

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 89-125

UPDATING WASTE DISCHARGE REQUIREMENTS FOR:

U. S. VETERANS ADMINISTRATION MEDICAL CENTER  
LIVERMORE, ALAMEDA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. The U. S. Veterans Administration Medical Center, Livermore, hereinafter called the discharger, submitted information relative to their waste discharge dated February 15, 1989.
2. The discharger is located in an unincorporated area of Alameda County 4 miles south of Livermore, in Section 33 of Township 3 South, Range 2 East.
3. The discharger presently generates an average of 45,000 gallons per day of domestic sewage from a 190 bed hospital, a 120 bed nursing home, and 430 employees.
4. Wastewater treatment facilities were constructed by the discharger in 1951. Design capacity is 0.5 million gallons per day.
5. The discharger completed a \$308,000 capital improvement project in the fall of 1988. Modifications to the plant to improve its performance and reliability included adding a jib crane, replacing the sludge collectors and weirs on the primary clarifiers, cleaning and refurbishing the anaerobic digester, installing a new comminutor, a waste gas burner system, a secondary recycle pump, a new digester floating cover, and a line to recirculate effluent or chlorine contact tank drain water from the effluent pumps to the aeration tank.
6. Sewage flows by gravity into the plant and receives treatment by comminution, aerated grit removal, primary sedimentation, biological trickling filter oxidation, secondary clarification, and chlorination. Effluent is discharged to percolation ponds located

northeast of the treatment facilities. Sludge generated by the treatment processes is anaerobically digested and dried in sludge drying beds.

7. The discharger is within the Alameda Creek watershed and the Livermore Valley groundwater basin.
8. The Board adopted a revised Water Quality Control Plan for San Francisco Bay Region (Basin Plan) on December 17, 1986. The Basin Plan contains water quality objectives for the Livermore Valley groundwater basin and the Alameda Creek watershed.
9. The beneficial uses of the Livermore Valley groundwater basin as set forth in the Basin Plan include:
  - o Municipal Supply
  - o Agricultural Supply
  - o Industrial Process Water Supply
  - o Industrial Service Supply
10. The beneficial uses of Alameda Creek as set forth in the Basin Plan include:
  - o Groundwater Recharge
  - o Water Contact Recreation
  - o Non-Contact Water Recreation
  - o Warm Fresh Water Habitat
  - o Cold Fresh Water Habitat
  - o Wildlife Habitat
  - o Fish Migration
  - o Fish Spawning
11. The discharger is located outside of the city of Livermore's service district. A sewage disposal feasibility study conducted in 1984 discussed two routes to connect the discharger to the city of Livermore's sewers. Alternative A proposed a 4.25 mile route and Alternative B proposed a 2.75 mile route. Neither alternative was implemented.
12. Proposals for new discrete discharges in the Livermore Valley Groundwater Basin are restricted by the Basin Plan, as the Board is concerned with nitrogen and total dissolved solids loadings from waste discharges in this closed groundwater basin. The discharger's percolation ponds are located within the Central Livermore Valley Groundwater Basin but the discharger's plant pre-dates this policy. Groundwater monitoring results near the percolation ponds have demonstrated elevated levels of both

nitrates and total dissolved solids, yet percolate sampling has demonstrated that the percolate is marginally meeting groundwater water quality objectives, during most sampling periods.

13. This project involves the operation of existing publicly-owned sewage treatment and disposal facilities with no expansion of use beyond that previously existing and as such is exempt from the provisions of the California Environmental Quality Act (CEQA) in accordance with Title 14, California Administrative Code, Chapter 3, Section 15301.
14. The Board has notified the discharger and interested agencies and persons of its intent to update and issue revised waste discharge requirements for the existing discharge.
15. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the U. S. Veterans Administration Medical Center, pursuant to the provisions of Division 7 of the California Water Code and the regulations adopted thereunder, shall comply with the following:

A. Discharge Prohibitions

1. The treatment or disposal of waste shall not create a nuisance as defined in Section 13050(m) of the California Water Code.
2. The collection, treatment, and disposal of wastewater shall not degrade the quality of any groundwater.
3. The discharge of waste shall not cause seepage to be present any place outside the percolation ponds.
4. There shall be no bypass or overflow of sewage from the collection, treatment, or disposal system to waters of the state.

B. Specifications

1. The waste, as discharged to the percolation ponds, shall be at all times an adequately disinfected, oxidized wastewater and shall meet the following quality limits at all times:
  - o 5-day BOD 40.0 mg/l, maximum
  - o Dissolved Oxygen 2.0 mg/l, minimum
  - o Dissolved Sulfide 0.1 mg/l, maximum

- o pH 6.0, minimum  
9.0, maximum
  - o Coliform Organisms The median MPN shall not exceed 23 coliform organisms per 100 milliliters of sample, as determined from the bacteriological results of the last seven (7) days for which analyses have been completed, and the number of coliform organisms shall not exceed 240 per 100 milliliters in any two (2) consecutive samples.
2. The percolation ponds shall be adequately protected from erosion, washout, and floods having a predicted frequency of once in 100 years.
  3. A minimum freeboard of two (2) feet shall be maintained in the percolation ponds at all times.
  4. The public shall be effectively excluded from the treatment plant and percolation ponds. These areas shall be clearly identified with posted notices to the public. The method and form of notification and exclusion shall be subject to the review and approval of the Executive Officer.
  5. All equipment, including pumps, pipings, valves, etcetera, which may at any time contain wastes, shall be adequately and clearly identified with warning signs. The discharger shall may all necessary provisions to inform the public that the liquid contained therein is wastewater and is unfit for human consumption.

C. Provisions

1. The discharger shall comply with all parts of this order immediately upon its adoption.
2. The discharger shall file a report of waste discharge with the Board at least 120 days before making any material change or proposed change in the character, location, or volume of the discharge.
3. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.
4. The discharger shall permit the Regional Board or its authorized representative:

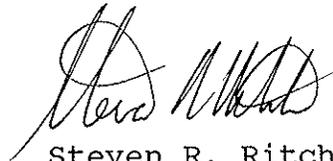
- a. Entry upon premises in which an effluent source is located or in which any required records are kept.
  - b. Access to copy any records required to be kept under terms and conditions of this order.
  - c. Inspection of any monitoring equipment or method required by this order.
  - d. Sampling of any discharge.
5. The Board will review this Order periodically and may revise the requirements when necessary.
  6. The discharger shall review and update his operations and maintenance manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Board by April 15 of each year. Documentation of operator input and review shall accompany each annual update.
  7. The discharger shall comply with all items of the attached "Standard Provisions and Reporting Requirements", dated December 1986, except items A.6., A.7., C.6., C.8., and C.11.
  8. The discharger shall maintain a copy of this order at the site so as to be available at all times to personnel operating waste treatment and disposal facilities.
  9. In the event of any change in the control or ownership of land or waste discharge facilities presently owned or controlled by the discharger, the discharger shall notify the succeeding owner or operator of the existence of this order by a letter, a copy of which shall be forwarded to this Board.
  10. The discharger shall submit, to the Board, by September 15, 1992, a technical report on future wastewater management options. The report shall discuss the cost and feasibility of at least the following options:
    - a. Public sewer connection
    - b. On-site treatment and disposal (percolation ponds) - status quo

- c. On-site source control and treatment to meet Basin Plan policies for community wastewater systems in the Livermore Valley (e.g. less than 500 mg/l total dissolved solids in percolate)

Cost estimates should distinguish between initial and ongoing costs, including groundwater monitoring. The analysis should cover at least a 10 year period.

11. Copies of the discharger's percolation pond and groundwater monitoring reports shall be submitted to Zone 7 according to the schedule set forth for submittal to the Board.
12. The requirements prescribed by this Order supercede the requirements prescribed by Order No. 77-26. Order No. 77-26 is hereby rescinded.

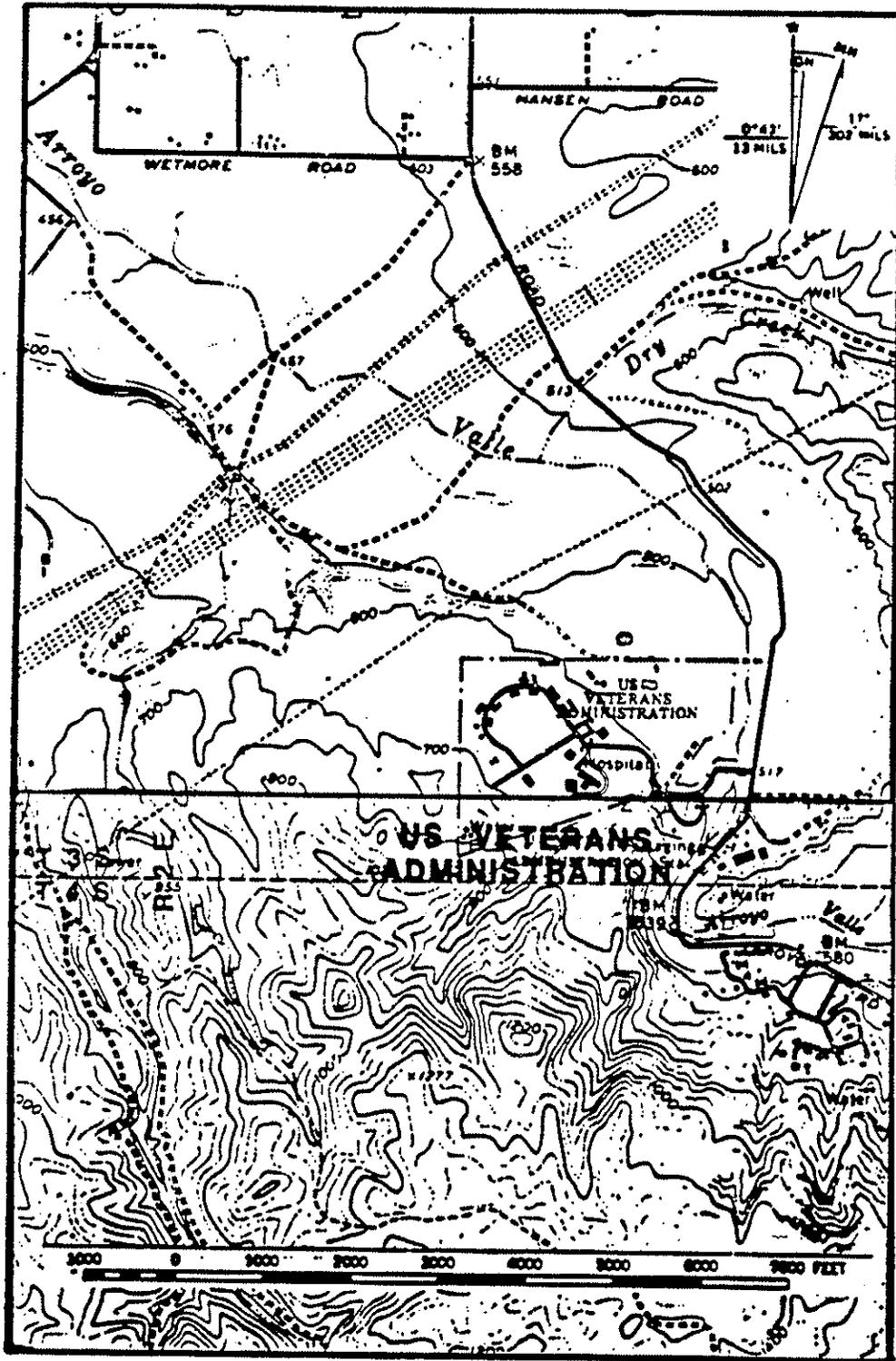
I, Steven R. Ritchie, Executive Officer, do hereby certify the foregoing is a full, true, and correct copy of an order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 19, 1989.



Steven R. Ritchie  
Executive Officer

Attachments:

Map  
Self-Monitoring Program  
Standard Provisions and Reporting Requirements, December  
1986



**SITE MAP**

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM  
FOR

Veterans Administration Medical Center

Livermore, Alameda County

ORDER NO. 89-125

CONSISTS OF

PART A

AND

PART B

PART B

I. DESCRIPTION OF SAMPLING STATIONS AND SCHEDULE OF SAMPLING, ANALYSES, AND OBSERVATIONS

A. EFFLUENT

<u>Station</u>	<u>Description</u>
E-1	At any point between the sewage treatment plant and the percolation pond, after the plant effluent has been disinfected.
E-2	At a point in the holding pond.

B. PERCOLATION PONDS

<u>Station</u>	<u>Description</u>
L-1 thru L-n	Located along the perimeter levees of the percolation ponds at equidistant intervals not to exceed 50 feet.

C. GROUNDWATER MONITORING

<u>Station</u>	<u>Description</u>
W-1	Existing well No. 3S/2E-33L1
W-2	Existing well No. 3S/2E-33K1
W-3	A down gradient shallow groundwater monitoring well located north and between north ponds. The depth shall be sufficient to determine the level of subsurface water nearest to the ground surface.
W-4	An up gradient shallow groundwater monitoring well located south of the south pond. The depth shall be sufficient to determine the level of subsurface water nearest to the ground surface.
W-5	A down gradient shallow groundwater monitoring well located east and between east ponds.
Note: 1	All wells shall be constructed according to the Alameda County Flood Control and

Conservation District standards. Zone 7 shall be consulted prior to the design and installation of the new wells. The design and installation of the new wells shall be done in consultation with a licensed geologist and engineer. Wells W3, W4, and W5 shall be constructed within eighteen months of the adoption of this self-monitoring program.

- 2 All W stations shall be reviewed after one year of analyses.
- 3 A well drilling log shall be submitted for each sampling well established per this monitoring program.
- 4 See attached map for locations of new wells W3, W4, and W5.

## II. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATION

- A. Sampling, analysis, and observations shall be performed according to the specifications shown in Table I.
- B. Self-monitoring reports shall be submitted monthly and should be received by the Board by the 15th day of the following month (e.g. April report due May 15). The monthly reports should include:
  1. all analyses and results required by Table I and Part A
  2. description of any non-compliance, including corrective measures planned, and
  3. statement by the official signing the report that the report contents are true, accurate, and complete to the best of their knowledge

## III. NOTIFICATION

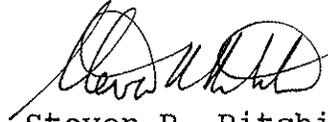
The discharger shall promptly notify the Regional Board and the Alameda County Health Department of any wastewater spill or bypass.

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements

established in Regional Board Order No. 89-125.

2. Is effective on the date indicated below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger and revisions will be ordered by the Executive Officer.



Steven R. Ritchie  
Executive Officer

Effective Date: July 19, 1989

Attachment:

Table I  
Map of Observation Wells

**TABLE I**  
**SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS**

SAMPLING STATION	E-1		E-2		1	1	2	2	2	L
	G	C-24		G	G	G	G	G	G	
TYPE OF SAMPLE										O
FLOW RATE (mgd)		D								
BOD, 5-day, 20°C (mg/l)		M								
SETTLEABLE SOLIDS (ml/l-hr)	4W									
SUSPENDED SOLIDS (mg/l)		M								
CHLORINE RESIDUAL & DOSAGE (mg/l)		W								
DISSOLVED OXYGEN (mg/l)		W								
DISSOLVED SULFIDE (mg/l) if DO<5.0 mg/l		W								
pH (units)		W		M	2M	2M	M	M	M	
TOTAL COLIFORM (MPN/100 ml)		W								
GROUNDWATER LEVEL (wells)					M	M	M	M	M	
TOTAL NITROGEN (mg/l)		M		M	2M	2M	M	M	M	
TOTAL ORGANIC NITROGEN (mg/l)		M		M	2M	2M	M	M	M	
AMMONIA NITROGEN (mg/l)		M		M	2M	2M	2M	2M	2M	
NITRITE NITROGEN (mg/l)		M		M	2M	2M	2M	2M	2M	
NITRATE NITROGEN (mg/l)		M		M	2M	2M	M	M	M	
TOTAL PHOSPHATE (mg/l)		M		M						
TEMPERATURE (°C)	W			M	2M	2M	M	M	M	
TOTAL ORGANIC COMPOUNDS (mg/l)					6M	6M	6M	6M	6M	
ELECTRICAL CONDUCTIVITY (umho/cm)				M	2M	2M	M	M	M	
TOTAL DISSOLVED SOLIDS (mg/l)		M		M	2M	2M	M	M	M	
DISSOLVED CHLORIDE (mg/l)				M	2M	2M	M	M	M	
DISSOLVED CALCIUM (mg/l)				A	A	A	A	A	A	
DISSOLVED MAGNESIUM (mg/l)				A	A	A	A	A	A	
DISSOLVED SODIUM (mg/l)				A	A	A	A	A	A	
DISSOLVED POTASSIUM (mg/l)				A	A	A	A	A	A	
DISSOLVED SILICA (mg/l)				A	A	A	A	A	A	
DISSOLVED BICARBONATE (mg/l)				A	A	A	A	A	A	

**TABLE I**  
**SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS**

SAMPLING STATION	E-1		E-2	W-1	W-2	W-3	W-4	W-5	L
	G	C-24	G	G	G	G	G	G	O
DISSOLVED SULFATE (mg/l)			A	A	A	A	A	A	
DISSOLVED PHOSPHORUS (mg/l)			A	A	A	A	A	A	
DISSOLVED BORON (mg/l)			A	A	A	A	A	A	
DISSOLVED FLUORIDE (mg/l)			A	A	A	A	A	A	
ARSENIC (mg/l)		A							
CADMIUM (mg/l)		A							
TOTAL CHROMIUM (mg/l)		A							
COPPER (mg/l)		A							
CYANIDE (mg/l)		A							
SILVER (mg/l)		A							
LEAD (mg/l)		A							
MERCURY (mg/l)		A							
NICKEL (mg/l)		A							
ZINC (mg/l)		A							
ALL APPLICABLE STANDARD OBSERVATIONS									W

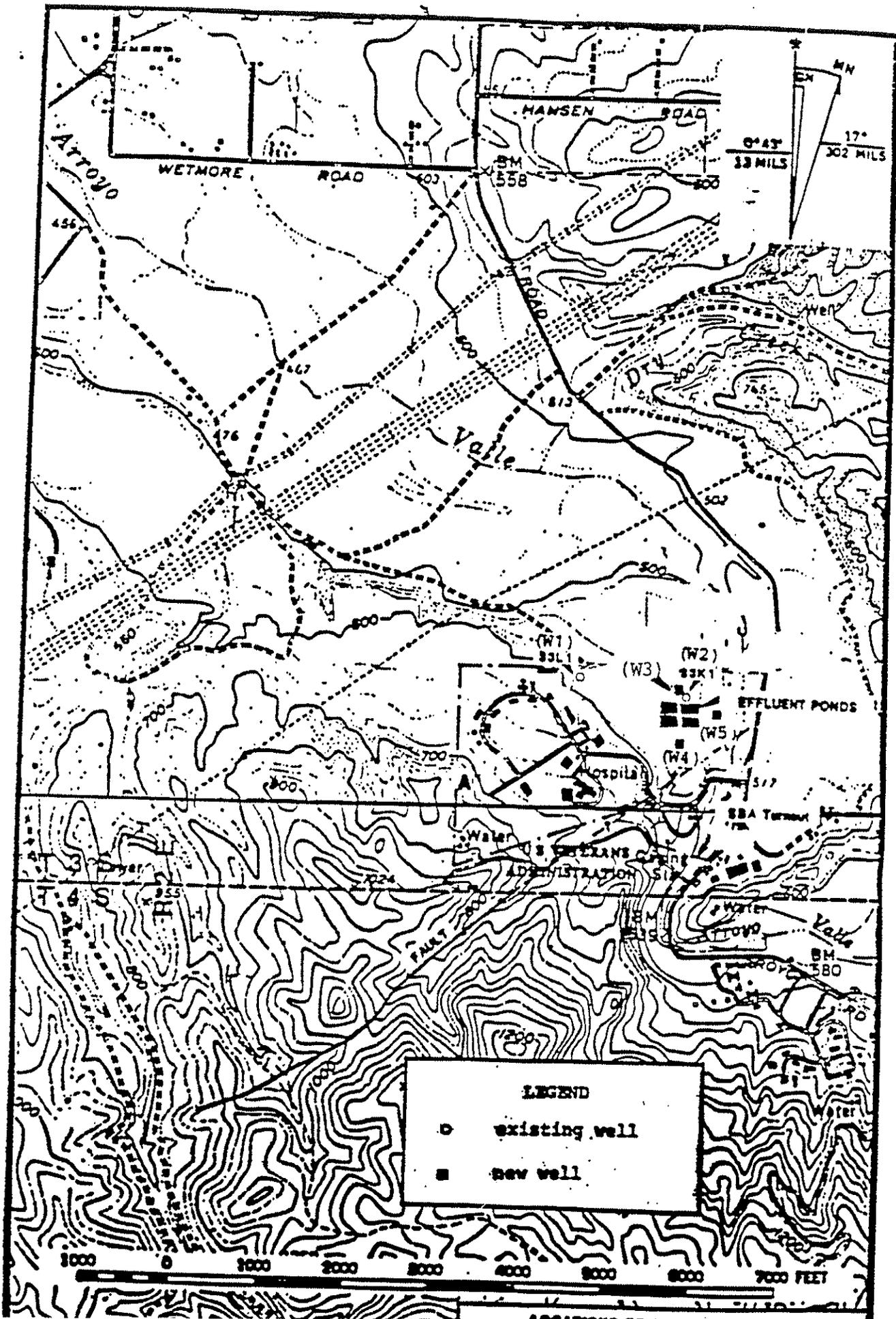
C-24 = composite 24 hour sample  
 G = grab sample  
 2M = every 2 months  
 6M = every 6 months  
 4W = 4 times a week

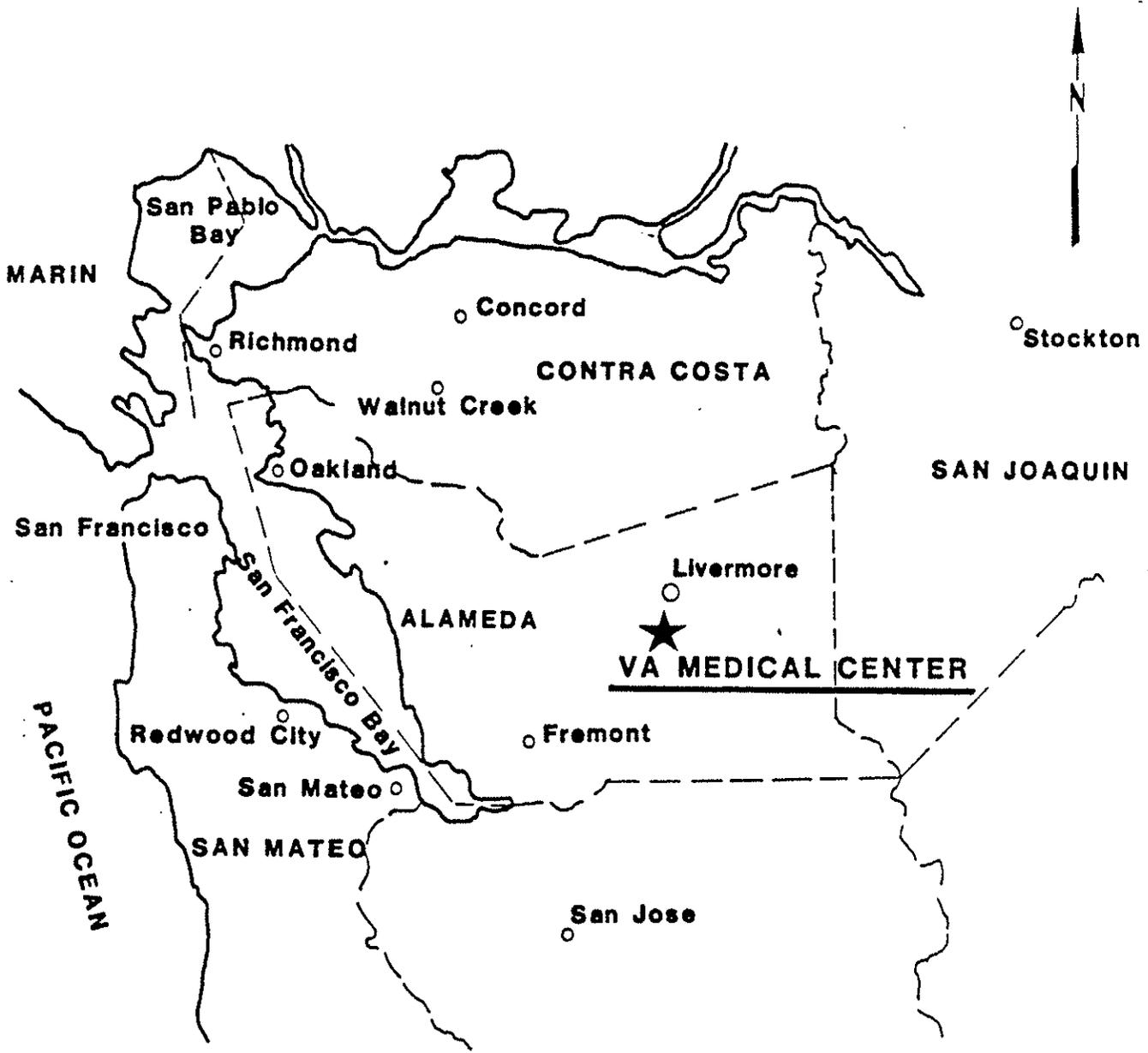
D = daily  
 W = weekly  
 M = monthly  
 A = annually  
 O = observation

NOTES TO TABLE I

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1. Monitoring may be discontinued after 2 years of parallel analysis with new wells upon approval of the Executive Director.
2. Parameters sampled on a monthly basis may be reduced to a bimonthly basis after 2 years of analysis upon approval of the Executive Director.





**LOCATION MAP**