

Tuesday, February 15, 2011

Black Lab Pub, Churchill Room • 4100 Montrose Blvd.

Social 5:30 p.m., Dinner 6:30 p.m.

Cost: \$25 Preregistered members; \$30 non-members & walk-ups

The HGS prefers that you make your reservations on-line through the HGS website at [www.hgs.org](http://www.hgs.org). If you have no Internet access, you can e-mail [reservations@hgs.org](mailto:reservations@hgs.org), or call the office at 713-463-9476 (include your name, e-mail address, meeting you are attending, phone number and membership ID#).

# HGS Environmental & Engineering Dinner Meeting

*Dennis L. Caputo, REM, CEP, QEP, DABFET  
Quest Consulting, Inc.,*

## Forensic Investigation is Not Just an ASTM Phase I or II

The terms, "Phase I and II", have been used since the 1980s to describe environmental site assessment processes or environmental investigations used to determine if constituents of concern exist at a site. The definitions of these processes and investigations were not necessarily consistent from one use to another. In some cases, the term "Phase II environmental site assessment" was used to describe an investigation to determine if any constituents of concern existed at a site. In other cases, the term "Phase II" was used to describe an investigation that identified not only the nature of any contamination but also its extent. In the 1990s, ASTM, through its E50 Committee on Environmental Assessment, developed the Standard Guide for Environmental Site Assessments for Phase I and II, Environmental Site Assessments.

The term "Phase II" has also been used by state environmental agencies as well as the United States Environmental Protection Agency to describe a variety of environmental site assessments. Generally, unlike the ASTM Standard Guide, the various environmental agencies in their guidance documents provide *specific procedures that must be followed* in conducting an acceptable Phase II.

However, the goals of an Environmental Forensic Investigation are frequently different from the goals of a Phase II. The goal or goals of an Environmental Forensic Investigation will not necessarily focus on the condition of the site. Rather the goal or goals will be specific to the case and the needs of the client. Frequently, the goal of a forensic investigation is to identify with reasonable scientific certainty the source or sources of constituents of concern found at a site or to estimate when a release may have occurred.

The environmental professional must have a clear understanding of the objective of the environmental forensic investigation. This must be integrated into the design of the investigation. The environmental professional must also consider:

- Historic and current operations on the subject site and surrounding sites that could impact the subject site
- The following information about historic and current operations:
  - o Raw materials
  - o Intermediate products

- o By-products
- o Final products
- o Wastes
- o Chemical and physical characteristics of each
- o Environmental transportation and fate of each
- o Standard industry practices that existed at the time
- Site and surrounding geology, hydrogeology, and hydrology
- Chemical fingerprint of constituents of interest

In summary, a standard approach is frequently not the best approach in designing an effective Environmental Forensic Investigation. In fact, using a standard approach may lead to the wrong conclusion. ■

### Biographical Sketch

DENNIS L. CAPUTO holds a B.S. in Plastics Technology, an M.S. in Industrial Management, and an M.S. in Environmental Management.

He was Environmental Coordinator for Exxon Chemicals, Environmental Manager for Gulf Oil Chemicals Co., Environmental Coordinator for Chevron/Gulf Oil Products Co. and VP Environmental and Safety Compliance for Proler International Corp.



He was a principal consultant with ENSR Consulting and Engineering, and is now President of Quest Consulting, Inc., an environmental engineering and consulting firm with clients throughout the world.

Mr. Caputo is former adjunct professor in Environmental Management at the University of Houston at Clear Lake where he has taught graduate and undergraduate environmental courses.

He has testified as an expert on environmental issues in federal and state courts. He has authored over 60 papers and presentations on environmental topics in the US, Canada, and Mexico.

Mr. Caputo has served on Presidential Advisory Task Forces as well as Department of Energy and US Environmental Protection Agency advisory committees.

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