Advanced Geotechnical Site Characterization at MVN - AGSC-08
2015 Aug 18 ----- DUE tonight at midnight -- HOMEWORK #2

Question 1: See graphic on next page

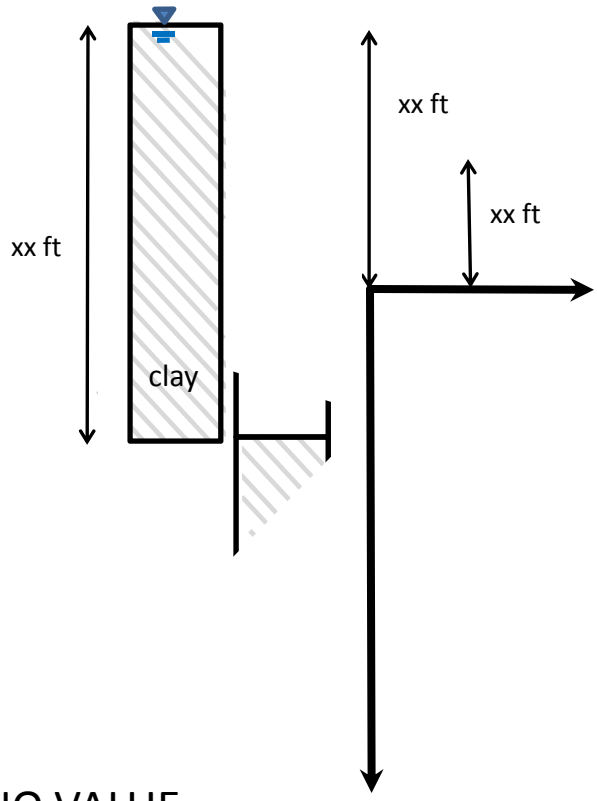
Calculate the equivalent NC column
Show $(D_{eNC})_{xx}$=XX ft

Determine if UC, NC, or OC

Show everything in graphics

If OC then define,
If NC than say by how much,
Describe the clay characteristics.

Show this type of graphic
and the values in
the figure on the next page



For ALL QUESTIONS

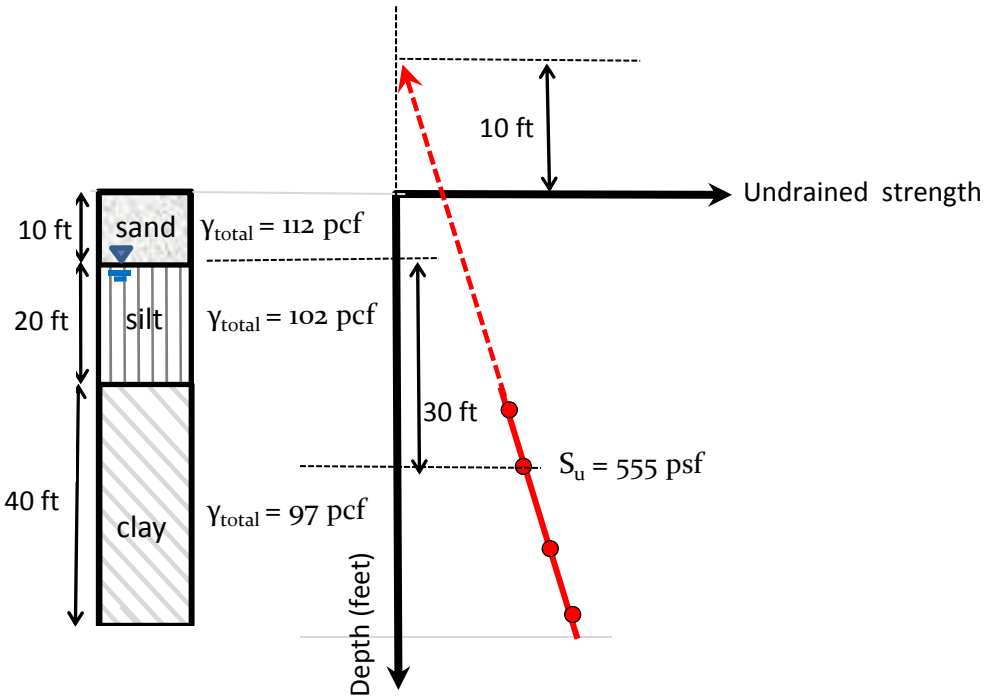
GETTING THE RIGHT ANSWER HAS NO VALUE
IF YOUR BOSS (OR ME OR AN ATR) CAN NOT UNDERSTAND IT

BE GRAPH

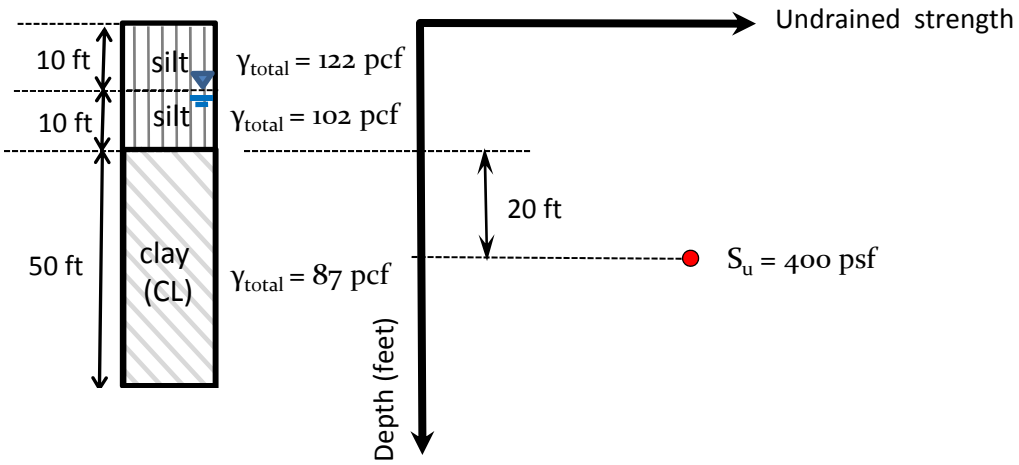
BE CLEAR

DON'T OVERLOAD ON DETAILS BECAUSE YOU CAN

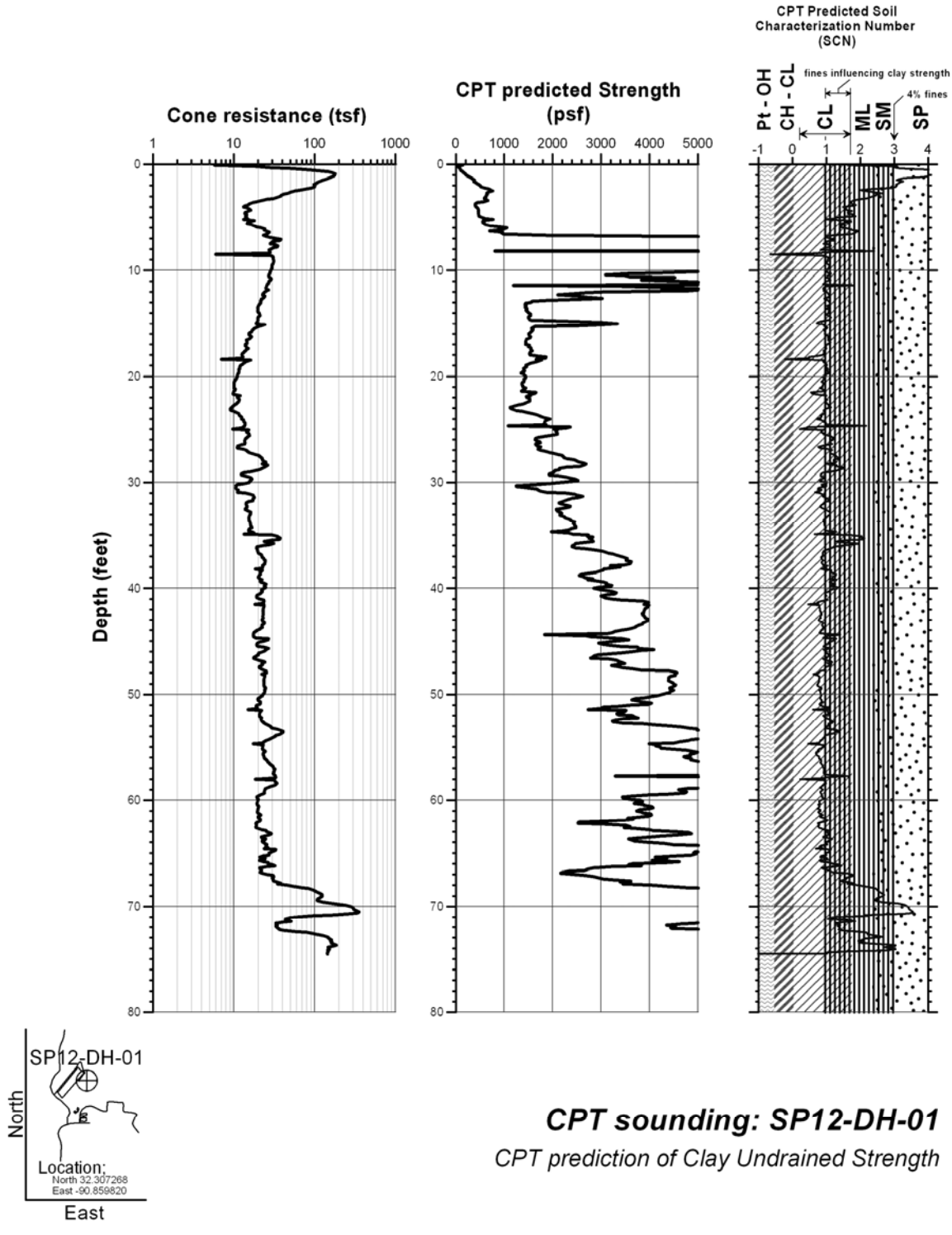
MAKE IT SO I CAN SEE YOUR LOGIC QUICKLY
(THESE CAPS MEAN IT'S IMPORTANT !!!)


10 ft
Undrained strength
10 ft
sand
γ_{total} = 112 pcf
20 ft
silt
γ_{total} = 102 pcf
30 ft
S_u = 555 psf
40 ft
clay
γ_{total} = 97 pcf
Depth (feet)

Question 2:
Evaluate this soil column.
Provide at least one solution…



Task 3: Drop this into a PPT and annotate (one slide). Your audience have a PhD in agricultural economics.



Question 4:

Examine the attached condensed CPT predictive data file named 119.q1.csv)

There are several different depth zones (low strength trends) within the data record indicating clay.

What can be determined about this 'assumed' constant soil property clay layer?

Plot depth plots….

Question 5;

Examine the attached condensed raw CPT data file named WCC-c-09.xls

Assume water table at ground surface.
Assume total unit weight of 125 pcf.
Assume qc1 = qc / (VES) and FR= 100*fs/qc

Try depth plot in terms of qc and qc1

Try plotting log FR (0.1 to 10 tsf) horizontal axis versus Log qc1 (1 to 1000) vertical axis and plotting FR versus qc1 but only for depths below 60 ft. Knowing that Normally consolidated clay is typically at a FR=1.8% and qc1=5.8 tsf

Do you see anything?