



University of
Houston

Department of Civil and
Environmental Engineering
Houston, Texas 77204-4791
(713) 749-4481
FAX: (713) 749-2559

Cullen College
of Engineering

January 6, 1992

Mr. Michael Adams
Federal Highway Administration
HNR-30
6300 Georgetown Pike
McLean, VA 22101

Dear Mr. Adams,

Per our phone conversation of January 6, I enclose a copy of the results of the study that we performed for Minerals Management Service and other sponsors entitled "Response of Tension Piles to Simulated Seismic Motion in Saturated Fine Sand." This study was oriented mainly toward TLP applications but should provide useful information for any piles that are loaded in tension during seismic events.

I believe Charles Smith told you that the second study, which we hope to start this spring, will involve investigation of the effects of both hydraulic overpressures and small values of cohesion in the soil, as well as the investigation of existing mathematical models for predicting pile extraction vis-a-vis our experimental data.

Thank you for your support of our research. I look forward to seeing you next week at TRB.

Sincerely,

Michael W. O'Neill
Professor and Chairman

encl (report)

✓ c: Charles E. Smith
U.S. Dept. of the Interior
Technology Assessment & Research Branch
381 Elden Street, MS647
Herndon, Virginia 22070-4817

**RESPONSE OF TENSION PILES TO SIMULATED
SEISMIC MOTION IN SATURATED FINE SAND**

by

Michael W. O'Neill
Cumaraswamy Vipulanandan
Mauricio Ochoa

December 1990

Final Report

for

Minerals Management Service
U.S. Army Engineer Waterways Experiment Station
Exxon Production Research Company
Unocal, S & T Division

Department of Civil and Environmental Engineering
University of Houston
Report No. UHCEE 90-09