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Dear Colleague,

Enclosed on this CD is a Powerpoint presentation, a MS Word file, and several folders containing supplemental files.

The Powerpoint presentation was given by Donna Drogos, Alameda County Environmental Health (ACEH), and Murray Einarson, Consulting Hydrogeologist, to the MTBE and Fuel Oxygenates workgroup at the March 10-12, 2003 EPA UST/LUST Conference held at the Westin Saint Francis hotel in San Francisco, California.

The Powerpoint presentation, titled "Alameda County Site Characterization Matrix – Making the SCM Approach More Than Just a Concept," describes some of the challenges encountered by regulators and environmental consultants who have tried to use site conceptual models (SCMs) to guide subsurface investigations at fuel-release sites.

The last few slides in the presentation describe a project currently being undertaken in Alameda County, California by the two presenters. The project consists of developing a new way of compiling, communicating, and archiving SCMs at active fuel release sites. The new approach consists of building a "living electronic document" or "electronic SCM" for compiling and conveying SCMs to project participants.

In their talk at the UST conference, the presenters introduced an example electronic SCM for an active fuel release site in Alameda County. The example, which was prepared in MS Word and is included with this CD, is from the B&C Market/Desert Petroleum site in Livermore, California. The B&C/Desert Petroleum site is a real fuel release site that is thought to pose a significant risk to one of Alameda County's most vulnerable drinking water aquifers. Additional subsurface investigations at this site are planned.

The electronic SCM was prepared as a table in MS Word and has numerous hyperlinks to supporting data tables, figures, hand-drawn sketches, and supporting documents (all of which are included in the supplemental folders on the CD). The reason that this format was selected was to maximize the use of tables and graphics that will quickly convey the essential elements of the SCM to all project participants. Hyperlinks to supplemental information such as complete reports, appendices, certified analytical results, etc., are also included. This allows regulators and

project participants to “drill down” in the document, as needed, to obtain as much supplemental information as desired.

Note that the enclosed example has several “dead end” hyperlinks that do not bring up any related material. These were included for purposes of the presentation and will be updated soon as the electronic SCM is developed further.

The electronic SCM should not be considered to be simply a summary of written and graphical information about a fuel-release site. It is intended to be a complete embodiment of the current SCM, replete with sketches depicting particular hypotheses and data gaps identified to date. The electronic SCM is intended to be prepared by the site environmental consultant, but allows for direct electronic feedback by the regulator(s) overseeing the project. There are columns where data gaps can be listed, along with recommended tasks required to fill those data gaps and further advance the SCM. Those columns can be filled in by the consultant, the regulator, or preferably, by both parties.

The owner of the B&C/Desert Petroleum site has retained an environmental consultant to perform additional site investigation and monitoring to further define the extent of contamination and assess the risk that the release poses to nearby drinking water supply wells. The site consultant and ACEH will be using the electronic SCM to guide the investigation process during the spring and summer of 2003. The electronic SCM will be updated and revised as new data are collected. This will more than likely lead to the identification of new data gaps and the requirement for additional subsurface investigations to fill those data gaps and complete the site assessment. Site assessment will continue, using the electronic SCM as a guide, until the SCM is sufficiently refined to allow the consultant to define the scope of remedial action necessary to protect the nearby groundwater receptors. The electronic SCM will therefore be dynamic in nature, but will be archived at key junctures (e.g., at the end of each phase of site investigation) simply by saving the SCM and all supporting graphics, sketches, hypotheses, and supporting documents, on a series of CDs. That way, the evolution of the SCM for the investigation will be documented and archived. ACEH hopes that the set of CDs can fulfill the requirements for conveying technical information and can eliminate many of the expensive and time-consuming technical reports that would otherwise be required.

The format and content of ACEH’s electronic SCM will undoubtedly be improved during the months to come. Once it has been tested on the B&C/Desert Petroleum site, it will be submitted to a select group of regulators and oil company representatives for peer review. The comments of the reviewers will be incorporated, leading to a version of the electronic document that can hopefully be used at all high-risk fuel release sites in Alameda County. ACEH intends to replace the CD version of the electronic SCM with an internet-based version that will be accessible to all project participants via a secure (i.e., project participants only) intranet portal. Being able to access the SCM in real time will allow the project participants to partake in the testing, refinement, and validation of the SCM.

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