



Code: 45010

Dec 29 54-120
IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

P.O. Box 1233
Tallahassee, Florida

November 22, 1954

Mr. John B. Miller, Chief
Division of Water Supply and Treatment
Florida State Board of Health
P.O. Box 210
Jacksonville 1, Florida

Dear John:

In accordance with your request that you be furnished the results of our continuing studies on the western end of Fair Point Peninsula, Santa Rosa County, I am pleased to transmit herewith the following:

1. Hydrographs showing the mean daily water level in well Santa Rosa 102 from January 1952 to October 1954 and the chloride content of water from the Santa Rosa Island Authority Supply Well No. 2.
2. An illustration showing the maximum and minimum observed stages of the water table and the chloride content of water samples collected from the test wells.
3. Table showing the monthly rainfall and the departures from normal at Pensacola from January through September 1954.

The hydrographs show that the water level in Santa Rosa 102 (old number T-7) reached both its highest and lowest observed levels during the first 10 months of 1954. The water level stood about 7.5 feet above sea level early in January. Since that time the water level has declined more than 5 feet to a height above sea level of about 1.3 feet. The cause of this decline is primarily attributable to low rainfall which, as may be seen from the enclosed table, was 26.37 inches below normal for the period from January through September.

The chloride content of water from supply well No. 2 of the Santa Rosa Island Authority has been inserted on the hydrographs. A comparison of the analyses made by this office in 1953 and 1954 with those made in 1950 show that there has been no detectable change in chloride content in the vicinity of the supply wells. In fact, as may be seen on the hydrographs, the only analyses that have shown a significant change in chloride content are those that were made by the State Board of Health in 1952. The increase in chloride content in late 1952 is difficult

to explain, especially in view of the fact that there has as yet been no increase in chloride content this year as a result of the record low water levels.

Enclosure No. 2 shows the maximum and minimum observed stages of the water table along our line of test wells which cross the peninsula near the Island Authority supply wells. The chloride content of water samples collected from the test wells either on or about the date of the maximum and minimum observed stages is tabulated to the right of the profiles. A study of this table shows that, with the exception of well T-1, there has been no detectable change in chloride content between late 1950 and October 1954. The increase in the chloride content of water from well T-1 is probably due to an encroachment of sea water resulting from the abnormally low water levels. After the present drought ends and the water-table recovers, the fresh water in the aquifer can be expected to push the salty water back to its original position.

I hope the enclosures and the above discussion are of use to you in your work. If I can furnish you additional information at any time please let me know.

Very truly yours,

Ralph C. Heath
Acting District Geologist

Enclosures: 4

cc: Mr. A. N. Sayre
Dr. Herman Gunter
Mr. John G. Cowley
Mr. Eugene Brown
Mr. Thomas Smith

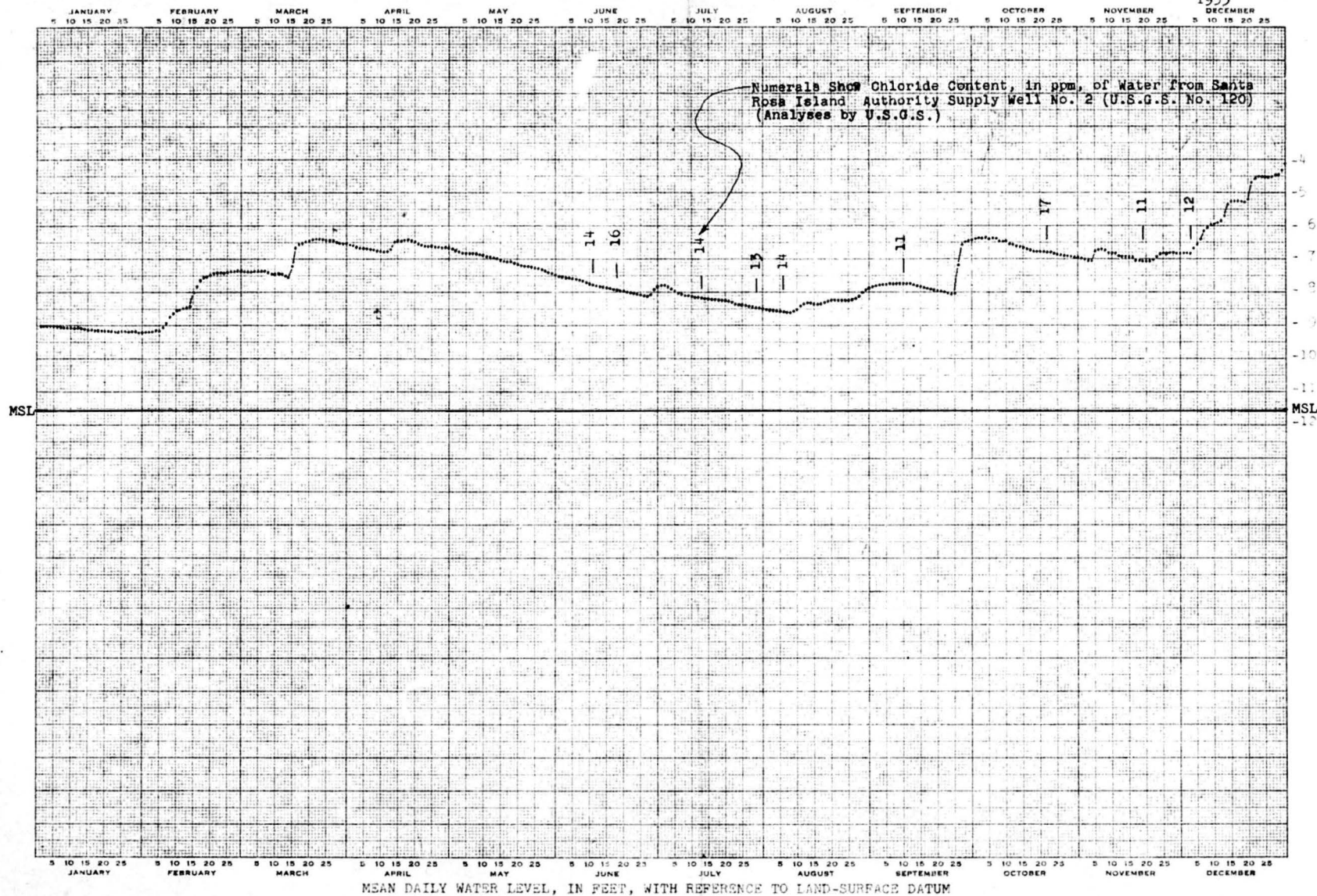
MONTHLY RAINFALL AND DEPARTURES FROM NORMAL AT HENSACOLA, FLORIDA

(Source: U. S. Weather Bureau)

Month	Rainfall	Departure from Normal
January	1.89	-2.66
February	2.27	-1.66
March	3.50	-2.50
April	.98	-3.92
May	2.22	-2.34
June	.89	-4.34
July	8.42	+ .89
August	.63	-6.80
September	2.60	-2.18
Totals	23.34	-26.37

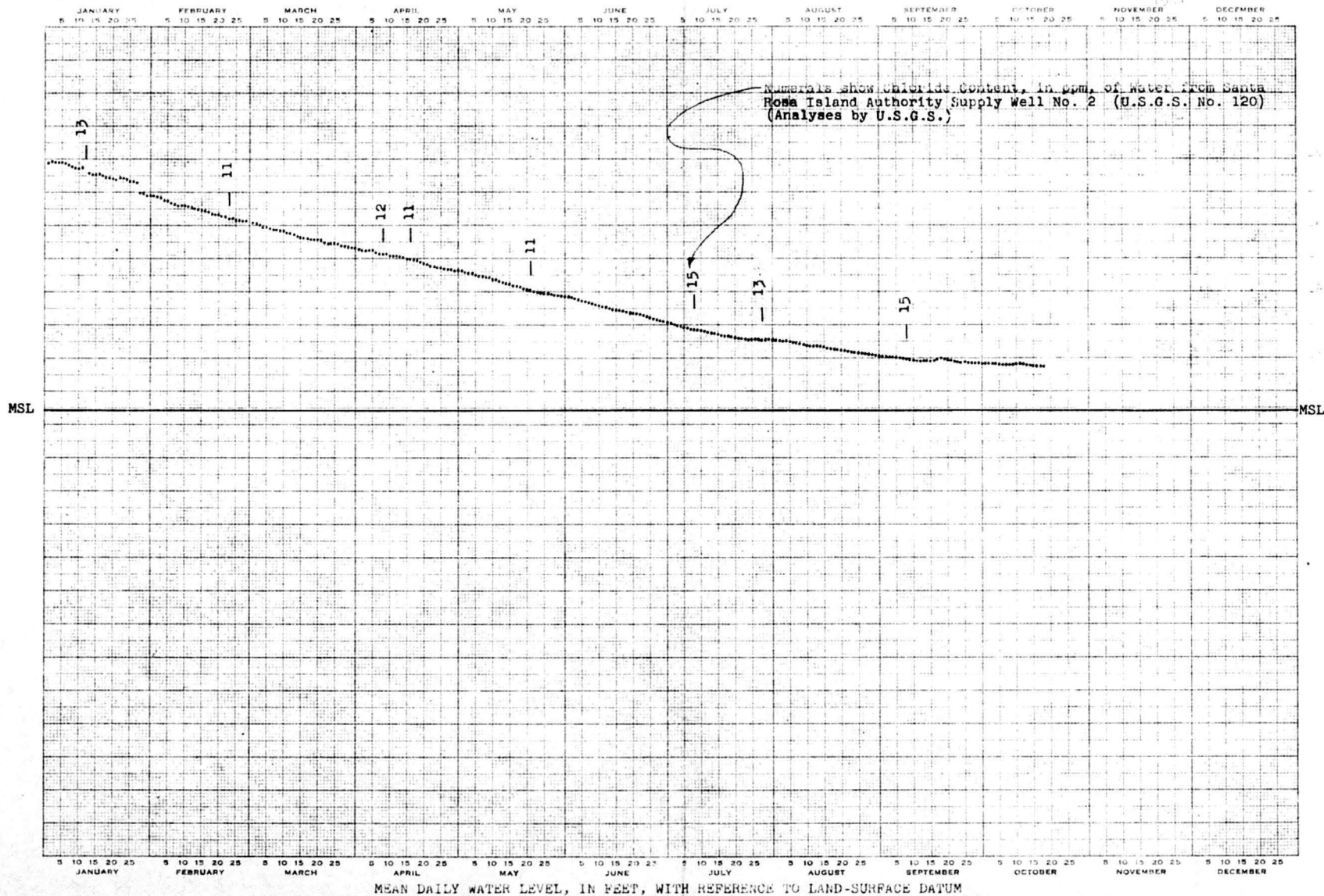
1953

②



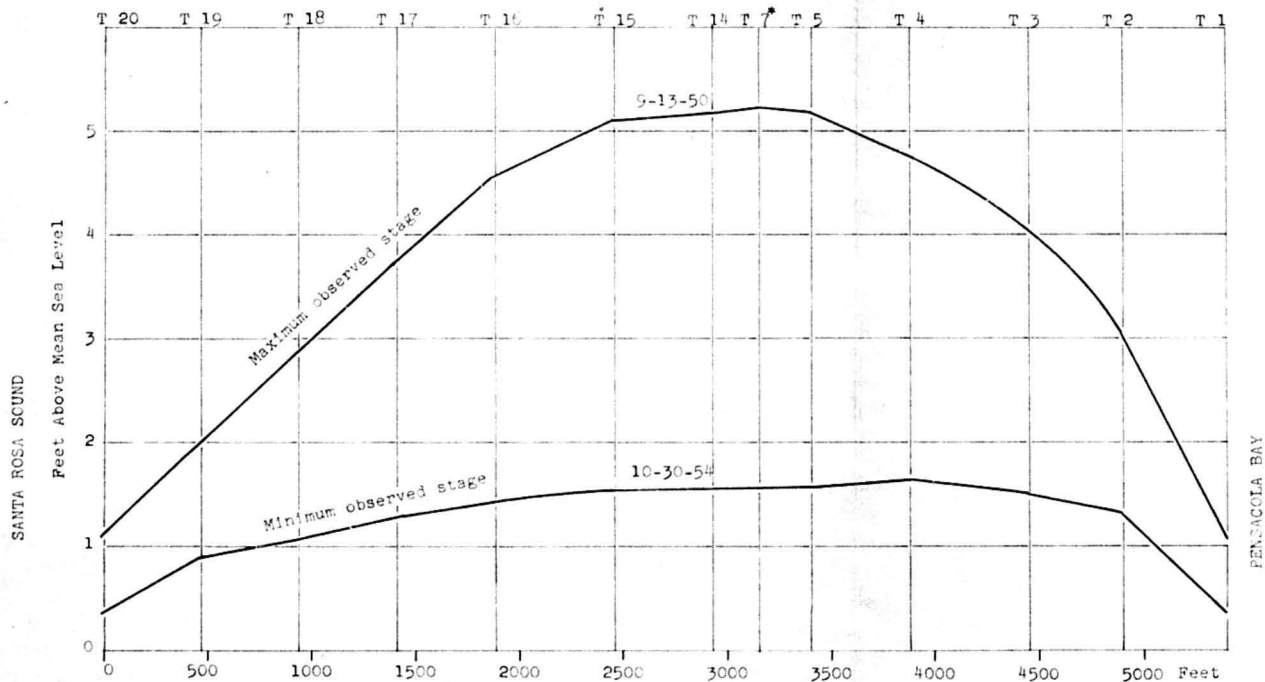
Sta 79

Santa Rosa Island



26-79

PROFILES OF THE WATER TABLE AND CHLORIDE CONTENT OF SELECTED TEST WELLS ON THE
WESTERN END OF FAIR POINT PENINSULA, SANTA ROSA COUNTY, FLORIDA



Test Well Number	Date of Sampling	Chloride Content (ppm)
T 1	8-24-50 10-30-54	29 2490
T 2	8-23-50 10-30-54	12 11
T 3	10-17-50 10-30-54	16 15
T 4	9-5-50 10-30-54	10 13
T 15	9-21-50 10-30-54	11 14
T 16	9-21-50 10-30-54	12 14
T 17	8-28-50 10-30-54	11 8
T 18	9-22-50 10-30-54	10 18
T 19	9-15-50 10-30-54	11 11
T 20	8-25-50 10-30-54	115 85

*T 7 is the number used in Florida Geol. Survey Rept. of Invest. No. 7.
New number of this well is Santa Rosa 102.

26

26-79