

Education-Employees
50312-1913
C A B

Engineer.

FOR FILE

MAY -7 1913

Mr. H. F. Robinson,

Supt. of Irrigation.

Sir:

With reference to Department authority No. 50312, authorizing the establishment of one position of Engineer at not exceeding \$10 a day and subsistence, for a period of not exceeding 30 days, under your jurisdiction, you are requested to advise the Office by letter of the name and date of entrance on duty of any person you have employed or may employ under this authority.

The date of entrance on duty and date of separation should also be reported on your regular report of changes in employees.

Respectfully,

(Signed) F. H. Abbott.

Acting Commissioner.

5-WJ-5.

RECORDED

Education-
Industries
111139-12
LWA

April 10, 1913.



J U S T I F I C A T I O N

On the Western Navajo Reservation, in Arizona, a farm known as the Moencopi Wash Farm is conducted for the dual purpose of maintenance of the School and Agency, and for demonstration purposes. A dam has been constructed in the Moencopi Wash to divert the water necessary to irrigate this farm, which consists of about 240 acres, and adjacent Indian lands of about 400 acres. About a year ago, a freshet washed out a gap of some 40 feet and the farming interests of the School and Indians have suffered greatly since that time. This is the second time this dam has broken, and it is desired to send to the reservation a thoroughly experienced engineer to supervise the repair work.

There is no engineer in the service available, at the present time, and it is desired to employ a competent temporary engineer at ^{not exceeding} \$10 per day and subsistence for a period ^{of} not to exceed 30 days.

4-MR-10

John Brown
Chief, Education Division.

Education-
Employees.
111139-1912.
44810-1913.
C A B

DEPARTMENT OF THE INTERIOR

WASHINGTON

APR 21 1913

File

Authority.

The Commissioner

of Indian Affairs.

FOR FILE
OFFICE OF INDIAN AFFAIRS
APR 22 1913
50812
DEPT. OF THE INTERIOR
20

Sir:

Authority is hereby granted for the establish-
ment of one position of engineer at a compensation of not
exceeding \$10 a day and subsistence, for a period of not
exceeding thirty days, under the jurisdiction of H. F.
Robinson, Superintendent of Irrigation, payable under
general authorities as applicable, effective this date.

B

Respectfully,

Samuel D. Taylor
Assistant Secretary

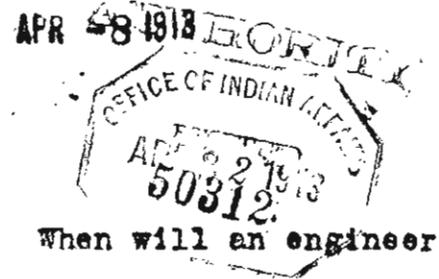
4-AAC-15.

Posted
Auditor
Copies to Dept
Robinson
Irrigation
4/25/13

TELEGRAM R
Alberquerque,
Supt. Irrigation.

Education-
Industries-
41116-1913
L W A

Robinson, Supt., Irrigation,
Alberquerque, New Mexico.



Your letter March thirty-first. When will an engineer
be available to repair Moineopi Wash Dam.

POSTAL

4-AS-8

FOR FILE.

Government
Night Rate

C. G. Huber
Acting

TELEGRAM 2

Education-
Industries-
41116-1918
L W A

Alberquerque
Supt. Irrigation.

APR -7 1913

Robinson,

Supt., Irrigation, Alberquerque, New Mexico.

50312

Your letter March twenty-six. If engineer will not be available to repair Moencopi Wash Dam in time to provide water for crops wire amount needed to employ outside engineer.

POSTAL

4-AS-7

C. Hauke

Government's
Night Rate

Acting

Education-Industries
14207-1912
36533-1913
L W A

5-1148

DEPARTMENT OF THE INTERIOR

UNITED STATES INDIAN IRRIGATION SERVICE

Moencopi Wash
Farm, etc.

SUPERINTENDENT OF IRRIGATION

Albuquerque, N. M.

March 31, 1913

Commissioner of Indian Affairs,
Washington, D. C.

Sir:

I have your letter of March 25th, numbered as above, relative to the repairs of the Moencopi Wash Dam, stating that Mr. Newhall's telegram of March 19th, did not give the required information.

On my return, I wrote you under date of March 26th, in which I explained why no work had been done there as yet and suggesting that if the Office desires immediate action, I would request that I be given authority to employ some engineer I could pick up locally to superintend the repairs, as that is the only method I could think of getting immediate action.

All of the engineers, with one exception, that I have are detailed on special work or permanent work and can not be spared for this as it would necessitate closing down other work.

The one exception is on smaller details and I do not feel that he is the proper man to send in as the conditions on this stream are such, that after the several failures, I would want to put on a man who had had considerable experience in this class of work.

E. J. [Signature]

CHIEF ENGINEER
RECEIVED
APR 5 1913
U. S. INDIAN SERVICE

ALBUQUERQUE
OFFICE OF INDIAN AFFAIRS
APR 2 1913

RECEIVED
APR 5 1913

If the Office approves of this suggestion, I would request authority for the employment of such a man. No additional funds will be required.

As the plan of the repair work has already been approved by Acting Chief Engineer Granville, I presume a special report on this subject will not be required.

Very truly,



Superintendent of Irrigation.

DEPARTMENT OF THE INTERIOR
 UNITED STATES INDIAN IRRIGATION SERVICE
 SUPERINTENDENT OF IRRIGATION

Albuquerque, N. M.

Commissioner of Indian Affairs,
 Washington, D. C.

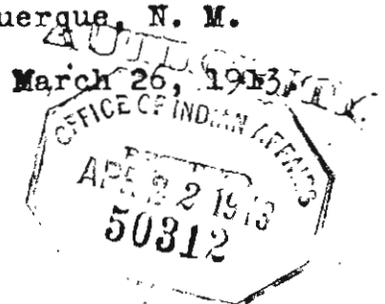
Sir:

Your letter of March 19th, asking that a report regarding repair of dam across Moencopi Wash, near Tuba, be submitted, received during my absence and my chief clerk wired that I was absent. I also had a copy of a report by Charles L. Davis, Superintendent of Farming, dated March 15th, relative to the same thing.

I have not had a man available to go in there this spring, either to make an estimate of the cost or to make repairs. I had received directions from Acting Chief Engineer Granville to make repairs as soon as I had a man available and had expected to begin work there at an early date and had intended to send in the man who is now making the investigations in the Montezuma Valley as soon as he had completed that detail. I have no other man available whom I would trust with the work as the conditions there are very unfortunate regarding maintenance of any dam in the stream.

I received a card from Supt. Sullivan from Tuba in February, asking when I expected to come in to investigate the matter and I replied to him, February 10th, that I awaited such

Field. J. ...



a time as I might have an engineer available and that I understood the conditions as I had visited there since the dam was damaged and that I had it on my list for work this spring, if possible.

9 | If the Office desires immediate action, I would request that I be given authority to employ some man whom I can pick up in this section of the country to superintend the repairs as that will be the only method I can see of getting immediate action.

Very sincerely,

H. J. Robinson

Superintendent of Irrigation.

unread

Education-
Industries-
104207-1912
36533-1913
L W A

MAR 25 1913

Moencopi Wash Farm, etc.

Mr. H. F. Robinson,
Superintendent of Irrigation.

RECEIVED
OFFICE OF INDIAN AFFAIRS
APR 2 1913
50812

Sir:-

FOR FILE

Your letter of January 16, 1913, gave the im-
pression that you would detail an engineer to make an in-
spection of ^{the} present condition of the Moencopi Wash Dam,
after which you would submit estimates for making necessary
repairs. On March 19, 1913, the Office telegraphed to
you asking when a report in regard thereto would be sub-
mitted, but the reply received from Mr. Newhall did not
give the desired information.

It is important that prompt action be taken
to repair the damage done to this dam in order that water
may be furnished for irrigating the crops on the Moencopi
Wash Farm this season. You are, therefore, requested to
give this matter prompt attention and submit your esti-
mates and report at the earliest practicable date.

Respectfully,

J. H. ...
Acting Commissioner.

3-AS-25

THE WESTERN UNION TELEGRAPH COMPANY

INCORPORATED

25,000 OFFICES IN AMERICA. CABLE SERVICE TO ALL THE WORLD

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THEO. N. VAIL, PRESIDENT

SELVIDERE BROOKS, GENERAL MANAGER

RECEIVED AT

62WDE 37 COLLECT GR

S. W. COR. 7TH & F. N. W.
TELEPHONE MAIN 3288

ALBUQUERQUE NM MARCH 20--1913.

COMMISSIONER INDIAN AFFAIRS,
WASHINGTON, D.C.

OFFICE OF INDIAN AFFAIRS
RECEIVED
MAR 20 1913
36533
7pa

YOUR WIRE YESTERDAY SUPT ROBINSON I ABSENT COLORADO NO MONEY
IS AVAILABLE FROM SUPPORT OF INDIANS FOR WELL DRILLING AT PUEBLO
NONTIO SEE LETTER OF MARCH THIRTEEN

AUTOMATIC
OFFICE OF INDIAN AFFAIRS
APR 22 1913
50312

NEWHALL CHIEF CLERK

122PM

End
240
5-0

TELEGRAM 2

Education-
Industries-
25644-1913
22559-1913
L W A

IRRIGATION

MAR 19 1913
OFFICE OF INDIAN AFFAIRS
50212 2 1913

Robinson, Supt. of Irrigation,
Alberquerque, New Mexico.

Your letter January sixteenth. When will report regarding
repair of dam across Moencopi Wash near Tuba be submitted.
Can you spare any money from Support of Indians in Arizona
for well drilling at Pueblo Bonito?

West. Union

FOR FILE.

S-AS-19

J. H. ...

Acting

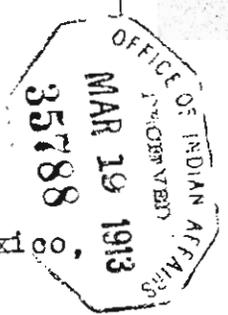
DEPARTMENT OF THE INTERIOR

Moencopi Wash
Farm, Western
Navajo Reserva-
tion.

UNITED STATES INDIAN SERVICE

Albuquerque, New Mexico,

March 15, 1913.



11139-12
104207-12

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



Sir:

Under date of October 16, 1912, I submitted you report relative to the Moencopi Wash Farm on the Western Navajo Reservation and the future needs of that reservation in the way of irrigation. I am now in receipt of a letter from Superintendent W. T. Sullivan, under date of February 22, saying that nothing has been done relative to the re-establishment of the diversion dam for this farm and urging that the dam be replaced before the present crop season comes on if such can possibly be done.

Inset
Inset

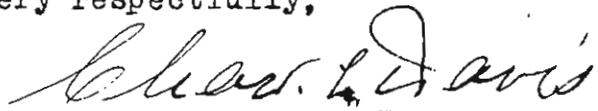
I have just been to the office of H. F. Robinson, Superintendent of Irrigation for this district, to confer with him relative to the project but found that he is absent and will not be back for several days. I was told at his office that nothing definite has been determined, from which I infer that unless some action is taken by the Office this dam will not be replaced for the coming season.

Comm.-2-

From my report referred to above it will be seen that this dam serves to water the agency farm which is used for maintenance purposes and for demonstration and would also water about 200 acres additional to be used by the Indians in case the dam can be kept in. The report further shows that forage cannot be had from the Indians and if not produced on this farm it will be necessary to import from the railroad for agency purposes, which will be an excessive expense.

In view of all these conditions, I earnestly recommend that the Office take this matter up immediately and if funds are available that Superintendent Robinson be directed to begin operations with a view of reestablishing the dam for the present season.

Very respectfully,



Supervisor of Farming.

Copies to Superintendent
Sullivan and Superintendent
of Irrigation Robinson.

C.L.D. (SOS)

Albuquerque, N. M.

January 15, 1913.

Mr. H. F. Robinson,

Supt. of Irrigation,

Albuquerque, N. M.



Sir:

In reference to the letter of Mr. Chas. L. Davis, about the improvement of the Moenave Springs, about six miles beyond Tuba, I will say that in May, 1908, I visited Moenave, measured the springs there and reported to you that month concerning them.

The appended print is a sketch map of the springs as found at the time of my visit.

Numerous small springs issue from the cliffs for a distance of several miles northwest of Moenave.

The largest flow is at Moenave, the measurement showing a combined flow of 72 gallons per minute, about $1/6$ of a second foot. About enough as I remember from the character of the soil, to irrigate only a few acres unless properly improved.

About eight or ten of the larger springs beyond Moenave were then being used by Indian families for irrigating small plots of corn, etc., and some fruit trees. As the small flow of the springs would soon seep away and disappear in the sandy soil, the Indians, in every case, led the water into small impounding reservoirs, holding from several hundred to several

thousand gallons. When the reservoirs were filled, the water was released and the plots irrigated with the irrigating head obtained from the impounding reservoirs watering the land to good advantage by applying a volume of water suddenly.

The gardens were terraced on the hillsides as most of the springs issue from points well up on the bluffs.

At the time of my visit, I did not see that anything could be done with these small springs, unless it would be to give the Indians materials for small flumes, headgates, conduits and loan them tools for constructing larger and better storage reservoirs. All the desirable places were used by the Indians and some of their schemes showed considerable ingenuity.

At Moenave, the original Mormon owners had farmed about 35 acres, but the Indians had let the orchards, vineyard, and alfalfa plot be ruined by lack of water and cultivation, using only a small plot of ground for corn.

At Moenave, the arroyo containing the springs, drains quite an area and showed signs of being subject to violent floods. This would seem to render impracticable any storage scheme in the arroyo itself. The advisable plan would appear to lead the water to a storage reservoir in suitable conduits, as the loss in earth channels is enormous, owing to the sandy soil.

By building a reservoir, of say 50 acre foot capacity which would hold about five months flow, a total yearly flow

of 120 acre feet could be made available. This is about enough, in my opinion, to water 40 to 50 acres at the most. The flow of the springs might be somewhat more in normal years, as when I made the measurement, it was during a long, dry spell.

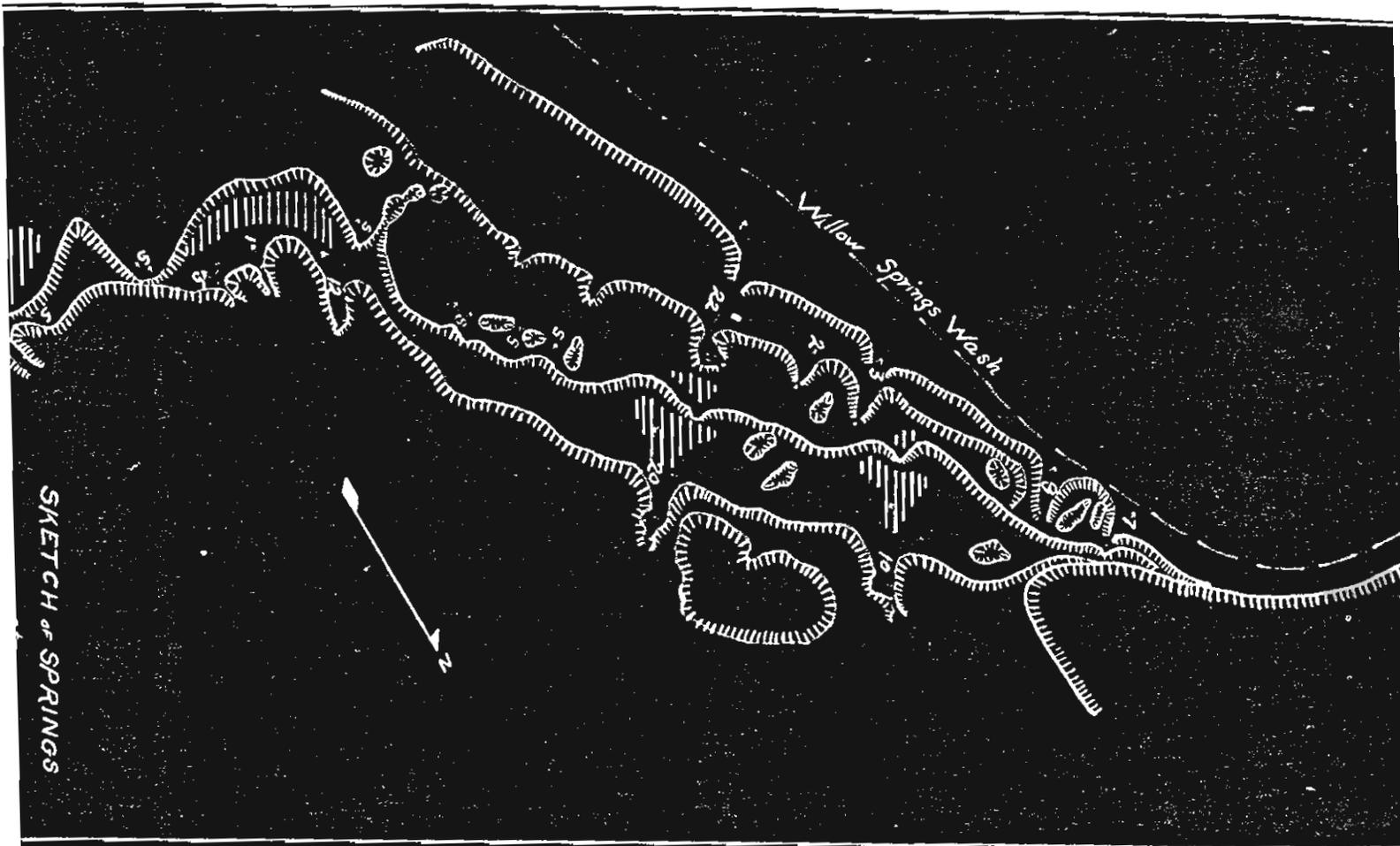
Any scheme would be very expensive, first: because no suitable impounding reservoir site is available; second: because of the excessive cost of all materials and supplies.

Due to the expense, and also considering that no one is present who will look after the maintenance and upkeep of the works, should they be built, I can not now see the feasibility of Mr. Davis' scheme, although I deplore, as he does, the ruin of the once well kept Mormon farm at Moenave.

I believe the Navajos would likewise let any future improvements go to ruin. I have yet to see the first case of these Indians taking proper care of anything built for them. This latter might be avoided by making a school farm at Moenave, but the school already has a farm in the Moencopi wash as well as at Tuba itself.

Respectfully,

Rollin Ritter
Engineer.



Education-
Industries.
104207-1912
LWA

5-1143

Moencopi Wash
and Irrigation

DEPARTMENT OF THE INTERIOR

UNITED STATES INDIAN IRRIGATION SERVICE

SUPERINTENDENT OF IRRIGATION

Albuquerque, N. M., January 16, 1913.

The Commissioner of Indian Affairs,

Washington, D. C. (Through the Chief Engineer)

Sir:

I am in receipt of your letter of December 31, 1912, numbered and initialed as above, enclosing copies of two letters relative to condition of the dam across the Moencopi Wash near Tuba and the reclamation of certain lands through the use of water from springs in various places in the vicinity of Tuba.

The repairs of the dam in the wash has been contemplated ever since the project was visited by me in company with the then Acting Chief Engineer Granville, when tentative plans for the work were decided upon, but owing to the press of other matters and the shortage of an engineer, which has now been supplied, the matter has been delayed.

The dam lost a section of about 40 feet during a flood of considerable magnitude. The quantity of water has not been estimated, but the dam is 140 feet long, and the headgates are 13 feet above the crest, but the water topped the gates. The stream normally carries less than eight second feet of water.

No estimate of the cost has been made, and until I can send in an engineer cannot be made, as the conditions may be different now from what they were when I visited it. At that time it was estimated that it would take between \$1,000 and \$1200 to make the repairs as the distance from the railroad (90 miles) makes all material needed very expensive on the job.

Relative to the springs and the possibilities of using them for any

OFFICE OF INDIAN AFFAIRS
RECEIVED
FEB 28 1913
25644

AUTOMATIC
OFFICE OF INDIAN AFFAIRS
APR 2 1913
50312

Tuba
12/20

irrigation would say that in 1908 Engineer Ritter was sent there and made measurements of the springs, and made an investigation of the situation, so the letter was referred to him.

His reply, in the shape of a report, is hereto annexed, and the details of the report and the conclusions he reaches meet my views in the matter fully.

Very respectfully,

A. A. Robinson

Superintendent of Irrigation.

Education-
Industries
104207-1912
L W A

MoeneCopl Wash
and irrigation.

DEC 31 1912.

Mr. Herbert F. Robinson,
Supt. of Irrigation.

Sir:

There are enclosed herewith copies of two letters received by the Office, one dated October 16, from Mr. Chas. L. Davis, Supervisor of Farming and the other dated November 1, from the Superintendent in charge of the Western Navajo Reservation, pertaining to the condition of the dam in the MoeneCopl Wash, and the reclaiming of certain land through the use of water from springs in various places in the vicinity of Tuba.

Please make an investigation of these matters, submitting a report with estimates and recommendations as to the feasibility of making the improvements suggested.

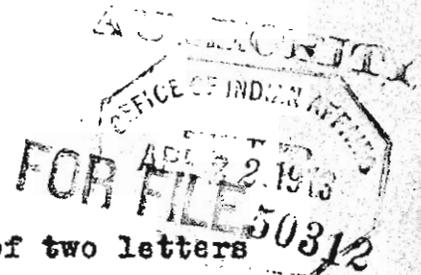
Respectfully,

(Signed) F. H. Abbott.

Acting Commissioner.

11-MLA-13

(Carbon to Western Navajo).



Subject:
Repairing
dam in Moen-
Copi Wash.

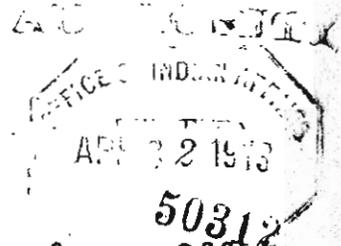
DEPARTMENT OF THE INTERIOR
UNITED STATES INDIAN SERVICE
Western Navajo School



Tuba, Arizona, November 1, 1912.

Commissioner of Indian Affairs,
Washington, D. C.

Sir:



I have the honor to call the attention of your Office to the condition of the dam in the Moen-Copi Wash, which diverts the water necessary to irrigate the school farm of 240 acres and the Indian lands of 400 acres. A freshet washed out a gap of some 40 feet about a year ago and the farming interests of the Government and the Indians have suffered greatly since that time. We are 90 miles from the railroad here, and the hay delivered at the school, if purchased, would cost \$50.00 a ton, and as we use about 100 tons a year it makes it a very important item on our list of supplies. With a permanent dam, which would give us a certain water supply when the farm crops need it we can raise all the hay we require for our needs and the Indians farming under same would be greatly benefitted.

The matter is a very urgent one and I respectfully request that your Office take up the matter of repairing the dam with the Superintendent of Irrigation for this district with a view to putting it in shape for use early next spring.

Very respectfully,

HPM/C

A handwritten signature in cursive script, appearing to be "E. H. M. C.", written over the typed name "HPM/C".

William T. Sullivan
Superintendent.

Western Navajo
reservation.

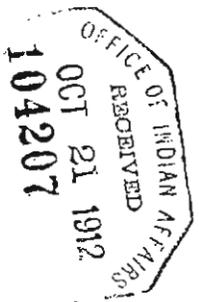
DEPARTMENT OF THE INTERIOR

Moencopi Wash farm
and irrigation.

UNITED STATES INDIAN SERVICE

Fort Defiance, Arizona,

October 16, 1912.

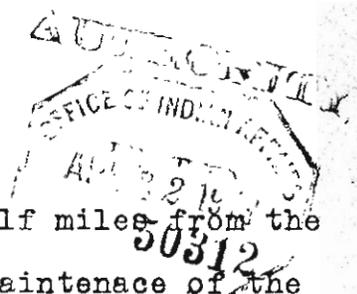


The Commissioner of Indian Affairs,
Washington, D. C.

Sir:

The Moencopi Wash farm is about two and a half miles from the school, and is conducted for the dual purpose of maintenance of the school and agency, and for demonstration purposes. So far no result is in evidence as to the latter purpose, as what few Indians who now engage in farming practice their old methods. I was told that Indians who were employed on the farm and who were there required to plant in modern method would go home and plant their own crops in the old Indian way. We must expect, however, that in time they will yield to improved methods if such prove more productive. It is quite probable one reason for them not changing is that there is no one working with them in their own farm work to insist on them using better methods. The demonstration needs be followed up by efforts of farmers working with the Indians.

As a maintenance project the farm is about breaking even, as best one can determine. Were it run as a private enterprise it could be made to pay, but run as a government undertaking the cost naturally runs high. But inasmuch as feed is produced there which can not be obtained elsewhere on the reservation, thus necessitating importing from the railroad at great expense, the farm should be



maintained as a government enterprise until the Indians can be brought to produce sufficient feed to supply all demands.

A diversion dam was built across the Wash a few years ago and a canal dug at considerable expense. These were expected to provide water for the farm, and also for some Indian families living below the farm, probably two hundred acres, as best I could learn. A portion of the dam has been washed away (the second time, as I understood) and the water is now diverted at considerable expense. As it now is water is obtained for the farm only.

I recommend that the dam be replaced in time for next year's work, ~~and~~ ^{and} that every effort be put forth to get Indians to cultivate all lands available under the project. To accomplish this some one of the farmers should be required to give special attention to it, and induce the Indians to plant and cultivate the lands. The same farmer could do much with the Hopi Indians who cultivate the lands just above the tracts referred to above. It will require great patience and persistence to get the Indians to do these things, but that such can be done is quite possible, in my judgement.

At various places in the vicinity of the Tuba school are found springs of excellent water and of such quantity as to reclaim many acres of land. There seems to be ^{an} impervious strata of rock that arrests the downward percolation of the water, causing it to break out at low points, forming these springs. The school farm and orchards are supplied in this way, as well as water for domestic use, and from others the Hopi Indians get water for their lands.

While many of these springs are being utilized, it is certain some are not, or only slightly so. Whether these springs are found at distant points I am unable to say, if so they are a source of immense wealth to that part of the country. Wherever this water can be applied on good soil its value is, conservative speaking, one hundred dollars per acre, as fruits, vegetables and alfalfa can be grown in great abundance. With alfalfa at \$25 to \$50 per ton, and vegetables in proportion, the value of the water can hardly be estimated. To illustrate the possibilities and forecast what should be done one instance will be named.

The Moenavi group of springs is about six miles from the school. It was an old Mormon settlement, and their old fields and orchards are yet to be seen, and several old buildings. A few Navajo families make that their principal home, cultivating a little corn and melons in their native way, and gathering the fruit from the old Mormon orchards. It gives evidence of no effort on the part of the government to improve conditions, or to even maintain what the Mormons established.

As best we could estimate there is excellent water for 100 to 150 acres of land, and very good soil can be had about a half mile below the outcropping of the springs. The Indians still use this water in a rather crude way. For the most part it is used on lands too high up, which are too susceptible to erosion, the grade being excessive. As the soil is very sandy, to try to carry the water to the choicer lands farther down, great waste would result through

seepage, if the open ditch system is made use of.

What should be done? The first thing to be done is to determine the amount of water available, then the acreage this water will reclaim. A tract to include this acreage should then be selected, covering the best lands, such as will require the least water, and cut this tract up into 10-acre farms. The water should then be conducted to this tract through concrete pipes or other impervious conduits, that no loss may result, and distributed in like manner, the survey and distributing system being so made as to use the water on the land actually under cultivation and none wasted on roadways, etc.

By the time the water is ready for distribution these ten-acre tracts should be tentatively assigned to families, with a view of such becoming the main, or permanent home of such family. Five acres, or two families to the ten-acre tract would be sufficient for the home, orchard, garden and corn and vegetable tracts, but would allow nothing for alfalfa. I am inclined to the plan of ten acres to the family, for that reason, and the further reason that such families will need rely mainly of their flocks and herds, and in case of there being, say, 120 acres, the community would be too large for the grazing area tributary.

Supervisors Peairs and Charles were with me when this tract was viewed, and they selected it as the future location of a day school just as soon as the plans outlined above can be put into operation. There are a number of Indian families there now a large portion of the year, but conditions are not yet ripe for the day school work. I, therefore, earnestly recommend that action be

taken to re-establish the Moencopi dam, as set forth above, and to utilize the waters of the Moenavi springs, and such other springs as may be found. But when this is done it will be absolutely necessary for farmers to be assigned to work with the Indians that the reclamation projects may be utilized. It is not sufficient that these projects be put in, for if not followed up the Indians will make very slight use of them.

I know it will be claimed that the Indians are nomadic and do not remain there long enough to build homes and utilize the lands as I have outlined. Neither would any one else live there as things now are, and neither will the Indians do things if the reservation force takes no interest in getting them to do so. But with proper inducement and under proper management they will occupy all the lands that can be reclaimed.

It is being arranged that farmers will be established over this reservation by districts, which is a great step forward. I shall soon prepare a general outline of work to give direction to the activities of these men, but one of the first things to be done from a purely farming point of view is to locate all possible water supplies where irrigation can be made possible, if in the nature of living water, such as springs, the natural flow should be measured, land looked up where the water can be used, and full reports made of all such locations. These should include the Indian population tributary, and any other useful information. If it is possible to do so the Indians should be induced to put in reclamation projects of their own.

Carbon copy to the
Supt. Western Navajo School.

Very respectfully,

Chas. H. Davis
Supervisor of Farming.

Mr C.

Will you please let
me know what can be done
here. Don't you think, unless
you people have plans under way,
it would be good idea to send copy
to Robinson + Supt for reports.

Ashmeyer

11/6/52

O.K.

Any yet the water questions be referred to H. Robinson for
investigation + report with estimates + recommendations as to
feasibility, + following the Superior's indications per what is indicated
C