Report on Reservoir at Ganado, Arizona.
H. Sanders.

COPY.

DEPARTMENT OF THE INTERIOR
UNITED STATES INDIAN SERVICE
OFFICE OF CHIEF ENGINEER (IRRIGATION)
522 BUMILLER BUILDING
LOS ANGELES, CAL.

OFFICE OF INDIAN AFFAIRS
RECEIVED
OCT 24 1910
85059

October 6, 1910.

Mr. W. H. Code,
Chief Engineer, U.S.I.S.,
Los Angeles, California.

Dear Sir:-

I have made a personal examination of the proposed reservoir site and storage proposition for the Navajo Indians near Ganado, Arizona.

At the time of my visit the Rio Pueblo Colorado, the stream from which the water for this reservoir would be taken, was practically dry, but from an examination of the stream bed and traces on the banks showing high water flow, it is self evident that there is a period of large stream flow. I was informed by Mr. J. L. Hubbell, who has been a resident of that section of the reservation for thirty years, that in addition to the flood flow there is a considerable winter flow, and that the winter flow is absolutely free from silt. How large this volume is I cannot state, as there are no measurements available.

Intake:

The proposed intake at the rock reef was carefully examined, and Mr. Robinson and myself, from this examination, and from examinations of points above this reef are satisfied that

REPRODUCED AT THE NATIONAL ARCHIVES

this is the preferable point for diversion, I outlined on the ground what it would be necessary to do and the contour elevation for the inlet to the proposed reservoir. Mr. Robinson will prepare preliminary plans and present them to you at a later date, as further surveys are necessary. The canal from the intake to the reservoir is but a short distance and need not be very expensive.

Reservoir:

The site for this reservoir is very satisfactory, there being good impervious bottom land and first class material for the earthen dam in the immediate vicinity of each section of the work. To guard against burrowing animals in the dam, it is deemed advisable to construct this work in such a manner that both upper and lower faces of the dam will be covered with crushed rock. Rock is available in the immediate vicinity of the dam.

The reports of Superintendents Robinson and Martin cover all data in regard to the capacity of the reservoir, at different elevations, also proposition of Mr. Hubbell in regard to the water rights and construction of the dam and canal. I shall not repeat the same.

An examination of Mr. Hubbell's canal by Mr. Robinson and myself satisfied us that if the project is favorably considered, it will be advisable to use the location of the present canal. It is not a difficult line to reconstruct, but cross drainage must be provided.

The lands in this part of the reservation are very good,

REPRODUCED AT THE NATIONAL ARCHIVES

and the Indians have some lands under water, but it is self evident that a very much larger area might be irrigated should the stream flow be controlled. Like nearly all Arizona streams, undoubtedly there is much silt in the flood flow.

The proposition is good, if Mr. Hubbell is right in regard to the stream flow.

(See Engineer Martin's report on information gathered in regard to the stream flow from other parties interviewed by him).

Very truly yours,

(signed) W. H. SANDERS,
Consulting Engineer.

WHS/HPC.

REPRODUCED AT THE NATIONAL ARCHIVES

NN007987