

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

ORDER NO. 89-041

WASTE DISCHARGE REQUIREMENTS
FOR
IT CORPORATION
IMPERIAL VALLEY FACILITY
LC-1, CLASS I SOLID WASTE MANAGEMENT UNIT
Imperial County

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

1. IT Corporation (hereinafter referred to as the discharger), 23456 Hawthorne Boulevard, Torrance, California 90505, submitted an original Report of Waste Discharge dated May 28, 1985 and submitted an updated Report of Waste Discharge dated September 30, 1987.
2. The discharger's operations are contained on its privately owned 640-acre tract comprising Section 16, T13S, R12E, SBB&M. A site plan of said Section 16 is shown in Attachment "A" appended hereto as part of this Order.
3. The discharger currently operates waste management units at the site under Board Orders No. 85-80, 88-45 and 88-54. The operation of surface impoundments No. 3, 5, 8, and 9 and the Morton Solids Disposal Unit is covered by Board Order No. 88-54 and the operation of the LC-2 and LC-3 Solid Waste Management Units is covered by Board Order No. 88-45. Said Board Orders were adopted by the Regional Board on June 30, 1988.
4. The discharger has operated the seven acre LC-1, Class I Solid Waste Management Unit (Landfill) under Board Order No. 85-80 as adopted by the Regional Board on November 20, 1985. This Board Order (No. 89-41) upon adoption will update and supersede Board Order No. 85-80.
5. The LC-1 landfill is located at the former site of the geothermal brine surface impoundments (MS-1 and MS-2), which were used for storage of geothermal brines transported from Imperial Thermal Products' basins adjacent to Salton Sea. The site has been totally redesigned, and as such constitutes a new waste management unit which is subject to the prescriptive standards and regulations prescribed in Subchapter 15, Chapter 3, Title 23 of the California Code of Regulations.
6. The LC-1 landfill began accepting waste May 11, 1987. It has a capacity of about 200,000 cubic yards and as of January 1989 is approximately half full. The categories of wastes that have been or may be placed into LC-1 are described below. Monthly monitoring reports detailing the amount and type of wastes received into LC-1 are submitted to the Regional Board. Additional waste types may be accepted if written approval is given by the Regional Board's Executive Officer. The wastes listed below are broadly classified and are subject to other restrictions within this Order:

*Rescinded
1/18/94*

<u>Waste Type</u>	<u>California Waste Code¹</u>
<u>Inorganic</u>	
Inorganic solid waste	181
<u>Organic</u>	
Oil/water separation sludge	222
Unspecified oil-containing waste	223
Other pesticide waste	232
Tank bottom waste	241
Polymeric resin waste	272
Latex waste	291
Biologic waste other than sewage sludge	322
Organic solids with halogens	351
Other organic solids	352
<u>Sludges</u>	
Unspecified sludge waste	491
<u>Miscellaneous</u>	
Empty pesticide containers 30 gallons or more	511
Other empty containers 30 gallons or more	512
Less than 30 gallons	513
Drilling mud	521
Contaminated soil from site cleanups	611

7. Manifests are to be utilized for hauling and disposal of all hazardous wastes, wherein the waste producer, hauler, and discharger will certify compliance with State regulations by documenting their proper handling of the wastes.
8. The discharger reports as follows: The LC-1 landfill was excavated approximately 15 feet below existing grade. The removed soils were used to construct an embankment around the excavated area which was ten to fifteen feet above existing grade. The excavation was lined with a two-foot thick compacted clay liner with a permeability of 1×10^{-7} cm/sec. or less. A double synthetic liner system with both leak detection and leachate collection and removal systems was constructed above the clay liner. An 18-inch thick protective soil cover was installed over the completed synthetic liner system prior to receipt of wastes.
9. When the LC-1 landfill has been filled to capacity it should be approximately 25 feet above the existing grade. The capped landfill should be graded to drain with a slope of about four (4) percent. The discharger reports that the final cover shall be constructed as follows in descending order:
 - a. Soil Cover: A two foot minimum thickness of soil cover as approved by the Executive Officer.

¹Department of Health Services Waste Manifest Reporting Requirements (Table III), 1987

- b. Geotextile: A 60 mil nonwoven needle-punched polypropylene geotextile to facilitate drainage and to maintain the soil cover on slope.
 - c. Synthetic Cover Liner: A 40 mil HDPE synthetic liner.
 - d. Clay Cover: A one-foot minimum thickness of compacted clay with permeability of 1×10^{-7} cm/sec. or less.
 - e. Foundation: Compacted waste.
10. The LC-1 landfill will receive only solid wastes. For the purposes of this Order, solid waste is defined as waste that contains no free liquid as prescribed in Prohibition B.4 of this Order.
 11. Liquid waste may be generated on site from the following sources:
 - a. Liquids removed from leachate and leak detection systems.
 - b. Rainfall upon the deposited wastes.
 - c. Purged water from ground water monitoring wells.
 - d. Liquids generated from the on-site laboratory.
 - e. Liquids from cleaning of equipment or trucks.
 12. Liquid wastes generated on-site will be stored in above-ground tanks.
 13. Prior to construction operations, the site was undeveloped desert land. The area immediately adjacent to the site is also undeveloped desert land managed by the U. S. Bureau of Land Management. The desert land at the site consists of shallow alluvial soils, underlain by partially indurated clays, silts, and silty sands. Ground water first occurs at depths of 50 to 100 feet below ground surface and has total dissolved solids concentrations that range from 1600 mg/l to 9000 mg/l. Average annual rainfall is less than 3 inches and average annual evaporation is greater than seventy inches. The nearest surface water, the Westside Main Canal, is located one half mile northeast of the site.
 14. The main drainage channel, which approximately bisects the site, has been improved and is maintained to accommodate a projected 100-year flood from the upslope areas. Wastes contained in disposal units are set back 100 feet from the channel banks. Perimeter drainage is provided for a 100-year flood. Drainage not in contact with waste material is being directed off site. Polluted drainage will remain on site.
 15. The LC-1 site has not been demonstrated to meet the Class I siting criteria. In May 1985 an interagency field inspection of the excavated proposed landfill was conducted. Due to secondary permeabilities that could be greater than 1×10^{-7} cm/sec. within the underlying clay formations, the interagency staff and IT Corporation concluded it has not been conclusively demonstrated that the site meets the geologic siting criteria prescribed in Subsection 2531(b)(1) of Subchapter 15, Chapter 3, Title 23 of the California Code of Regulations.
 16. The Regional Board considered the possibility of reworking the underlying clays to attain the prescriptive standards of Subsection 2531(b)(1) and found the prescriptive standard is unreasonably and unnecessarily burdensome and would cost substantially more than alternatives which meet the criteria in Subsection (b).

17. Although the site has not been demonstrated to meet the prescribed standards as stated in Subsection 2531(b)(1) of said Subchapter 15, the discharger has demonstrated that the overconsolidated underlying clays provided a very suitable foundation upon which to develop a specific engineered alternative to the prescribed standard that would afford equivalent protection against water quality impairment, as is required under Subsection 2510.
18. The Regional Board reviewed the specific engineered alternative submitted by the discharger and found the discharger has demonstrated that the alternative affords protection against water quality impairment equivalent to that which is required under Subsection 2531(b)(1). The engineered alternative includes three engineered liners instead of the minimum requirement of two liners.
19. The discharger has constructed and operates a ground water and vadose zone monitoring network around the LC-1 landfill in accordance with applicable sections of said Subchapter 15. The network is described in the Monitor Network Installation Report, LC-1 Landfill, IT Corporation, Imperial Valley Facility, January 2, 1987.
20. Ground water quality data from the monitoring system will be statistically analyzed on a quarterly basis using a method approved by the Executive Officer.
21. The discharger has filed operations and closure plans, and plans for financing site closure and long-term maintenance.
22. The Water Quality Control Plan for the Colorado River Basin Region of California was adopted by the Regional Board on November 14, 1984. The Basin Plan contains water quality objectives for Imperial Hydrologic Unit.
23. On August 13, 1980, Imperial County Planning Department adopted Environmental Impact Report No. 226-79 for this disposal site. Said EIR was updated on December 6, 1983, as "Final EIR for Amended CUP 457-80" (SCH #79090501(a)).
24. The Board has notified the discharger and interested agencies and persons of its intent to update waste discharge requirements for the LC-1 landfill.
25. The Board in a public meeting heard and considered all comments pertaining to the existing discharge.

IT IS HEREBY ORDERED, the discharger shall comply with the following:

A. Discharge Specifications

1. Neither the treatment nor the discharge of wastes or wastewater shall create pollution or nuisance as defined in Division 7 of the California Water Code.
2. Waste materials shall not be discharged outside the Waste Management Units shown on Attachment "A".
3. The LC-1 landfill shall be protected from any washout or erosion of wastes or covering material, and from inundation, which could occur as a result of floods having a predicted frequency of a 100-year return period as set forth in the current edition of the California Code of Regulations, Title 23, Chapter 3, Subchapter 15.

4. The discharge of wastes into the LC-1 landfill shall be limited to the following unless prior written approval is given by the Regional Board's Executive Officer:

<u>Waste Type</u>	<u>California Waste Code²</u>
<u>Inorganic</u>	
Inorganic solid waste	181
<u>Organic</u>	
Oil/water separation sludge	222
Unspecified oil-containing waste	223
Other pesticide waste	232
Tank bottom waste	241
Polymeric resin waste	272
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<u>Sludges</u>	
Unspecified sludge waste	491
<u>Miscellaneous</u>	
Empty pesticide containers 30 gallons or more	511
Other empty containers 30 gallons or more	512
Less than 30 gallons	513
Drilling mud	521
Contaminated soil from site cleanups	611

5. Wastes described in Discharge Specification 4 (above) shall not be accepted for disposal into the LC-1 landfill if they meet or exceed any of the criteria listed below:
- a. Flammable solids or oxidizers (as defined in 49 CFR 173.150 and .151).
 - b. Reactive wastes (as defined in Section 66705, Title 22 of the California Code of Regulations).
 - c. Wastes containing materials that exceed ten (10) times the total threshold limit concentrations (TTLIC) listed in Sections 66999 (b) and (c), Title 22 of the California Code of Regulations.
6. Waste materials, and any water that has contacted the waste materials, shall be contained in those areas designated for the particular wastes.
7. Waste confinement barriers shall be protected and maintained to ensure their effectiveness.

²Department of Health Services Waste Manifest Reporting Requirements (Table III), 1987

8. All site facilities shall be designed and constructed to minimize damage to the graded foundation and to the structures which control leachate, surface drainage, erosion, and gas due to the maximum credible earthquake.
9. There shall be no seepage or overflow from said landfill.
10. Poned liquids observed in said landfill shall be rapidly removed and discharged to on-site above ground tanks. Liquid removed from the leak detection and leachate collection systems shall be collected, analyzed, and discharged to on-site above ground tanks.
11. The discharger shall prevent any transport of waste by wind from said landfill through the active operational and post-closure periods.
12. The discharger shall place waste into said landfill in such a manner as to facilitate and maximize evaporative loss.
13. The discharger shall perform waste compatibility testing on all liner components as required by Section 2541 of said Subchapter 15. Data shall be submitted and approved by the Executive Officer.
14. The discharger shall remove and relocate any wastes which are discharged at this site in violation of these requirements.
15. Upon closure, the completed LC-1 landfill shall be covered, graded, and maintained in conformance with a closure plan approved by the Regional Board's Executive Officer.

B. Prohibitions

1. The discharge of waste to surface drainage courses or to ground water is prohibited.
2. Waste shall not be accepted for disposal if it contains a substance which is all of the following:
 - a. A material that has toxicity upon inhalation that causes it to be toxic as defined by criteria adopted by the California Department of Health Services, or as listed in Section 66680, Title 22, of the California Code of Regulations with an indication that it is toxic; and
 - b. A substance with a vapor pressure exceeding one (1) mm mercury at 20°C; and
 - c. Present in the waste in a concentration greater than ten (10) percent by weight.
3. Wastes which conform to the definition of extremely hazardous waste in Section 25115 of the Health and Safety Code, such as waste which contains a substance listed in Section 66685, Title 22 of the California Code of Regulations shall not be accepted for disposal unless specifically approved by a written permit from the California Department of Health Services, and written approval from the Regional Board.
4. The placement of bulk liquid hazardous wastes or free liquid contained in hazardous wastes (whether or not absorbents have been added) into said landfill is prohibited. The procedure for determination of free

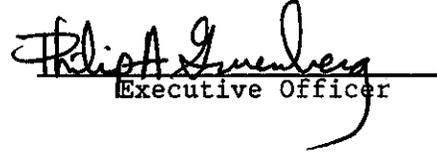
liquid in a hazardous waste shall be the standard EPA approved method contained in Attachment "B", appended hereto as a part of this Order.

C. Provisions

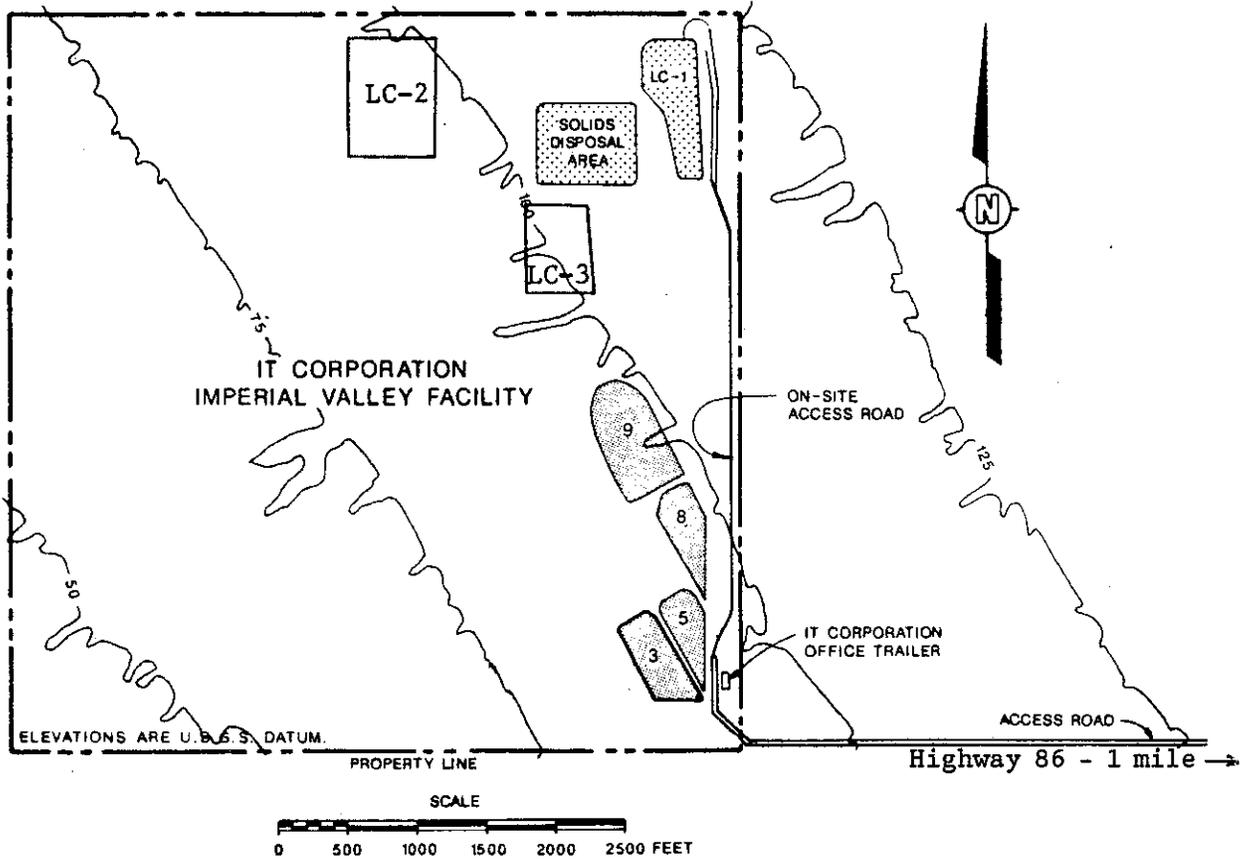
1. The discharger shall maintain a copy of this Order at the site to be available at all times to site operating personnel.
2. The discharger shall maintain a legible record using a reporting form approved by the Executive Officer, of the volume and type of each waste received at the site and the manner and location of disposal. The record shall be maintained for a period of not less than ten (10) years, with the records to be forwarded to the Board when disposal operations cease.
3. The discharger shall update the site operations plan when material changes in operations are made; and a letter shall be submitted to the Regional Board annually indicating compliance or noncompliance with said plan. The plan shall conform to the then current edition of said Subchapter 15.
4. The discharger shall comply with "Monitoring and Reporting Program No. 89-041", and future revisions thereto, as specified by the Executive Officer.
5. This Board Order is specifically in regards to discharges into the LC-1 landfill. Prior to the beginning of construction of any additional waste management unit for discharge of the above listed wastes, the discharger shall submit a completed report of proposed waste discharge and receive an adopted Order by the Regional Board.
6. The discharger shall submit to the Regional Board, within 60 days of the date of adoption of this Order, a program to statistically analyze ground water quality data from the monitoring network described in Finding No. 19. Said program shall include provisions to conduct an assessment monitoring program if a statistically significant increase in chemical parameters is demonstrated to occur in the water quality data. Said statistical program shall be implemented upon submittal and is subject to approval by the Regional Board's Executive Officer.
7. The discharger shall establish an irrevocable closure fund, or provide other acceptable means, to ensure closure and post-closure maintenance of said landfill.
8. 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.
9. This Order does not authorize violation of any federal, state, or local laws or regulations.
10. The discharger shall maintain an impermeable road surface on the Garvey Road bridge at the Westside Main Canal to prevent any materials on the bridge from entering the canal. The discharger shall maintain a surface water drainage system to prevent lateral runoff from the bridge or its approaches from entering the Westside Main Canal.

IT IS FURTHER ORDERED THAT: Board Order No. 85-80 be superseded by this Order.

I, Phil 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 June 28, 1989.


Executive Officer

ATTACHMENT A



IT CORPORATION
IMPERIAL VALLEY FACILITY
LC-1, CLASS I SOLID WASTE MANAGEMENT UNIT
Section 16, T13S, R12E, SBB&M
Imperial County

Order No. 89-041

ATTACHMENT B

U. S. ENVIRONMENTAL PROTECTION AGENCY
METHOD 9095

PAINT FILTER LIQUIDS TEST

1.0 Scope and application

- 1.1 This method is used to determine the presence of free liquid in a representative sample of waste.
- 1.2 This method is used to determine compliance with Prohibition B.4 of this Order.

2.0 Summary of method

- 2.1 A predetermined amount of material is placed in a paint filter. If any portion of the material passes through and drops from the filter within the 5 minute test period, the material is deemed to contain free liquid.

3.0 Interferences

- 3.1 Filter media was observed to separate from the filter cone on exposure to alkaline materials. This development causes no problem if the sample is not disturbed.

4.0 Apparatus and materials

- 4.1 Conical paint filter - mesh number 60. Available at local paint stores such as Sherwin-Williams and Glidden for an approximate cost of \$0.07 each.
- 4.2 Glass Funnel (if paint filter, with the waste, cannot sustain its weight on the ring stand, then a fluted glass funnel or glass funnel with a mouth large enough to allow at least one inch of filter mesh to protrude should be used to support the filter. The funnel is to be fluted or have a large open mouth in order to support the paint filter yet not interfere with the movement, to the graduated cylinder, of the material that passes through the filter mesh.)
- 4.3 Ring Stand and Ring, or Tripod.
- 4.4 Beaker or Graduated Cylinder, 100 ml.

5.0 Reagents

- 5.1 None.

6.0 Sample collection, preservation and handling

- 6.1 All samples must be collected according to the directions in Section One of the U. S. Environmental Protection Agency Guidance Document SW-846.
- 6.2 A 100 ml or 100 g representative sample is required for the test. (If it is not possible to obtain a sample of 100 ml or 100 g that is sufficiently representative of the waste, the analyst may use larger size samples in multiples of 100 ml or 100 g, i.e., 200 , 300, 400 ml or g. However, when larger samples are used, analysts shall divide the sample into 100 ml or 100 g portions and test each portion separately. If any portion contains free liquid the entire sample is considered to have free liquid. If the

percent of free liquid in the samples needs to be determined, it shall be the average of the subsamples tested.)

7.0 Procedure

7.1 Assemble test apparatus.

7.2 Place sample in the filter. A funnel may be used to provide support for the paint filter.

7.3 Allow sample to drain for 5 minutes into the graduated cylinder.

7.4 If any portion of the test material collects in the graduated cylinder in the 5-minute period, then the material is deemed to contain free liquid for purposes of this Order.

8.0 Quality Control

8.1 Duplicate samples should be analyzed on a routine basis.

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
COLORADO RIVER BASIN REGION

MONITORING AND REPORTING PROGRAM NO. 89-041
FOR
IT CORPORATION
IMPERIAL VALLEY FACILITY
LC-1, CLASS I SOLID WASTE MANAGEMENT UNIT
Imperial County

Location of Discharge: Section 16, T13S, R12E, SBB&M

MONITORING

IT Corporation shall report monitoring data to the Regional Board in accordance with the following schedule:

A. Waste Monitoring

1. The following information shall be reported monthly to the Regional Board concerning each load of waste accepted for disposal into the Solid Waste Management Unit (SWMU):
 - a. Quantity of each waste received in tons or cubic yards.
 - b. Type of waste received classified by the general categories of wastes which have been approved for disposal into the SWMU.
 - c. Manifest number of the waste and name of waste generator.
 - d. Date of receipt of the waste.
2. The discharger shall annually submit a report concerning each approved waste, other than emergency discharges, which the discharger plans to continue to accept for disposal into the SWMU. Said report shall contain the following information:
 - a. An analysis of each waste not in excess of 60 days old. If no waste of a specific type has been received during the last 60 days of the calendar year, the discharger shall submit the latest available analysis.
 - b. A statement concerning the maximum anticipated concentrations of hazardous constituents in the waste.
 - c. Anticipated maximum quantity of material to be discharged on a quarterly basis.

B. Solid Waste Management Unit Monitoring

1. The discharger shall inspect the SWMU containment structures weekly and report the results of the inspections monthly. The report shall contain the following information:
 - a. Chemical analysis and quantity of any liquid recovered from the leachate collection system, and disposition of any leachate recovered.
 - b. Chemical analysis and quantity of any liquid recovered from the leak detection system, and disposition of any leachate recovered.

- c. Any apparent seepage from the SWMU structure.
- d. General condition of the berms.
- e. Steps taken to correct any problems found during inspection, and when taken.
- f. A map showing the location and depth of waste placed within the SWMU since the last report, at five (5) foot depth intervals.
- g. On an annual basis the leak detection system and leachate collection and removal system shall be tested to ensure they are operating properly. The discharger shall report the results of this testing in the annual report.

C. Ground Water Monitoring

- 1. Representative samples of ground water shall be obtained from each ground water monitoring well and analyzed for the following constituents:

<u>Constituent</u>	<u>Unit</u>	<u>Frequency</u>
Total Dissolved Solids	mg/l	Quarterly
Specific Conductance	micromhos/cm	Quarterly
pH		pH Units Quarterly
Total Organic Carbon (TOC)	mg/l	Quarterly
Total Organic Halogen (TOX)	mg/l	Quarterly
Phosphate, Total (P)	mg/l	Quarterly
Boron (B)	mg/l	Quarterly
Calcium (Ca)	mg/l	Quarterly
Sodium (Na)	mg/l	Quarterly
Potassium (K)	mg/l	Quarterly
Magnesium (Mg)	mg/l	Quarterly
Manganese (Mn)	mg/l	Quarterly
Iron (Fe)	mg/l	Quarterly
Lithium (Li)	mg/l	Quarterly
Chloride (Cl)	mg/l	Quarterly
Fluoride (F)	mg/l	Quarterly
Sulfate (SO ₄)	mg/l	Quarterly
Nitrate (NO ₃ as N)	mg/l	Quarterly
Nitrite (NO ₂ as N)	mg/l	Quarterly
Total Phenols	mg/l	Quarterly

- 2. The following additional information shall be reported for each sampling of the ground water monitoring wells:
 - a. Date and time of sampling.
 - b. Date and time well purged prior to sampling.
 - c. Estimate of volume of water purged from each well prior to sampling and duration of purging of each well.
 - d. Static water level in well prior to pumping (MSL Elevation).
 - e. Date and time static water level measurement taken.
 - f. Temperature of water in each well.

D. Vadose Zone Monitoring

1. Vadose zone monitoring shall be conducted quarterly using a neutron probe. Measurements shall be obtained from a minimum of four neutron probe access tube locations (subject to approval by the Executive Officer). Quarterly vadose zone monitoring reports shall include the following information:
 - a. Moisture measurements from each access tube presented separately in graphic form for the current quarter.
 - b. Raw data collected from each access tube and copies of all field notes for current quarter.
 - c. A single graphic display for each access tube showing all moisture measurements from the preceding year, including measurements from current quarter.
 - d. Location map showing all access tube locations.

E. Flood Protection Facilities

The discharger shall inspect the SWMU and all internal and external flood protection facilities at least quarterly and following each storm which generates any stormwater flow through the diversion channels. The results of inspections shall be reported quarterly to the Regional Board. If significant damage to the flood protection facilities are found, the discharger shall report immediately to the Regional Board by telephone and transmit by letter the following information:

1. Location and extent of damage.
 2. Type and quantity of wastes threatened, if any.
 3. Interim measures to be taken to assure that no wastes are discharged from the SWMU.
 4. Time schedule for repairs.
- F. The discharge of any waste other than those allowed in the specifications, or any other noncompliance with the operations plan, shall be reported to the Board immediately upon the discharger becoming aware that said violation(s) occurred, along with an explanation of how the correction of said violation(s) will be accomplished expeditiously.
- G. The discharger shall submit a report to the Regional Board within 30 days of the occurrence of an earthquake of Richter Scale Magnitude 5.0 or greater that occurs within 50 miles of the site. The report shall include a complete description of damages to any facilities covered by this Order, the steps taken to repair said damages, and a description of the earthquake and its fault of origin.
- H. A report shall be submitted annually summarizing progress and compliance, and including any noncompliance, with the operations plan.
- I. Copies of all reports and correspondence sent to the California Department of Health Services (DHS) and the U. S. Environmental Protection Agency (EPA) pursuant to the current DHS and EPA facility permits, shall be forwarded to the Regional Board at the same time said reports and correspondence are sent to the EPA and DHS.
- J. A report shall be submitted annually that includes an empirically calculated sustainable recharge rate for each monitoring well and the total well depth of each monitoring well.

REPORTING

Monthly monitoring reports shall be submitted by the 15th day of the following month. 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.

Submit monitoring reports to:

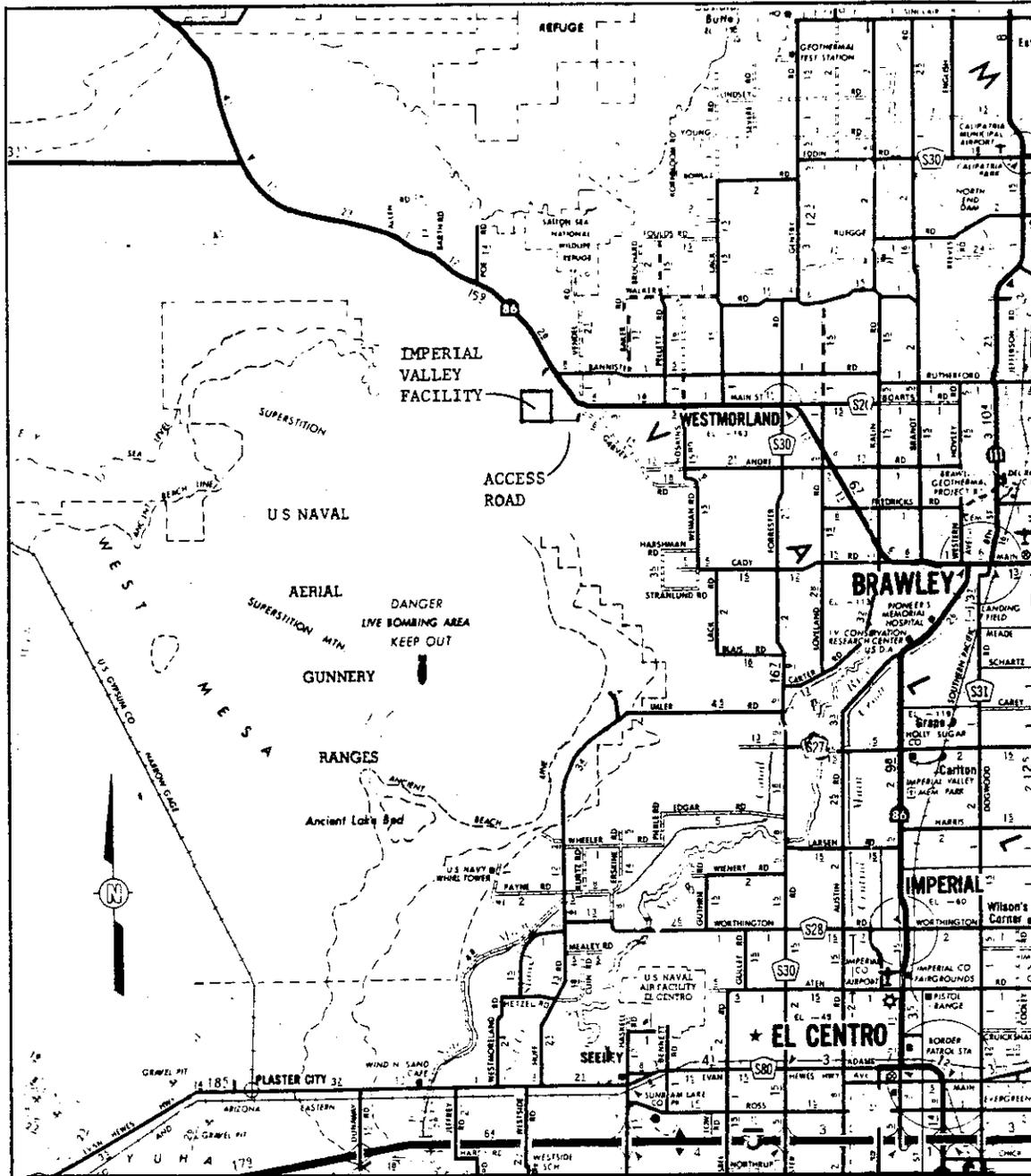
California Regional Water Quality Control Board
Colorado River Basin Region
73-271 Highway 111, Suite 21
Palm Desert, CA 92260

ORDERED BY:

Philip A. Greenberg
Executive Officer

June 28, 1989
Date

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - 7



SITE LOCATION MAP

IT CORPORATION
IMPERIAL VALLEY FACILITY

Section 16, T13S, R12E, SBB&M
Imperial County

Order No. 89-041