

Edward A.

Polacca, Arizona. May 27, 1916.

Mr. H. S. Traylor, Special Inspector,
Keams Canon, Arizona.

Dear Sir:

After making an extended trip over the Moqui Reservation with a view to developing springs and placing more wells, we find the wells are located near the Hapi villages and think it would be a wise plan to reclaim the outlying area by drilling more wells, locating same farther from the villages.

It has been proven that water can be found in all the extended valleys by locating the wells in such places. It has been demonstrated that wells can be drilled in the following valleys: Nebite Wash, Oraibi Wash, Wepo Wash and First Mesa Wash.

According to data furnished by Professor Gregory, there is a reasonable probability of getting artesian flows on the southern part of the reservation. If artesian flows are developed on the southern part of the reservation, there is good soil in such location for agricultural purposes.

We now have 16 wells and windmills in successful operation on this reservation. These furnish water for only a small part of the grazing area. To develop the grazing area to its full capacity will probably require 35 additional wells. These wells will vary in depth from 40 to 200 feet.

SPRINGS:

There are a limited number of springs on the reservation that should be developed and the water conserved in the usual way by making stone-cement reservoirs. These springs will serve



in their immediate locality and the wells will develop the plains where there are no springs, thus making all grazing area available for stock.

The springs to be developed are as follows:

Lucasacade Spring, located; S-E 1/4 of S-W 1/4 of Sec. 8. Town 23. N of Rg 21, E. It will be necessary to blast all stone away to natural formation, concentrate the water and pipe it out to reservoir and troughs. The flow is two and one half gallons per minute.

Chayze-be-to Spring, located; S-E 1/4 of N.E 1/4 of Sec 30 Town 24, Rg 21, E. This spring to be developed practically as the one above. The flow is 1 1/2 gallons per minute.

Cotton-Wood Spring (No. 1) located; N-E 1/4 of N-E 1/4 Sec 24, Town 24, Rg 18 E. This spring is located in malpice rock and the water will have to be concentrated and piped out to troughs. The flow is one gallon per minute.

Cotton-Wood Spring (No. 2) located; Not surveyed. This spring will be developed by concentrating the water and piping out to troughs. The flow is two and two-fifths gallons per minute.

Group Spring, located; Not surveyed. This spring will be developed by concentrating the water and piping it out to troughs located a distance of 200 feet from the spring. The flow is one and one-half gallons per minute.

Wepo Springs, located five miles north of Polacca Day School. These springs are used for irrigating small Hopi gardens at present. By building stone-cement reservoir the water can be conserved to irrigate a greater area of gardens. The flow is twenty-five gallons per minute.

Fringe Spring, located; S-W 1/4 of S-W 1/4 Sec 8, Town 22, N of Rg 20 E. This spring will be developed by excavating the rock and concentrating the water and piping water out to reservoir and troughs. The flow of this spring is two and two-fifths gallons per minute.

Indian John Spring: S-E 1/4 of S-E 1/4, Sec. 24, Town 23, N of Rg. 17 E. This spring is to be developed as the one above. The flow of this spring is three-fourths gallons per minute.

Lucasacade Spring No. 2. located on the north-eastern corner of Moqui Reservation. This spring is to be developed by concentrating the water to a common point and piping it a distance of 300 feet to a reservoir and troughs. The flow of this spring is one gallon per minute.



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Malpice Spring, located; S-W 1/4 of S-W 1/4, Sec.4, Town 22, N of Rg. 21 E; which is about six miles southwest of Indian Wells Post Office. This spring will be developed by blasting away the large bowlders to the original formation and making a concrete reservoir and piping the water out to troughs. The present flow of this spring is four gallons per minute and can be developed to at least twice that amount. This would be an ideal location for a day school, or a boarding school with capacity of 200 to 400 pupils, allowing 30 gallons daily for each pupil.

Respectfully,

Alexander J. Hornack

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