

PLEASE RETURN
TO
ACCOUNTING DEPARTMENT

DEPARTMENT OF THE INTERIOR
UNITED STATES RECLAMATION SERVICE
SALT RIVER PROJECT
ARIZONA

SUPPLEMENTAL HISTORY
FOR THE
CALENDAR YEAR 1914.

Embracing Chapters III, IV and V.

*Not complete,
(Photos not included)*

the construction of canals and laterals, the most important of which were surveys for the right of way for the construction of the Wallace-Feeder Canal, surveys for right of way for the laterals connecting the different pumping stations with the distributing system, surveys for right of way for the enlargement of the East Branch Consolidated Canal, and surveys for right of way for the construction of the Cave Creek cut-off. These surveys were made by the survey parties looking after the construction work.

H.M. Bargman, Surveyman, had charge of the Wallace-Feeder Canal; W.E. Jessup, Surveyman, had charge of the work on the East Branch Consolidated Canal and the laterals for the pumping plant connections; and L.R. Tillotson, Surveyman, had charge of the survey work on the Cave Creek cut-off.

ROOSEVELT RESERVOIR SILT SURVEY: A survey was made to determine the amount of silt deposited in the Roosevelt Reservoir. This survey was started in October, 1914, and completed in February, 1915. The party on this work consisted of H. Duberstein, Surveyman; C.F. Carney, Instrument Man; C.H. Buck and R.T. Johnson, Rodmen. A detailed report covering this work was made to the Chief of Construction, November 27, 1915, as follows:

"1. I am in receipt of your letter of November 23rd, in which request is made for report on the silt conditions of Roosevelt Reservoir, and the following is submitted:-

"2. There are attached hereto Drawings Nos. 500-31, 501-31 and 502-31. Drawing 500-31 shows the triangulation system, including the angles, courses and distances. The solid lines on this map simply indicate the triangulation system, while the dotted lines

indicate the line over which levels and soundings were taken in the determination of the amount of silt deposited. From the dam along the Salt River, as shown by the dotted lines, the sections were taken due north and south, and from the dam north along the Tonto Creek, sections were taken due east and west, up to Sta. 79. From Sta. 79 North they were taken in a northeasterly direction, while in the little neck immediately above the dam they were taken on a line at right angles to the two banks of the Salt River.

"3. This triangulation system was laid out by starting at the dam and running a line of levels from a bench-mark set in the middle of the dam on the roadway at a sea level elevation of 2141.47 or of the assumed dam elevation of 240.00 ft. From this bench-mark a line of levels was run around the reservoir on elevation 235.00 dam datum or high flow line. Bench-marks were set at approximately every half mile on conspicuous points of the reservoir. These bench-marks are concrete monuments 6" x 8" x 18" with brass tablets anchored in the top. The number of the monument is stamped on the tablet and corresponds with the numbers shown on the maps and profiles and also the elevation is stamped on the tablet to the nearest foot, sea level datum. The exact elevation of each bench-mark is shown on drawing 500-31, giving both the elevation based on the sea level datum and the dam datum. These concrete monuments are also used as stations in the triangulation system. Intermediate points were set in the triangulation system wherever necessary along the south bank of the Salt River and the west bank of Tonto Creek, the object being to get sufficient monuments that a line could be run across the reservoir about every quarter mile. As stated

before, these cross sections were run due north and south along the Salt River and as the monuments along the south bank were used as starting points it was necessary to set additional monuments on the north side at flow line and at the end of each cross section line. These additional monuments are tied into the triangulation system but do not have bronze tablets. The same is true of the cross sections across the reservoir along Tonto Creek. The monuments on the west side of the reservoir were used as starting points, the cross section carried across Tonto Creek and the monuments set at the flow line at the end of the cross sections on the east side.

"4. Drawing No. 502-31 is a series of cross sections of the reservoir taken as described above. The complete cross sections are not shown on this drawing, only the portions are shown here that were affected up to February 20, 1915, by the water in the reservoir. The complete cross sections are shown on drawing No. 502A-31 and this will be kept in the files of the project office to be used in case a future survey is made. By inspection of these cross sections, it will be noted that the deepest deposit of silt occurred immediately above the dam, ranging from 15 to 20 feet.

"5. Some of these cross sections seem to be inconsistent in that the ground line as determined by our levels and soundings seems to be lower than the original ground line. In a few cases the sides of the reservoir may have sloughed off but generally the discrepancy is due to errors in the original topography.

"6. Drawing No. 501-31 shows the original topography, the lines on which cross-sections were taken, the elevation of the bottom of the reservoir and the silt deposits, as indicated by the yellow coloring. The total silt deposit was computed and it was found that there was approximately 14,000 acre feet of silt. This is only an approximate estimate as there are a number of points upon which we cannot be absolutely sure. One is that the original topography was only taken on 10-foot intervals which is not close enough to make an accurate estimate of the present amount of silt. But in any future survey, by using the monuments that we have established on the ground, and taking cross-sections over the same lines, a fairly accurate estimate can be obtained. There is probably more silt in the reservoir than our estimate will show as the silt will undoubtedly deposit in the irregular places and the original topography was not taken on small enough intervals to take these into account.

"7. We have estimated that any future survey, using the monuments now established, could be made for a cost of about \$600.00."

FARM UNIT PLATS: In August, 1914, it was decided that the Farm Unit Plats for the Salt River Project should be completed. At that time it was very uncertain just how much of the necessary data for the preparation of these plats was on file in the project office. It was found further, by looking over some of the data on hand, that in a great many instances it was conflicting and a large part of it was unreliable; therefore, a plat was made of each section lying within the boundaries of the project upon which