



SECURING COOPERATION OF THE INDIAN.

The Indian Irrigation Service has been confronted, as are most other branches of the Service, with the necessity of doing a large amount of work with the minimum amount of money if the work is to be done. The Supervising Engineer has also been confronted with the question of deciding which of several jobs which might appear to be of equal value to do at a given time when the funds were sufficient for only a part. He has also noted that the more help given or the more money expended as a gratuity, the more the recipient expected and demanded.

As a solution to these questions and problems a start was made in this district to have the Indians cooperate in the work. If the Indian desired a piece of work done sufficiently to give of their time and labor, it was an indication that they desired the results of the labor and consequently would make good use of the completed work.

Commencing in a small way at Zuni, when the project was first completed, the Indians

REPRODUCED AT THE NATIONAL ARCHIVES

were taught that the annual cleaning of the entire system must be done by them without pay before water would be turned into the canal. This is now so well understood that there is no delay in getting the men on the work when they are advised that the time for the spring cleaning has come.

In the well drilling and spring development on the Navajo Reservation the Indians were told that when they wanted a well in any particular place or their spring developed they would be expected to donate some of the labor, such as helping move the rig, hauling water, fuel, etc.

But the greatest advance in making independent and self respecting citizens who wanted to help themselves has occurred in the Rio Grande Pueblos.

Beginning back a number of years ago this office began the campaign and followed it out along these lines. The Indians of any pueblo would come to the office or to the engineer in the field with a request that we do a certain piece of work, or we would decide that a certain bit of construction or repair was necessary. The Indians would then be told in substance:

that only a limited amount of money was available for this work for all of the Pueblos, and that if we paid for all the material and the labor, only a small fraction of the work could be done, but if they would donate a portion of the labor, just that much more work could be done each year. They would further be told that we understood that they could do nothing toward the work other than give some labor, and it was recognized that they were poor and needed enough money to buy some food and feed for their teams. The Government would purchase all of the material and pay for the engineering superintendence and skilled labor, but when it came to the actual unskilled labor, they would be expected to give their time for a nominal figure receiving only sufficient pay to carry them through with food. This was usually set as one-third pay - or in other words, every Indian who went on the payroll would work three days for each day's pay given him, and as even under such circumstances we could not do all of the work desired, the pueblo that would furnish the most labor or show that they were the

most in earnest would have the first assistance in the work.

In the beginning, close records, or none at all, were made of this donated labor, but during the past year more careful account has been kept.

Has the plan worked? During the fiscal year there has been work donated in the Pueblos of \$12,181.30 or with the expenditure of \$25,172.26 for construction, work to the value of \$37,353.56 was accomplished and on the other projects we have record of \$4513.50 not including Zuni and Ganado. The Pueblo Indians have now begun to believe that this is the only proper method and have surprised the Superintendent in charge of the Pueblos by asking for other and non irrigation things and volunteering the labor necessary.

Of course the plan of requiring donated labor is not followed out in the same detail in all cases. Some work is done for small bands of Indians who are so poor and have so little for themselves and their families that they cannot donate much of their time from their work in getting food for their families,

so the donated labor is on a sliding scale in accordance with the abilities of the individual groups of Indians. In some cases they have donated full labor as at Kin Le Choe, and later when the work has proven more than anticipated and their food surplus exhausted, as is often the case, they have been paid in full for their later labor.

It is believed that this plan of requiring a certain proportion of donated labor on all work, to prove the interest of the Indian in the work being done for them, will expand rather than contract, and the Indian educated from the habit of being a beggar to a self respecting citizen who is doing all in his power to help himself.

GANADO

With the small amount of money allotted to this project, nothing but operation and maintenance can be done. Repairs to flumes 3 and 8 were made. The end of flume 5, which suffered damage in a heavy rain storm, was put in commission immediately, two water bridges carried out by high water were replaced, and flume 6 rebuilt.

Plenty of water has been kept in the reservoir and more land could have been placed under cultivation if funds for the repairs of damages which occurred during storms of 1923 and 1924 had been furnished.

The Indians are taking renewed interest in this project and with the assistance of Superintendent Duclos all of the land under the project can be located as soon as the funds for the repairs can be had. They had not been appropriated for the year 1926, but it is hoped they will be forthcoming for 1927.

KIN-LE-CHEE.

As reported in last year's annual, the dam that was being constructed for this project was badly damaged by a flood which came before the dam was quite completed. Commencing with this fiscal year, its repair was undertaken and it was completed in November. The project then lacked the construction of two high flumes material for which had already been purchased and the work has been practically completed during this year. As this is a small project and the Indians living under the project have been doing the work, the lack of numbers has been a handicap and the work has progressed slowly. For several months during the winter no work could be done on account of cold and storms and early in the spring it was necessary to practically stop work to allow the Indians time enough to put in their crops. Owing to the slowness of construction, the overhead has been a little high but the land under this project will be put to immediate use by the Indians and they have shown by the large amount of labor donated that they are in earnest and anxious to have the work done.

MOENCOPI WASH.

The Moencopi Wash carries immense quantities of silt and after every rise in the stream the head section of the canal constructed to water the Agency farm and Indian lands near Tuba, has been completely choked with mud, necessitating heavy expenditure to remove the material and much loss of time because it would be necessary to wait several weeks sometimes before the mud was solid enough to handle.

A couple of years ago a waste gate was placed about 1600 feet from the head some 7 feet below the grade of the ditch and it was expected that there would be sufficient water that could be wasted to erode the upper section establishing a new grade which would take care of a greater portion of the deposit. Because of lack of water and lack of knowledge on the part of those who had charge of the ditch, this result was not accomplished and it was determined to excavate again and put in a concrete lining with the belief that very

small quantities of water would then dispose of the silt. As this ditch was partly for the Agency and school farm, authority was asked for funds in proportion to the area the farm bore to the Indian lands. This was allotted to Superintendent Meyer who turned the work over to this office. Excavations from the head gate to the waste gate on a true grade were completed and the entire section lined with concrete, completing the work this spring.

It is believed that with ordinary care this head section can now be kept free of silt and considerable expenditure for excavation saved, as well as losses to crops from lack of water at times when the ditch was sealed with this deposit.

No other work was done on this project during the year and none is contemplated for the coming year unless conditions make it necessary.

NAVAJO AND HOPI WATER DEVELOPMENT

The continued drouth has shown with increasing force the value of the water development in this country. With less than one-half of the normal rainfall for the past year and a continuous deficiency in precipitation for about three years, the Navajo and Hopi Indians would have been in a very bad situation if it had not been for the development done by this Service.

Owing to the demand on the money available, and the completion of well drilling in proven areas, work on well drilling was slowed down and particular stress was laid on further spring development in sections not heretofore worked. Three parties were in the field doing this work and the following was accomplished: Western Navajo, 3 springs, 3 reservoirs for storm water, and one dug well.

Leupp Extension, 4 springs.

San Juan Jurisdiction, 8 springs, 7 dug wells and 1 large concrete trough at existing water. Hopi Reservation, 1 spring and the water catch on the Second Mesa completed. In all, 28 new watering places brought into use.

Blue prints showing the development of these various places are included in this report.

In a number of places there were seeps, but entirely insufficient to give up any water for use. At these points shallow wells were dug and the water developed at a lower elevation and successful watering places developed.

In another part of this report the donation of labor has been touched upon. In the development of these springs and wells the Indians have donated a considerable amount of labor. Our records show:

Western Navajo	Donated labor	\$366.
Leupp	" "	86.
San Juan Navajo	" "	733.
Hopi	" "	1036.

or a total of \$2221.00. A very creditable showing for Indians as poor as are these.

In well drilling, Well Rig No. 7 was operated in the Marsh Pass country until December when work was discontinued and the crew laid off so that the spring development work would be continued as the results were greater for the money expended. Rig No. 9 was also closed down a short time later for the same reason. This rig is work-

ing on a deep well on the San Juan jurisdiction and water was already flowing over the casing and it should be completed early in the next fiscal year.

The Operation and maintenance work has continued with the O and M crews stationed at Chin Lee and at Polacca. Owing to the alkali water in many sections, the steel tanks we have been using are rapidly going to pieces. In the early days an attempt was made to build concrete tanks, but in most sections no sand or gravel could be found. Within the past year a small rock crusher which we operate with a Ford car or one of the trucks, has been purchased and it is found that in most sections fairly good rock can be found, which when crushed make good aggregate for concrete. In the O and M work it is now contemplated replacing the rusted out steel tanks with concrete, hoping that they will have a longer life. To avoid action on the concrete by the alkali water it is proposed as rapidly as they are finished to paint them very thoroughly on the inside with asphalt, making them entirely water tight and protecting the concrete from the harmful salts.

The water development work will be continued during the coming year. The O & M work which cannot be neglected will occupy first place in importance. Particular stress will be laid on further development of springs, seeps and other development of a like character as we are now entering sections not previously worked and it is important to develop all of the known water first, and then fill in with the well drilling. Well Rig No. 7 will not be put into commission, at least not until late in the year, and then only if we have sufficient money. Rig No. 9 starts up again July 1st and will continue during the year on the San Juan jurisdiction.

I wish to mention the good work done by the organization under Mr. Womack, engaged in this work. The work is difficult and most men would not undertake it. It means long days of work under the most adverse conditions. Scattered out, one or two men with Indian labor, much of it donated and therefore undependable, spend days in a most un hospitable country where they lie out at night, do a full day's work and then cook their own meals over a camp fire; haul their water for miles perhaps and do their work

under most difficult conditions and entirely isolated for weeks at a time. The work they accomplish with all the conditions against them, and the fact that they stay with their job week after week and month after month, accomplishing a maximum of work with a minimum of money and equipment indicates that their hearts are in their work. They are not clock watchers nor stickers for a seven hour day. Many days their hours are all the hours of daylight on the work and long drives at night that they may be on another job in the morning. Too great praise cannot be given them.