

(200)  
R290  
L-W-9807

PLEASE REPLACE IN POCKET  
IN BACK OF BOUND VOLUME

FIGURE 32

STABILITY ANALYSIS BY MOMENTS ABOUT  
CENTER OF ARC RSP, BORING LINE 2, STATIC

1 FOOT THICK NORMAL TO PROFILE

Slice	Area sq ft	Density pcf	Weight K pounds	Lever arm	Moment Driving	K-ft pounds Resisting
1a	1032	130	134.1			
1r	940	127	<u>119.4</u>	97	24600	
			253.5			
2a	452	130	58.7			
2r	1420	127	<u>180.3</u>	62	14800	
			239.0			
3	1018	127	129.3	22	2850	
4a	256	62.5	16.0	22		352
4b	120	120	14.4	29		417
4c	240	127	30.5	13		396
						1165
5a	280	62.5	17.5	59		1032
5r	600	120	72.0	62		4560
						5592
6a	176	62.5	11.0	93		1023
6r	312	120	37.4	88		3290
						4313

Arc	Length ft.	cohesion per ft	total cohesion
P-P'	29.6	500	14.8
P-R'	24.1	1000	24.1
R-R'	27.4	500	13.7
			<u>269.5</u>
			125.5
			33800
			42250
			44870

S.F. =  $\frac{4487}{4225} = 1.06$

Assumed conditions

Density of sand and gravel 130 pcf  
clay 127  
estuarine silt 120

Cohesion along RSP  
of sand and gravel against clay 500 psf  
in clay 1000 psf  
in estuarine silt 500 psf

Angle of shearing resistance  $\phi = 0^\circ$  along RSP

Positions of centers of gravity of slices are estimated by eye

Ruled area balances and is neglected

