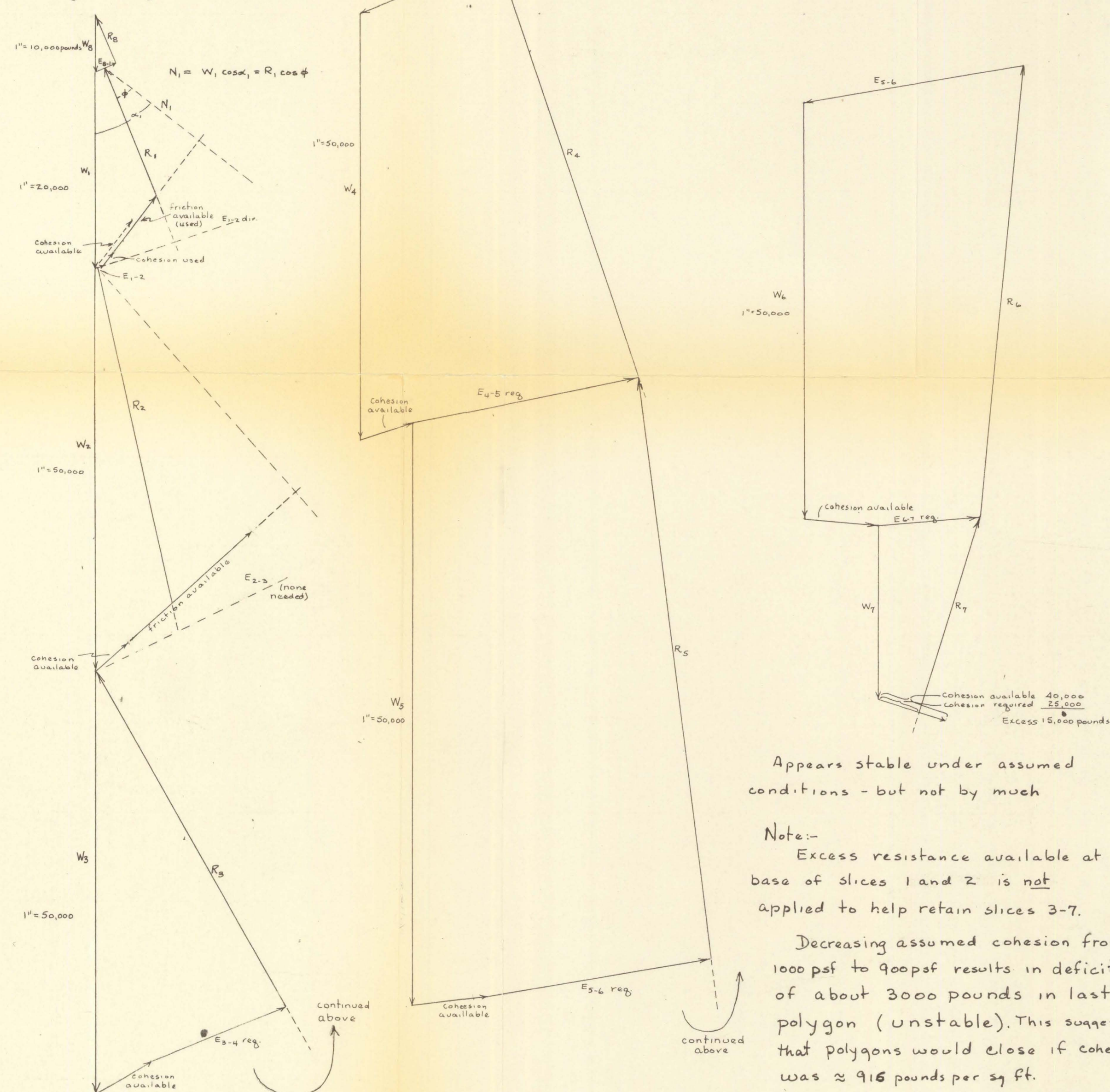


FIGURE 33
 STABILITY ANALYSIS ALONG ASSUMED CIRCULAR ARC
 OF FAILURE AXYZ, BORING LINE 2, UNDER STATIC CONDITIONS

Block	Unit weight pct	Area sq. ft.	Weight per sq. ft. in 1000 lb.	Weight of slice in 1000 lb.	Avg. for slice cohesion psf	ϕ
8	130	49	6.4	6.4	0	35°
1sq 1c	130 127	213 131	27.7 16.6	44.3	577	30°
2sq 2c	130 127	656 220	72.3 155.0	227.3	577	30°
3sq 3c	130 127	195 166.5	25.3 211.5	236.8	1000	0
4sq 4c	130 127	382 150.4	49.6 191.0	740.6	1000	0
5sq 5c	130 127	922 1640	119.7 208.0	327.7	1000	0
6sq 6c	130 127	204 163.5	26.6 207.5	234.0	1000	0
7sq 7c	130 127	14 70.8	1.8 89.9	91.7	1000	0
Water and peat	80	72	5.8	41.5	1000	0

W = Weight
 R = Resultant force on slip surface
 E_{1-2} = Force between sides of slices 1 and 2 (assumed to act in direction bisecting angle between ground surface and slip surface)



Appears stable under assumed conditions - but not by much

Note:-
 Excess resistance available at base of slices 1 and 2 is not applied to help retain slices 3-7.

Decreasing assumed cohesion from 1000 psf to 900psf results in deficit of about 3000 pounds in last polygon (unstable). This suggests that polygons would close if cohesion was ≈ 916 pounds per sq ft.

\therefore S.F. (with regard to cohesion) = $\frac{1000}{916} = 1.09$

PLEASE REPLACE IN POCKET
 IN BACK OF BOUND VOLUME

