

The Role of Suction in the Performance of Clay Fill

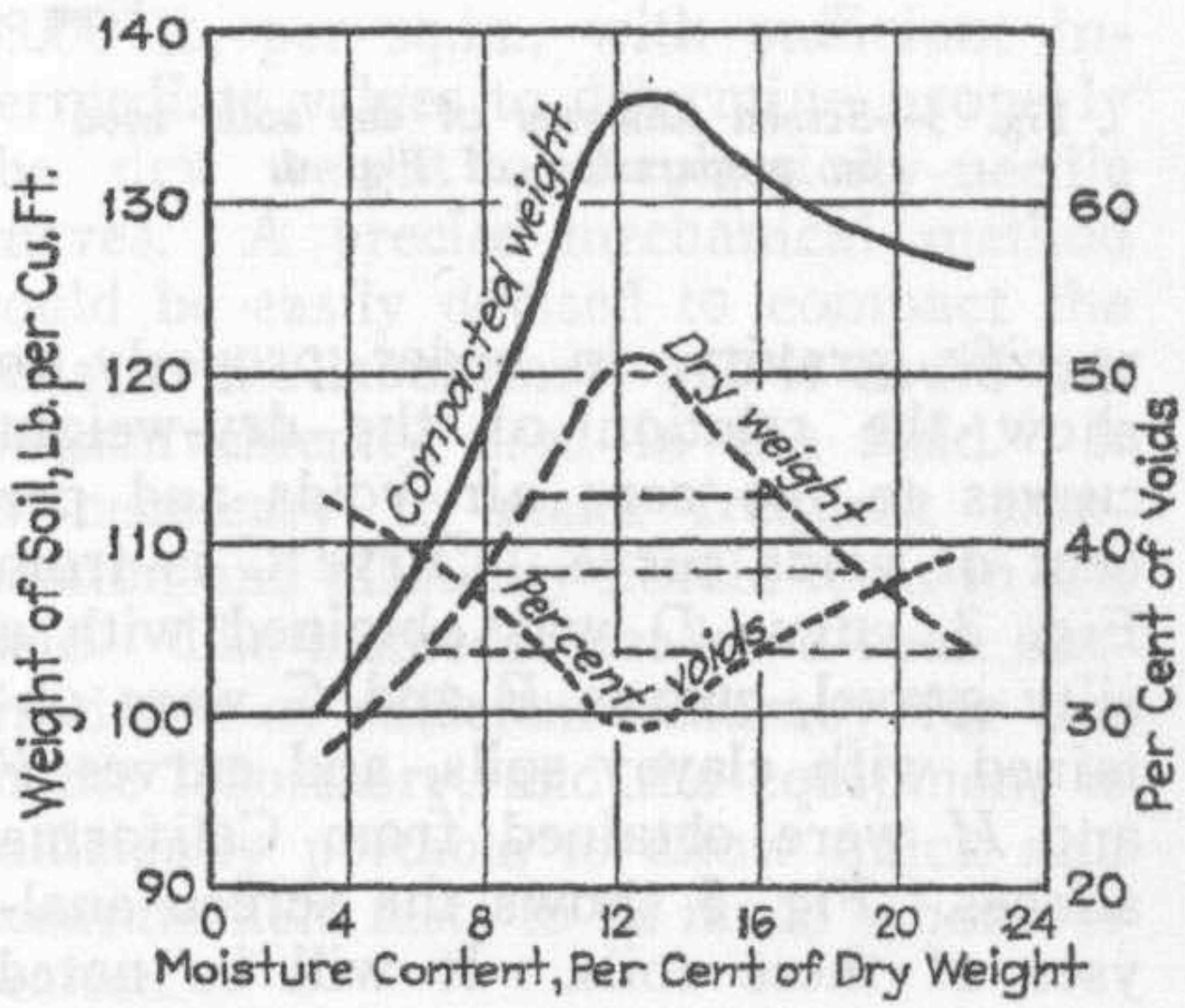
Reed Engineering Group

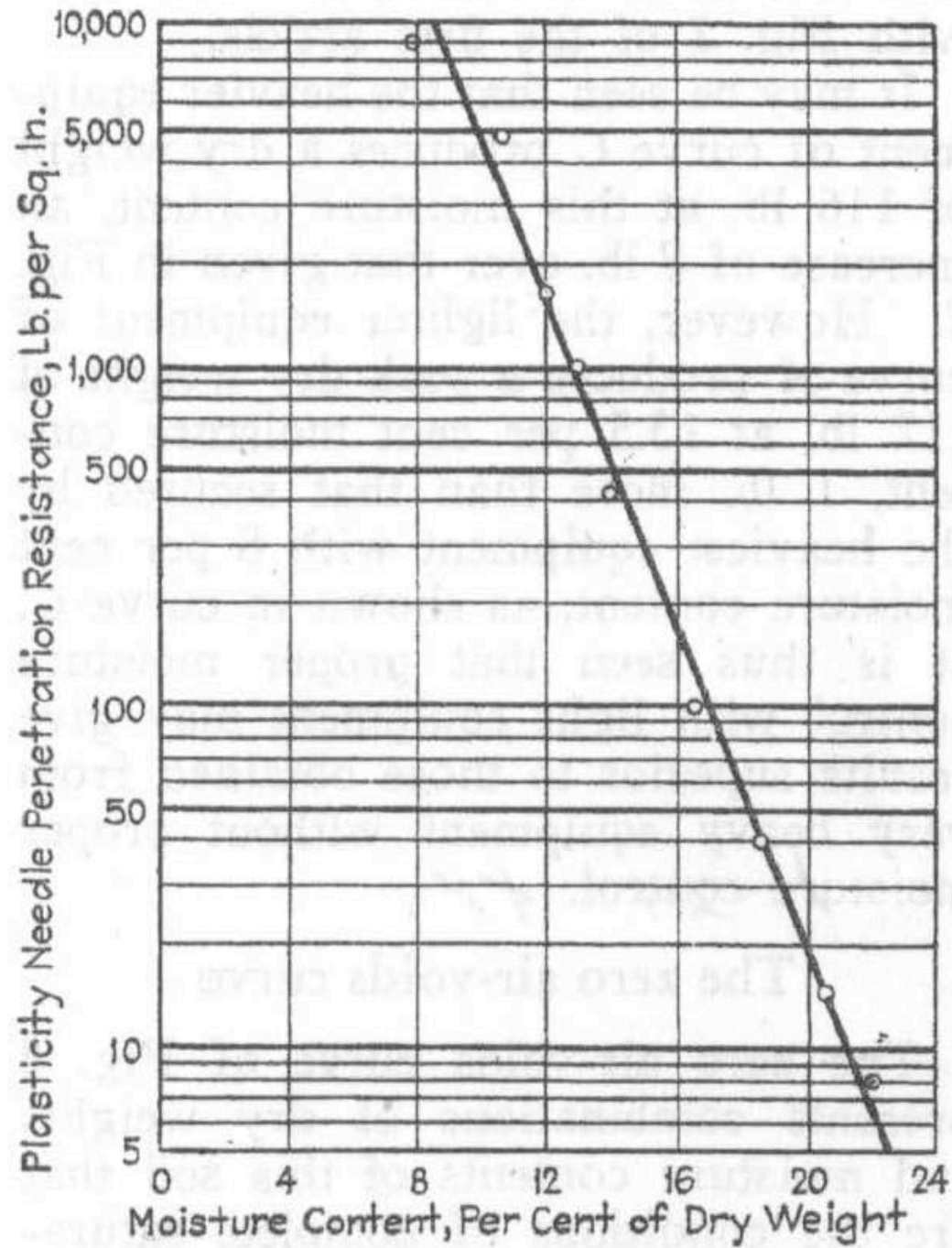
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Introduction

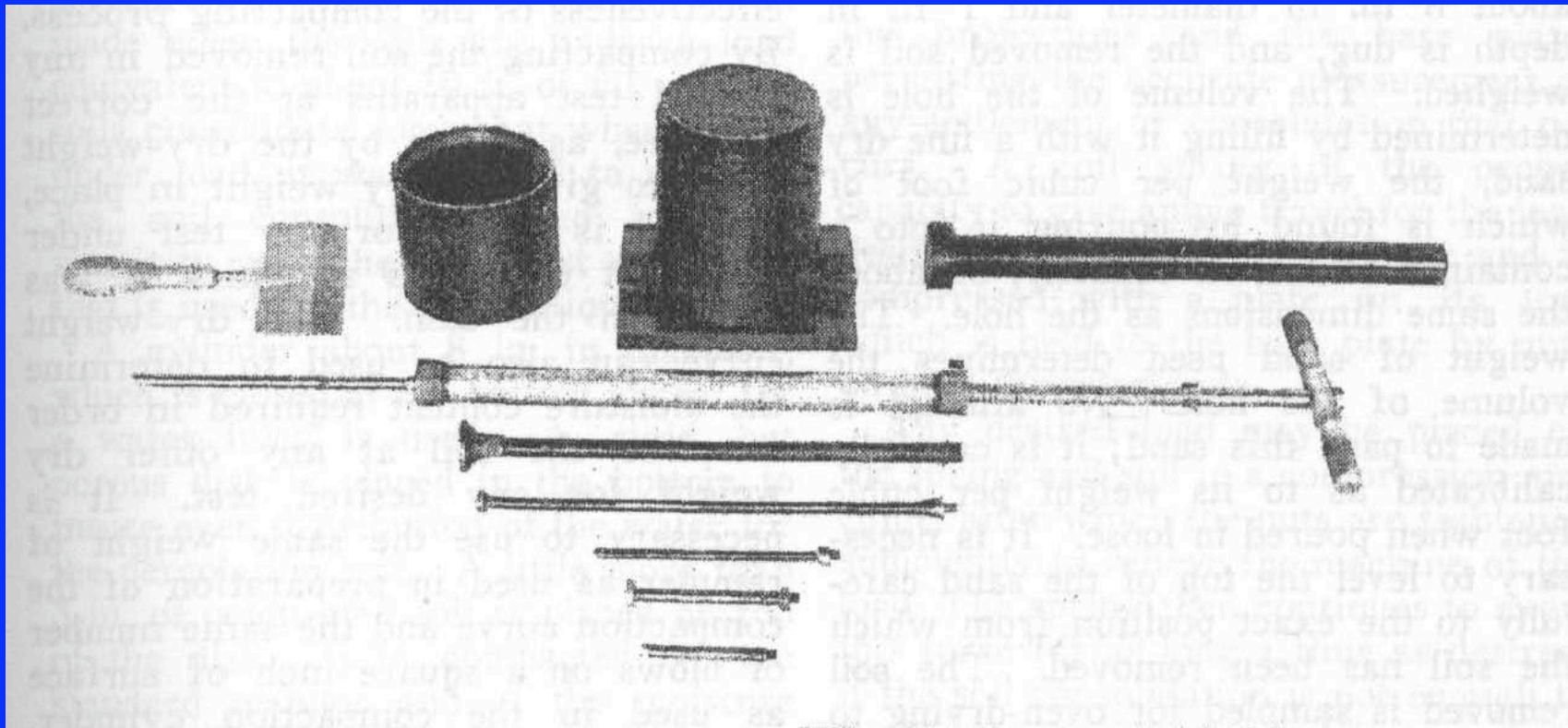
- Brief History (Studies by Proctor)
- What we will look at:
 - Moisture \sim Density
 - Moisture \sim Suction
 - Moisture \sim Stiffness
- Case History

Proctor studied moisture-density and moisture-penetrometer relationships in the 1930s.



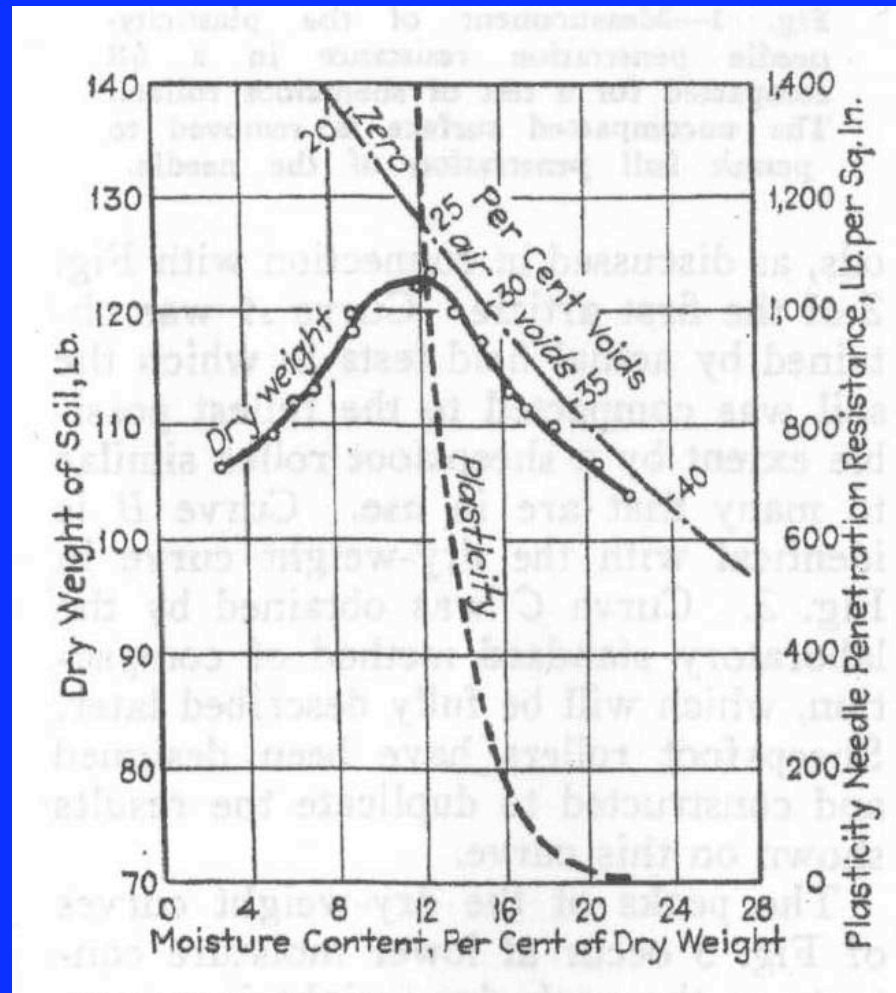


Penetrometer on Steroids

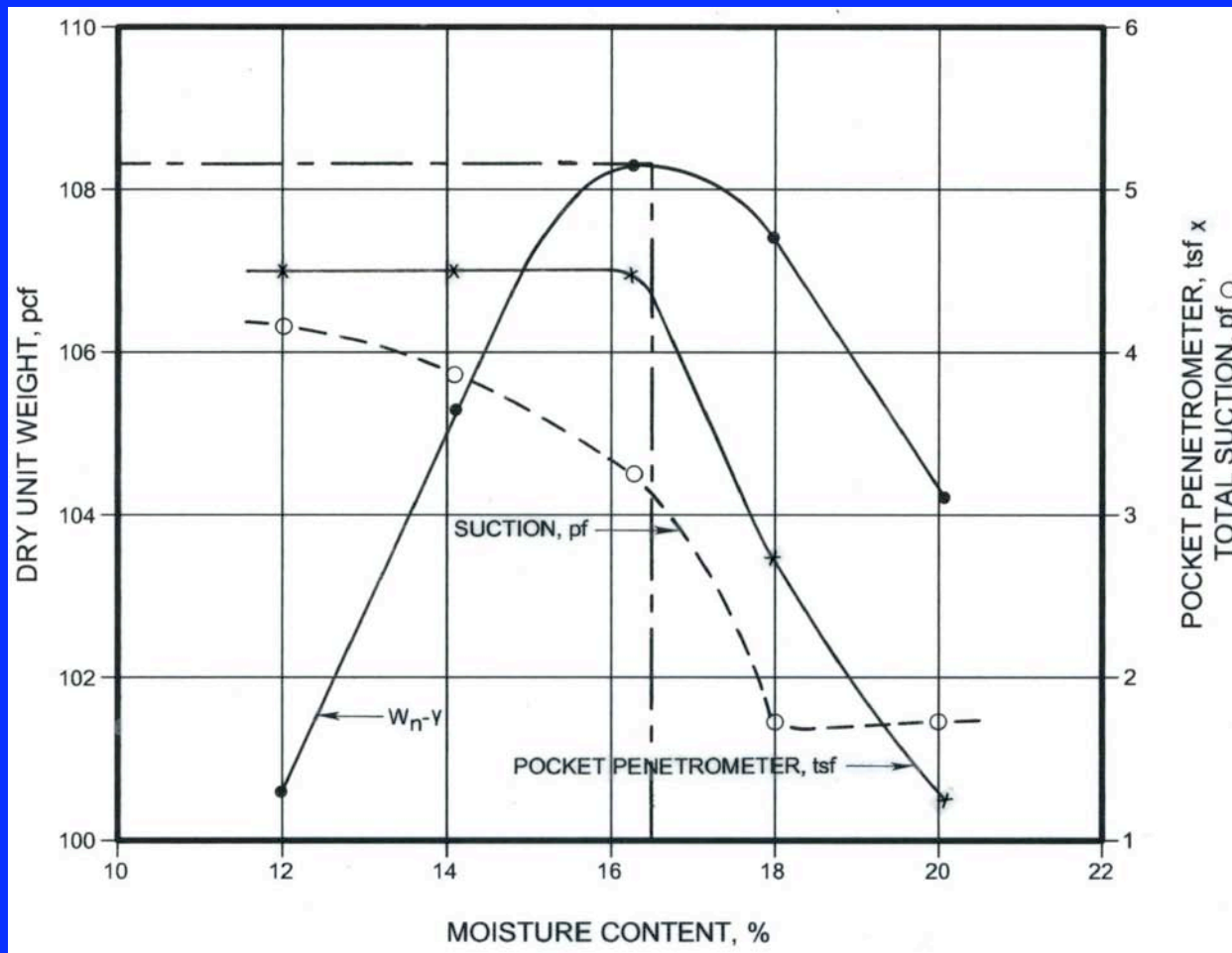


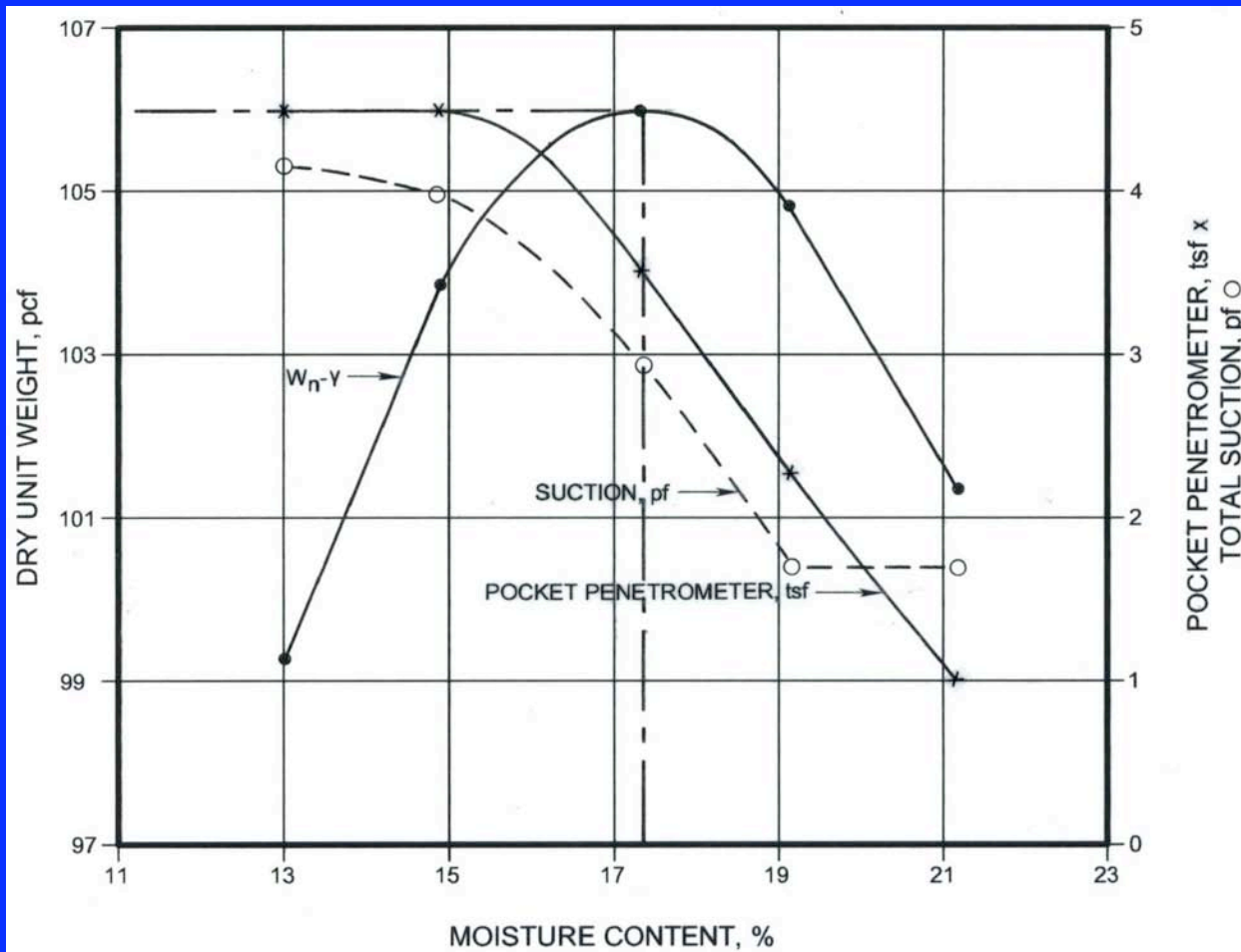


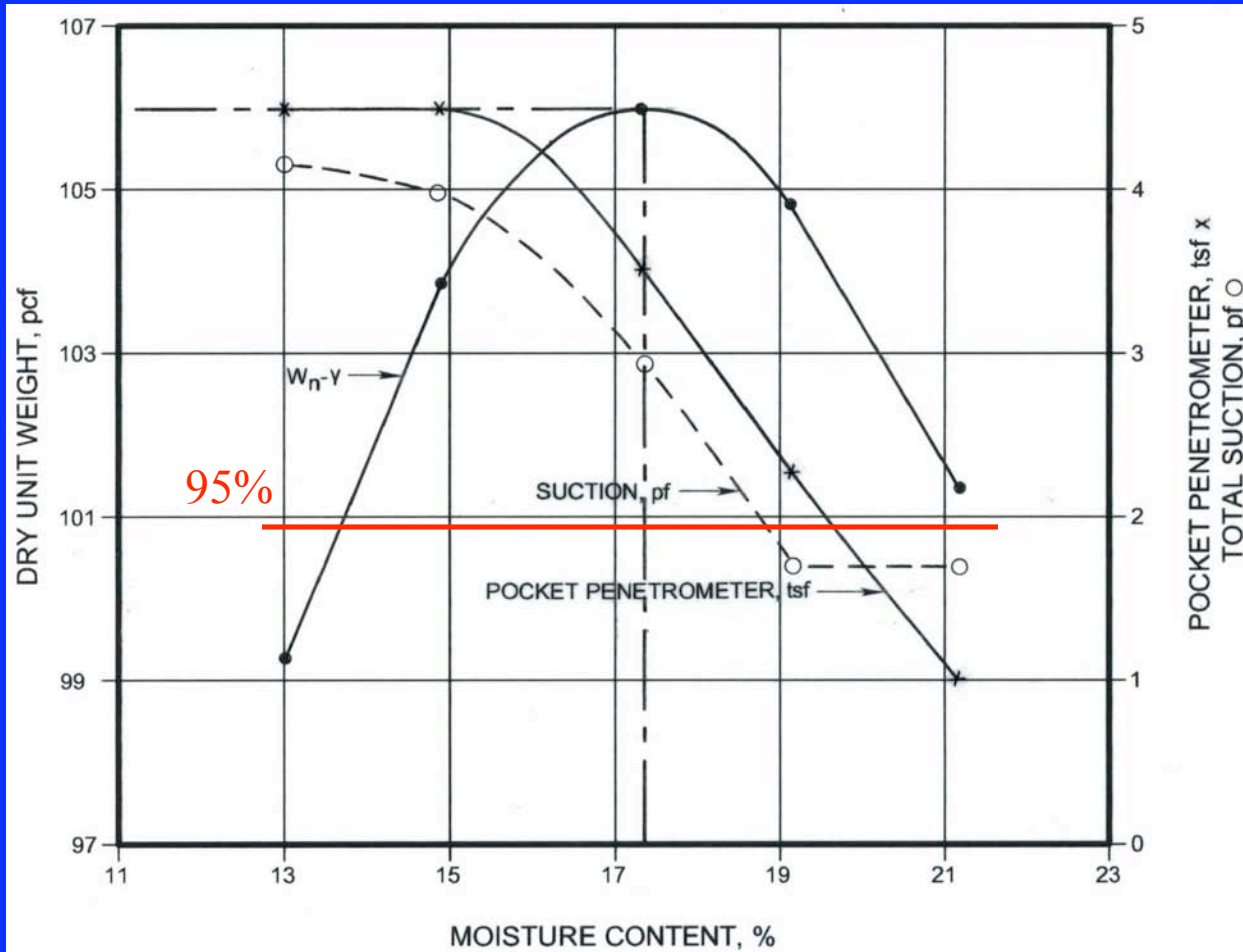
Moisture Density/Volume of Voids (Proctor.)



Similar Results for dry.





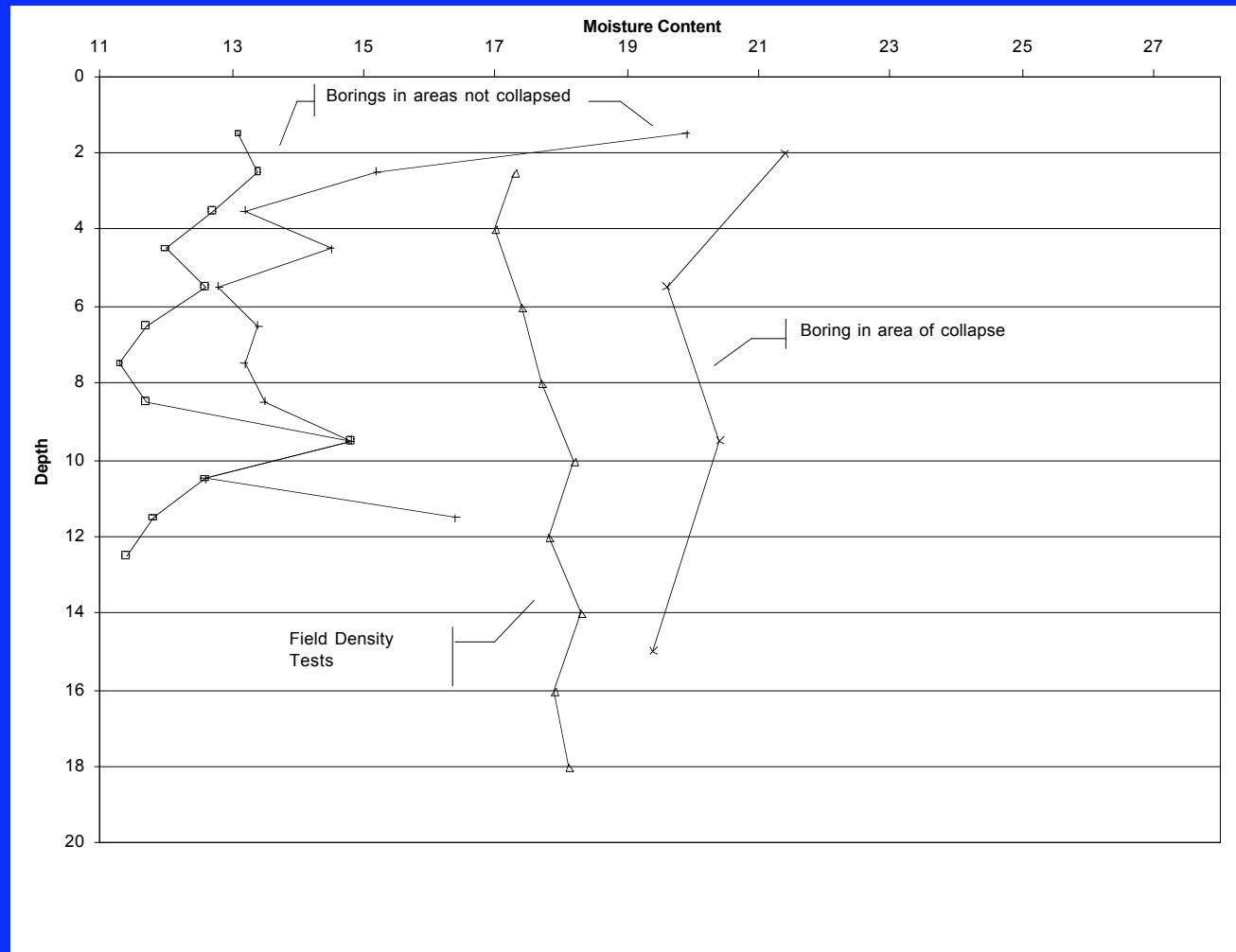


Application





Moisture Variation







Conclusions

- Materials compacted to equal % density, dry or wet of optimum have equal ratios.
- A pocket penetrometer used in conjunction with density tests can be used to confirm results.