

MASSACHUSETTS INSTITUTE OF TECHNOLOGY  
DEPARTMENT OF OCEAN ENGINEERING

CAMBRIDGE, MASS. 02139

Room 5-222

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Mr. John Gregory  
Research Program Manager  
Branch of Marine Oil and  
Gas Operations  
United States Geological Survey  
Department of the Interior  
620 National Center  
Reston, Virginia 22092

Dear John:

Two copies of my 11/21/77 report are enclosed. Please pardon the light copy. Also enclosed is a copy of my OTC paper. The part which describes how to evaluate the effect of liquid storage tanks on natural frequency is actually quite a recent breakthrough. Al Ruhl at Shell is already putting it to use.

To reiterate on our phone conversation, the grouted pile work is a masters thesis project by a Navy graduate student at no cost to USGS other than it diverts some of my time to advise him.

I have read the Aerospace report. They appear to be doing a credible and necessary portion of the work in evaluating the structural monitoring method. However, the project by Shell and 8 or 9 other companies to measure response on 3 large steel platforms is still very much alive, and I would hope that Aerospace doesn't duplicate that effort. Please let me know when their experimental results from South Pass 62C is available.

I am interested in receiving more information on their "truncated modes" method for finite element parametric damage studies, as it becomes available. Perhaps it is in the area of parametric studies of damage simulation that Aerospace can make an important contribution in the relatively near future. Two aspects of the problem mentioned in their report caught my attention. The first was improving computational efficiencies in the finite element program, and the second area is their computation of the ratio of flexural to torsional response as a function of damage.

