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DEPARTMENT OF THE INTERIOR,  
UNITED STATES INDIAN SERVICE,

Keams Canon, Arizona.

May 8, 1905.

The Honorable,

The Commissioner of Indian Affairs,

Washington, D.C.

Sir:

I beg to report that I have recently visited Mateva Springs, a point at which some work was done last year by Mr. Collins.

Because of this winter and spring being reported by the Weather Bureau at Phoenix and both whites and Indians here as unusually wet and cold I feel I must be governed sufficiently to make reports more conservative than my observation warrants.

The work done by Mr. Collins reveals that water can be developed at that point how much it is impossible to even estimate, evidently more than Mr. Collins contemplated as it has over run and washed down part of the work he did.

As nearly as I can describe the place the spring or springs are in a quagmire about a hundred feet in diameter. Nothing but a snipe or other shore bird might walk across this.

On one side and sloping down to the quagmire is a low bluff from which sand stone and a ledge carry <sup>ing</sup> quartz and some lime crop out.

I followed along the lower edge of the little slope leading

up to this bluff for over a mile. Near the bluff I found no water but the vegetation shows there is water all along there, this year at least, and the amount of alkali that has been brought to the surface and left by evaporation shows that during some other years water has been near enough to the top to reach the surface by capillarity.

Some distance out from the bluff a number of little gullies carried some of the over flow from the pond made by Mr. Collins.

I regretted I did not have a level with me as the land to the eye is flat and there seems no way of getting service from what water has been developed but to lift it.

I feel that <sup>it</sup> is unsafe to make any decided recommendations without having the use of <sup>a level</sup> ~~such an instrument~~. If I can get any interest from these people and any help from them I should get a showing of success from some undertaking. They have seen failures till they expect nothing else.

Watering, plentifully, one acre of land will be worth <sup>now</sup> to enlist interest and help than all the preaching all the whites in the service can do.

Some land can be watered at Mateva and that without a steam plant and without an expense of more than the value of the land after it is fenced and watered. How much no man can say.

The work done at Toreva will yield some water, enough I should judge, for some gardens. The reservoir there can be completed in two weeks. The reservoir has received more labor than it demands. Two

14 in. or 18 in. stone walls have been built parallel and a space 3 1/2 to four feet filled in with dirt and the cement is here now to line the inside wall. This is mere masonry and dirt work than are necessary to support a five foot column of water but better this than not strong enough. Then I am informed that I only "figured the pressure on the bottom without considering the side pressure."

I have the honor to request that your Office send here for use at this Agency a combined transit and level similar to the in-

strument can be gotten, I think, from Queen & Co. Philadelphia, and probably a dozen places known to your Office.

The instrument should be in case, and accompanied by levelling rod 7 feet long sliding to 12 feet, extension tripod; 2 Range poles 6 feet long; 11 nails; 100 feet Engineers steel tape 1/2 inch wide.

The extension hood which shields the objective should carry a easily removable plain glass and one dozen such glasses should accompany the instrument. This is to protect the objective from

Very respectfully,

*Thos. G. Zimmerman*  
Supt.