

variation in values of plastic limits can be computed as 6.78%. This is twice as great as for the values of liquid limits. Hence it is apparent that for the determination of the activity of clays the dispersion in the test results alone can be as important as other factors such as base hardness. This is again a reason for the necessity to evolve an improved procedure for plastic limit determination in order to reduce its coefficient of variation.

At the end of his article, Professor Casagrande suggests other suitable methods for the determination of liquid limit. In Czechoslovakia, parallel with Casagrande's device, a static cone penetration test (cone angle 30°, weight 76g) is widely used. This test, known as the Vasiljev test, does not suffer from many of the disadvantages of the Casagrande device and is used as a standard in the Union of Soviet Socialist Republics. The dispersion of results in the Vasiljev test is only half of that by the Casagrande device arranged ordinarily. Shear strength at the liquid limit of clays measured by this test ranges between 15–25 g/sq. cm. In accordance with an opinion expressed in Professor Casagrande's article, in the Soil Mechanics laboratory at the Czechoslovak Academy of Sciences it has also been observed that soils with lower liquid limits give higher values of shear strength at liquid limit than soils with the higher liquid limits.

Yours faithfully,

J. FEDA, ING., C.SC.

J. ŠKOPEK, ING., C.SC.

Czechoslovak Academy of Sciences,
Soil Mechanics Laboratory.
23 January, 1959.

REFERENCES

- KOHOUTEK, J., 1957. "Průzkumné práce zemní v lomech" (Soil investigations in coal pits"), *Internal Report, Běňský Projekt, Praha*.
TESORIERE, G., 1957. "Considerazioni sulla determinazione dei limiti di Atterberg" ("Some considerations of the determination of the Atterberg limits), *Geotechnica*, 4:1:16-24.

The Secretary,
The Institution of Civil Engineers.

DEAR SIR,

Mr Tomlinson begs the question in his letter (*Geotechnique*, 8:4:187), since London Clay is not a sensitive clay and no one would expect the strength of a pile in it to increase with time in the same way as for a sensitive clay, which was the subject of my note (*Geotechnique* 7:4:192).

In fact, of course, Mr Tomlinson's interest is not in sensitive clays but in why the Meyerhof-Murdock formula does not give the right answer, and he has used my note as an excuse to ride his hobby horse again.

Mr Leonard and I claimed no universality for our "method". We simply reported the results of tests and showed that for the site in question, if a point resistance of $9 \times$ shear strength was assumed, then the skin friction was $0.7 \times$ shear strength. We further know that many piles designed in this way are satisfactorily carrying working loads greater than the ultimate calculated by the Meyerhof-Murdock method, and have carried test loads at least 50% greater than the working load satisfactorily. Let Mr Tomlinson explain this.

Both methods are attempts to calculate the ultimate load and should give about the same answer if they are equally reliable. The factor of safety to be used is then a matter for the judgement and experience of the engineer using the method. What Mr Tomlinson is really saying is: "I know that the Meyerhof-Murdock method gives an answer for the

ultimate load which is too low, therefore from my experience I am prepared to use a factor of safety of 1.25 (knowing that the real ultimate is higher and the factor of safety is really about 2)." This is a perfectly legitimate approach but do let us take the blinkers off the hobby horse.

In conversation with Dr Cooling in the past, I formed the impression that the idea of using the softened strength of the clay arose in connexion with the design of short-bored piles for house foundations on shrinkable clays in which all, or the major portion, of the piles would be in the region permeated by drying cracks. This seems eminently sensible. But it is wrong, in my opinion, to apply the suggestion to a pile passing probably through a few feet of water-bearing gravel and penetrating perhaps 30 ft. into the London Clay.

If my suggestion of the origin of the idea is correct, it is a pity that things ever got out of hand, or to return to my earlier metaphor, that Mr Tomlinson did not shut the stable door before his hobby horse got loose.

Yours faithfully,

H. Q. GOLDER, D.Eng., M.I.C.E.

Harvard University,
Massachusetts.
13 February, 1959

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