

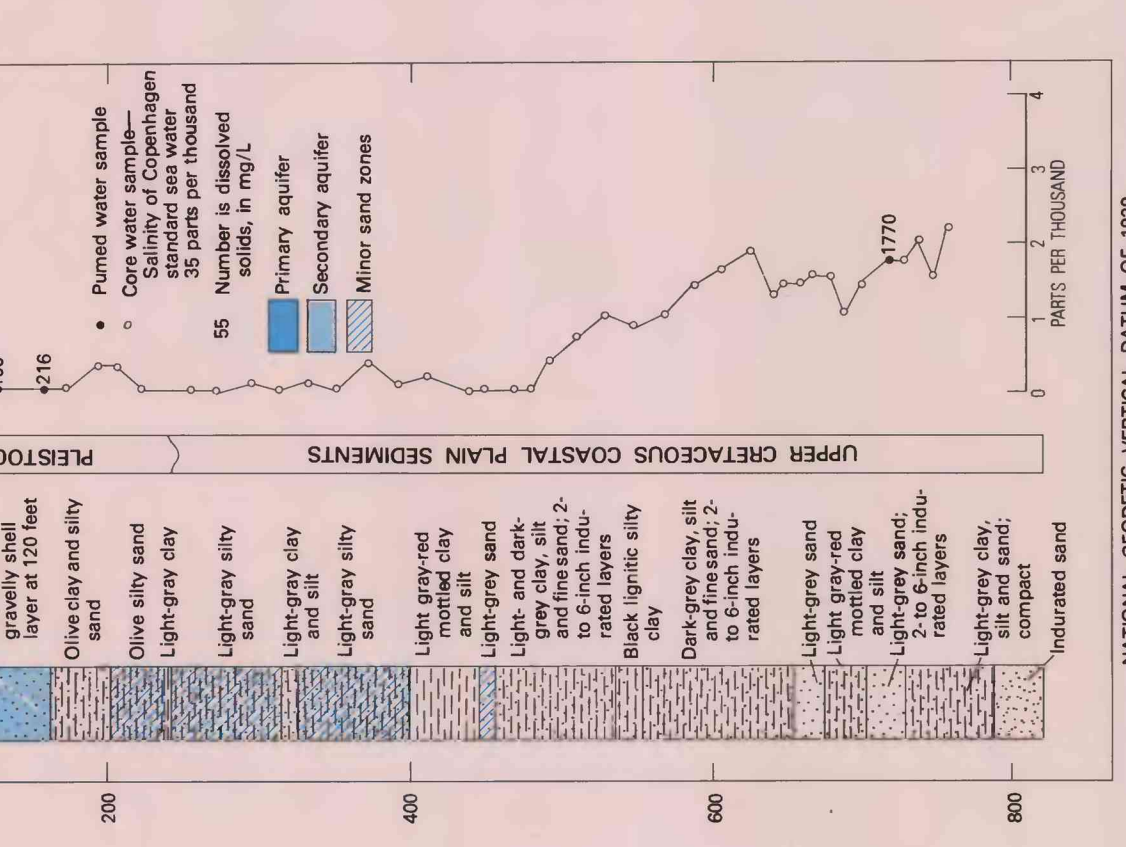
GROUND-WATER QUALITY

GENERAL CHEMICAL CHARACTER

The chemical quality of the ground water on Martha's Vineyard is good. The water is soft, with a low mineral content. The water is slightly acidic, with a pH of 6.5 to 7.5. The water is free of harmful substances, and is suitable for drinking. The water is also suitable for irrigation, and for use in industry.

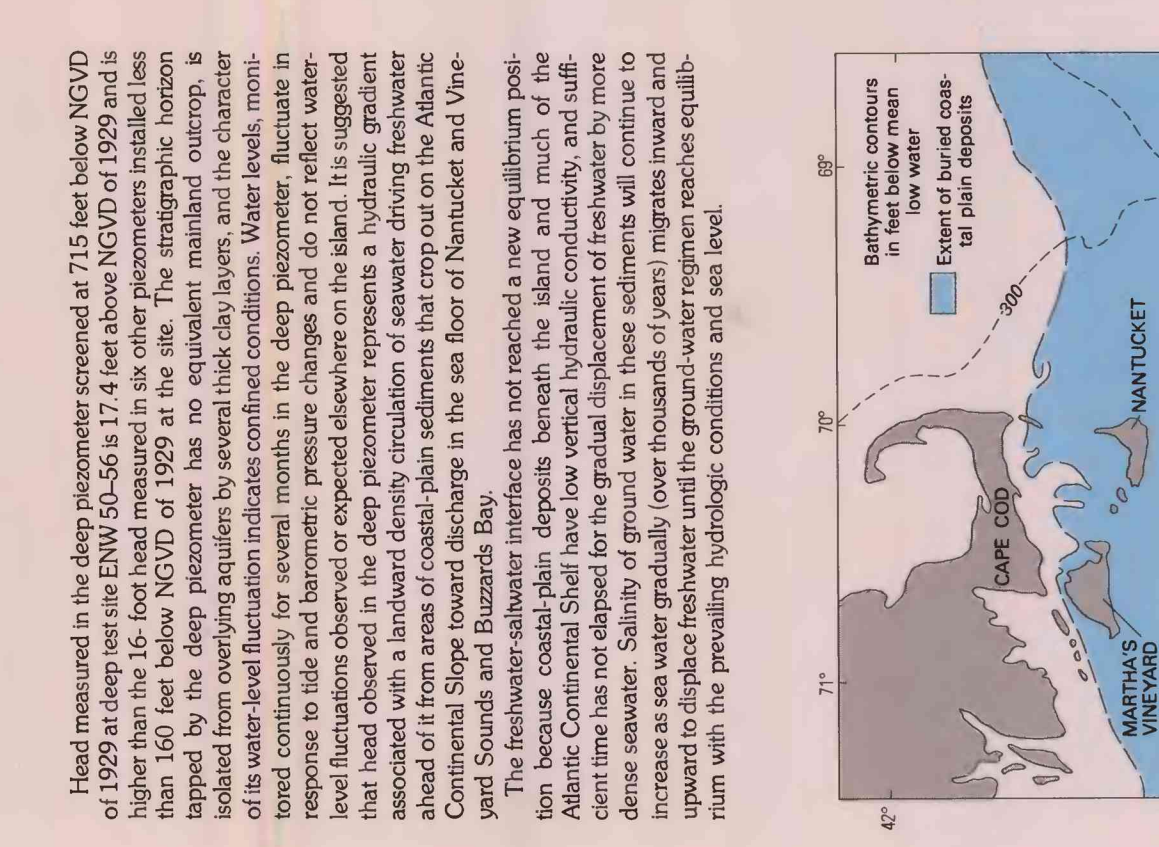
SALINITY AT TEST SITE ENW 50-56

Analysis of chemical quality of the ground water on Martha's Vineyard is good. The water is soft, with a low mineral content. The water is slightly acidic, with a pH of 6.5 to 7.5. The water is free of harmful substances, and is suitable for drinking. The water is also suitable for irrigation, and for use in industry.



Property	Unit	Minimum	Maximum	Mean	Standard deviation
Specific conductance	micromhos at 25°C	200	82	45	26
Hardness (as CaCO ₃)	mg/l	6.5-8.5	13.3	14.3	5.4
Calcium	mg/l	46	3.5	7	24
Sodium	mg/l	24	10	6.8	24
Potassium	mg/l	3.9	1.0	0.6	24
Alkalinity	mg/l	41	3.5	7	24
Sulfate	mg/l	250	4.4	1.6	24
Silica	mg/l	250	1.6	0.6	24
Dissolved solids	mg/l	500	2.6	0.6	24
Ammonia as N	mg/l	10	1.4	0.0	10
Phosphate	mg/l	300	13,000	200	10
Manganese (ppm) (ppb)	mg/l	50	230	15	0

FIGURE 17.—CHEMICAL QUALITY OF GROUND WATER ON MARTHA'S VINEYARD IS EXCELLENT; HOWEVER, IRON AND MANGANESE CONCENTRATIONS COMMONLY EXCEED RECOMMENDED LIMITS FOR DRINKING WATER THROUGHOUT THE ISLAND



Constituent	Unit	Minimum	Maximum	Mean	Standard deviation
Calcium	mg/l	46	3.5	7	24
Sodium	mg/l	24	10	6.8	24
Potassium	mg/l	3.9	1.0	0.6	24
Alkalinity	mg/l	41	3.5	7	24
Sulfate	mg/l	250	4.4	1.6	24
Silica	mg/l	250	1.6	0.6	24
Dissolved solids	mg/l	500	2.6	0.6	24
Ammonia as N	mg/l	10	1.4	0.0	10
Phosphate	mg/l	300	13,000	200	10
Manganese (ppm) (ppb)	mg/l	50	230	15	0

FIGURE 18.—THE CONCENTRATION OF DISSOLVED SALTS AND IONS IN GROUND WATER ON MARTHA'S VINEYARD CAN BE COMPARED WITH RECOMMENDED LIMITS

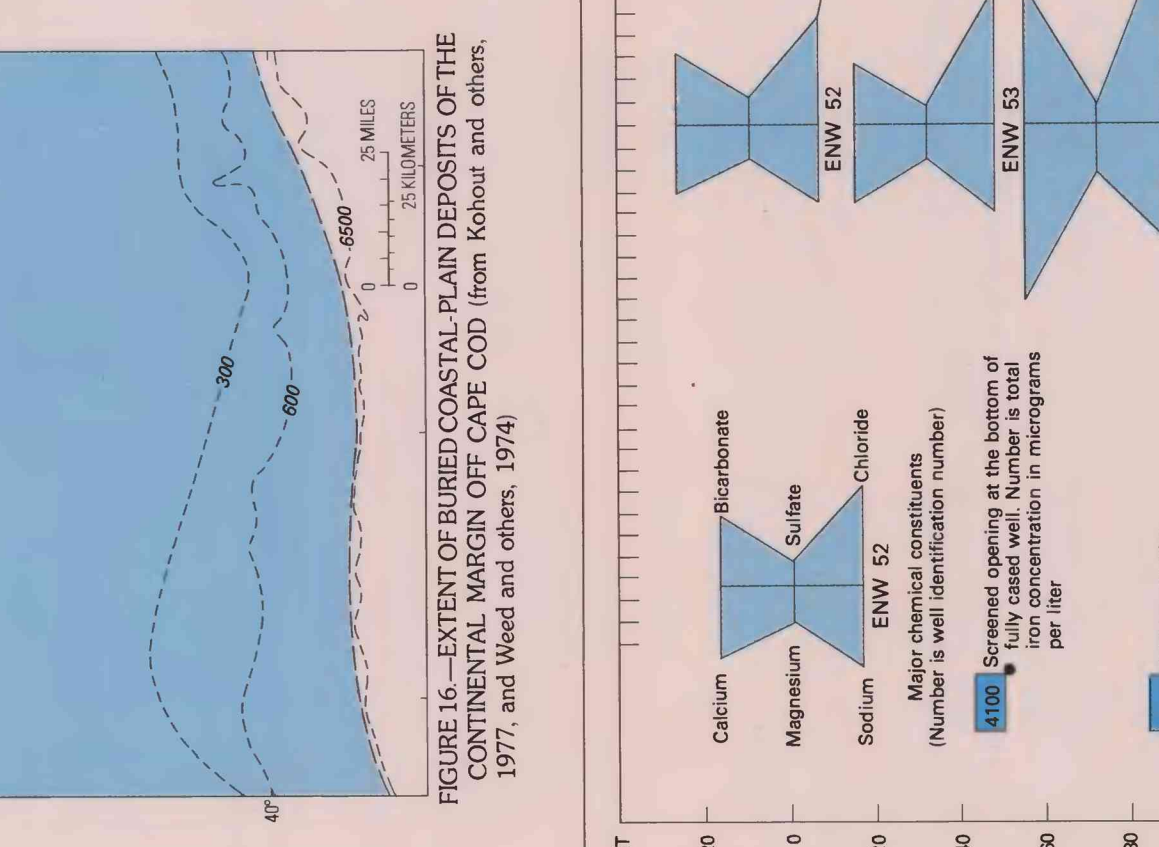


FIGURE 19.—DISTRIBUTION OF MAJOR CHEMICAL CONSTITUENTS AT DEEP TEST SITE ENW 50-56 SHOWS THAT GROUND WATER IN FRESHWATER ZONE IS GOOD; HOWEVER, IRON CONCENTRATION INCREASES WITH DEPTH

