ENVIRONMENTAL/ENGINEERING GEOLOGISTS

HGS ENVIRONMENTAL/ENGINEERING COMMITTEE DINNER MEETING JANUARY 8, 1992

Time: 6:00 - 7:00 p.m., Social
7:00 - 8:00 p.m., Program

Location: Italian Market and Cafe
2615 Ella Blvd.
(behind Memorial Northwest Hospital)

Speaker: Dr. Shailendra N. Endley, P.E.
Chief Engineer,
Professional Service Industries, Inc.

Subject: Geotechnical Considerations in Foundation Design in the Greater Houston Area

DR. S. N. ENDLEY—Biographical Sketch

Dr. Endley received a B.S. in Civil Engineering from Roorkee University, India in 1964, an M.S. in Geotechnical Engineering from the University of Cincinnati in 1970, and a Ph.D. in Geotechnical Engineering from the University of Wisconsin in 1974.

Dr. Endley has over 20 years experience in the geotechnical and environmental engineering fields. He has designed foundations for many different types of structures, including major dock and harbor facilities, silos, bridges, airports, dams, highways, subdivisions, machine foundations, wells, offshore platform foundation design for pile supported and gravity structures, pipelines, SPM, jack-up rig stability, and semi-submersible anchors. His experience includes designs for foundations ranging in size from small residences to large industrial complexes. He has worked in the Texas Gulf Coast area, Gulf of Mexico, Middle East, far East and Africa. Dr. Endley has also published numerous professional articles and is recognized as an expert in his field.

GEOTECHNICAL CONSIDERATIONS IN FOUNDATION DESIGN IN THE GREATER HOUSTON AREA

The Gulf Coastal Plain physiographic province runs generally parallel to the present coastal shoreline and extends inland 40-60 miles. This plain is characterized as flat and featureless with the formation in this region of the Cenozoic System consisting of unconsolidated sediments, 6000-7000 feet in thickness. The Tertiary and Quaternary sediments range in age from Eocene to Pleistocene. The deposits in the greater Houston area, to depths of approximately 300 feet, are part of the Beaumont formation of Pleistocene age. The soils are generally high plasticity clays interbedded with silty sands and silts.

Knowing the geology and physical characteristics of soils is of extreme importance to geotechnical engineers. While designing a foundation, a geotechnical engineer gives consideration to various factors such as strength characteristics, depth to groundwater, geologic faulting, shrink-swell properties of soils, presence of slickensides and fissures. The discussions will include the influence of these factors considered while deciding the type, size and depth of foundations. Various case histories are included.