

OUTLINE OF PROPOSED STUDY OF SANDS USED AS CONCRETE FINE AGGREGATES

This investigation is being made for the purpose of evaluating fine aggregates for concrete in which the percentages of fines, finer than the No. 50 and the No. 100 sieves, are increased over that in the normal commercial sands meeting the present specifications for Class "A" concrete. It is a continuation of the studies made in Research Projects C-14 and C-15 (Reports submitted January, 1946), but enlarged to include physical tests on sand, and tests on mortar specimens, as well as the usual tests on concrete specimens.

The physical tests will include:

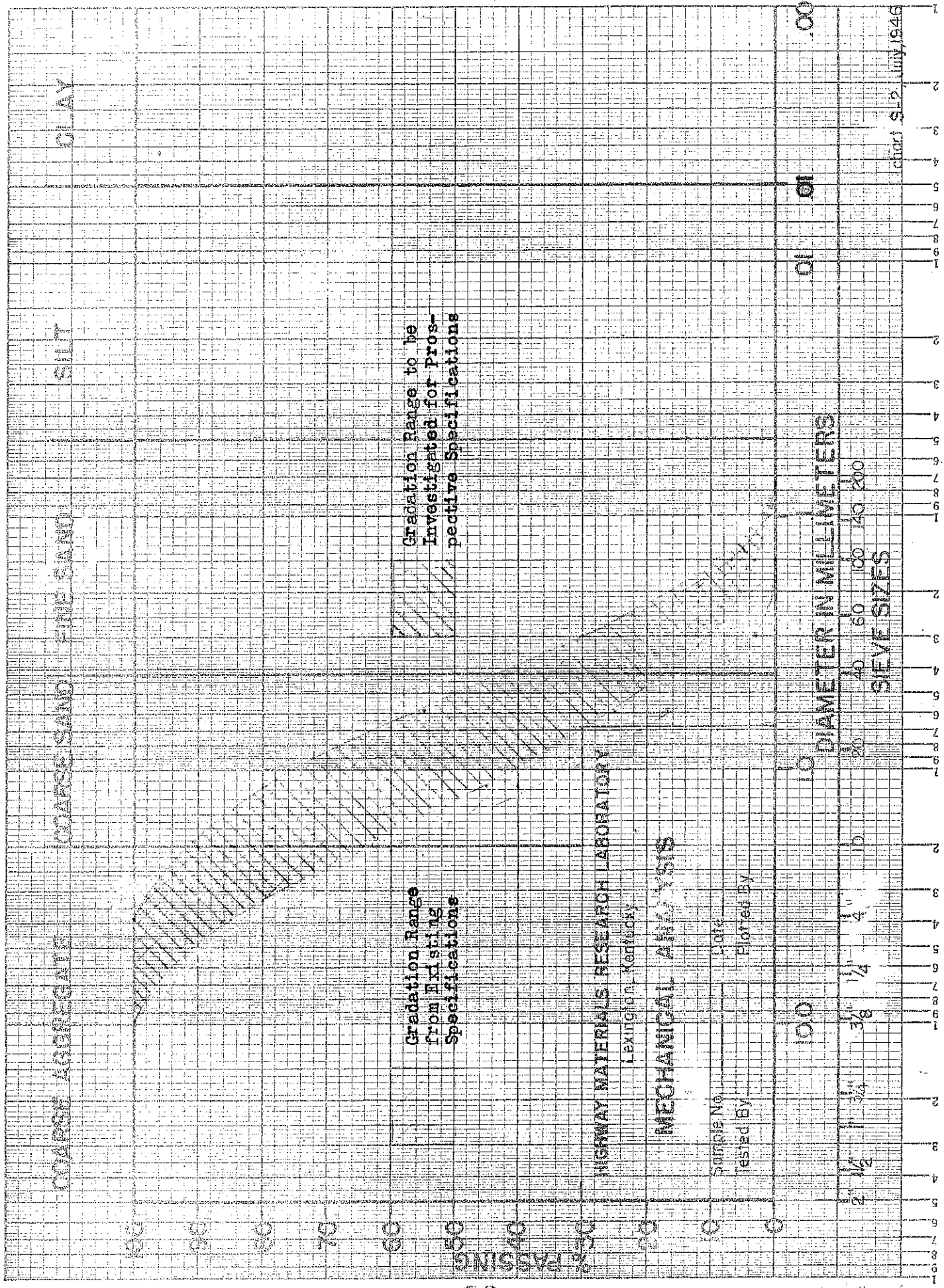
- Sieve analyses
- Specific Gravity
- Absorption
- Soundness
- Microscopic analysis
- Structural strength using constant water-cement ratio
- Any others that seem justifiable

Sand and cement mortar specimens, of small dimension, will be made to be tested in compression, flexure, and in freezing and thawing. One set will consist of three specimens for each test or a total of nine.

Concrete specimens will be made for the usual strength and durability tests. One set will consist of three cylinders and three beams to be tested for 28 day compressive and flexural strength and three beams to be tested for durability.

One group of test specimens will consist of three or four sets making a total of 27 to 36 specimens each of mortar and concrete. The number of groups tested will depend upon the number of sources selected.

Attached is a chart showing graphically the gradation ranges of the sands to be studied as proposed above.



Curves Representing Gradations for Concrete Fine Aggregates

Chart S-12 July, 1946

Gradation Range to be Investigated for Prospective Specifications

Gradation Range from Existing Specifications

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MECHANICAL ANALYSIS

Sample No. _____ Date _____
Tested By _____ Plotted By _____