

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION**OWA AVENUE, SUITE 100
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MCAS EL TORO
SSIC # 5090.3

1995 APR -5 PM 12:12



April 3, 1995

Mr. Joseph Joyce
BRAC Environmental Coordinator
Southwest Division
Naval Facilities Engineering Command
Facilities Management Department
1220 Pacific Highway, Room 128
San Diego, CA 92132-5183

Dear Mr. Joyce:

Enclosed please find a staff report summarizing the environmental restoration activities at your base which will be presented to our Board on 3/7/95 as an information item. An agenda announcement is included. For any questions concerning this matter please call me at (909)-782-4998.

Sincerely,

A handwritten signature in cursive script that reads "Lawrence Vitale".

Lawrence Vitale
DoD Program

cc with enclosures:

Ms. Bonnie Arthur, U.S. Environmental Protection Agency, Region
9, 75 Hawthorne (H-9-2), San Francisco CA 94105-3901
Mr. Juan Jimenez, Department of Toxic Substance Control, 245 West
Broadway, Suite 350, Long Beach CA 90802-4444
Mr. John Adams, Jr., State Water Resources Control Board,
Division of Clean Water Programs

California Regional Water Quality Control Board
Santa Ana Region

April 7, 1995

Item: 15.a.

**SUBJECT: An Update on Environmental Restoration Activities at the
Marine Corps Air Station, El Toro, Orange County**

SITE LOCATION

The Marine Corps Air Station (MCAS), El Toro is located in Orange County, California, about 3.5 miles east of MCAS Tustin and about 12 miles north of the City of Laguna Beach (Attachment 1). MCAS El Toro is bordered on the north, south and west by the City of Irvine and on the east by the City of Lake Forest. MCAS El Toro encompasses about 4,741 acres. 1,100 acres of station property are currently leased out for agricultural purposes.

SITE HISTORY

The MCAS El Toro was commissioned on March 17, 1943 as a Marine Corps Fleet Operation Training Facility for pilots. In 1950, the station was selected for development as a master jet air station and permanent center for marine aviation on the west coast to support the operations and combat readiness of Pacific Fleet Marine Forces.

The mission of MCAS El Toro has been to maintain and operate facilities and to provide services and material to support the aviation operations of the various units of the United States Marine Corps.

CURRENT STATUS

The MCAS El Toro was placed on the Base Realignment and Closure List (BRAC III) in March 1993. Closure of MCAS El Toro is to be completed by 1999. In June 1988, the federal Environmental Protection Agency (EPA) recommended listing MCAS El Toro on the National Priorities List (NPL) for clean-up under the federal Superfund Program (National Contingency Plan [NCP], Comprehensive Environmental Response Compensation and Liability Act [CERCLA] regulations). MCAS El Toro was placed on the NPL in February 1990. In October 1990, EPA, the California Department of Toxic Substances Control (DTSC), the Santa Ana Regional Water Quality Control Board, and the Navy signed a Federal Facilities Agreement (FFA) to conduct the investigation and remediation of contaminated sites at MCAS El Toro.

WASTE GENERATION/MANAGEMENT

The activities at MCAS El Toro included the operation and maintenance of large numbers of military aircraft and ground support equipment. As a result, wastes generated at the site included solvents, detergents, paints, lubricating oils, hydraulic fluids, batteries, and fuel. In addition, a sewage treatment plant was operated at the site between 1943 and 1972. Between 1943 and 1955, municipal solid waste generated at the Station was burned at a designated site within the facility. Additionally, solid wastes were also disposed of at four landfills within the site. Two burn pits were operated for fire-fighting training. These burn pits consisted of unlined pits which were filled with water and layered with various flammable liquids including JP-5 fuel (jet fuel), aviation gasoline and other waste liquids.

Pesticides and herbicides have historically been used at the Station to control weeds and rodents. Chemicals used include Thurshan, Diazonon, Chlordan, Crovar, Malathion, Kelthane, Strychnine, DDT, and Retard-x.

A total of 408 underground storage tanks have been identified at the Station. Petroleum hydrocarbon components, including benzene, have been detected in the groundwater downgradient of Tank Farms 2, 5 and 6. These tank farm sites are scheduled for further investigation/site characterization. Also, aboveground storage tank sites and fuel supply lines will be evaluated as potential sources of contamination.

Solid and hazardous wastes generated at the Station are currently collected and disposed of at permitted off-site facilities.

SITE INVESTIGATIONS/FINDINGS

Environmental investigations at the site are being conducted under the Department of Defense Installation Restoration Program (IRP) and the Comprehensive Long-Term Environmental Action, Navy (CLEAN) II program. Over 1,000 locations of concern have been identified at MCAS El Toro. Out of the 1,000 locations of concern, 24 major sites, called Installation Restoration Sites, were identified. Twenty-two sites were evaluated during the Phase I investigation, which was completed in May 1993. Two new sites were added, as a result of the Phase I investigation, bringing the total number of sites to twenty-four.

These investigations included an extensive soil gas survey, soil sample collection and analysis, and groundwater sampling and analysis. The MCAS El Toro has been identified as a potential source of regional volatile organic compound (VOC) contamination in the Irvine Groundwater Subbasin. The major volatile organic compounds identified include: trichloroethylene (TCE), tetrachloroethylene (PCE), 1,1-dichloroethylene (1,1-DCE), 1,1,1-trichloroethane (1,1,1-TCA), carbon tetrachloride, chloroform, methylene chloride, benzene, toluene, and xylenes. The most extensive contaminant appears to be TCE. The TCE plume originates in the southwestern portion of the Station and extends off-Station approximately 3 miles to the west. The TCE plume has been observed in the shallow (perched) and deep (principal) aquifers. The highest concentration of TCE in shallow groundwater (2,000 parts per billion, ppb) occurs on-Station at Crash Crew Pit No. 1. The off-Station TCE concentrations in the shallow aquifer are generally below 5 ppb, the U. S. EPA maximum contaminant level (MCL) for this constituent (Attachment 2). However, in the principal aquifer, higher concentrations (up to 50 ppb) of TCE have been identified. Other, smaller contaminant plumes are suspected to exist on the Station in areas near the Station landfills, fuel tank farms, fuel delivery lines, maintenance shops and underground storage tank areas.

The contaminated sites are grouped into three operable units based on the type, volume and extent of contamination. As new data become available, the operable unit definitions may be re-evaluated and refined. The operable units at MCAS El Toro are defined as follows:

Operable Unit-1 Groundwater on and off Station that is contaminated with constituents that have migrated from sources at MCAS El Toro. At present, only volatile organic compounds have been identified as contaminants that have originated from the Station.

Operable Unit-2 These include potential sources of volatile organic compounds. Currently, there are 8 sites identified as potential sources of groundwater contamination.

Operable Unit-3 These sites include all the sites not included in operable units 1 and 2. The sites in this unit were identified before the groundwater contamination was discovered and before the listing of MCAS El Toro on the national priorities list. There are currently 15 sites included in this unit.

REMEDIAL ACTIONS

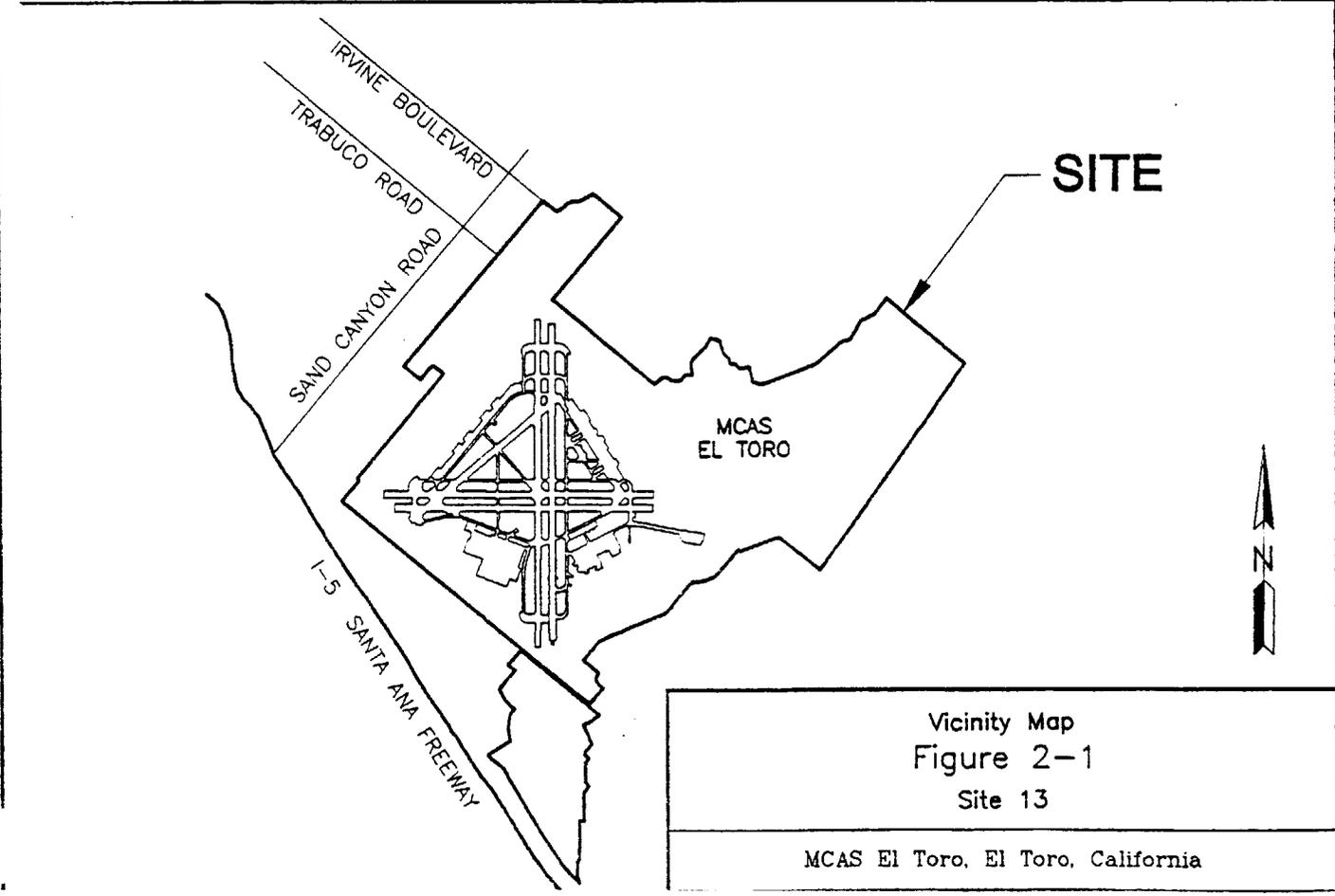
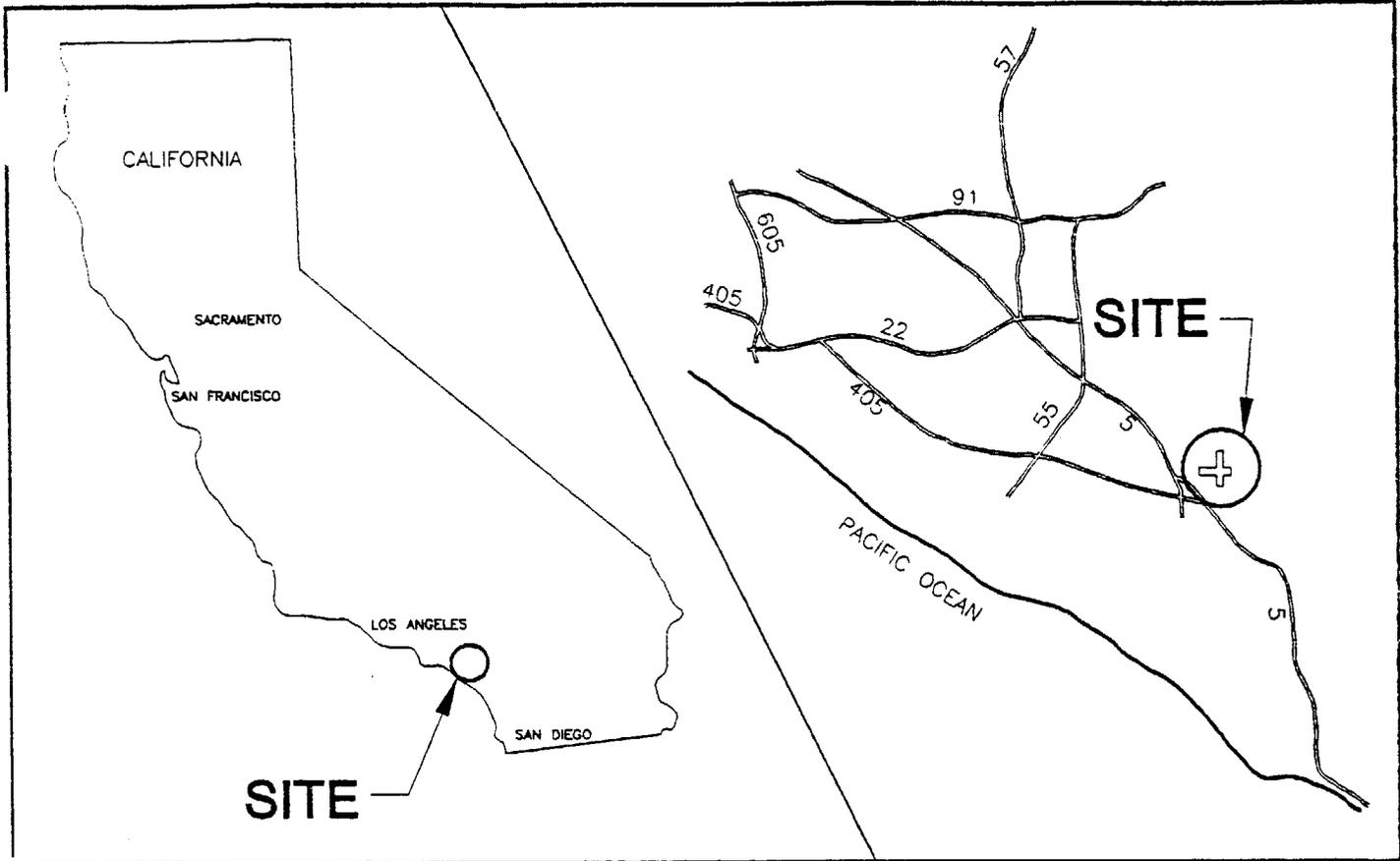
Currently there are no remedial actions in place at MCAS El Toro. However, remedial investigation/feasibility study reports have been prepared for remediating groundwater contamination. A number of remedial alternatives have been identified.

A major impetus for early action on the groundwater contamination stems from planned development of the Irvine desalter project by the Orange County Water District. The main purpose of the desalter is to extract groundwater high in TDS and nitrates and to treat it to potable levels. The high TDS and nitrates in the groundwater in the area may have been due to past agricultural practices. The desalter extraction wells will be partially within the TCE plume from the Station. The Navy is currently negotiating with Orange County Water District for possible participation in the desalter project. The Navy's current proposal for remedial alternatives includes the following:

1. No action
2. An independent MCAS El Toro extraction and treatment system
3. Participation in the desalter project with no other treatment systems
4. Participation in the desalter project with additional on-Station extraction and discharge to the desalter (no on-Station treatment)
5. Participation in the desalter project with an independent on-Station extraction and treatment system

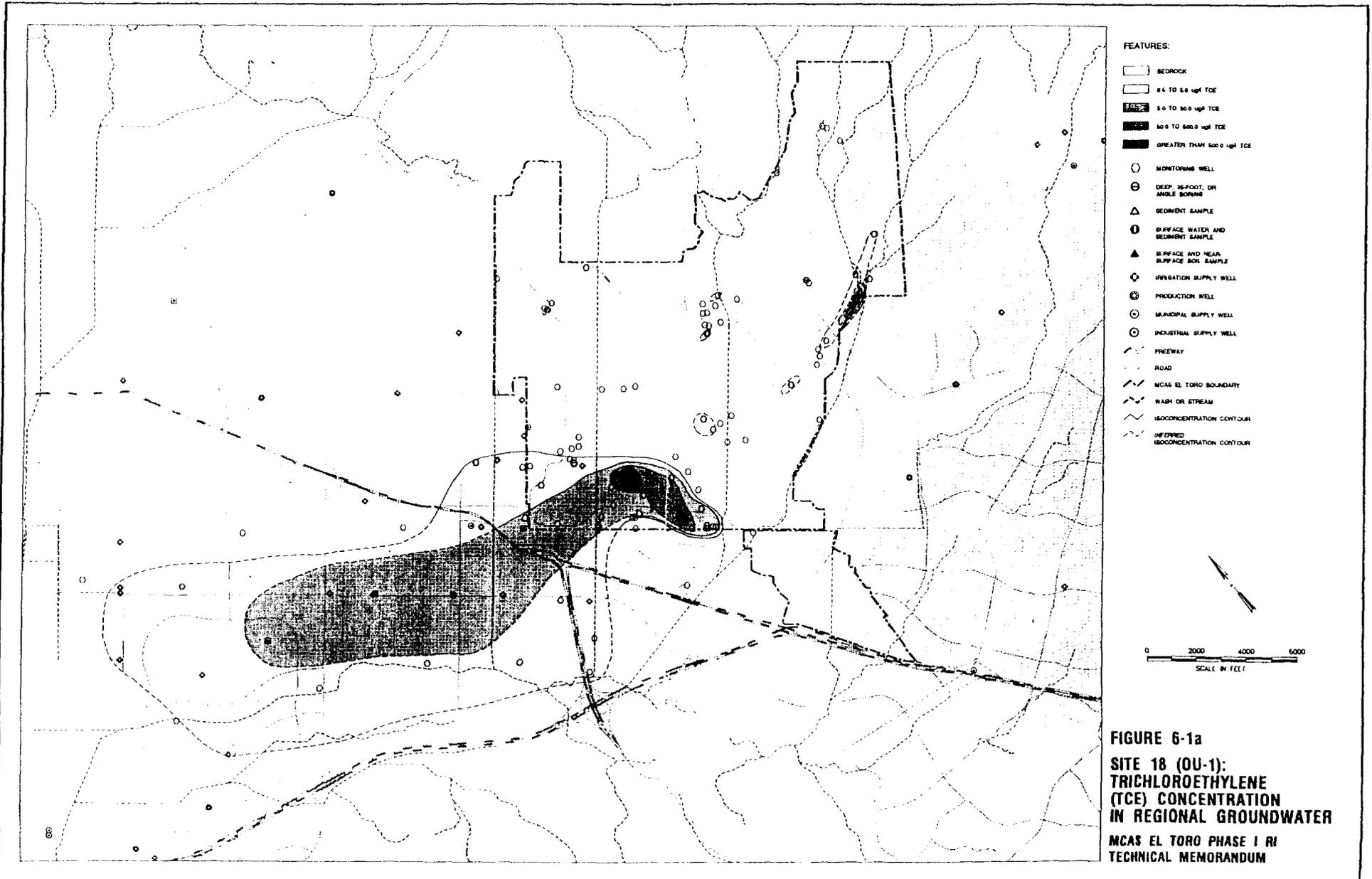
These options are being evaluated and a revised feasibility study report is expected within a month. The Department of the Navy is expected to select the most appropriate remedy in consultation with the regulatory agencies. The selected remedy will then be submitted for public comment, modified as needed in response to comments received, and legally documented in a record of decision document.

Staff will update the Board on the progress of further cleanup activities at MCAS El Toro as significant developments occur.



Item 15.a., MCAS El Toro
Attachment 1

Item 15.a., MCAS El Toro
 Attachment 2
 TCE Plume in the Shallow Aquifer



**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SANTA ANA REGION**

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AGENDA ANNOUNCEMENT
REGIONAL BOARD MEETING
FRIDAY - April 7, 1995
9:00 AM

**CITY COUNCIL CHAMBERS
25541 Barton Road
LOMA LINDA**

1. **INTRODUCTIONS**
2. **PUBLIC FORUM** - (Any person may address the Board at the commencement of the meeting on any matter within the Board's jurisdiction and not related to an item which is to be considered separately. The Chairman requests that each person addressing the Board observe a five-minute time limit.)
3. **Approval of minutes of Regular Board Meeting of March 3, 1995.**
4. **Consideration of Consent Calendar Items.** (Items marked with an asterisk are expected to be routine and noncontroversial. The Board will be asked to approve these items at one time without discussion. If any interested party, Board member, or staff requests that an item be removed from the calendar, it will be taken up in the order shown.)

APPEALS

- *5. **Appeal for an Exemption from the Yucaipa-Calimesa Waste Discharge Prohibition** - Mr. Sidney Shedd, Parcels 2 and 3, Parcel Map No. 13851, Yucaipa, San Bernardino County.
- *6. **Appeal for an Exemption from the Homeland/Green Acres and Romoland Waste Discharge Prohibition** - Mr. and Mrs. Thomas Burton and Mr. and Mrs. Raymond Hammer, 26141 Gutheridge, Homeland, Riverside County.

ENFORCEMENT ACTIONS
Cease and Desist Orders:

7. **City of Colton** - The Board will consider adoption of an order requiring the City of Colton to submit its plans and implementation schedule to limit wastewater flows to the capacity of its wastewater treatment plant, and to take other actions to assure compliance with its waste discharge requirements. **Order No. 95-36**
8. **City of Riverside** - The Board will consider adoption of an order requiring the City of Riverside to comply with a time schedule to achieve compliance with Total Inorganic Nitrogen limits contained in waste discharge requirements Order No. 95-18 (Postponed to the May 26, 1995 meeting). **Order No. 95-33**

BASIN PLAN AMENDMENT WORKSHOP

9. The Board will hold a public workshop to consider the matter of regulation of total dissolved solids (TDS) in reclaimed water used for agricultural irrigation. An amendment to the Basin Plan clarifying the Board's regulatory approach may be considered.

NPDES Permits

- *10. University of California, Irvine, Orange County - Discharge of up to 9,410 gallons per day of water softener regeneration brines and boiler blowdown and an undetermined amount of stormwater runoff from a vehicle service area to storm drains tributary to San Diego Creek. Order No. 95-3
- *11. City of Riverside, Riverside County - Discharge of up to 40 million gallons per day of tertiary treated wastewater to the Santa Ana River (Postponed to the May 26, 1995 meeting). Order No. 95-18

Waste Discharge Requirements - Revised

- *12. Chino Basin Municipal Water District, Co-Composting Facility, South of Pine Avenue and East of Chino Corona Road, Chino, San Bernardino County - Operation of a facility for composting up to 200,000 tons per year of dairy manure and digested municipal sewage sludge. (Postponed from the March 3, 1995 meeting). Order No. 95-30
- *13. MACO West of California, Wilderness Lakes RV Park, Menifee area, Riverside County - Discharge of up to 100,000 gallons per day of treated sewage from a package wastewater treatment plant to evaporation/percolation ponds. Order No. 95-2

OTHER BUSINESS

- *14. Federal Fiscal Year (FFY) 1996 State Revolving Fund (SRF) Loan Program for the Santa Ana Region - The Board will consider adoption of a FFY 1996 Priority List for SRF Projects within the Santa Ana Region (action item). Resolution No. 95-29
- 15. Environmental Restoration Activities at Department of Defense Facilities - Staff will present an overview of the current status of the restoration activities at the following facilities (information item).
 - a. El Toro Marine Corps Air Station
 - b. Tustin Marine Corps Air Station
- 16. TIN/TDS Update - Tim Moore of Risk Sciences, Inc., and Mark Wildermuth of Mark Wildermuth Engineers (consultants to Santa Ana Watershed Project Authority and the TIN/TDS Scoping Committee) will update the Board on recent activities and current issues (information item).
- 17. State Enforcement Policy - Staff will present a brief overview of the draft Policy prepared by State Board staff and will solicit comments on the draft Policy from the Board (discussion item).
- 18. Hazardous Waste and Sewage Spill Incident Report - Lists of such incidents as required by Proposition 65 and California Water Code Section 13271 will be provided as an information item to the Regional Board.
- 19. Executive Officer's Report (information item).
- 20. Board Member Communications - Board Members may discuss meetings, communications, correspondence, or other items of general interest relating to matters within the Board's jurisdiction. There will be no voting or formal action taken.

CLOSED SESSION: At any time during the regular session, the Board may adjourn to a closed session to consider litigation, personnel matters, or to deliberate on a decision to be reached based upon evidence introduced in the hearing. Discussion of litigation is within the attorney/client privilege and may be held in closed session. Authority: Government Code Section 11126(a)(d)(q). Items which may be discussed in closed session by the Board include litigation related to:

- 1. The American Trader Oil Spill,
 - 2. Stringfellow Hazardous Waste Site, and
 - 3. California Steel Industries
21. **ADJOURNMENT** to regular meeting of May 26, 1995 at the Regional Board Office.