

~~CONFIDENTIAL INFORMATION~~

H. L. Dietze

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L. S. Hammond

Triangulation Tie to Site Charlie

May 7, 1953

Attention: L. M. Bobeau

UNAVAILABLE

The data submitted with your O/S 6067 has been checked and is considered satisfactory for the preliminary tie to this area. These plane coordinates will be used until the results of the triangulation survey are available.

While it is recognized that this tie was an expansion of a third order survey and for preliminary use only it seems advisable to call to your attention any deviation from the procedure established for precise triangulation. It is the intention to follow the procedures established by the U.S.C. & G.S. as they are considered the foremost authority on the subject. By doing so we have greater assurance of a satisfactory survey and are continuing to use methods which have been acceptable to the Client on earlier surveys.

The Record of Directions for the observing at Station Charlie does not meet rejection requirements and would not be acceptable for other than a preliminary tie such as it was used for in this instance. Positions 1, 7 and 8 are obvious rejections and should have been re-observed before obtaining a trial mean. By obvious, I mean that if the spread between the direct and reverse readings for a position exceeds the plus or minus limit, in this case ten seconds as the readings must not differ from the mean by more than five seconds, it is obvious that rejection of either the direct or reverse reading will be required when the trial mean is obtained. This is a condition that should be noted by the recorder at the time the position is recorded and the position re-observed before obtaining the trial mean. (See SP 247 page 128). If after re-observing, and some times a third position or set is necessary, it is found that the rejections are averaging much in excess of ten percent of the entire number of observations the rejection limits may be increased. This is rarely necessary and generally applies to a condition when there is a large spread in all direct and reverse readings. (See SP 145 page 88).

The rejection of a direct reading while retaining a reverse reading and vice versa is established procedure of the U.S.C. & G.S. and results from their long experience and knowledge of where the rules can be relaxed without appreciably affecting the accuracy of the position. Where this condition exists the rejection must be made or the position re-observed. The mean cannot be accepted if it does not meet the rejection requirement. This rule is stated in SP 247 page 150 (6). Good judgment is required in determining the number of rejections of direct or reverse readings to allow, and in the

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3. CLASSIFIED INFO BRACKETED	
REVIEWER (ADD):	DATE: 7/22/84
NAME: J.D. Kase	

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REPOSITORY  
COLLECTION

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~~RESTRICTED~~

H. L. Dietze

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average eight position set should not exceed two. If in doubt re-observe the position.

As observing this triangle was in the nature of a training period for the party, some uncertainty of procedure could be expected. It is important that all possible steps be taken to reduce the possibility of having to re-observe a station. In this regard, I suggest that after the recorder has applied the rejection rules to a set and is satisfied with the results, and before leaving the station, that an independent check be made by the observer.

The Record of Directions for the observing at Station Oboe indicates an error in copying the direct reading on Station Charlie for position eight. The notes as submitted, require a rejection of the direct reading on Station Gell for position seven. I particularly checked this position at the time of observing as the spread was close to maximum. I suggest referring to my copy of the Record of Directions and Abstract prepared the morning after observing. I believe the direct for position eight on Charlie should be 157-00-48.4.

In determining the relation between Stations Air and Oboe a calculated distance was used. As Station Air has been re-established using all available ties and the line between the stations is accessible, I believe that a measured distance should be in the records. This will be one of the stations used in determining the relation between the two surveys.

Approved:

David L. Narver, Jr.  
Chief Project Engineer

L. S. Hammond  
Chief of Surveys

LSH:dc

cc: Project Manager JS  
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