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KEAMS CANYON DOMESTIC WATER SUPPLY

Funds in the amount of \$8,000.00 were turned over to the Irrigation Service for the construction of a domestic water supply for the Keams Canyon Boarding School at Keams Canyon Agency.

This work consisted of sinking a reinforced, octagon-shaped, concrete caisson to the depth of 48 feet in the Keams Canyon arroyo. Previous tests indicated that there was an abundance of water in the arroyo bed and that the porosity of the gravel would allow an overflow into the infiltration system at a depth of approximately 50 feet; however, the bottom of the arroyo bed was at 72-foot elevation below the normal ground surface.

The reinforced caisson was equipped with a 33-inch steel shoe in order to insure more rapid penetration and to insure proper seating in impervious stratas which were expected to be encountered in the bottom of the arroyo. The sinking of the caisson was accomplished by excavating the material on the inside by the use of an orange-peel bucket. Considerable trouble was experienced in sinking this caisson due to the excessive amount of water encountered which required constant pumping while the excavation was in progress. A supply of 14,000 gallons per day was obtained.

(Hopi Res. - A.R. - 1931, District #5, Pages 56 and 58)

ORAI BI DOMESTIC WATER SUPPLY

At the request of Superintendent Miller at Keams Canyon, funds in the amount of \$4,325.00 were turned over to the Irrigation Service for the development of a domestic water supply at the Oraibi Day School.

Water was developed by sinking a 12-foot diameter reinforced concrete caisson with steel shoe. Infiltration windows were provided by leaving apertures in the reinforced concrete caisson. The caisson was sunk to a depth of 63 feet and supplied 24,000 gallons of water per day. The concrete caisson was equipped with a 33-inch steel shoe in order that penetration may be more rapid and to prevent a free flow of sand from crowding in on the excavation. The material was excavated by means of an orange-peel bucket, using a double drum hoist equipped with a 16 HP motor to furnish the necessary power.