

Subject : QUALITY CONTROL TESTS FOR EARTH WORK FOR DAMS AND THE PROFORMA FOR RECORDING OF THE RESULTS.

GCM No.
CMN/1557/
53140-K
dated 17th
January
1964.

It was observed from the forms used for reporting and maintaining records of quality control tests for earthwork by the field officers that these varied from projects to project and were not adequate and comprehensive enough to ensure an effective check on the execution of earth dam works and to finally preserve this record in a form in which the data can be readily used for future studies. Central Design Organisation, therefore, examined the aspect of quality control and suggested the revised criteria of quality control and standard forms for recording of the results of quality control tests. It is desired that these should be adopted on all important earth dams.

2. In these proformae the principal departure from the existing practice is in case of soils that consist almost exclusively of coarse grained particles *i.e.* sand and gravels. These soils when compacted according to procedures outlined for determining proctor maximum dry density, have density and moisture relationship that co-relates poorly with other properties. Further more, the compaction curves are erratic and often do not produce a definable maximum density. It has been found that when shearing strength of these soils is co-related with changes in density in the range between minimum and maximum obtainable densities, a fairly reliable relationship exists. Further more, it has been found that with reasonable amount of construction control a given type of compaction efforts can be expected to produce a related relative density. In practice relative density of 70 per cent has been found satisfactory in most conditions. More specific values are given accompanying proforma.

3. Previously summary of the results of the quality control tests was being submitted monthly to the Chief Engineer (I.P.) In accordance with the instructions issued in the Government Circular Memorandum No. MIP/7062/64448-K, dated 19th October 1962, it will not be necessary to send such summaries henceforth to the Chief Engineer (I. P.); — It will, at the same time, be desirable to prepare such monthly, abstracts from time to time and keep them readily available at the project head quarters to facilitate quick review of the test results. These summaries will also be useful for further designs as they will bring out the differences between the properties of the soils as attained in the field and as predetermined in the laboratory. Therefore, a proforma is also suggested for such summary which should go a long way in preserving the record of the soil test results in readily intelligible form.