

ANNUAL REPORT

FISCAL YEAR

1912

H. F. ROBINSON

*Superintendent of Irrigation.*

ALBUQUERQUE, N. M.

*· JULY 1912 ·*

out this section, carried out practically every bridge in three counties, and it was estimated that the repairs on the Fourth Division of the D. and R. G. Ry. necessitated by these storms and floods would exceed One Million dollars.

In December high water did damage along the Rio Grande, and delayed river protection work then under way at San Felipe and at Cochiti. During May and June 1912, the Rio Grande reached the maximum stage of the past quarter century and did some damage to Indian ditches and to Indian lands along the river.

#### WATER RESOURCE INVESTIGATION.

Under direction of your office, special investigations were made with reference to possible water storage and water power sites that the same might be withdrawn from entry under the Act of Congress of June 25, 1910, and a full report was made of the three months special investigation on November 25th 1911 and a supplementary report a few days later.

No projects of any magnitude were found, and no recommendations for withdrawal of lands were made excepting in the case of Taos, as all other projects were entirely within the boundaries of the various reservations.

#### NAVAJO. Hogback Canal. San Juan.

During the past year practically no new work has been opened up on this project. At the close of the last fiscal year there was considerable work which had been started but was incomplete. Then came the floods with the accompanying damage and the entire work of the year has been confined to the head section and building the cutoff already mentioned and miscellaneous work in the first six miles of the canal.

After the damaging floods the Chief Engineer detailed Inspector Hill to the work, and after a thorough examination the additional work necessitated

*Has a map of suspected lands at Taos - 1912  
of wells on Navajo/Hopi res.*

limited number of men available to put in charge of construction work these repairs have not been made, but it is hoped they will be early in the new fiscal year.

CANYONCITA NAVAJO.

It was hoped that a chance existed for storing water for this little band of Navajos under the Albuquerque School jurisdiction, and an examination was made early in the year. Two reservoir sites were found but neither of them would justify the cost of construction.

NEAR TOHATCHI.

Investigations were made of a proposed reservoir site near Tohatchi N. M., and a careful examination shows that it would take a dam 80 feet high for a storage of 3000 acre feet of water; that there was no living water; the amount of storm water was problematical and that the cost of the project would run to about \$65 per acre. Under the conditions and the questionable amount of water available, I reported adversely.

SOUTHERN UTE. (Allotted).

About the beginning of the last fiscal year, authority was granted to purchase what was known as the Dr. Morrison Ditch on the west side of Pine River, which was to be enlarged to carry water to allotted lands of the Southern Ute Indians.

This ditch, which it is claimed, has cost in its present condition, about \$25,000. was purchased for \$15,000. Deeds were prepared and an abstract furnished which was submitted to the Indian Office. Since that time, the papers have been returned several times, and at present, the sale has not been concluded as the still will not pass muster at the office of the Attorney General. The additional information and corrections now asked <sup>for</sup> will

few feet wide between the railroad embankment and the river. To prevent further damage, a dyke was built across the head of this particular channel which while it did not stop the entire flow of water, prevented any large amount impinging upon the bank at this point. As further cutting at this place would have damaged the railroad, I secured their cooperation in furnishing material and they delivered 250 cu. yds. of stone at the nearest point to the work, free of charge.

#### Tesuque.

On the representation of Mr. Wilson, Special Attorney for the Pueblo Indians, that there was a suit pending for the adjudication of the waters of the Tesuque, and that it was necessary to have a map showing the ditches and lands cultivated therefrom, a plane table survey was made and a copy furnished Mr. Wilson for his use in the pending litigation.

Copies of this map were sent you and the Indian Office December 19, 1911.

#### Paguete.

Investigations were made at this pueblo for supplying the Indians with a domestic supply of water. A full report with estimates was submitted to the Office in October 1911, but no instructions have been received regarding construction.

#### Laguna.

The dam across the Rio San Jose at Mesita which was badly damaged by the floods of last fall was repaired during the winter and early spring.

#### Taos.

In December I made a report on the proposed water storage at Taos with the recommendation that additional investigation be made and a complete report rendered. The necessary surveys and field work have since been com-

#### UNDERGROUND WATER DEVELOPMENT.

The most important work being conducted in this section is undoubtedly the development of underground water in the Navajo and Moki Reservations.

This country is what is known as the "Painted Desert" region, and is extremely arid.

The scanty and unfavorably distributed rainfall, great areas of drifting sands, vast lava beds, irregular topography of mesas and canyons, brilliant sunshine, drying winds, all are factors in making this a region of unsatisfactory and meagre water supply.

The absence of any considerable streams in this region, the small rainfall and almost entire precipitation during April, May, June and often into July precludes placing dependence on rainfall to supply water for stock or for irrigation.

Because of these conditions it was determined to develop water over such parts of the country as would be possible, by means of well drilling and the development of springs and seeps where practicable.

Two years ago a well rig was put in the field, and later a second one of less size and capacity was built, for use in smaller and shallow wells. The success met with was so encouraging that two more were authorized during the past year, were constructed and put into the field, and a fifth has just been decided upon for work in the Pueblo region of New Mexico.

It is difficult to predict where water will be secured, though it is often very evident where it cannot be found, and often the most promising site will prove to have no underground water.

The examinations made by the Geological Survey, and the special maps furnished by them have been of great assistance, but the predictions made

also built ten stone and concrete tanks at various walls, and has the material on hand for a number of others to be built soon.

EMPLOYEES.

I again wish to acknowledge my indebtedness to the employees under me for the efficient and faithful way in which they have done the tasks assigned to them. With employees scattered over such a large territory, where they can be visited and the work inspected at considerable intervals of time, there is every chance for them to show the metal they are made of, and I can say that without exception they have done the best possible under the circumstances and have given good faithful services.

There are annexed hereto photographs, maps, diagrams and cost data sheets which form an important part of this report.

Very respectfully,



Superintendent of Irrigation.