CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 91-049

WASTE DISCHARGE REQUIREMENTS
FOR
COUNTY OF SAN BERNARDINO AND
UNITED STATES DEPARTMENT OF INTERIOR BUREAU OF LAND MANAGEMENT
CLOSURE AND POST-CLOSURE MAINTENANCE
OF PARKER DAM WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
Southwest of Parker Dam - San Bernardino County

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

1. The County of San Bernardino (hereinafter referred to as the discharger), 621 East Carnegie Drive, Suite 270, San Bernardino, CA 92415 submitted a Report of Waste Discharge for closure of the Parker Dam Waste Management Facility (WMF) on May 13, 1991. A final Closure and Post-Closure Maintenance (CPCM) plan and a Solid Waste Assessment Test (SWAT) report were received in July, 1991. The site property is owned by the United States Government, with administration by the Bureau of Land Management (hereinafter referred to as the discharger), 1695 Spruce Street, Riverside, CA 62507.

2. The Report of Waste Discharge requests closure of the WMF. The WMF is currently regulated by Board Order No. 83-009 which is no longer in conformance with Chapter 15, Division 3, Title 23 of the California Code of Regulations (hereinafter also referred to as Chapter 15). The waste discharge requirements are being updated to incorporate the applicable closure regulations of Chapter 15.

3. The SWAT report was prepared in order to satisfy the requirements of Section 13273 of the California Water Code. The CPCM plan was prepared in accordance with the regulatory requirements of Chapter 15.

4. The SWAT report contains hydrological information about the WMF. Ground water was sampled and analyzed quarterly for a period of one year. The discharger reports that the water quality testing showed no evidence that the WMF has adversely effected local ground water quality.

5. The CPCM plan contains descriptive information of the work performed to close the WMF in accordance with Chapter 15.

6. The WMF facility was operated by the County of San Bernardino since 1957 and disposal of wastes ceased in 1987.

SUPERSEDED BY
BOARD ORDER NO. R7-2002-0119
06-26-02

7. The 40 acres disposal site, comprising assessor's parcel number 661-191-06, is located approximately 3 miles southwest of Parker Dam in the northwest corner of Section 17, T2N, R27E of the SBB&M as shown in Attachment "A" incorporated herein and made part of this Order. Waste disposal activities occurred within 5.5 acres of the site.

8. The WMF is approximately 1,000 feet long by 200 to 300 feet wide. Average thickness of the WMF is estimated to be 10 feet.

9. The discharger reports that about 38,000 cubic yards of non-hazardous and inert wastes, as defined in Chapter 15, were disposed of at this WMF.

10. The non-hazardous and inert solid wastes consisted of residential trash, commercial demolition wastes, and agricultural wastes. In addition to the solid waste, the WMF also accepted septage wastes, including septic tank pumpage, chemical toilet waste, grease and oil trap pumpings.

11. The septage pond materials were excavated and disposed in the landfill when the site was closed in 1987. The excavated septage pond area was backfilled with clean soil.

12. The discharger reports that the WMF will be used as non-irrigated open space after site closure. No further development is planned for the site.

13. Average annual precipitation for the general vicinity of the site is about 4.5 inches per year. The average annual evaporation is 86 inches per year.

14. Surface water drainage in the area of the WMF is primarily controlled by southeast trending ephemeral desert washes. These washes drain the mountains to the north of WMF and eventually empty into the Colorado River. Elevations across the site range from approximately 440 feet above mean sea level (msl) near the northern edge to 390 feet (msl) on the south side. The WMF is topographically 30 feet higher than the Colorado River floodplain.

15. A drainage channel along the eastern side of the WMF was constructed to provide a drainage path for surface water runoff from the north trending canyon in which the WMF was built. A concrete-lined drainage ditch was built along the northwestern periphery of the WMF as part of the closure work, in order to prevent infiltration of surface water runoff into the WMF.

16. The discharger installed four groundwater monitoring wells in the vicinity of the WMF as shown in Attachment "B" incorporated herein and made part of this Order. Groundwater flow beneath the site is toward the southeast. Groundwater depth ranges from 27.75 to 37.75 feet below ground surface.

17. The installed ground water monitoring system consists of upgradient well PD-1 and downgradient wells PD-2, PD-3 and PD-4. The average gradient of ground water is about 1 foot vertical drop per one horizontal mile.

18. Analyses of groundwater samples collected in January 1991 indicate that the total dissolved solids content underlying the landfill ranges between 1,650 mg/l to 2,170 mg/l.

19. The discharger reports that the site is surrounded on the north by Precambrian metamorphic gneiss, characteristic of the Whipple Mountains northwest of the site. The crystalline bedrock is exposed over approximately half of the site. Depth to bedrock varies across the site from 17.5 feet at boring location PD-1A to approximately 100 feet at monitoring well location PD-3 and PD-4. Beneath the site and immediately overlying the gneiss bedrock are Quaternary alluvial materials consisting of interbedded gravels, sands, silts and clays.

20. The discharger reports that no documented faults cross the site. Several faults occur approximately 2 miles west and north of the site in the Whipple Mountain area. None of the faults are considered active or potentially active.

21. The discharger constructed a final cover which consists of 3 layers of soil with a total thickness of 4 feet in accordance with Chapter 15 requirements. The first compacted layer (foundation layer) consists of approximately 2 feet of sand and gravel. The second layer (hydraulic barrier layer) was constructed of low permeability clay material and is approximately 1 foot thick. The third and uppermost alluvial layer (protective soil layer) was constructed to a thickness of approximately one foot.

22. A vegetative cover, consisting of locally adaptable plant and grasses, was constructed to protect the uppermost alluvial layer against surface erosion.

23. Land in the vicinity of the WMF is zoned as a resource conservation district by the County of San Bernardino. Land use in the vicinity of the WMF is predominantly for recreational activities.

24. 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.

25. The beneficial uses of ground waters in the Colorado Hydrologic Unit are:

    a. Municipal supply (MUN)
    b. Industrial supply (IND)
    c. Agricultural supply (AGR)

26. The beneficial uses of the waters in the Colorado River and associated lakes and reservoirs are:

    a. Municipal and Domestic Supply (MUN)
    b. Agricultural Supply (AGR)
    c. Aquaculture (AQ)
    d. Industrial Service Supply (IND)
    e. Ground Water Recharge (GWR)
    f. Water Contact Recreation (REC I)
    g. Noncontact Water Recreation (REC II)
    h. Warm Water Habitat (WARM)
    i. Cold Water Habitat (COLD)
    j. Wildlife Habitat (WILD)
    k. Hydropower Generation (POW)
    i. Preservation of Endangered or Threatened Species (END)

27. The Board has notified the discharger and all known interested agencies and persons of its intent to update waste discharge requirements for this discharge.

28. The Board in a public meeting heard and considered all comments pertaining to this discharge.

29. 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 the discharger shall comply with the following:

A. Closure and Post-Closure Maintenance Specifications

1. By June 30, 1992 the discharger shall submit an acceptable proposal to conduct a monitoring and response program in accordance with Section 2550.1, Article 5, Chapter 15.

2. By December 31, 1991 the discharger shall obtain financial assurance for initiating and completing a corrective action for a reasonably foreseeable release in accordance with Section 2550.0, Article 5, Chapter 15.

3. By December 31, 1991 the discharger shall submit to the Regional Board proof of establishment of an irrevocable closure fund or provide other means to ensure post-closure maintenance of the WMF in accordance with 2580, Article 8, Chapter 15.

4. The disposed solid waste shall not cause pollution or nuisance as defined in Section 13050(l) and 13050(m) of the California Water Code.

5. The discharge of any waste to the WMF is prohibited.

6. The WMF shall be protected during the post-closure maintenance period so as to assure protection from washout or inundation which could occur as a result of storm events.

7. The Board shall be notified immediately of any structural failure occurring at the WMF.

8. The discharger shall implement an approved post-closure maintenance plan in accordance with Chapter 15.

9. Surface drainage from tributary areas, and internal site drainage from surface or subsurface sources, shall not contact or percolate through the closed WMF.

10. The exterior surfaces of the final landfill cover shall be graded and maintained to promote lateral runoff of precipitation and to prevent ponding.

11. The disposed solid waste shall not cause degradation of any water supply.

12. The discharger shall provide at least two permanent monuments installed by a California licensed surveyor or a registered civil engineer, from which the location and elevation of washes, containment structures and monitoring facilities can be determined throughout the post-closure maintenance period. The discharge shall maintain and protect the surveyed monuments.

13. During the post-closure maintenance period, the discharger shall maintain the structural integrity and effectiveness of all containment structures, and maintain the final cover as necessary to correct the effects of settlement or other adverse factors.

14. During the post-closure maintenance period, the discharger shall maintain the groundwater monitoring system and monitor the groundwater in accordance with Monitoring and Reporting Program No. 91-049.

15. The discharger shall prevent erosion and related damage of the final cover due to drainage.

16. The migration of landfill gas shall be controlled as necessary to prevent impairment of beneficial uses of groundwater.

B. Closure and Post-Closure Maintenance Provisions

1. The discharger shall immediately notify the Regional Board of any flooding, slope failure or other change in site conditions which could impair the integrity of waste containment facilities or of precipitation and drainage control structures.

2. The discharger shall maintain visible monuments identifying the boundary limits of the entire waste management facility.

3. The discharger shall comply with all applicable provisions of said Chapter 15 that are not specifically referred to in this Board Order.

4. Annually, prior to the first day of January, any necessary erosion control measures shall be implemented and any necessary construction, maintenance, or repairs of precipitation and drainage control facilities shall be completed to prevent erosion or flooding of the site; and the report thereon shall be submitted to the Regional Board by January 15 of each year.

5. The discharger shall comply with "Monitoring and Reporting Program No. 91-049", and future revisions thereto, as specified by the Regional Board's Executive Officer.

6. The discharger shall make available a copy of this Order at all times to personnel responsible for implementing the site post-closure maintenance work.

7. In the event of any change in operation, or in control or ownership of land or waste disposal facilities owned or controlled by the discharger, the discharger shall:

   a. Notify this Board of such change; and

   b. Transmit a copy of this Order to the succeeding owner or operator, and file a copy of the transmittal letter with this Board.

8. The discharger shall notify the Regional Board, in writing, of any proposed change in responsibility for post-closure maintenance.

9. All maintenance work shall be performed under the supervision of a Civil Engineer registered in the State of California.

10. The discharger shall maintain in good working order, and operate as efficiently as possible, any facility or control system installed by the discharger to achieve compliance with the waste discharge requirements.

11. This Board Order is subject to Regional Board review and updating, as necessary, to comply with changing State or Federal laws, regulations, policies, or guidelines, or changes in the discharge characteristics, in five year increments from the effective date of this Board Order.

12. The discharger shall continue post-closure maintenance of the WMF and the ground water monitoring for a period of 30 years or until monitoring data indicates that contamination or environmental hazards are not occurring.

13. The property owner has a continuing responsibility for correcting any problems which may arise in the future as a result of this waste discharge.

IT IS FURTHER ORDERED that Board Order No. 83-009 be superseded by this Board Order.

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 November 20, 1991.

Philip A. Gruenberg
Executive Officer

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 91-049 (REVISION 2)
FOR
COUNTY OF SAN BERNARDINO
UNITED STATES DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT
CLOSURE AND POST-CLOSURE MAINTENANCE
PARKER DAM WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
South of Parker Dam - San Bernardino County

Location of Discharge: Northwest corner of Section 17, T2N, R27E of the SBB&M

MONITORING

The groundwater monitoring system shall be sampled every five years during December. The samples shall be analyzed for the following:

Parameters Constituents	Units	Type of Sample
pH	Number	Grab
TDS	mg/L	Grab
Specific Conductance	micromhos/cm	Grab
Temperature	°C	Grab
COD	mg/L	Grab
Ground Water Elevation	Feet (USGS Datum)	Measurement
Calcium	mg/L	Grab
Magnesium	mg/L	Grab
Sulfate	mg/L	Grab
Sodium	mg/L	Grab
Nitrate	mg/L	Grab
Organic Nitrogen	mg/L	Grab
Volatile Organics	mg/L	Grab
Chloride	mg/L	Grab

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.

During the post-closure maintenance period, the discharger shall report annually to the Regional Board the following:

1. The physical status of all drainage features including surrounding embankments, roadway, and drainage channels.

2. The physical integrity of the final cover and all graded surfaces within the WMF which includes cracks, irritability, and settlement.

3. A survey of the horizontal and vertical locations of the installed monuments and a calculation of annual settlement of the WMF.

4. Physical inspection records of all monitoring wells.

REPORTING

1. Monitoring reports shall be submitted to the Regional Board by February 15, of the sixth year.

2. The discharger shall arrange the data in tabular form so that the specified information is readily discernable. The data shall be summarized in such a manner as to clearly illustrate whether the waste management unit is operating in compliance with waste discharge requirements.

3. Each report shall contain the following statement:

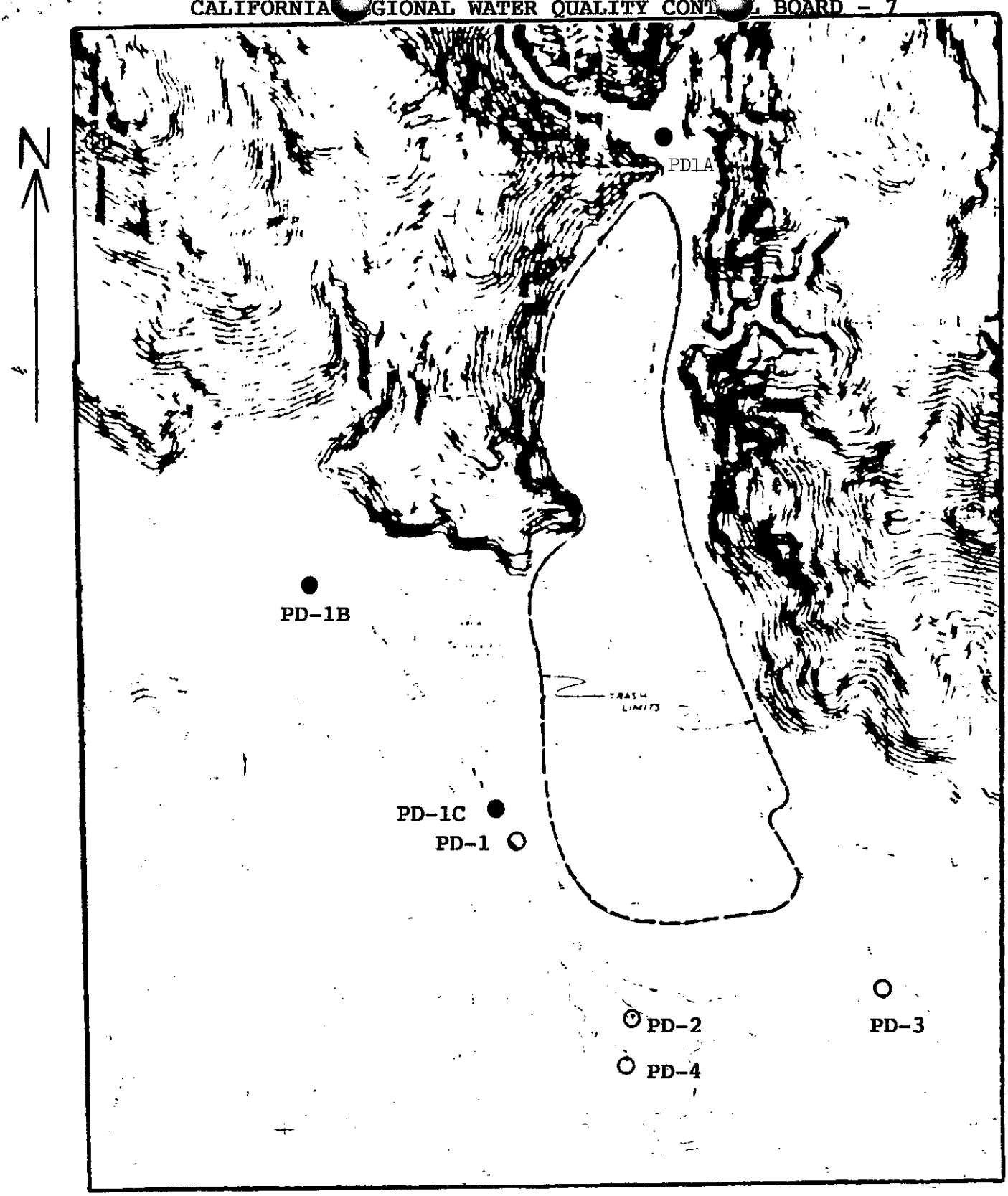
   "I declare under the penalty of law that I have personally examined and am familiar with the information submitted in this document, and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment for knowing violations."

   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

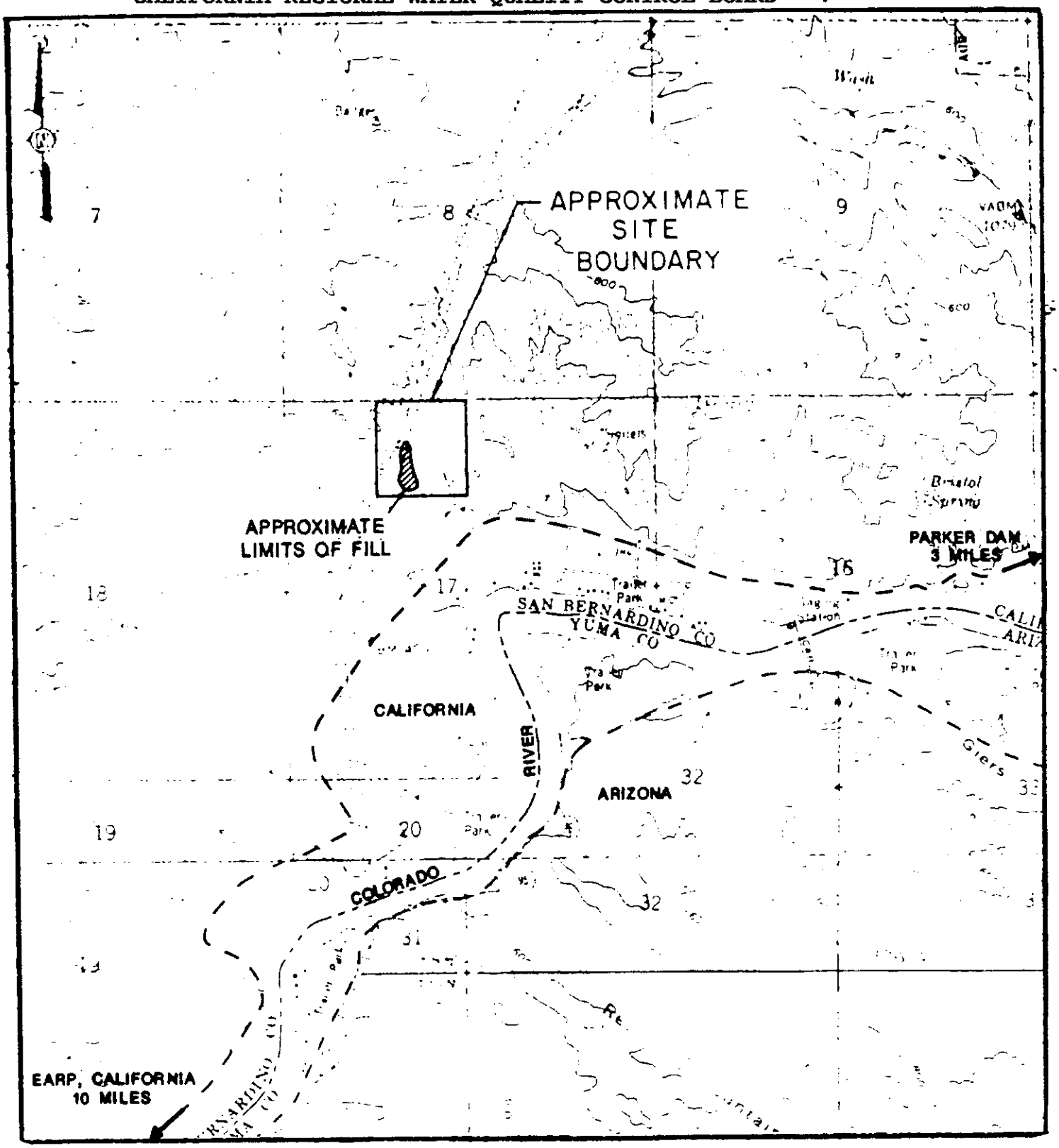
Ordered by: Philip A. Gruenberg
Executive Officer

8-11-98
Date



GROUNDWATER MONITORING SYSTEM

ATTACHMENT "B"
COUNTY OF SAN BERNARDINO AND
UNITED STATES DEPARTMENT OF INTERIOR BUREAU OF LAND MANAGEMENT
CLOSURE AND POST-CLOSURE MAINTENANCE
OF PARKER DAM WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
Southwest of Parker Dam - San Bernardino County
Northwest corner of Section 17, T2N, R27E of the SBB&M



SITE LOCATION

SCALE
0 2000 4000 FEET

ATTACHMENT "A"
COUNTY OF SAN BERNARDINO AND
UNITED STATES DEPARTMENT OF INTERIOR BUREAU OF LAND MANAGEMENT
CLOSURE AND POST-CLOSURE MAINTENANCE
OF PARKER DAM WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
Southwest of Parker Dam - San Bernardino County
Northwest corner of Section 17, T2N, R27E of the SBB&M

Board Order No. 91-049

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 91-049 (REVISION 1)
FOR
COUNTY OF SAN BERNARDINO
UNITED STATES DEPARTMENT OF INTERIOR, BUREAU OF LAND MANAGEMENT
CLOSURE AND POST-CLOSURE MAINTENANCE
PARKER DAM WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
South of Parker Dam - San Bernardino County

Location of Discharge: Northwest corner of Section 17, T2N, R27E of the SBB&M

MONITORING

The groundwater monitoring system shall be sampled every five years during December. The samples shall be analyzed for the following:

Parameters Constituents	Units	Type of Sample
pH	Number	Grab
TDS	mg/L	Grab
Specific Conductance	micromhos/cm	Grab
Temperature	°C	Grab
COD	mg/L	Grab
Ground Water Elevation	Feet (USGS Datum)	Measurement
Calcium	mg/L	Grab
Magnesium	mg/L	Grab
Sulfate	mg/L	Grab
Sodium	mg/L	Grab
Nitrate	mg/L	Grab
Organic Nitrogen	mg/L	Grab
Volatile Organics	mg/L	Grab
Semi-Volatile Organics	µg/L	Grab
Chloride	mg/L	Grab

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.

During the post-closure maintenance period, the discharger shall report annually to the Regional Board the following:

1. The physical status of all drainage features including surrounding embankments, roadway, and drainage channels.

2. The physical integrity of the final cover and all graded surfaces within the WMF which includes cracks, irritability, and settlement.

Superseded by MR 91-049 (Rev. 2) 8/11/98

3. A survey of the horizontal and vertical locations of the installed monuments and a calculation of annual settlement of the WMF.

4. Physical inspection records of all monitoring wells.

REPORTING

1. Monitoring reports shall be submitted to the Regional Board by February 15, of the sixth year.

2. The discharger shall arrange the data in tabular form so that the specified information is readily discernable. The data shall be summarized in such a manner as to clearly illustrate whether the waste management unit is operating in compliance with waste discharge requirements.

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 a fine and imprisonment for knowing violations."

   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: Gary Marris
for Executive Officer

4/18/97
Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 91-049
FOR
COUNTY OF SAN BERNARDINO AND
UNITED STATES DEPARTMENT OF INTERIOR BUREAU OF LAND MANAGEMENT
CLOSURE AND POST-CLOSURE MAINTENANCE
OF PARKER DAM WASTE MANAGEMENT FACILITY
CLASS III LANDFILL
Southwest of Parker Dam - San Bernardino County

Location of Discharge: Northwest corner of Section 17, T2N, R27E of the SBB&M

MONITORING

The groundwater monitoring system shall be sampled quarterly during March, June, September and December. The samples shall be analyzed for the following:

Parameters and Constituents	Units	Type of Sample	Reporting Frequency
pH	Number	Grab	Quarterly
TDS	mg/l	Grab	Quarterly
Specific Conductance	micromhos/cm	Grab	Quarterly
Temperature	°C	Grab	Quarterly
COD	mg/l	Grab	Quarterly
Ground Water Elevation	Feet (USGS Datum)	Measurement	Quarterly
Calcium	mg/l	Grab	Quarterly
Magnesium	mg/l	Grab	Quarterly
Sulfate	mg/l	Grab	Quarterly
Sodium	mg/l	Grab	Quarterly
Nitrate	mg/l	Grab	Quarterly
Organic Nitrogen	mg/l	Grab	Quarterly
Volatile Organics (EPA Method 524.2)	mg/l	Grab	Quarterly
Semi-Volatile Organics (EPA Method 525)	µg/l	Grab	Quarterly
Chloride	mg/l	Grab	Quarterly

The collection, preservation and holding times of all samples shall be in accordance with EPA-approved methods. All analyses shall be conducted by a laboratory certified by the State Department of Health Services to perform the required analyses.

During the post-closure maintenance period, the discharger shall report annually to the Regional Board the following:

1. The physical status of all drainage features including surrounding embankments, roadways, and drainage channels.

2. The physical integrity of the final cover and all graded surfaces within the WMF which includes cracks, erodability, and settlement.

Superseded by: M&R 91-049 (Revision 1 4/18/97)

3. A survey of the horizontal and vertical locations of the installed monuments and a calculation of annual settlement of the WMF.

4. Physical inspection records of all monitoring wells.

REPORTING

1. Quarterly monitoring reports shall be submitted to the Regional Board by January 15, April 15, July 15, and October 15 of each year. Annual monitoring reports shall be submitted by January 15 of each year.

2. 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 waste management unit is operating in compliance with waste discharge requirements.

3. Monitoring reports shall be certified under penality of perjury to be true and correct and shall contain required information at the frequency specified in the monitoring program.

Submit monitoring reports to:

California Regional Water Quality Control Board
Colorado River Basin Region
73-271 Highway 111, Suite 21
Palm Desert, CA 92260

ORDERED BY: Philip A. Gruenberg
Executive Officer

November 20, 1991
Date