

Irrigation
Office Memorandum • UNITED STATES GOVERNMENT

TO : The Files

DATE: April 11, 1951

FROM : R. H. Rupkey, Hydraulic Engineer

SUBJECT: Regarding discharge of infiltration systems at San Ildefonso and Tesuque Pueblos.

For use in consideration of possible developments near Cornfields, Chinle and other places on the Navajo Reservation, the writer secured the following information regarding infiltration systems at San Ildefonso and Tesuque Pueblos in New Mexico.

San Ildefonso

The infiltration system for San Ildefonso Pueblo was constructed because surface flow usually ceases early in each irrigation season. However, the wide sandy creek bed stores a considerable quantity of ground water and also has an appreciable under flow.

The initial unit of the system was built some time before 1929 and consisted of 700 lineal feet of 12-inch tile, the large concrete walled sump, and two wells drilled in the bottom of the sump. A steel pipe line carried water from the sump to the San Ildefonso Day School.

In 1929 an additional installation was made to collect water for irrigation of Indian lands. The addition consisted of 1100 lineal feet of 15-inch and 1500 feet of 12-inch corrugated metal pipe leading upstream. The bottom of the pipe is perforated along its entire length. No special filter of gravel was installed, and a considerable inflow of sand occurred at first. The system has furnished an important supply during critical months for the gardens and small fields of the Indians. The U.S.G.S. record of discharge of the system for the irrigation season of 1947 is as follows:

April	51 acre feet
May	59 acre feet
June	61 acre feet
July	52 acre feet
August	40 acre feet
September	43 acre feet.

On a recent visit to the system it was noted that the flow appears to have decreased from former amounts. A check of past records and examination of the pipe at manholes might indicate if the perforations are becoming plugged.

An improvement on this system would be gates at each manhole to permit control of ground water storage.

4111
 WR _____

Tesuque

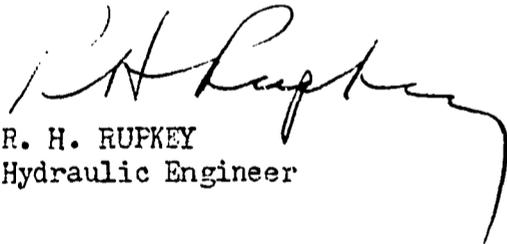
The Tesuque infiltration system was constructed to augment low flows in Tesuque Creek. It has been very successful.

The first unit of the system was installed in 1929 and consisted of a drainage canal, gated reservoir and several hundred feet of 12 inch perforated corrugated metal pipe.

During the middle 1930's another reservoir was built and additional corrugated pipe was installed.

The system now consists of 500 lineal feet of 15 inch perforated corrugated metal pipe, 530 feet of 9 inch perforated corrugated metal pipe, 830 feet of 15 inch and 2700 feet of 12 inch unperforated corrugated metal pipe, two reservoirs and several hundred feet of open drains.

The flow of the branch containing 500 feet of 15 inch perforated pipe is diverted to private lands three days per week. This diverted flow is measured by the U.S.G.S. and is about 28 acre feet per month, indicating a total of about 60 acre feet per month for this branch. The other branch flows somewhat less. With one gate in the pipe system and two reservoirs, there is fairly good storage for the system.


R. H. RUPKEY
Hydraulic Engineer

WR 4112