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OFFICE OF  
Indian Affairs  
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E. C. Vincent

Washington D.C.

Jan 20

Includes a statu-  
ette in connection  
with former award  
in date. to be  
Indian engineering  
instruments.

To Secy Jan 17/96

" Vincent Jan 23/96

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RG 75 Bureau of Indian Affairs  
1881-1907 Letters Reserved, 1881-1907  
Box 1275  
Year 1896  
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# Department of the Interior,

U. S. INDIAN SERVICE,

Farmington, N. M.

January 9th 1896.

The Honorable

Commissioner of Indian Affairs,

Washington, D. C.

Sir:

In the matter of my communication of December 18th requesting authority to purchase some engineering instruments and drawing material for the prosecution of the irrigation work under my charge, and of office reply thereto under date of December 28th, (Finance, 51,496,- '95) I beg to submit the following:

The ditches heretofore constructed have all been located in the mountain region, where the streams are very small and their fall is very great. They were designed to irrigate small tracts of land and are small ditches. Work of this character could be laid out with a hand-level---for the fall is great enough to allow a considerable error without affecting the value of the work, and it can be done well with a 10 inch level, such as I had. The San Juan ditch, on the contrary, must be of some size, and any ditch taken from the river must be run on a low grade in order to come out on the land within a reasonable

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distance, and thereby cover the largest possible area of land.

For the preliminary work on the San Juan ditch I have been using the same instruments that I had on the mountain work; but here the instruments are being pushed beyond their proper capacity---they were not constructed for nor intended for such work---and are hardly equal to it. Moreover, from 50% to 100% more work could be done in a given time with proper instruments by the same men, and the men are constantly complaining to me of the instruments. I venture to say that no ditch involving more than one or two thousand dollars was ever laid out by an engineer with such instruments as these. I have some pride in my work, and I am anxious that this ditch and such others as may be constructed under my charge should be models, and a credit not only to me but to the office as well. The plans which I shall submit I am especially anxious should be perfect in every detail, such plans as will reflect credit on the office if published, and in any event plans that will constitute a valuable record.

The office has supported me so well in supplying assistants and an adequate equipment, and in approving items of expenditure not strictly according to rule but necessitated by the exigencies of the work---and for this I am grateful---that I cannot understand why this support should be withdrawn now, at the in-

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ception of the most important work yet undertaken. Good instruments are more important to the the engineer than good horses or good wagons, and second only in importance to good men. Especially is this true where criticism must be met or forestalled.

My orders were to construct the small mountain ditches first, and on looking over the field I saw at once that no elaborate outfit of instruments was necessary for such work. Perhaps I erred on the side of over economy, but I thought then that it would be better to defer the purchase of instruments until they were absolutely essential, as I had an opportunity then to borrow some good enough for that purpose. My idea throughout has been to do the work in the most economical way possible, consistent with good work, but I need hardly suggest that as the size of the work increases the degree of accuracy required also increases, and in greater proportion. A ditch half a mile long and two feet wide can be laid out with a wooden triangle and a plumb-bob, but in works of large size errors become very costly, and it is more than likely that the cost of the instruments would be saved several times over on this work.

Finally I beg to state that the office has never furnished me any instruments whatever. The instruments I have now, like those I have had, are borrowed. The owners need them and have asked for their return: so far I have been able

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to retain them, but should the owners demand their return I will be left absolutely without instruments. At one time, when good instruments were needed I was able to hire them for a time, but I cannot do that now because there are none here.

A considerable proportion of the sum I requested authority to expend was to be applied to the purchase of paper and drawing material which is essential to the work. The instruments I wished to purchase are by no means costly ones---I have selected the lowest priced ones which would, in my judgement, do the work required, and as I have had a wide experience with all kinds of instruments, have purchased a number and had several made to order I submit that it would be better for the work and to the material advantage of the office if I were allowed to make the selection.

With the hope that the support always given me by you will not be withdrawn in a matter so important to the work as this is, I have the honor to submit this statement for your consideration, and to request an early decision.

Very respectfully,

*E. B. Vincent*  
Superintendent.