

STUDY OF DISPERSIVE SOIL IN HARYANA STATE

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ABSTRACT

Haryana state is carved out of the composite State of Punjab on Ist, Nov. 1966. Its boundry of land shares with the other states i.e. Himachal Pardesh, Uttar Pardesh, Rajasthan, Delhi & Punjab. Wes tires, Jamana Canal, Bhakhra Canal, crosses the state Markanda river, Saraswati river, Ghaghar, Dangri river are also passed through tension of state floods affects the many area of state during the rainy seasons. State is now a developing state, messing structure like canals and dams have to be constructed for development that is why Dispensability. It is necessary to study the behavior of soil.

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INTRODUCTION

Dispersibility as the name implies refers to the property of soil in which the individual clay particles go into suspension in practically still water. The term dispersibility is quite different from the term erosion because erosion takes place in non-dispersive soils only when the velocity of fluid exceeds threshold velocity. Thus it can be impressed that dispersive soils are highly erodible, erosion in dispersive soil does not take place only the surface but the phenomenon occurs in the sub surface as well e.g. piping action

As regards the occurrence of dispersive clays, there are mostly present in flood plain deposits, weathered loessial deposits, and bottom of the lakes and in slope wash. The literature reports their occurrence in the various parts of the North East, Thailand, Mexico, Australia, United State, South Africa, Brazil Vietnam, In some countries dispersive clays have been found to be located in humid climates so it can be anticipated that presence of dispersive soil usually encountered in the case of earth dams. Canals & other earth structure and is responsible for their failure.

The dispersive erosion or piping action in dispersive soil is the main cause of failure of dams canals and other massive structures, The literature reports the failure of many heavy structure limit on dispersive soil. The repulsive forces are there by increased which cause dispersive of soil.

It is therefore, many essential for the scientists and the engineers to test the dispersibility of the soil before the construction of dams, canals etc. Where involving huge amount sum of money proper steps can be taken to avoid soil erosion and the failure of costly structures.

Haryana is the developing state of India and it has many possible for the construction of canals and their missing structure for that development of state do this research the samples of soil from different sites of state and list for dispersibility by different test methods

LITERATURE

To identify the soil i.e. whether it is dispersive or non-dispersive, stabilized if the dispersive soil. In the past some many rough and unreliable criteria for identification of dispersive soil were evolved, but it was first in 1973 a laboratory method called the pin

hole test was developed by sheread at a (1976) laboratory tests on wide range of soils studied with the ease histories of damaged structures on dispersive soils led shared at (1976) to develop the following there tests namely pin hole last, crumb tests and pole water analysis test for the identification of dispersive soils.

Another hydrometers test with i.e. s.c.s. test was developed by wolk 1937 and later standardized by u.s. soil conversation services these method.

METHDOLOGY

To identifies the soil as comprehensive non comprehensive the sample of all Haryana state different test collected and listed by following for ways.

1. Pin hole test.
2. Crumb test
3. Pure water analysis test
4. S.c.s test

CONCLUSION

From wires method of test shared performed these for test on large number of soil specimen and draw the following conclusion from the result thus obtained.

1. The pin hole test in the most reliable test.
2. Crumb test is not as a reliable as pin hole tests. But this is useful. If a rest is identified as non-dispersive the soil can be verified.
3. The classification based on pure water analysis to very useful is always not expect because some soils in Zone; A; have beer found to be known dispersive and ever in sum exceptional cases soil in Zone B are depression when listed by pin hole operation.
4. S.C.S. is also not very reliable but is good indicator for the nature of soil the soil having percentage dispersion grater than so are dispersive soil having percent dispersion less than 30 are non-dispersion and those with percentage wearing from 32-50 may be non-dispersion.

REFERENCE

1. Chandra,s , James, COL Indian Geotechnical Journal vol. 14 no. 3 (1984, Improvement of dispersive soils by using different additives.
2. Volk GM (1937) method of determinant of the degree of dispersive of clay fraction of soils proceedings soils society of America , vol II pp 561-565.
3. Railing,RA AN INVESTIGATION OF THE CAUSES OF FAILURE OF FARM DAMSIN BRIGALOW BELT OF CENTRAL QUEENSTAND dullet in 10 water research foundation of Astralia 1966
4. Sheared / J.L DUNNIGAN , LORN P/ and DOCKER, Rey identification and nature of dispersive soils Journal of the geotechnil engg. Division ASCEvol.102,gt4
5. Sherad ,JL et al Pin hole tests for identifying dispersive soils journal of geotechnical division ASCEvol. 102 gt1 -11848 -1976