

WRITE IT DOWN

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It has been our experience that hand-written notes, even though they are minimal, are essential to the orderly and efficient collection of data in the field and are of great importance when that data is processed in the office. It has also been our experience that a few well-written and well-organized notes in the field book can increase productivity in the field operation.

Data collectors are very efficient at recording and storing data in the field, but none are very efficient at allowing you to view or review the data. The problem is you just can't see enough of the data to find your place.

Also, the data collector has no function for allowing you to draw a sketch, which from time to time, is totally appropriate. There are even times when it is proper to vary the set routine of the collection process when collecting data, and this should be noted in the field book.

Let us take a few moments to examine what notes are essential for the orderly and rapid acquisition of data in the field. Many total stations have the ability to read coordinates (X, Y, and Z) directly. In order to do this, the location and orientation of the instrument must be input to the instrument itself.

There are instruments in combination with their data collectors that have the ability to do this automatically, but it requires that the next set-up not be disturbed forcing you to advance from tripod to tripod.

This works well when traversing, but if you combining topographic data collection with the traverse or only taking topo data, you simply don't cover enough ground to fully utilize this feature.

In our operation, we require our operators to record both in the electronic notes and the handwritten notes the northing, easting, and elevation of the occupied point, the azimuth of the backsite, the standard rod height, the bench mark elevation, the bench mark description (generally a number is sufficient), and any calculations that were made to determine the height of instrument.

When setting horizontal control in the field, we require that the traverse point number being set, the northing and easting, and the azimuth (both in the direct and indirect positions of the instrument) be recorded in both the handwritten and electronic notes.

When setting a vertical control point, we require that the elevation be recorded in

both the direct and indirect position, and a description of the bench mark (see Figure 1) be recorded in the field book.

Having recorded the information for control, not only in the data collector, but also in the field book, we now have ready access to that information in the field. We routinely check two points of vertical control before we start collecting data, and we routinely check our horizontal control.

These observations can be made with most total stations and read directly by simply observing what is displayed by the instrument and comparing what was recorded in the field book. Thus, the field crew has an opportunity to check their set-up before great amounts of data are collected.

Another good reason for keeping these notes is that very few projects afford the surveyor the opportunity to collect data without having to download the data collector to the computer. When this happens, the data that was stored is no longer available in the field, unless the information on instrument location, bench mark elevation, and instrument orientation that is required for the effective use of the total station and the data collector is recorded in the field book. □

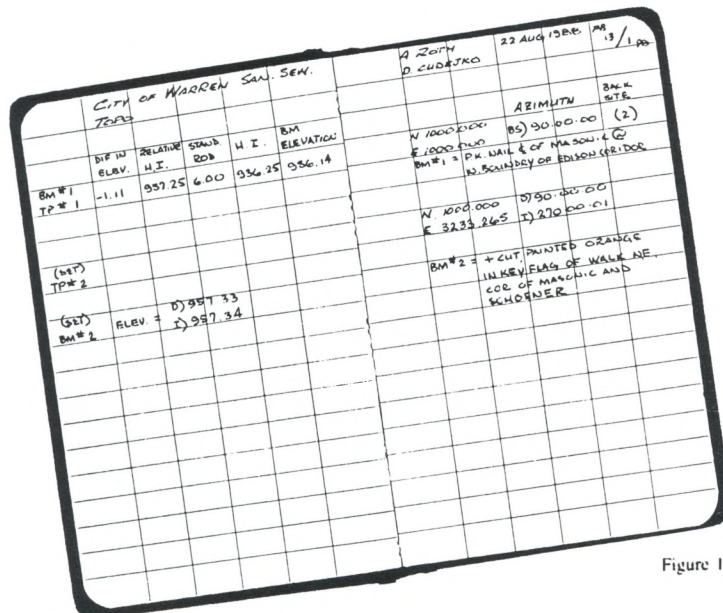


Figure 1 □