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DEPARTMENT OF THE INTERIOR,

United States Indian Service.

Western Navajo Indian School,
Tuba, Arizona, March 18, 1908.

Subject: Completion of dam and ditch and irrigation of fields in Moen Copi Wash.

Hon. Commissioner of Indian Affairs,
Washington, D. C.

Sir:

I have the honor to report that I have built a dam, excavated a ditch, and have the whole flow of the Moen-Copi wash irrigating the fields purchased from the Mormons & which have not been irrigated since August 26th, 1905.

From the dam site I excavated 900 feet with a depth of 8 to 10 feet, 5 feet on the bottom and 40 feet at the top, to a junction with the old Mormon ditch, from whence it is 1600 feet to the head gate at the entrance to the fields. This old ditch was badly washed and in places filled, necessitating a good deal of scraper work, and a fill of 15 feet to get the water up to grade.

The dam is rock and brush laid up in layers to a height of six feet above water level, and backed by an earth fill two feet higher than the rock. This the first freshet will wash off but I am in hopes the rock wall and the fill behind it will stay as the rock is built on a rock ledge which reaches across the wash. The dam is 170 feet long. The main headgate is 207 feet from the dam at the point where the banks are highest and afford the best protection against high water.

The expensive transit with level attachment in the office here is out of adjustment, so I made a level out of 3/4" pipe. Four feet of pipe is provided with an elbow at each end and a leg in the

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middle which is sharpened to be thrust into the ground. Into the elbows are insrted glass tubes, and the four foot horizontal piece of pipe is filled with a colored fluid which finds its level in the glass tube giving two level points four feet apart for sighting. With a rod and target this is good enough for short distances.

The ditch has a total length of 2500 feet, and the water flows through it with a steady even current which does not wash the banks nor allow sediment to deposit.

I have required the Indians to work out the wagons and harness issued them on the ditch on team and scraper work and manual labor. At $2.50 for a team and driver and $1.00 per day for manual labor their work amounts to $480. The value of the work done by the agency and school teams and employes amounts to $705. or a total cost for the whole project of $1185.

On March 1st, 1906 Mr. George Butler submitted an estimate and plan for a permanent dam and ditch amounting to $5520.38. His estimate for excavating the ditch alone was $1594.22 or over $400 more than I have expended in the entire work. The total cost of his ditch and headgate was to be $2548.30 and mine is as good a piece of work as he or any one else could have done. His dam was to cost $2972.08 and was to be permanent, which is questionable no matter what the construction is. So, if my dam goes out, I can replace it several times for the estimated cost of his.

Mr. Butler's estimate seems to have been the only effort made to get the water on the valuable alfalfa fields and orchards purchased from the Mormons, since August, 1905.

Most of the fruit trees are beyond recovery, but the alfalfa has survived in a wonderful manner. I hope to have penty of hay

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the coming season and shall plant corn extensively. It is now too late to plant any of the smaller grains here with any hope of success.

In another communication I am asking for authority to employ Indian labor to care for the water, and to plant and irrigate what crops the use of the water will permit.

I enclose sketch and views that will help explain the nature and extent of the work done.

In this connection I desire to call attention to Office letter of Feb. 13, 1908, Field Work 8595-1908 and to the following paragraph therein:

> "Chief Engineer Code, however, will be requested to make the investigation in person or through a subordinate, in case Mr. Harper is unable to do so, in order that there may be no delay in the matter."

and to request that the investigation referred to be made as soon as possible so that I can make plans and get the matter in shape to do something next fiscal year. The senseless waste of water here is simply pitiable.

There is a world of work to do here developing and storing water, and this is the most industrially important work that there is to do in the length and breadth of this immense reservation.

Very respectfully,

Stephen Janus,

Superintendent,

P. S.

The above work was commenced Tuesday Feb. 18th and water was turned in the completed ditch on Saturday March 14, 1908.

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