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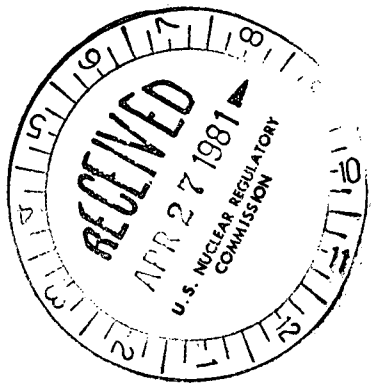
April 20, 1981



Director of Nuclear Reactor Regulation
Attention: Mr. D. M. Crutchfield, Chief
Operating Reactors Branch No. 5
Division of Licensing
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Gentlemen:

Subject: Docket No. 50-206
SEP Topics II-3.A and II-3.B
San Onofre Nuclear Generating Station
Unit 1

Enclosed for your use in connection with the subject SEP topics is the following information:

1. Drawings showing the beach walkway which is currently under construction in front of the seawall.

5180940-0	Beach Walkway General Notes & Drawing List
5180941-0	Beach Walkway Permanent and Temporary Plan
5180942-0	Beach Walkway Details
5180943-0	Beach Walkway Sections and Details
5180944-0	Beach Walkway Sections and Details
5180945-A	Beach Walkway Permanent Walkway Details

2. Information pertaining to the maximum ground water level at the San Onofre site. This information was previously provided to the NRC in connection with the structural audit of San Onofre Units 2 and 3.

If you have any questions on this information please let me know.

Sincerely,

W C Moody

Enclosures

A035
S
1/5
Aperture Dist.
SEND DRAWINGS to
REG FILES
BC (4)

8104270355

P

NRC STRUCTURAL AUDIT REQUEST ITEMS
SONGS 2+3
INTAKE STRUCTURE AND BOX CONDUIT

Item #2: Provide basis for establishing the maximum ground water level used in determining hydrostatic pressures on structural walls.

Response

A number of observations for ground water level has been made at the sites for Unit 1 and Units 2 and 3 over the past 10 years. These observations were made during various investigations such as soil explorations, pumping tests for evaluating field permeability of native soils, installation of the Units 2 and 3 dewatering system and investigations during demobilization of the Units 2 and 3 dewatering system. A summary of these observations is presented in Table 1. Figure 1 presents the locations of various observations points. The data presented in Table 1 indicate a maximum value of +5.8 feet. Only a few of the measurements indicated a level above +5 feet and those were made on the dewatering wells or test piezometers and may reflect transient conditions related to a rapid inflow of water occurring when dewatering was terminated. For this reason, and based on the majority of the data, it is concluded that elevation +5 feet represents a reasonable maximum for the ground water level at the site. This conclusion is also consistent with areal observations as follows: (1) ground water contours for typical high and low ground water conditions are presented in Figures 2.4-27 and 2.4-28 of the FSAR (presented as Figures 2 and 3 here for completeness) indicate a maximum ground water elevation of +5 feet in the immediate vicinity of the site; and (2) a

report by California Department of Water Resources (Reference 1) provides regional data indicating an average ground water elevation in the vicinity of the site is +5 feet.

Ground water sources for the general area of the site are described in Section 2.4.6.13 of the FSAR. Because the foundation soil at the site (San Mateo Sand) is free draining and because the site is adjacent to the ocean, the fluctuations in the ground water are primarily controlled by tidal fluctuations. Further, because of the free draining nature of the foundation soils and the surface drainage facilities at the site, direct rainfall on the site is not expected to have an influence on the ground water level. In view of the above information and the observed ground water levels in the various wells summarized in Table 1, it is concluded that an elevation of +5 feet represents a reasonable maximum level for the ground water at the plant site.

References

1. California Department of Water Resources, 1968, Reclamation of water from wastes - central San Diego County: Bulletin 80-2.

TABLE 1

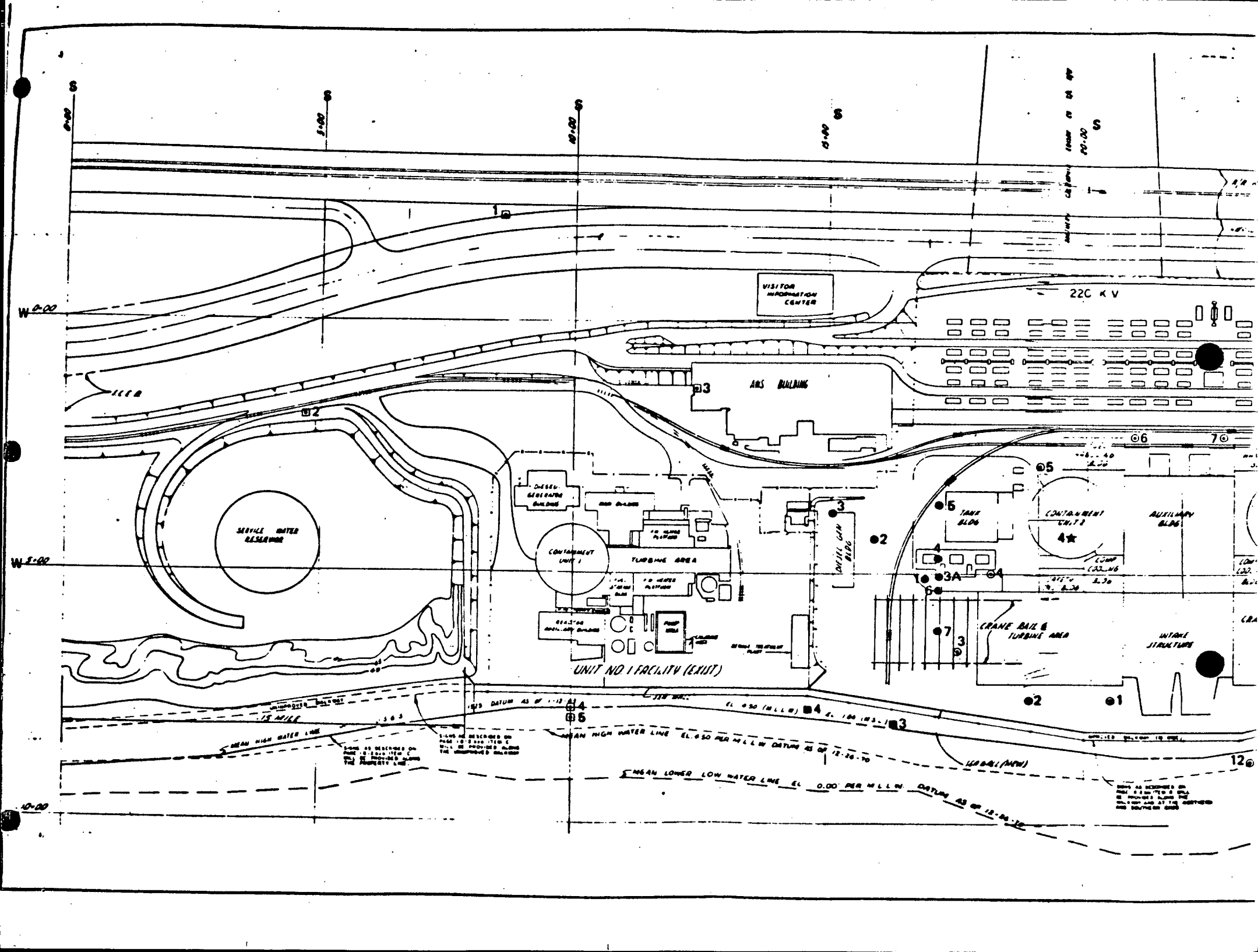
SUMMARY OF GROUND WATER LEVEL OBSERVATIONS

Well/Boring Designation	Date of Observation	Elev. of Observed Water Level	Remarks
Water Well #1	May 1967	+3.9	Well #1 through 5 are located in area of Unit 1 (see Figure 1)
	June 1967	+4.0	
	March 1970	+4.1	
	Dec 1970	+3.9	
Water Well #2	April 1967	+2.6	
	May 1967	+3.1	
	June 1967	+3.3	
	March 1970	+3.3	
	Dec 1970	+3.5	
Water Well #3	April 1967	+3.0	
	May 1967	+3.3	
	June 1967	+3.5	
	March 1970	+3.7	
	Dec 1970	+3.7	
Water Well #4	April 1967	+1.2	
	May 1967	+2.1	
	June 1967	+1.7	
	March 1970	+2.5	
	Dec 1970	+2.2	
Water Well #5	April 1967	+0.8	
D-M Boring #2	March 1970	+5.0	Soil boring.
Piezometer Well #1	May 1974	+5.60*	Observation wells #1 through 7 installed for pump tests. The observations represent initial readings before pump tests.
Piezometer Well #2	May 1974	+3.09	
Piezometer Well #3	May 1974	+5.80*	
Piezometer Well #3A	May 1974	+5.24*	Test well.
Piezometer Well #4	May 1974	+5.60*	

Well/Boring Designation	Date of Observation	Elev. of Observed Water Level	Remarks
Piezometer Well #5	May 1974	+5.76*	
Piezometer Well #6	May 1974	+5.34*	
Piezometer Well #7	May 1974	+5.47*	
Deep Well #1	July 1977	+4.5	Deep wells installed for dewatering system.
Deep Well #2	Aug 1977	+4.5	
Deep Well #3	Nov 1977	+5.5	
Deep Well #3A	Sept 1977	+5.0	
Deep Well #4	May 1976	-0.50**	
Deep Well #5	April 1976	0.0**	
Deep Well #6	July 1976	-1.5**	
Deep Well #7	June 1976	-3.0**	
Deep Well #8	June 1976	-3.0**	
Deep Well #9	Nov 1976	-3.5**	
Deep Well #10	July 1977	+4.5	
Deep Well #11	July 1977	+2.5	
Deep Well #12	July 1977	+2.5	

* Values above Elev. +5 feet may be affected by testing operation (i.e., rapid water inflow after test covering a local high)

** Readings represent maximum values monitored over a period from 1974 to 1977. Low values may be related to dewatering from adjacent wells.


VISITOR INFORMATION CENTER
220 K V
ARS BUILDING
SERVICE WATER RESERVOIR
DIESEL GENERATOR BUILDING
CONTAINMENT UNIT 1
TURBINE AREA
DIESEL GEN BLDG
UNIT NO. 1 FACILITY (EXIST)
TANK BLDG
CONTAINMENT UNIT 2
AUXILIARY BLDG
CRANE BAY & TURBINE AREA
INTAKE STRUCTURE
MEAN HIGH WATER LINE
MEAN LOWER LOW WATER LINE EL 0.00 PER M L L W DATUM AS OF 12-26-70
S 0+00
S 5+00
S 10+00
S 15+00
S 20+00
W 0+00
W 5+00
10+00

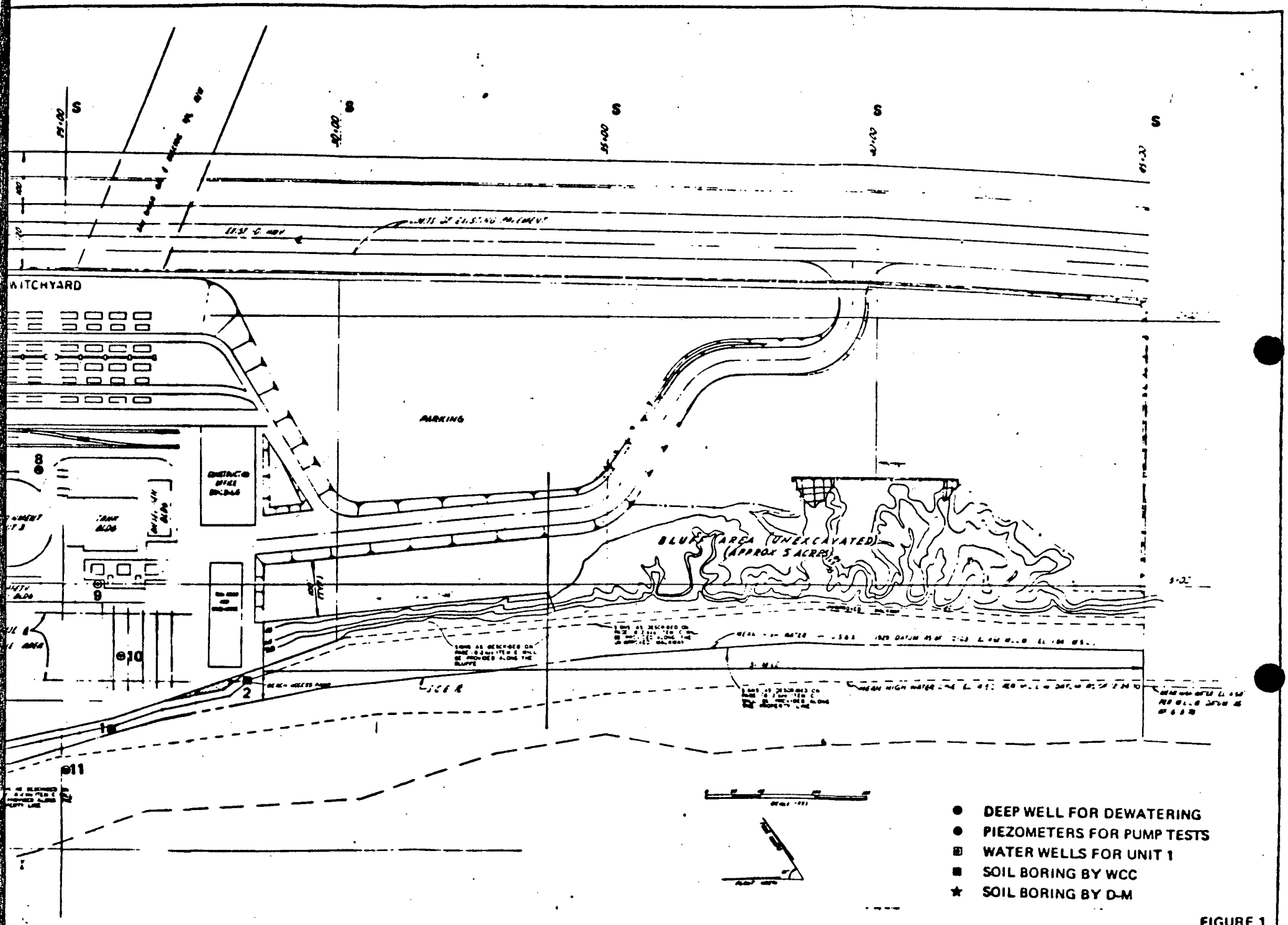

WITCHYARD
PARKING
BLUFF AREA (UNEXCAVATED)
(APPROX 5 ACRES)
DEEP WELL FOR DEWATERING
PIEZOMETERS FOR PUMP TESTS
WATER WELLS FOR UNIT 1
SOIL BORING BY WCC
SOIL BORING BY D-M

FIGURE 1

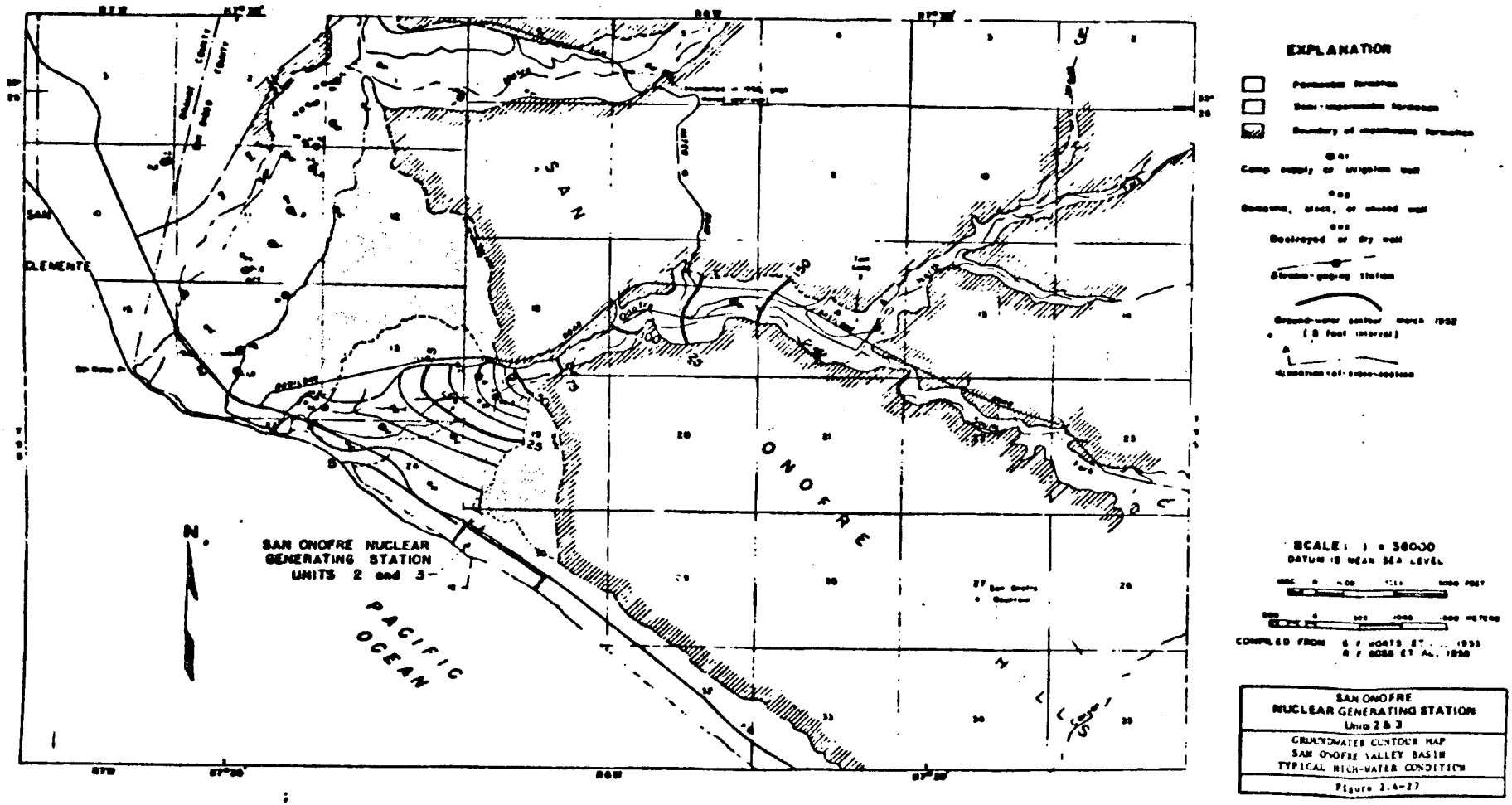
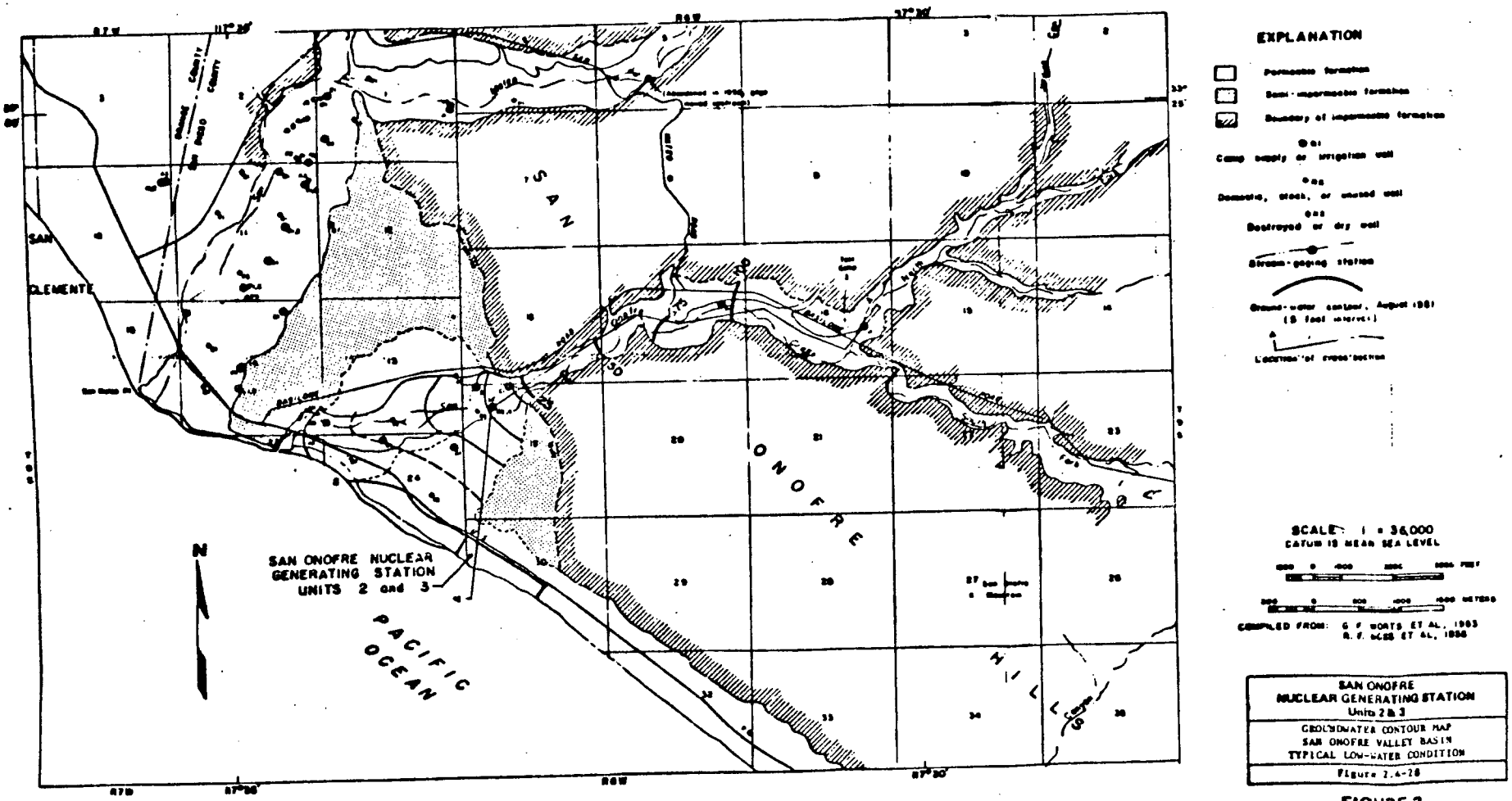

SAN ONOFRE NUCLEAR GENERATING STATION UNITS 2 and 3
PACIFIC OCEAN
SAN ONOFRE
SAN CLEMENTE
N
EXPLANATION
SCALE: 1 = 36000
DATUM IS MEAN SEA LEVEL
SAN ONOFRE NUCLEAR GENERATING STATION Units 2 & 3
GROUNDWATER CONTOUR MAP SAN ONOFRE VALLEY BASIN TYPICAL HIGH-WATER CONDITION
Figure 2.4-27

FIGURE 2



SAN ONOFRE NUCLEAR GENERATING STATION
Units 2 & 3

GROUNDWATER CONTOUR MAP
SAN ONOFRE VALLEY BASIN
TYPICAL LOW-WATER CONDITION

Figure 2.4-28

FIGURE 3