Appendix E
Test Results

To assist the reader in the flow of the thesis, test results are summarized in the main body of the thesis. All test results and graphs from the experimental program are attached in Appendix E. This includes the preliminary testing and the main experimental work. Descriptions of the figures and tables attached in this appendix are summarized in the table below

Table	Description
E-1	Volume change behaviour for pond material during flushing
E-2	Volume change behaviour for middle beach material during flushing
E-3	Volume change behaviour for upper beach material during flushing
E-4	Stiffness degradation curve properties for gold tailings
Figure	Description
E-1	Sedimentation result for pond material dispersed
E-2	Sedimentation result for middle beach material dispersed
E-3	Sedimentation result for upper beach material dispersed
E-4	Sedimentation result for pond material flocculated
E-5	Sedimentation result for middle beach material flocculated
E-6	Sedimentation result for upper beach material flocculated
E-7	Creep data for pond shear 200 and 400 samples
E-8	Creep data for middle beach shear 200 and 400 samples
E-9	Creep data for upper beach shear 200 and 400 samples
E-10	Stiffness of pond samples

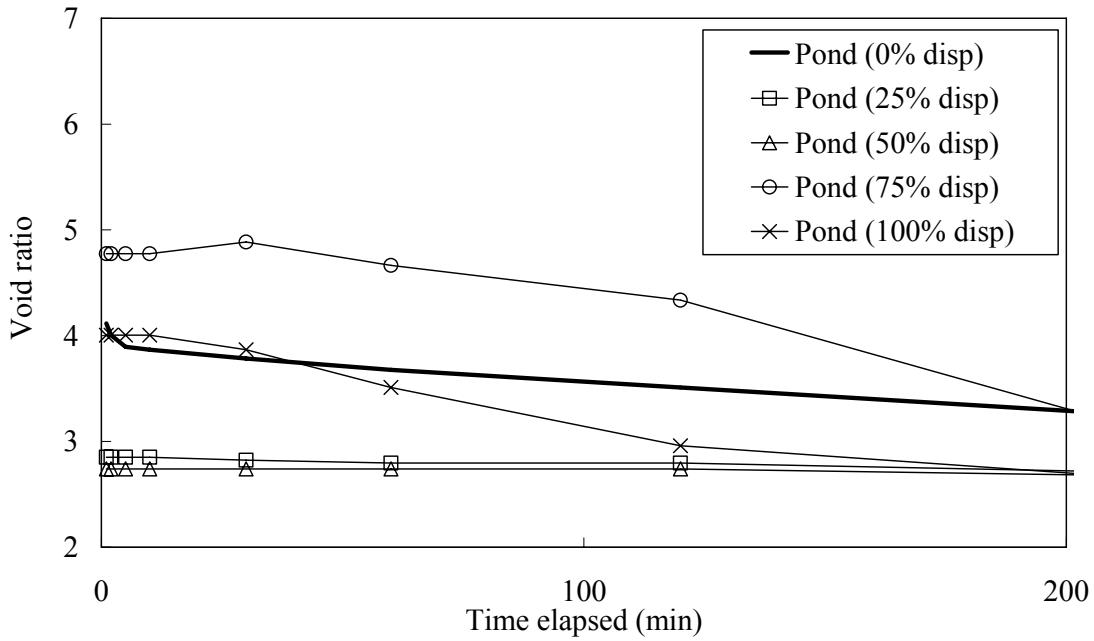

Figure E-1. Sedimentation result for pond material dispersed

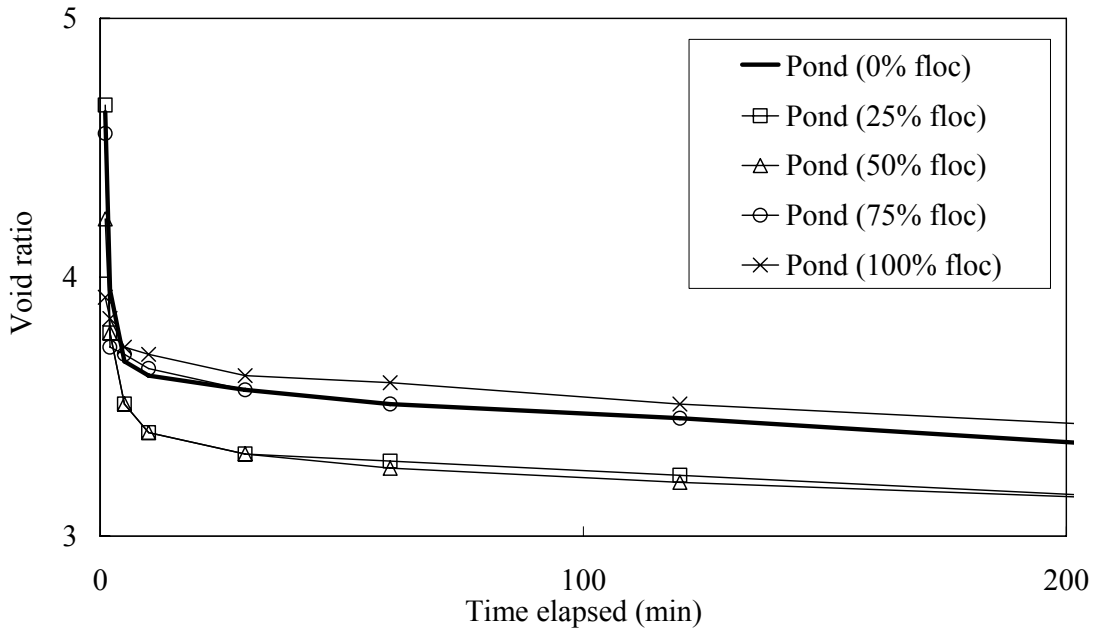

Figure E-1. Sedimentation result for pond material flocculated

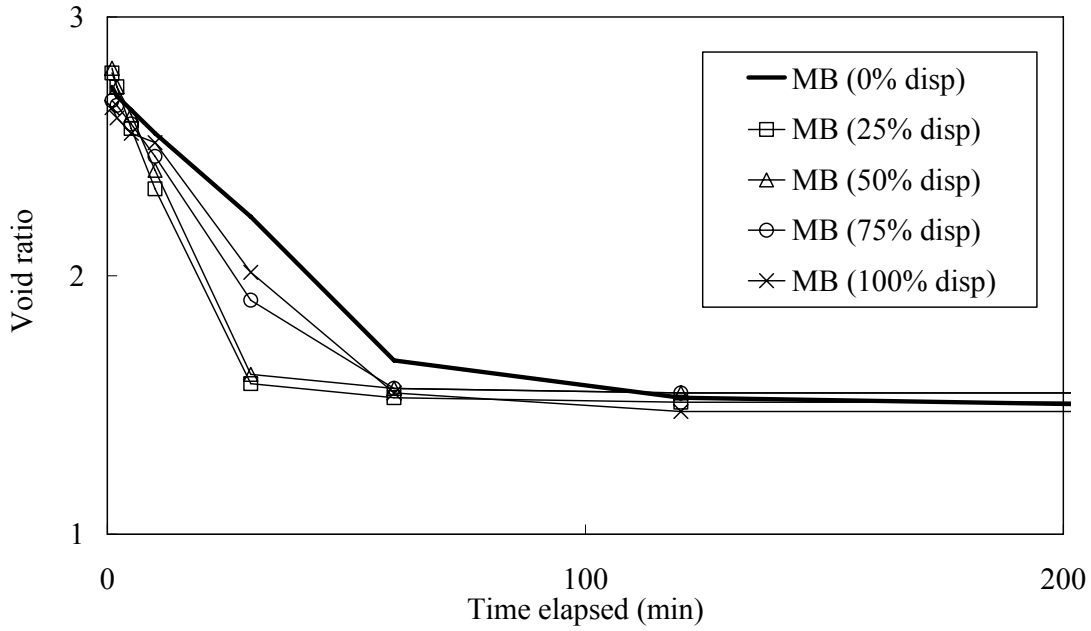

Figure E-3. Sedimentation result for middle beach material dispersed

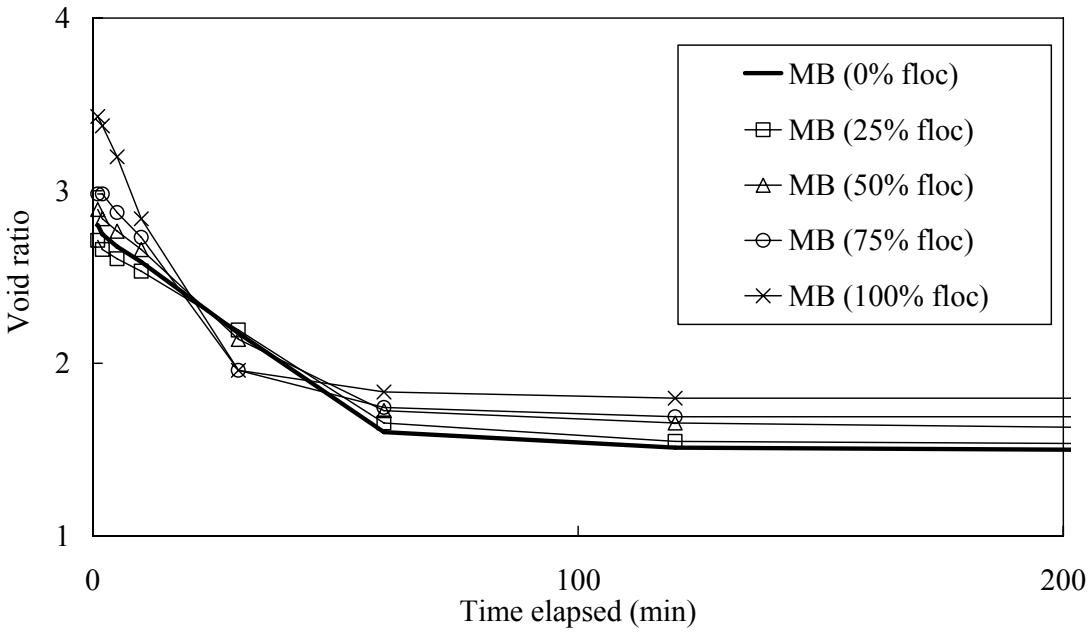

Figure E-4. Sedimentation result for middle beach material flocculated.

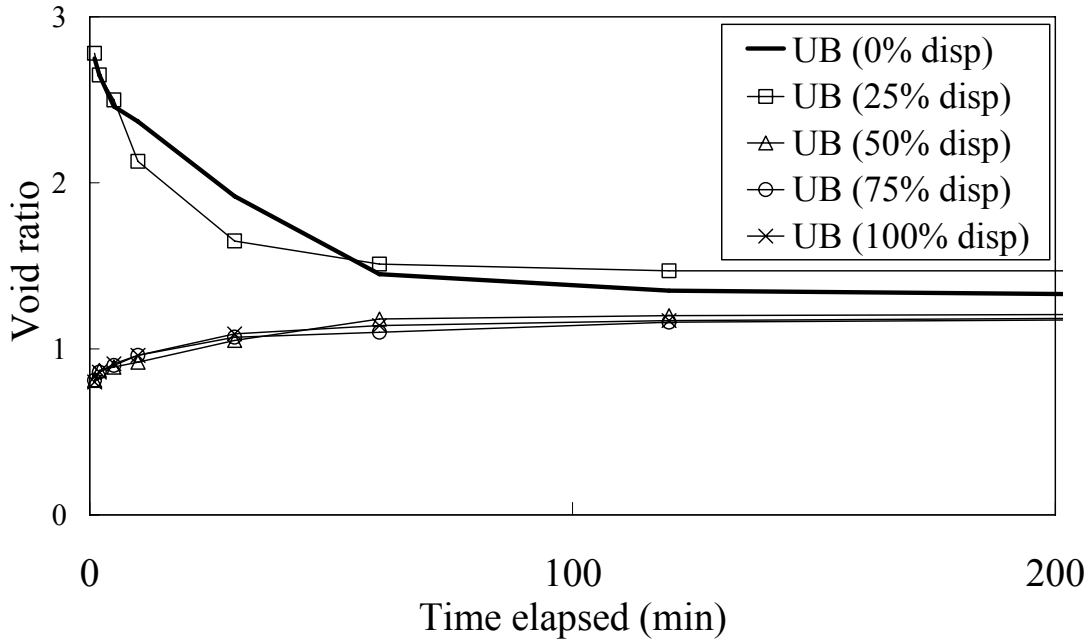

Figure E-5. Sedimentation result for upper beach material dispersed

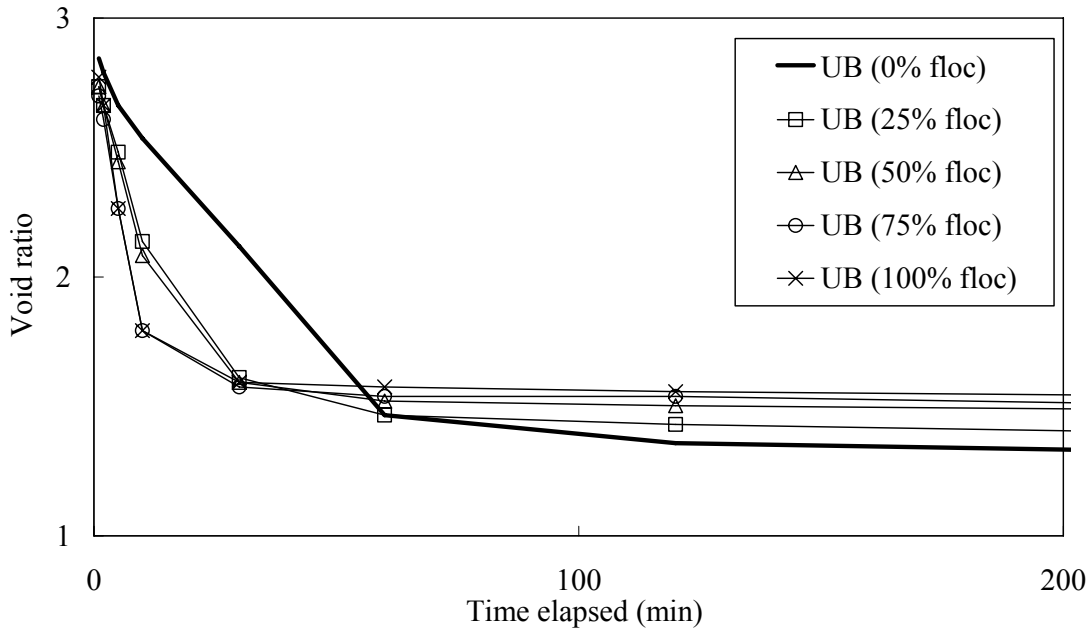

Figure E-6. Sedimentation result for upper beach material flocculated.

Volume change during flushing

Pond sample	Void ratio before flushing	Void ratio after flushing	Volume change (%)
P-U-200	1.37	1.35	1.60
P-U-400	1.41	1.39	1.70
P-U-con	1.39	1.38	1.15
P-MT-200	1.36	1.39	-1.84
P-MT-400	1.16	1.21	-4.48
P-MT-con	1.35	1.38	-2.15
P-S-200	1.50	1.49	1.07
P-S-400	1.40	1.39	0.79
P-S-con	1.43	1.40	1.75

Table E-1. Volume change behaviour for pond material during flushing.

Middle beach sample	Void ratio before flushing	Void ratio after flushing	Volume change (%)
MB-U-200	1.07	1.07	0.00
MB-U-400	1.10	1.11	-0.55
MB-U-con	1.10	1.10	-0.09
MB-MT-200	1.31	1.17	10.62
MB-MT-400	1.37	1.19	12.78
MB-MT-con	1.12	1.12	0.00
MB-S-200	1.56	1.39	10.77
MB-S-400	1.70	1.51	11.29
MB-S-con	1.17	1.16	0.94

Table E-2. Volume change behaviour for middle beach material during flushing.

Upper beach Sample	Void ratio before flushing	Void ratio after flushing	Volume change (%)
UB-U-200	0.65	0.64	0.77
UB-U-400	0.54	0.54	0.37
UB-U-con	0.63	0.63	0.63
UB-MT-200	0.63	0.63	1.26
UB-MT-400	0.55	0.55	0.55
UB-MT-con	0.64	0.64	0.47
UB-S-200	0.64	0.64	0.31
UB-S-400	0.59	0.59	1.02
UB-S-con	0.64	0.64	0.47

Table E-3. Volume change behaviour for upper beach material during flushing.

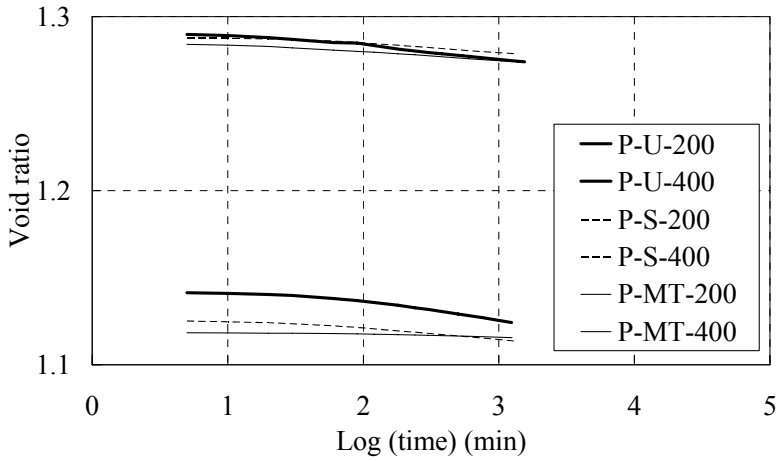

Figure E-7. Creep data for pond shear 200 and 400 samples.

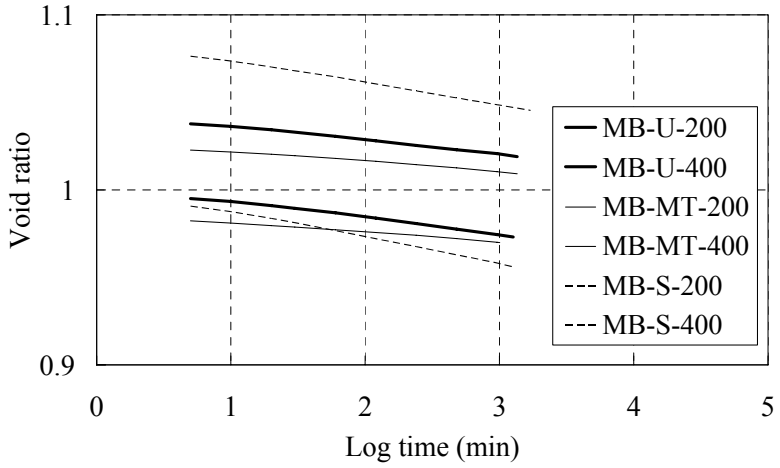

Figure E-8. Creep data for middle beach shear 200 and 400 samples

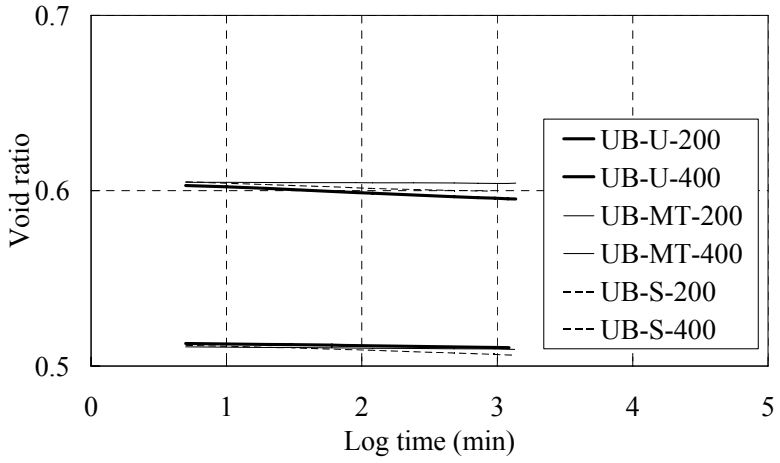

Figure E-9. Creep data for upper beach shear 200 and 400 samples.

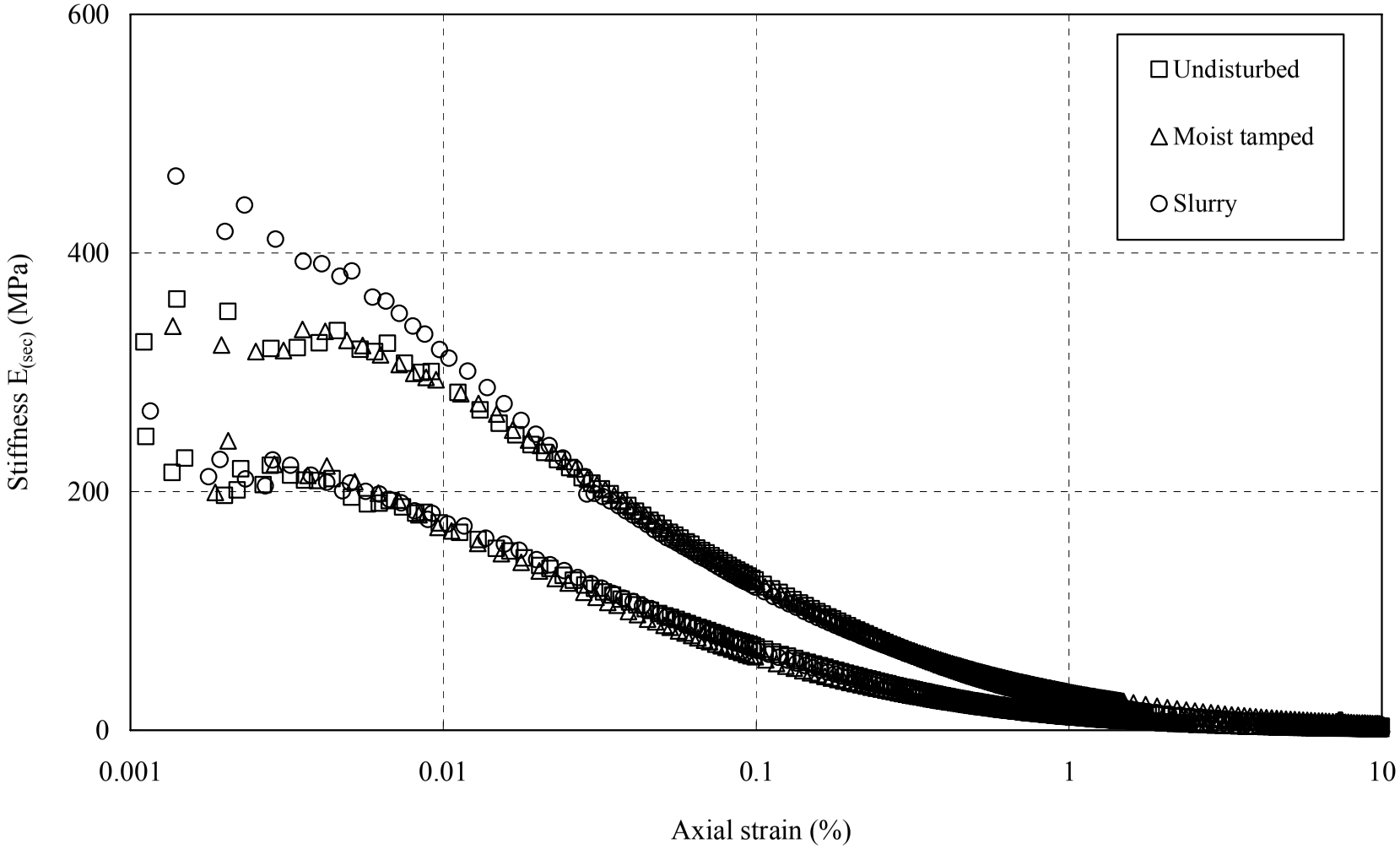

Figure E-10. Stiffness of pond samples

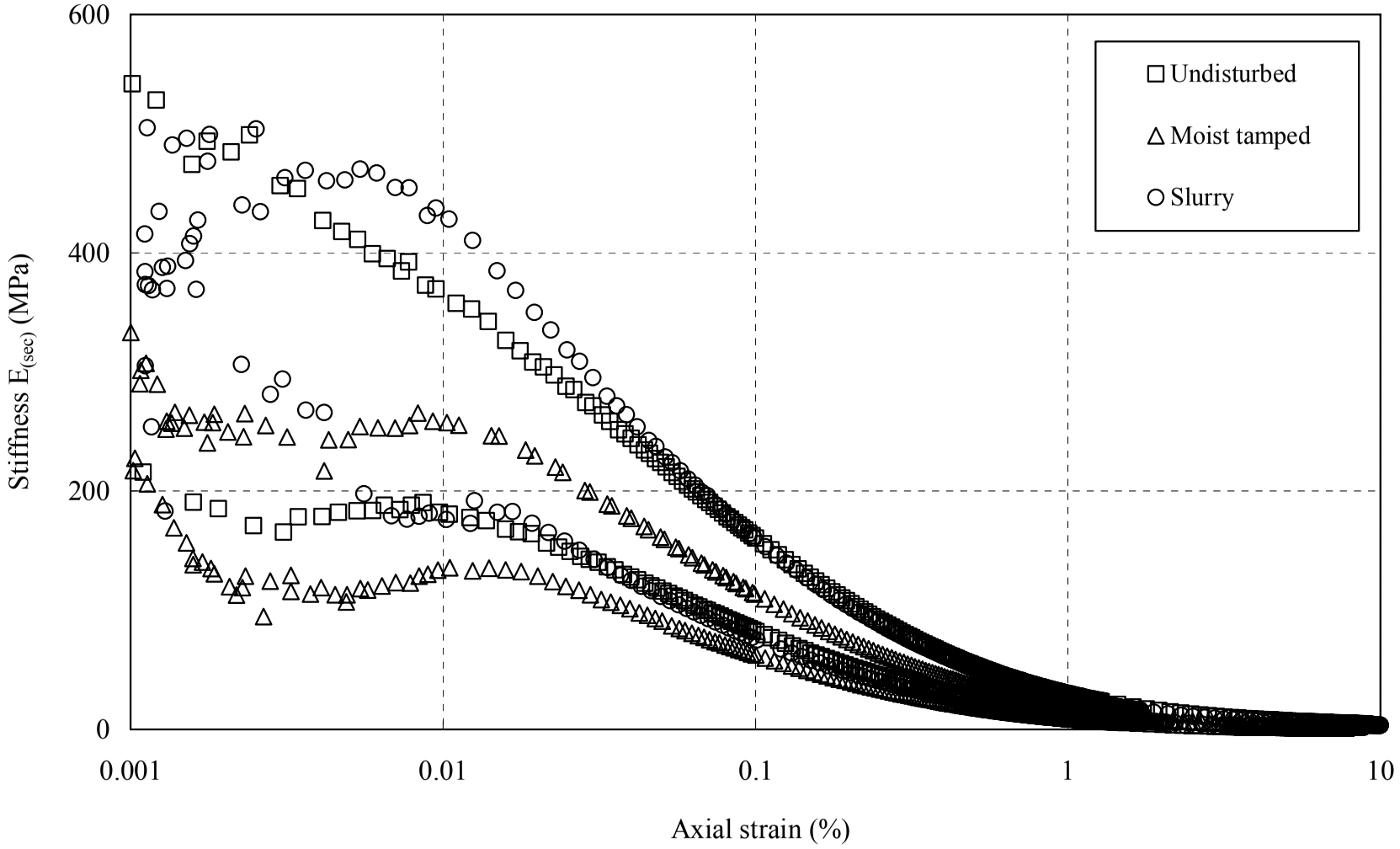

Figure E-11. Stiffness of middle beach samples

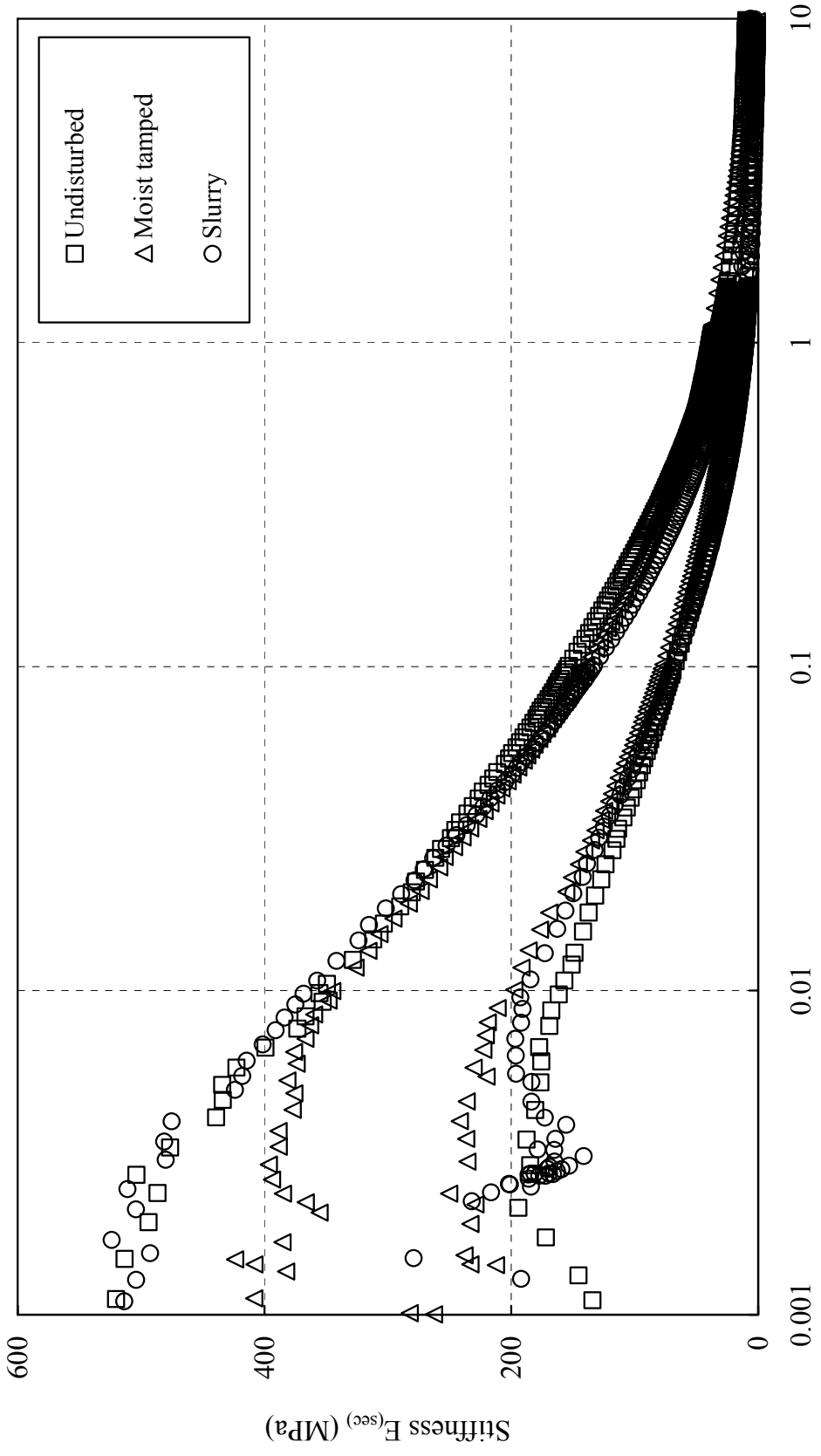

Figure E-12. Stiffness of upper beach samples

Sample	$E_{0.001}$ (MPa)	$E_{0.01}$ (MPa)	$E_{0.1}$ (MPa)	$E_{1.0}$ (MPa)	$E_{0.01}/E_{0.001}$	$E_{0.1}/E_{0.001}$	$E_{1.0}/E_{0.001}$
P-U-200	240	173	70	13	0.72	0.29	0.05
P-MT-200	240	168	61	12	0.70	0.25	0.05
P-S-200	240	178	67	12	0.74	0.28	0.05
P-U-400	335	285	125	25	0.85	0.37	0.07
P-MT-400	335	288	125	32	0.86	0.37	0.10
P-S-400	460	315	119	26	0.68	0.26	0.06
MB-U-200	200	181	82	14	0.91	0.41	0.07
MB-MT-200	140	134	62	9	0.96	0.44	0.06
MB-S-200	200	176	76	12	0.88	0.38	0.06
MB-U-400	480	365	160	29	0.76	0.33	0.06
MB-MT-400	280	258	113	19	0.92	0.40	0.07
MB-S-400	475	428	159	27	0.90	0.33	0.06
UB-U-200	200	158	69	13	0.79	0.35	0.07
UB-MT-200	260	198	78	17	0.76	0.30	0.07
UB-S-200	220	193	69	10	0.88	0.31	0.05
UB-U-400	520	355	154	34	0.68	0.30	0.07
UB-MT-400	420	345	140	40	0.82	0.33	0.10
UB-S-400	520	368	134	22	0.71	0.26	0.04

Table E-4. Stiffness degradation curve properties for gold tailings.

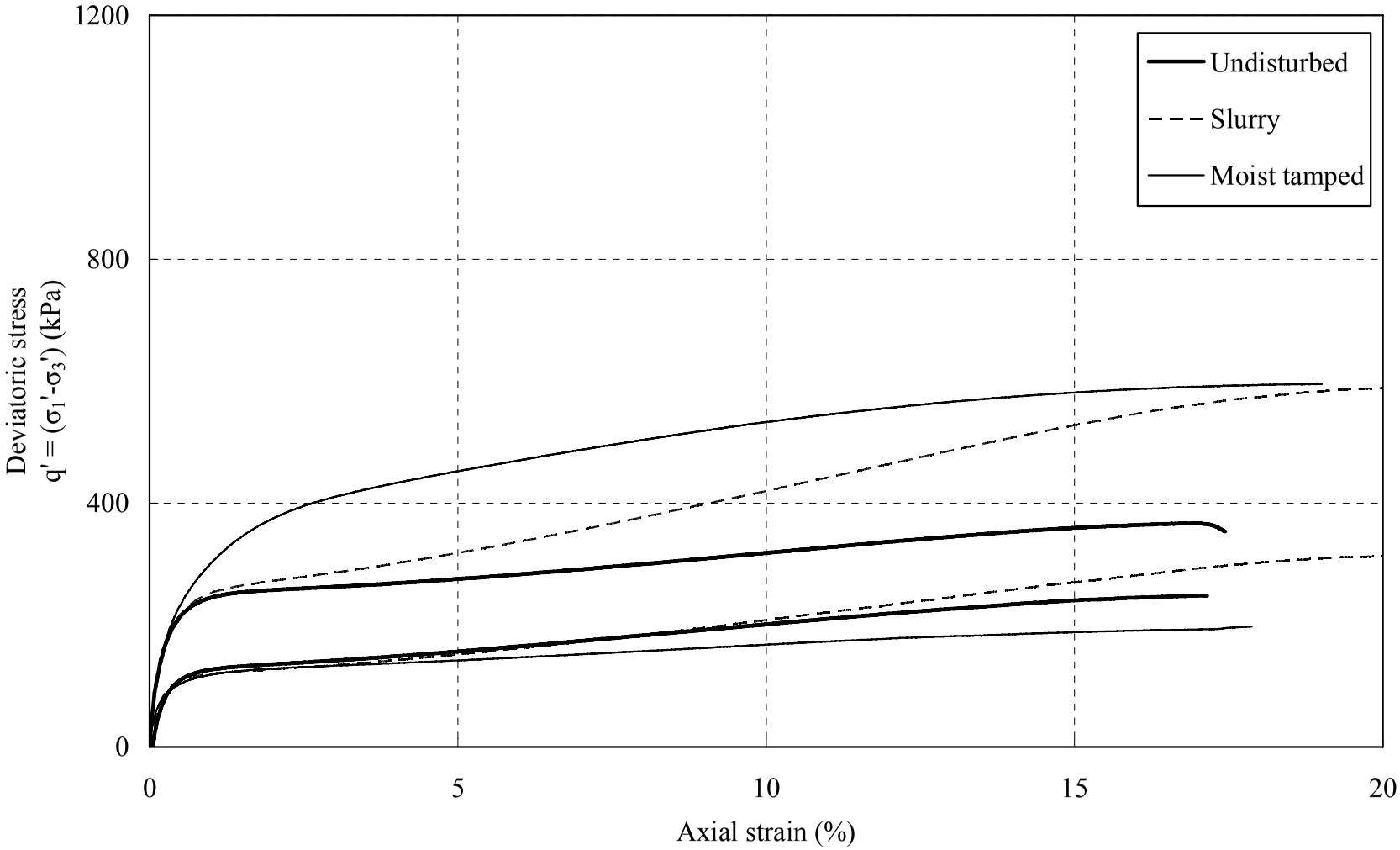

Figure E-13. q'-ε_a graph for pond samples

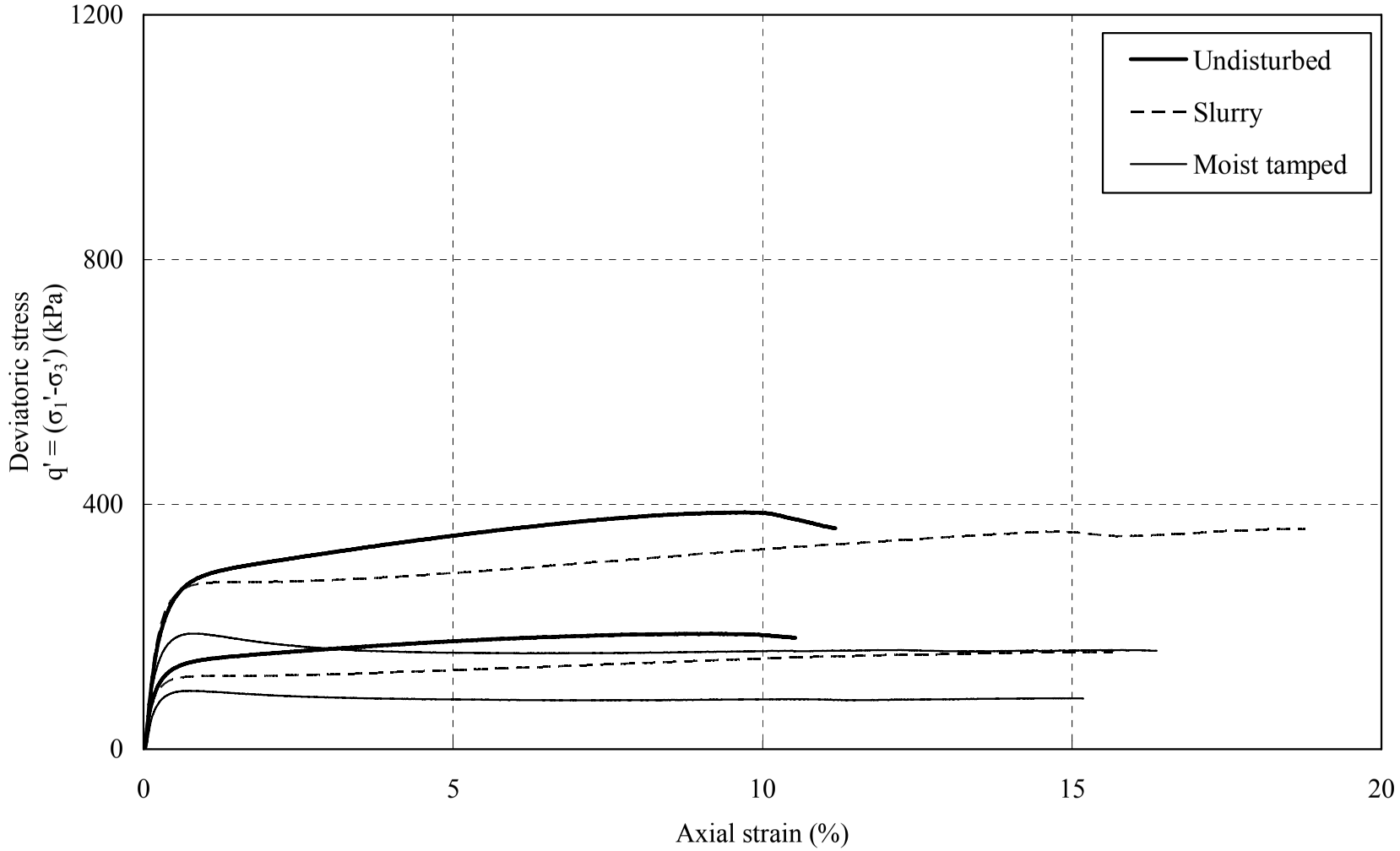

Figure E-14. q'-ε_a graph for middle beach samples

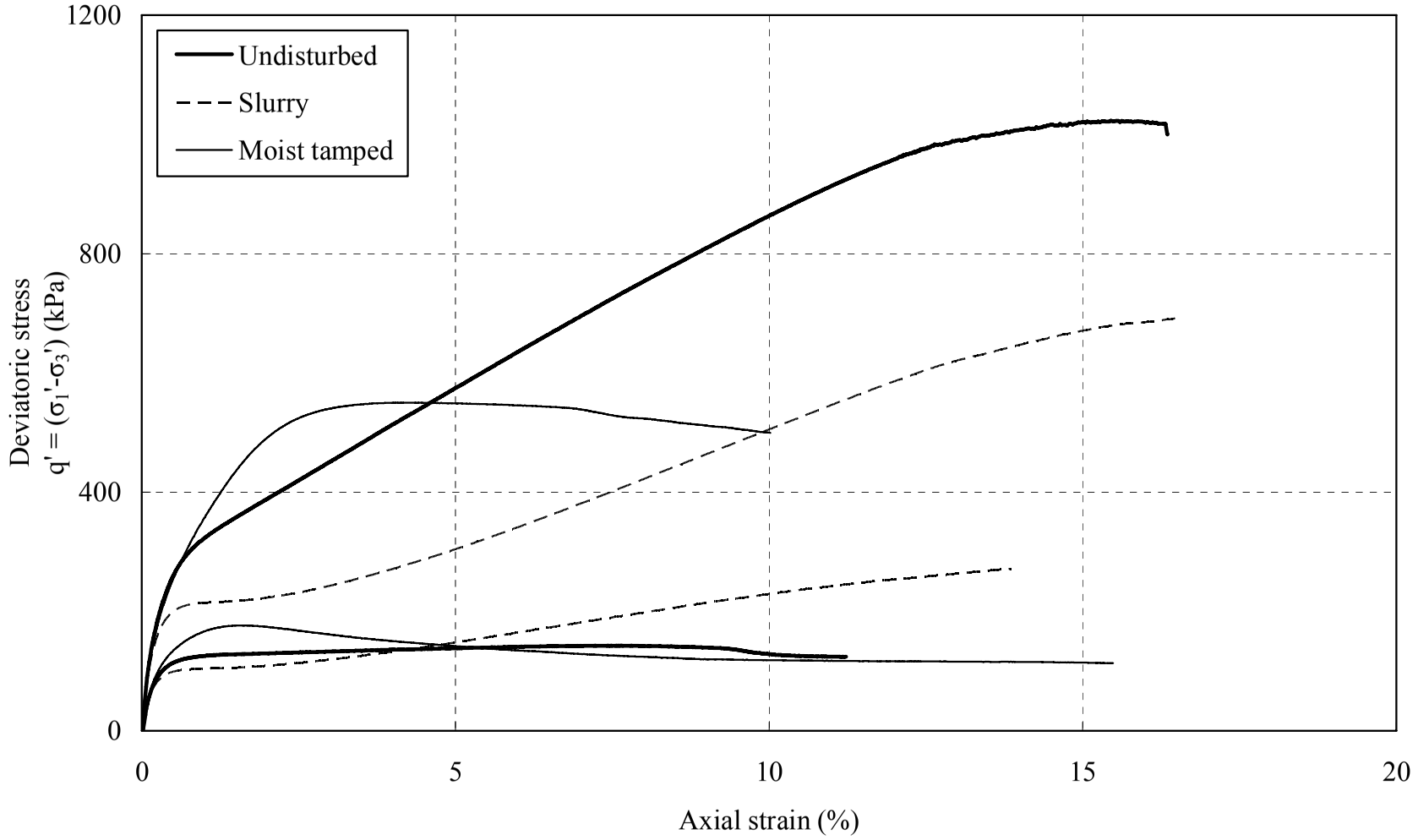

Figure E-15. p'-ε_a graph for pond samples

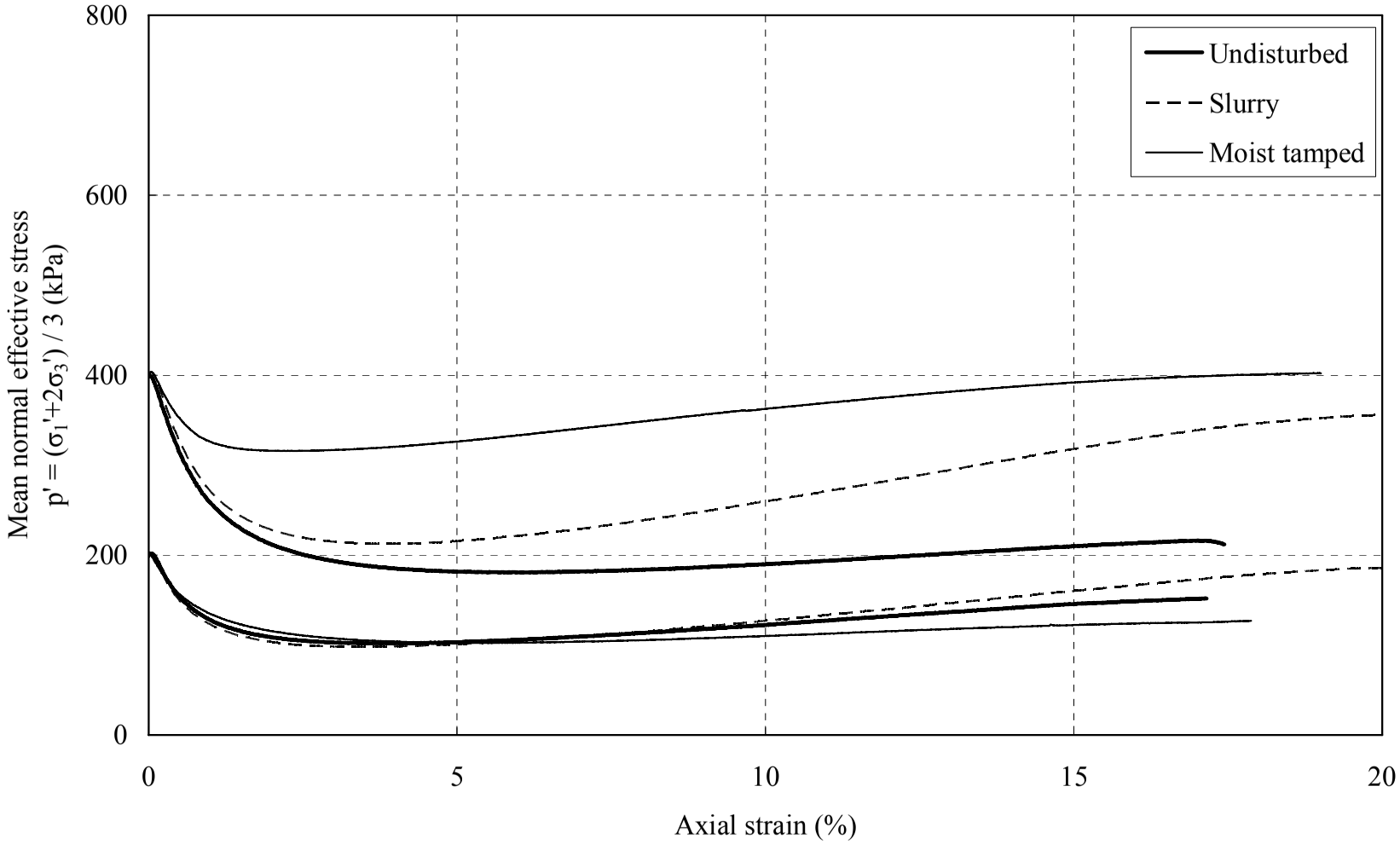

Figure E-16. p'-ε_a graph for pond samples

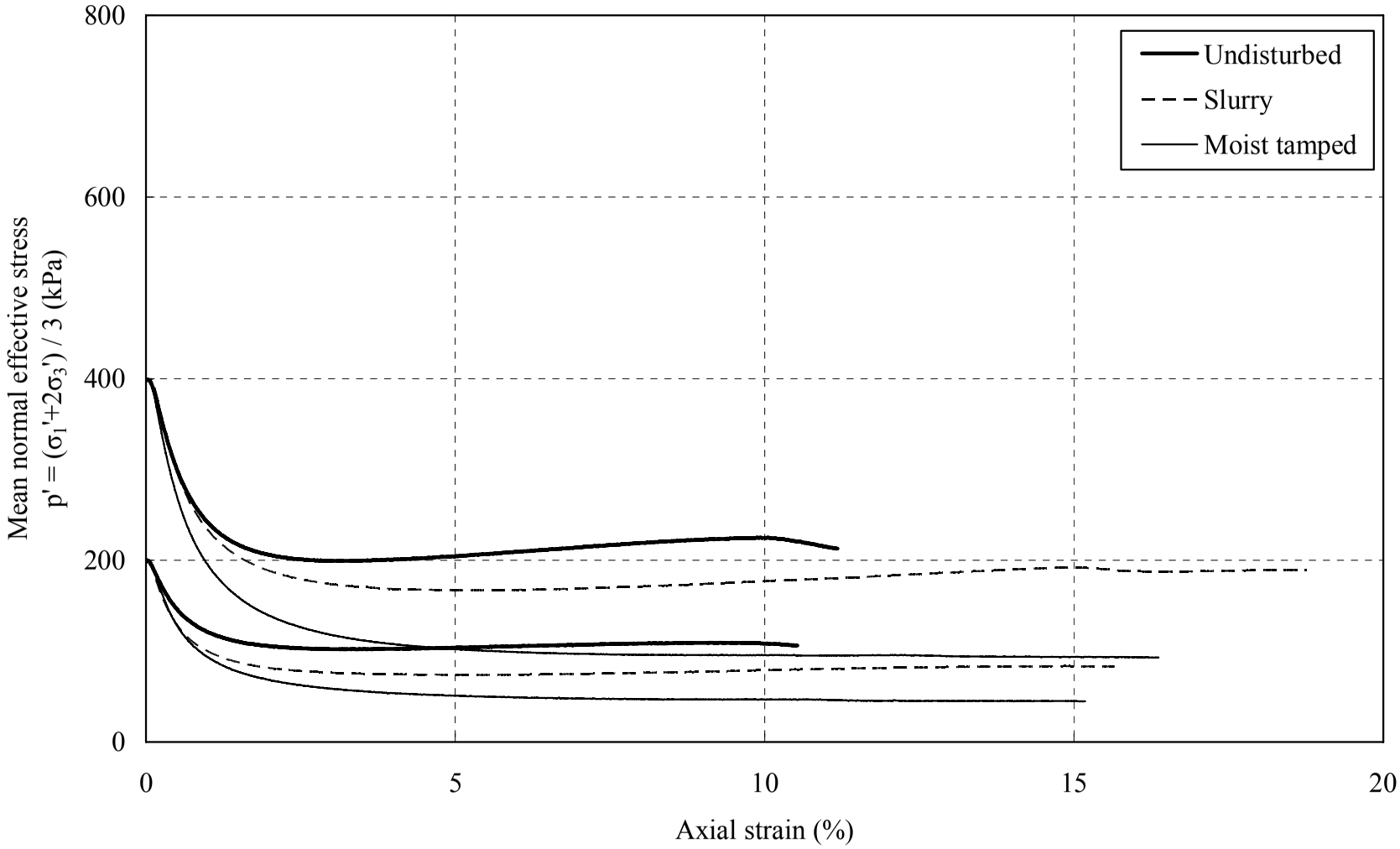

Figure E-17. p'-ε_a graph for middle beach samples

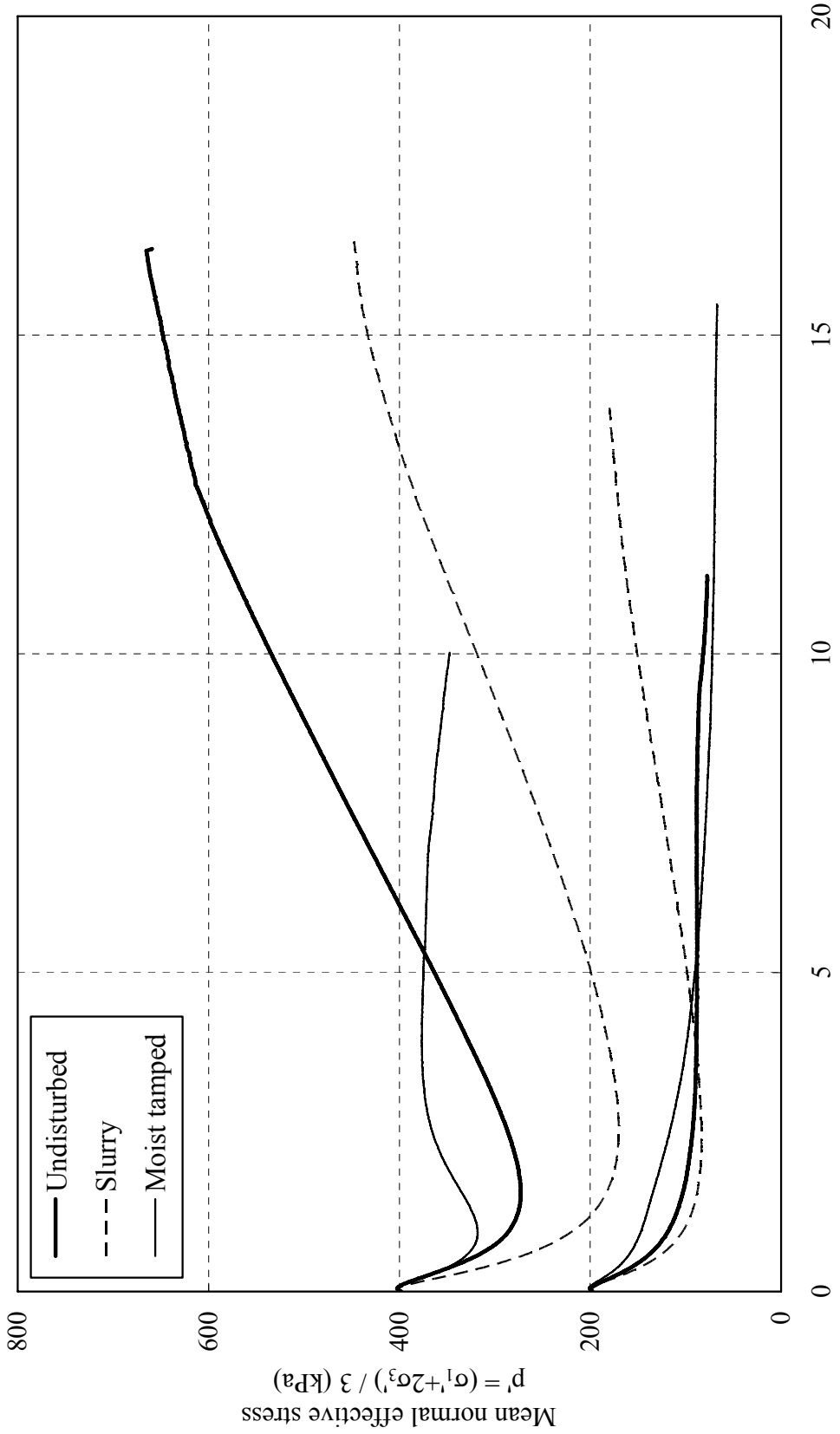

Figure E-18. p'-ε_a graph for upper beach samples

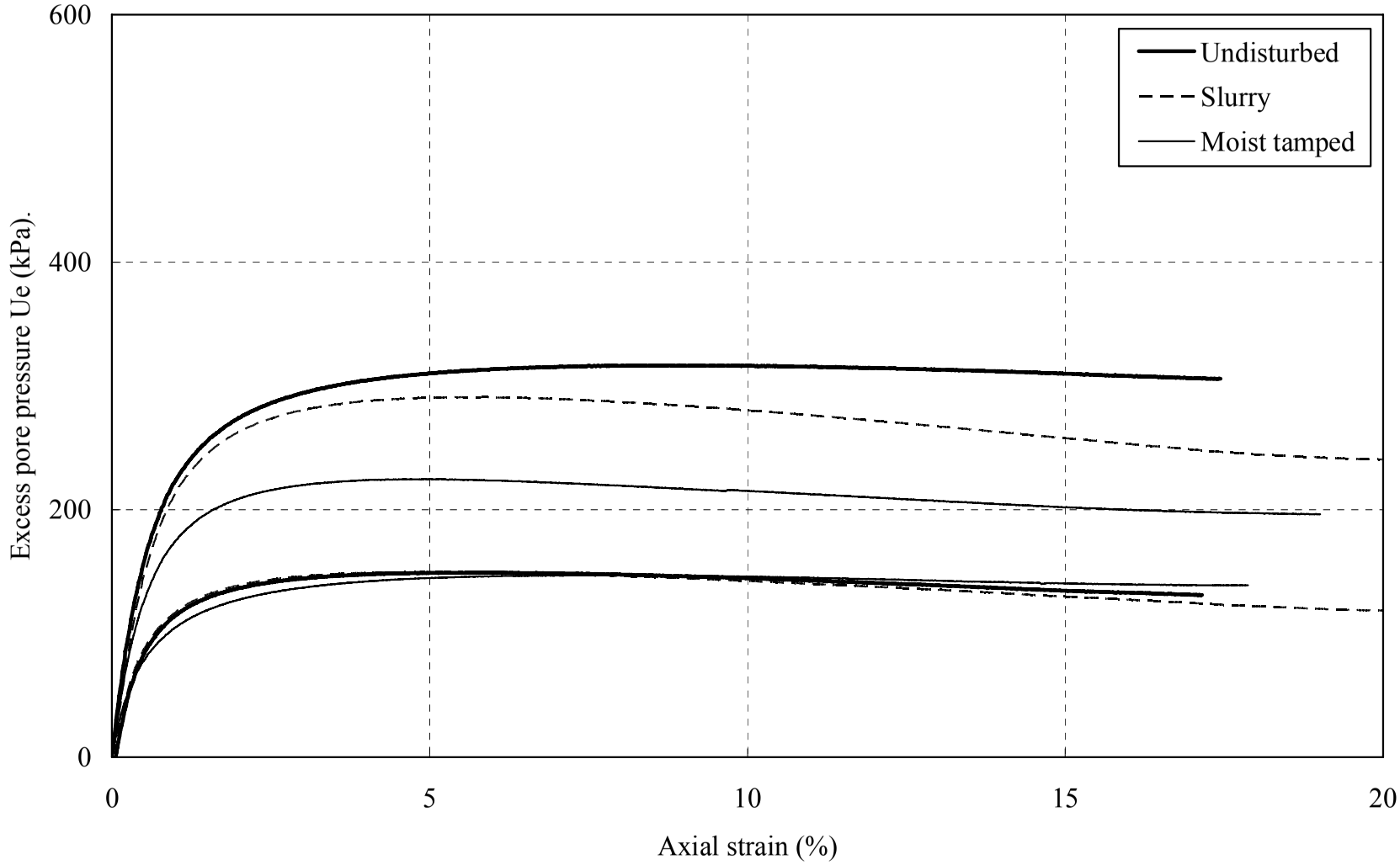

Figure E-19. U_e- ε_a graph for pond samples

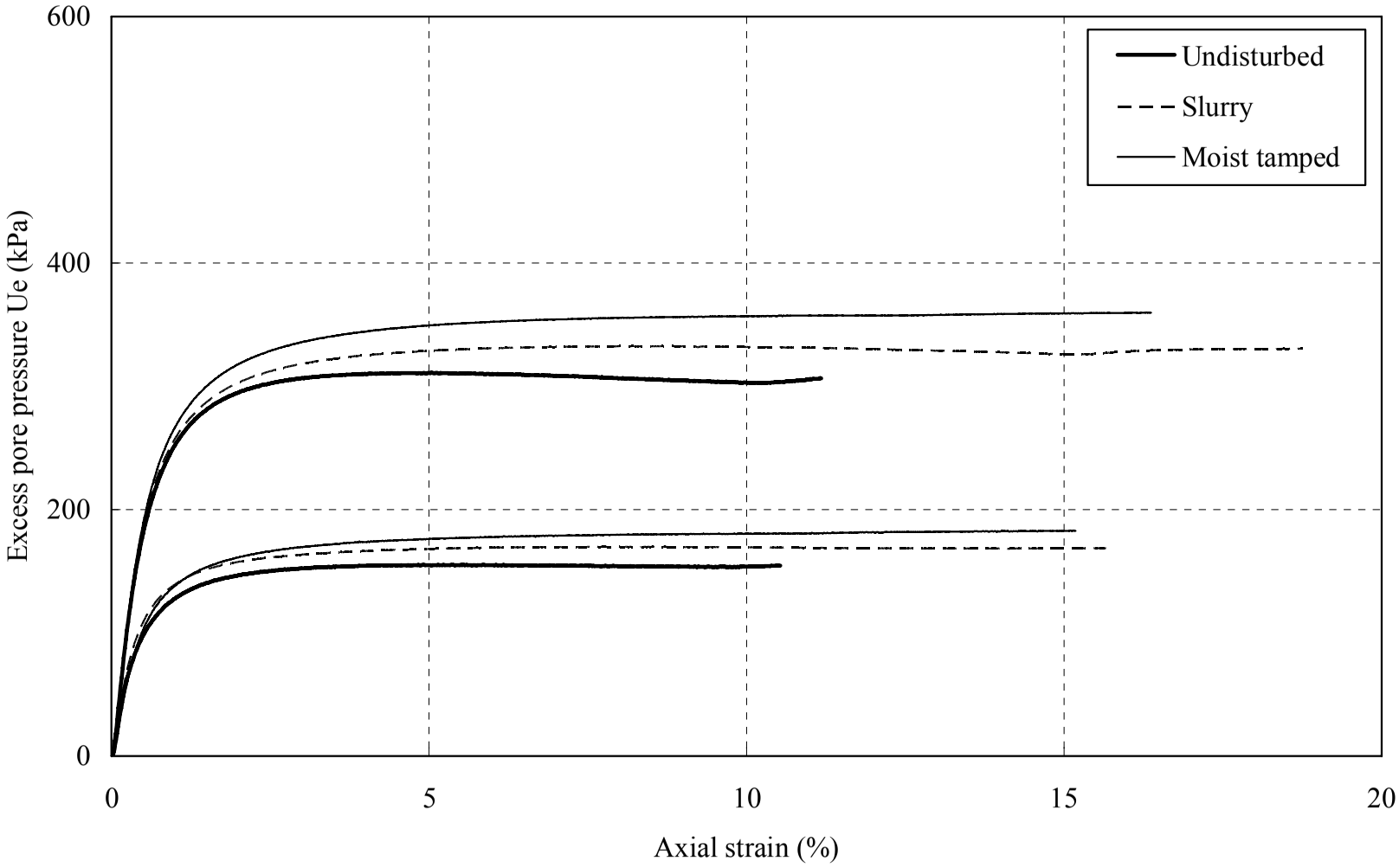

Figure E-20. U_e- ε_a graph for middle beach samples

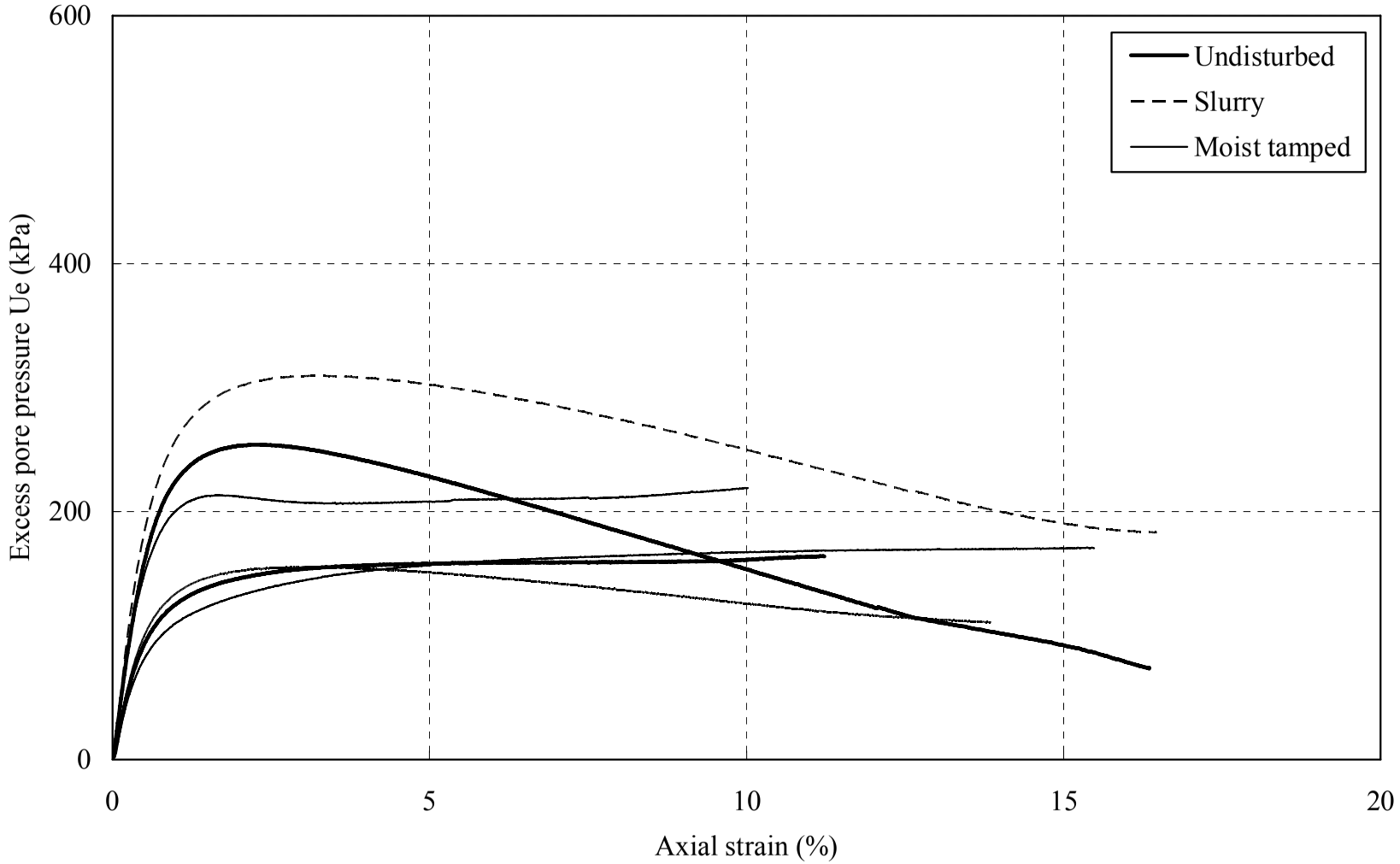

Figure E-21. U_e- ε_a graph for upper beach samples

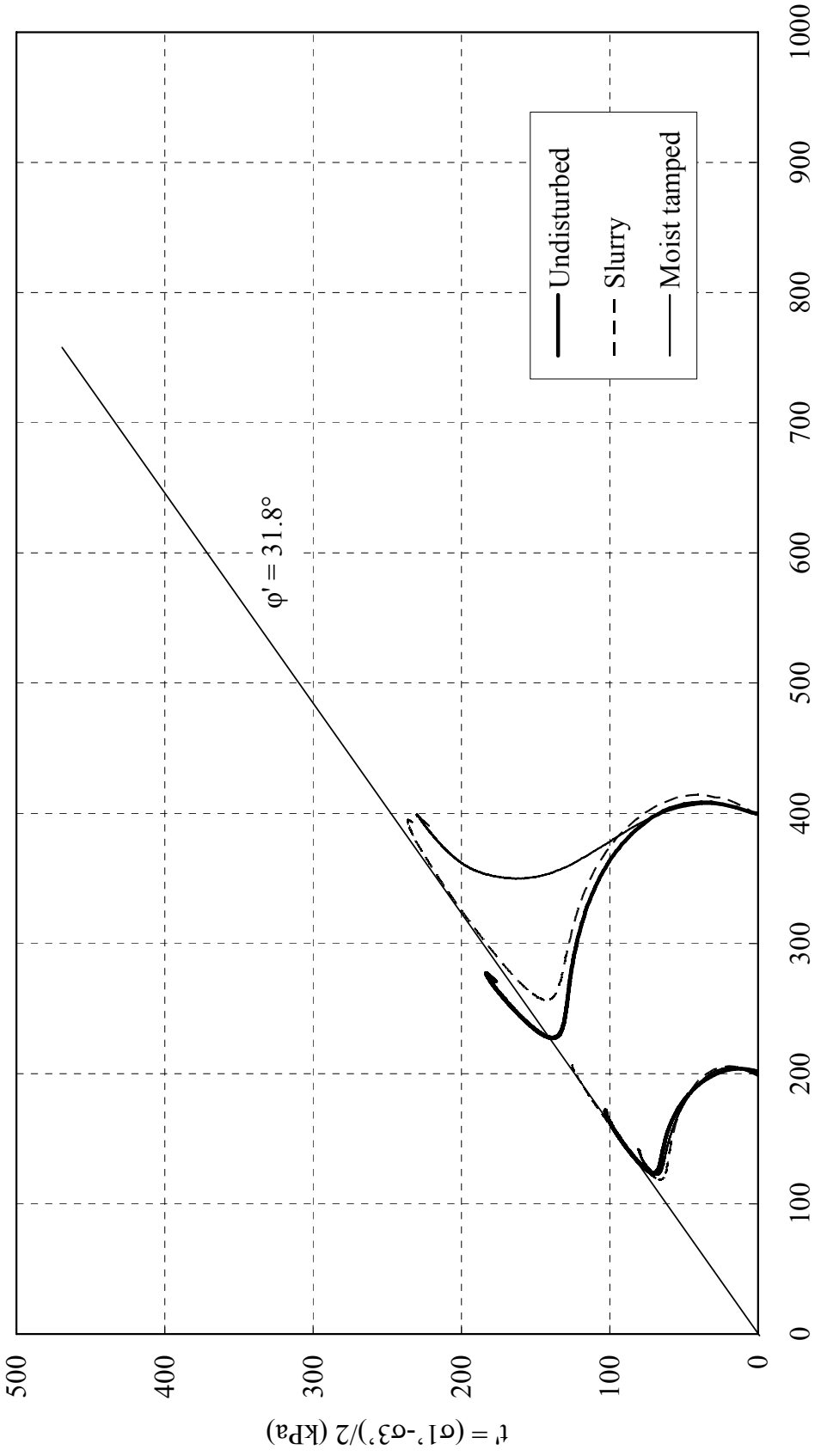

Figure E-22. Stress path of pond samples (s'-t' space)

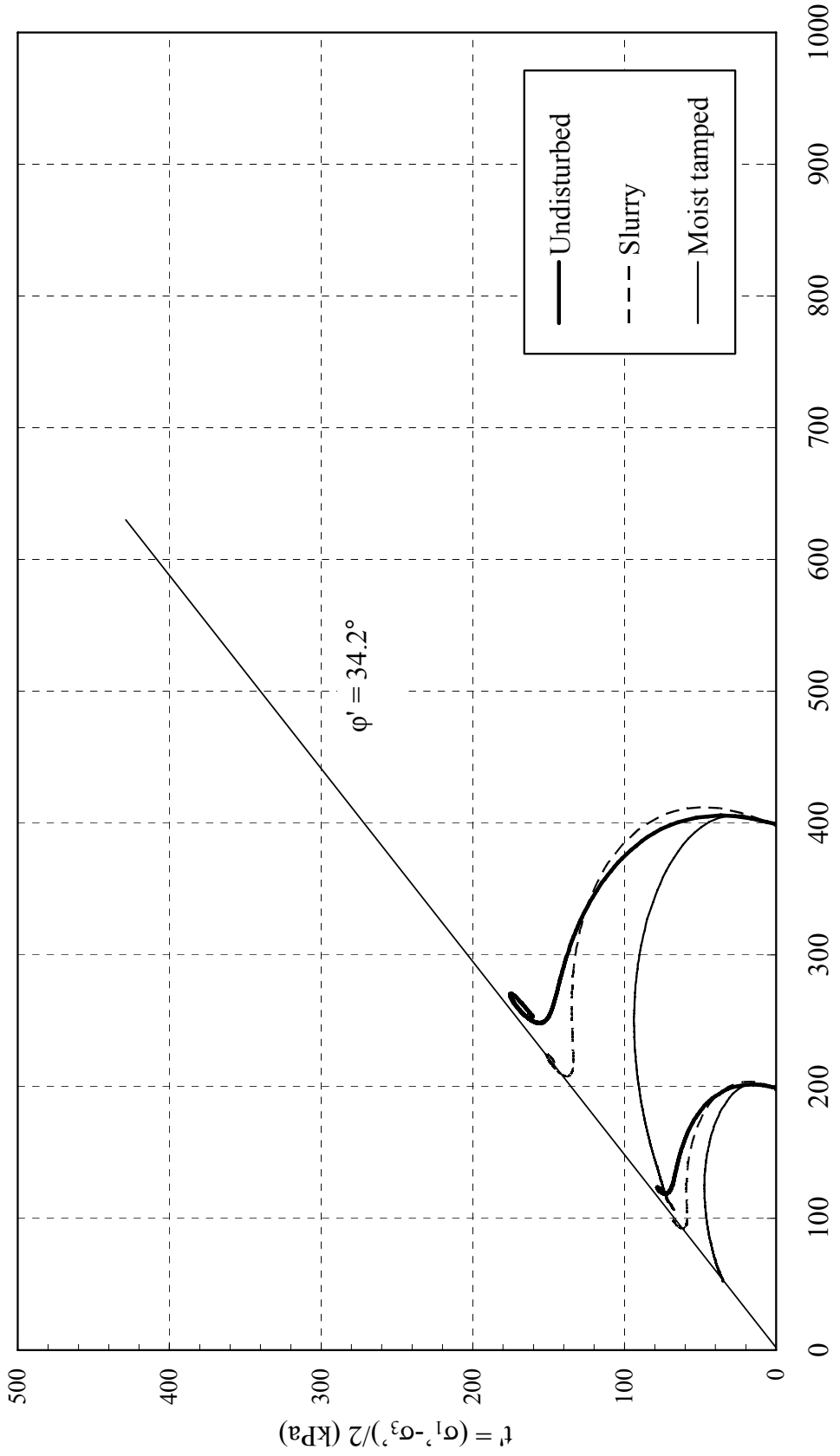

Figure E-23. Stress path of middle beach samples (s'-t' space)

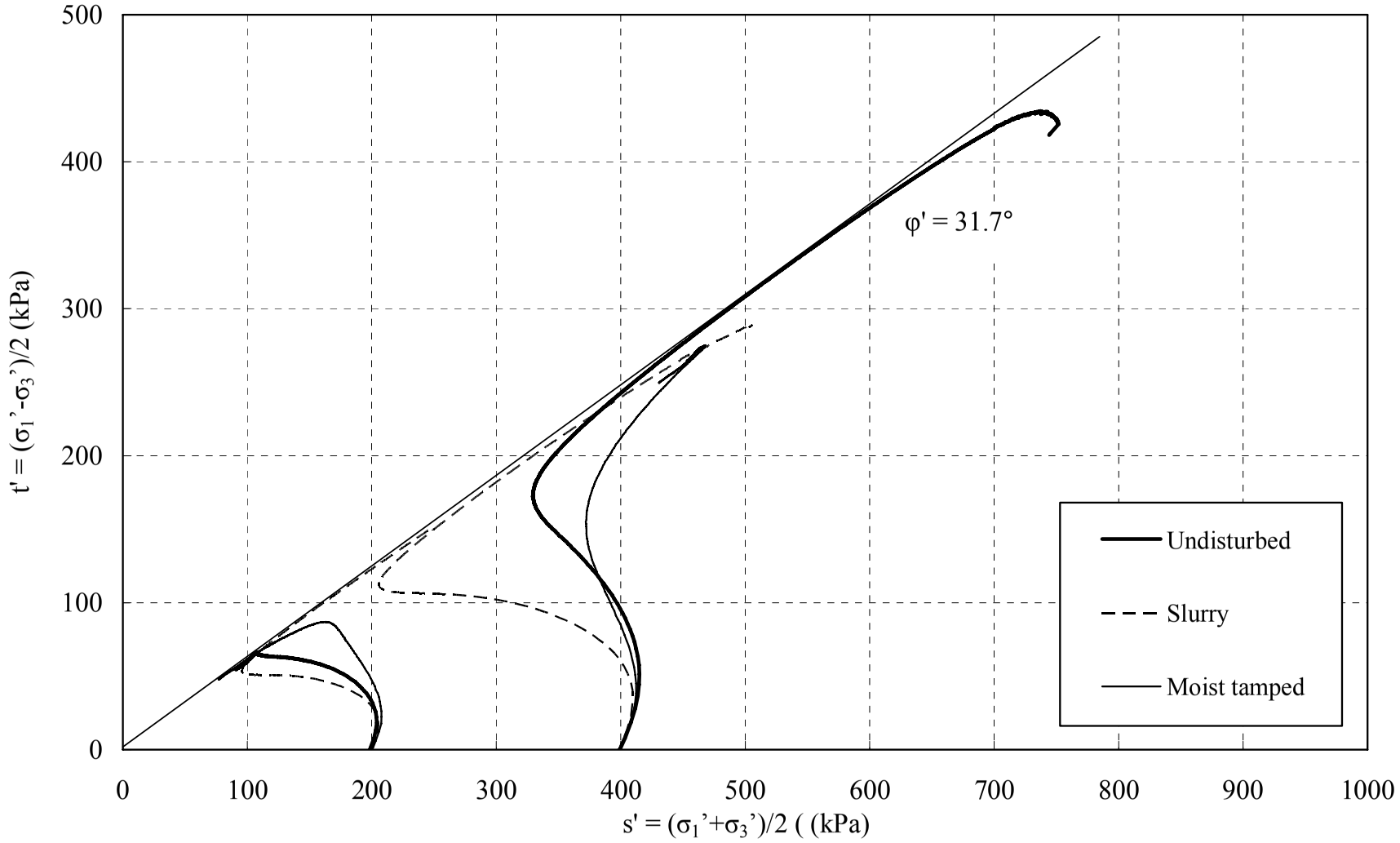

Figure E-24. Stress path of upper beach samples (s'-t' space)

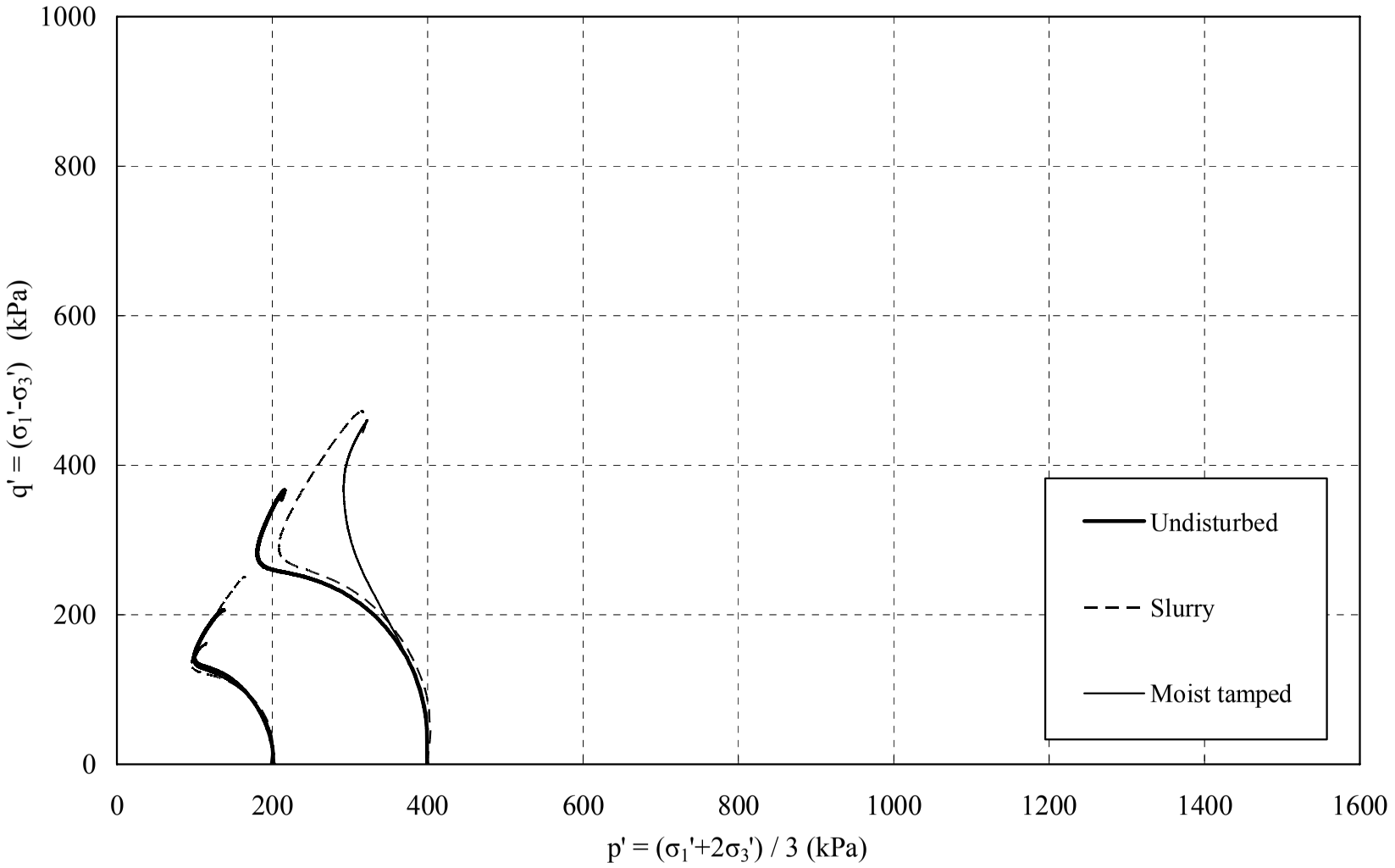

Figure E-25. Stress path of pond samples (p'-q' space)

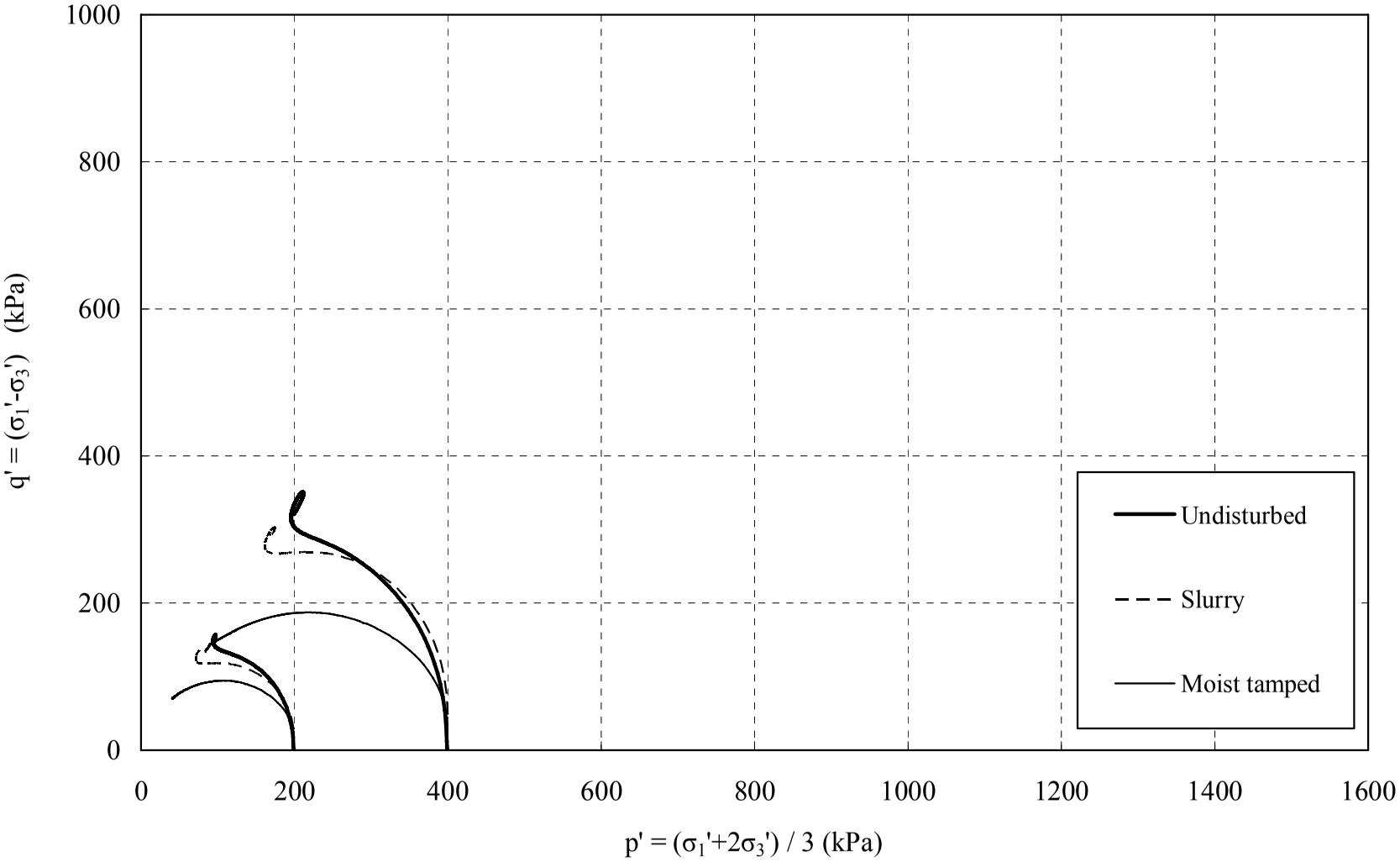

Figure E-26. Stress path of middle beach samples (p'-q' space)

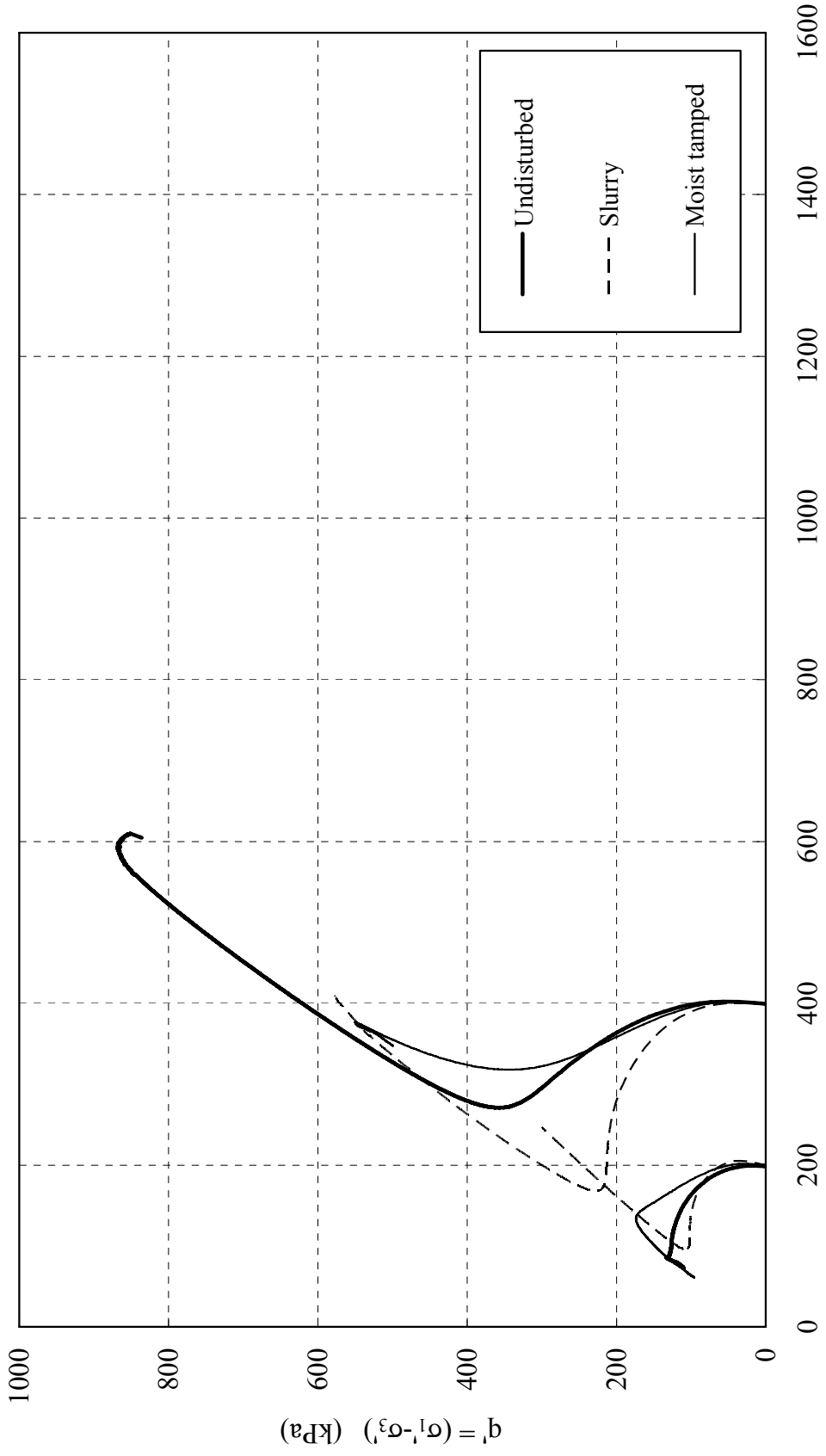

Figure E-27. Stress path of upper beach samples (p'-q' space)

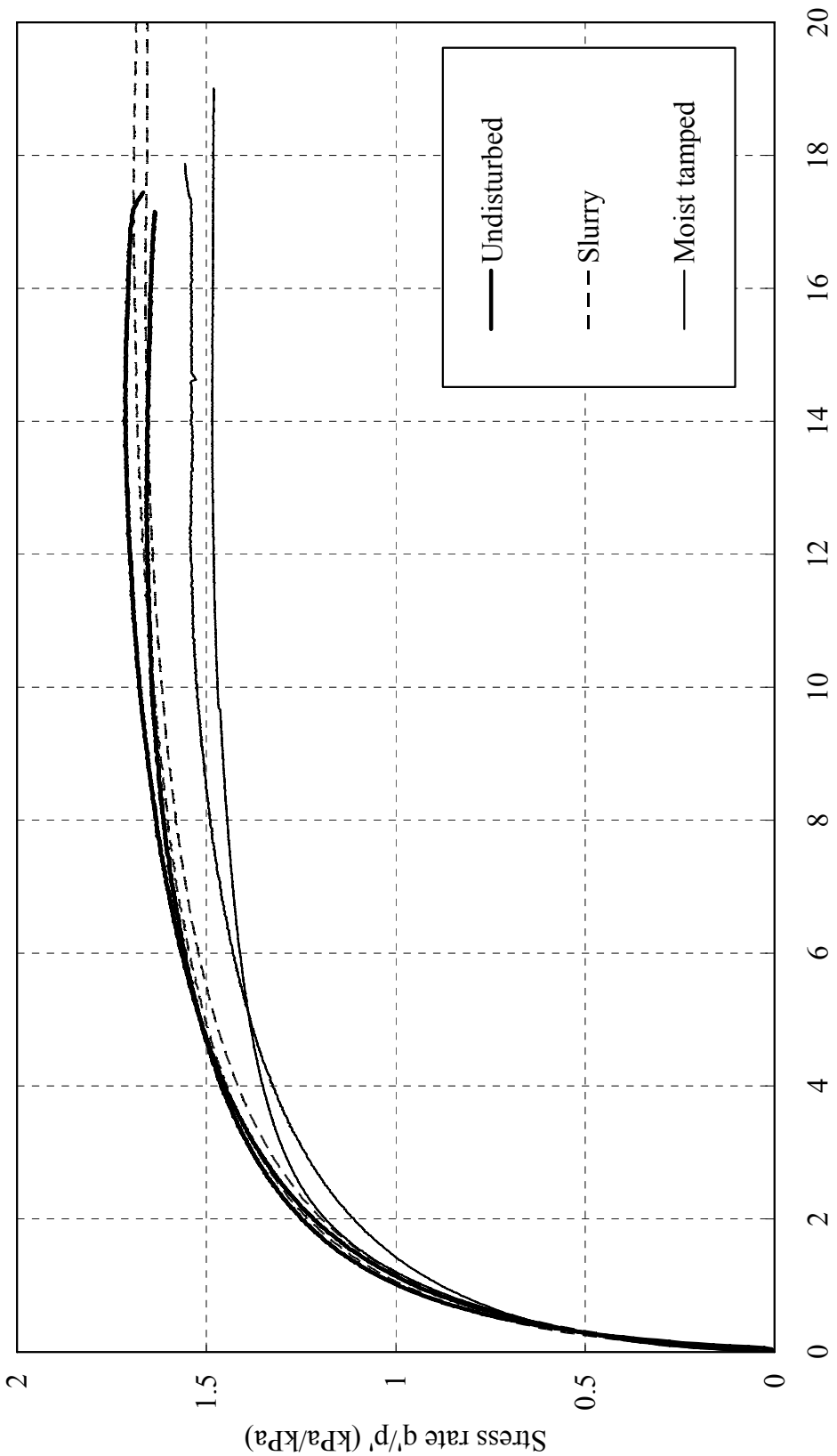

Figure E-28. Stress ratio against axial strain for pond samples

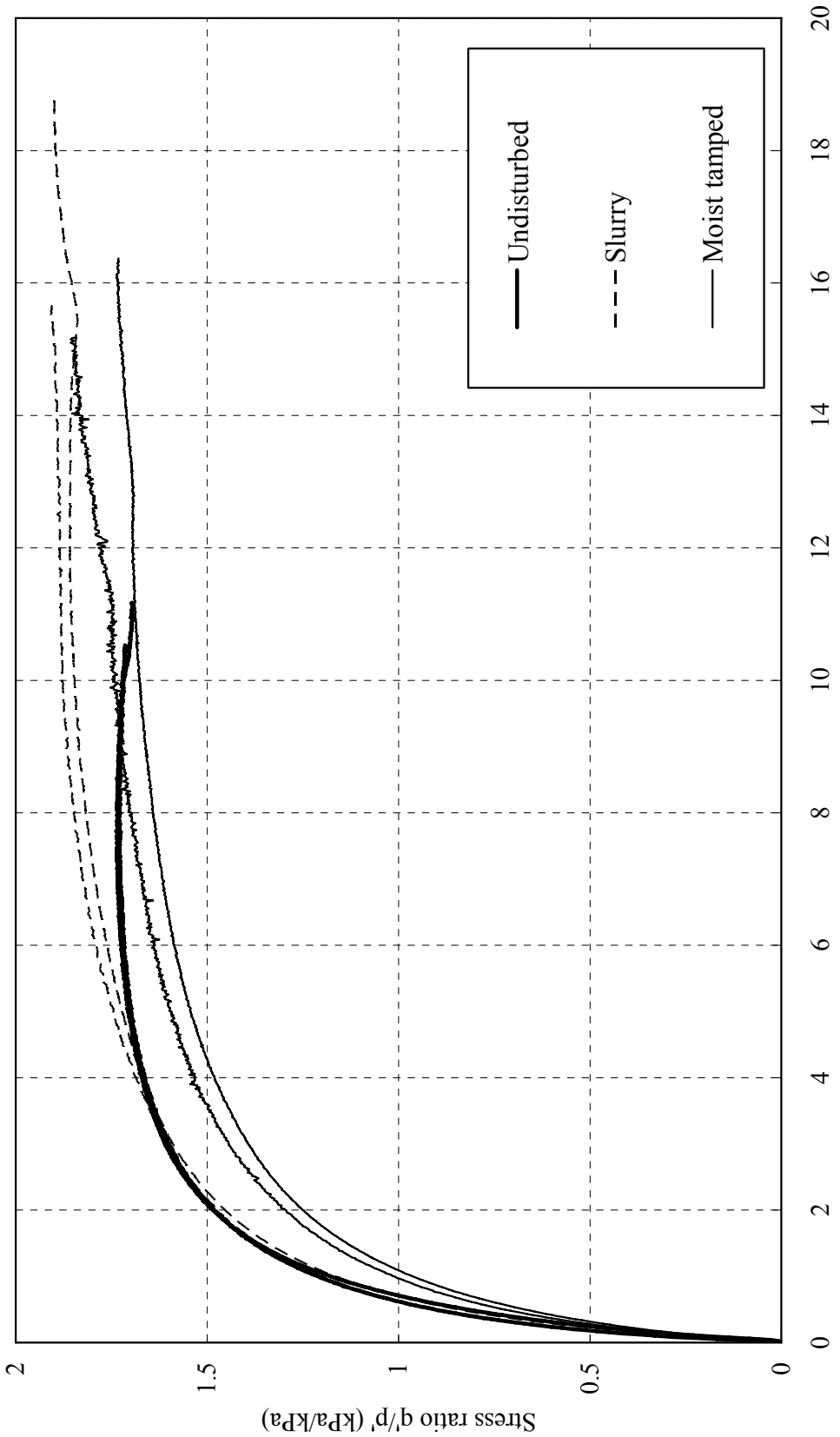

Figure E-29. Stress ratio against axial strain for middle beach samples

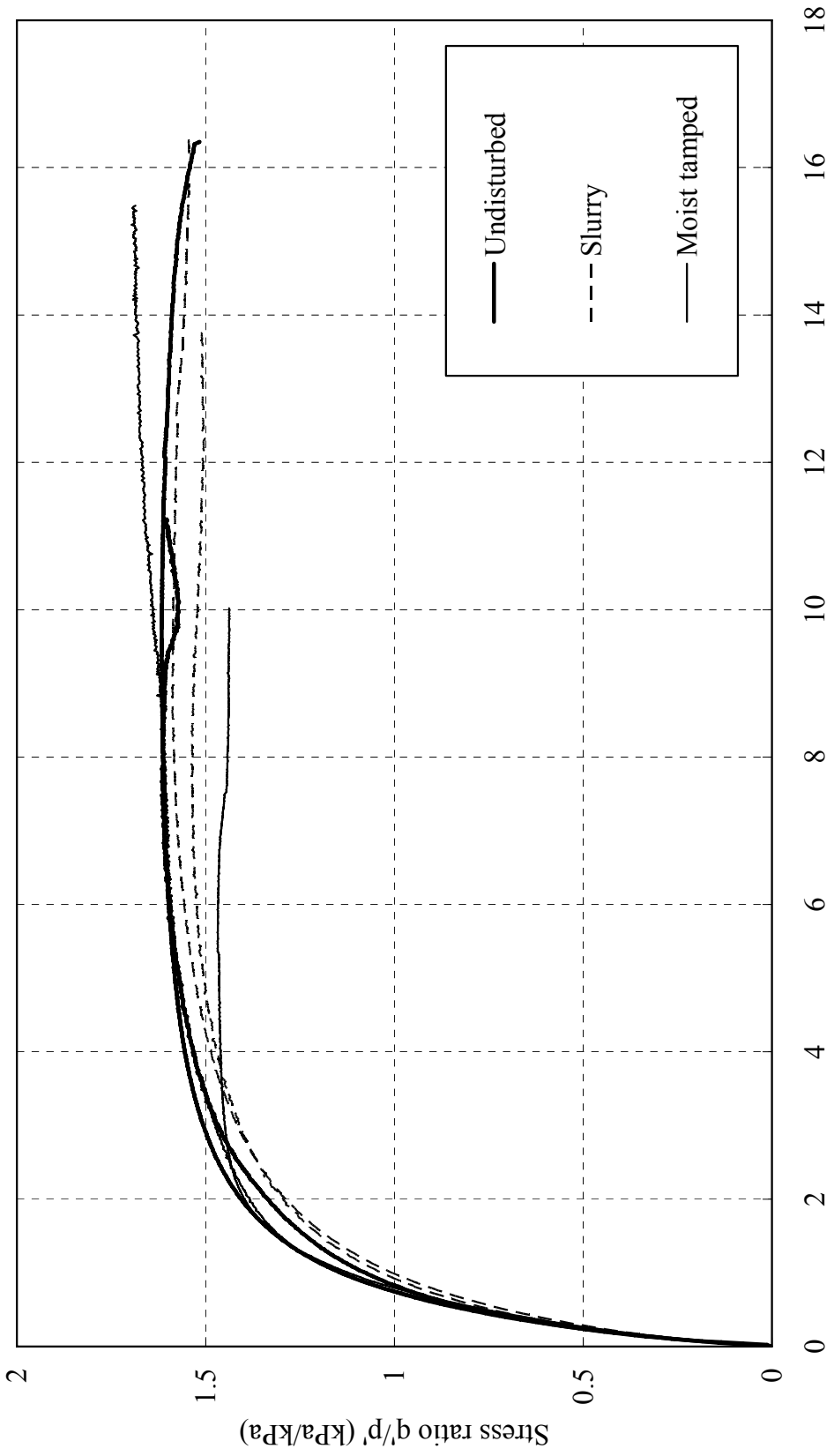

Figure E-30. Stress ratio against axial strain for upper beach samples