² ml/L - milliliters-per-Liter

The pH of the effluent shall be maintained within the limits of 6.0 to 9.0.

There shall be no discharge in detectable amounts of any U.S. Environmental Protection Agency's designated 126 Priority Pollutants (40 CFR Part 423.15(j)(1)) which would adversely affect the beneficial uses of the receiving waters.

There shall be no acute toxicity in the effluent being discharged to the Holtville Main Drain. Acute toxicity is defined as less than ninety percent survival, fifty percent of the time, and less than seventy percent survival, ten percent of the time, of standard test organisms in undiluted effluent in a 96-hour static or continuous-flow test. Compliance with this effluent limitation shall be based annually from the most recent test results.

The dry weather discharge to Holtville Main Drain shall not exceed 1.44 million gallons-per-day.

D. Basis of Effluent Limitations:

Effluent discharged from this facility could contain pollutants in sufficient quantities to affect receiving water quality. Pursuant to Section 13263, Article 4, Chapter 4 of the Porter-Cologne Water Quality Control Act, the Regional Boards are required to issue Waste Discharge Requirements for dischargers that could affect the quality of the state's water. Furthermore, Federal Regulation 40 CFR 122.1 requires the issuance of NPDES permits, for pollutants discharges from a point source to the waters of the United States. The draft discharge requirements contain specific discharge limitations for selected pollutants. The rationale for each of the limitations is as follows.

	<u>ConstituentBasis for Limitations</u>
Total Dissolved Solids (TDS)	Increasing levels of dissolved solids are adversely impacting the Salton Sea. Wastewater effluent can contain high amounts of dissolved solids.
Total Suspended Solids (TSS)	High levels of suspended solids can adversely impact aquatic habitat. Untreated or improperly treated wastewater can contain high amounts of suspended solids.
Settleable Matter	High levels of settleable matter can have an adverse affect on aquatic habitat. Untreated or improperly treated wastewater can contain high amounts of settleable matter.

<u>Constituent</u>	<u>Basis for Limitations</u>
Total Residual Chlorine	High levels of chlorine can have an adverse affect on aquatic life. Chlorine is one of the chemicals used in treating the cooling tower water.
Oil and Grease	High levels of oil and grease are harmful to aquatic life.
pH	Hydrogen Ion (pH) is a measure of Hydrogen Ion concentration in the water. A range specified between 6.0 to 9.0 ensures suitability for biological life. This limitation has been adopted in the Basin Plan of the Region.
Toxicity	Toxicity testing ensures that the effluent does not contain metals, chemicals, pesticides, other constituents or a combination of pollutants in concentrations harmful to aquatic life and/or detrimental to the beneficial uses of the water body

E. Basis of Receiving Water Limitations:

Receiving water limitations have been established for the protection of aquatic life.

III. Written Comments

All interested persons and agencies are invited to submit written comments on the proposed discharge and the Regional Board's Executive Officer's proposed determinations. Comments should be submitted not later than January 15, 1995, either in person or by mail to:

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

The application number shall appear on the first page of any submitted comments. All comments received by the above date will be considered in the formulation of the final determinations.

IV. Information and Copying

Persons wishing further information may write to the above address or call the Regional Board at (619) 346-7491. Copies of the application, proposed waste discharge requirements and other documents (other than those which the Regional Board's Executive Officer maintains as confidential), are available at the Regional Board office for inspection and copying.

V. Register of Interested Persons

Any person interested in a particular application or group of applications may leave his/her name, address and phone number as part of the file for the application. This list of names will be maintained as a means for persons with an interest in an application to contact others with similar interests.

VI. Public Hearing

If submitted comments indicate a significant public interest in the application, or if the Regional Board's Executive Officer believes useful information may be produced thereby, the Regional Board's Executive Officer, at his discretion, may hold a public hearing on the application. Any person may request the Regional Board's Executive Officer to hold a public hearing on the application.

Public notice of a hearing will be circulated at least 30 days in advance of the hearing. Further information regarding the conduct and nature of public hearings concerning discharge permits may be obtained by writing or visiting the Regional Board office.