Breakout Session 3 – Site Evaluation and Remedial Alternative Development Exercise

Scenario Overview:

Facility A is conducting a remedial investigation under the DEQ Cleanup Program oversight. The facility entered the CU Program based on historical exceedance of stormwater permit benchmarks. There is also an unknown source of solvent contamination in groundwater in the general area. Facility A used small quantities of solvent in the past but no current uses.

As part of the RI, Facility A installs several monitoring wells on their property. Static groundwater elevations are at a depth of 25 feet below ground surface and indicate flow toward the southeast. Wells located along the upgradient property boundary show tetrachloroethylene at concentrations up to 80 ug/L. Downgradient wells show concentrations ranging from 1 ug/L to 55 ug/L. DEQ initiates site discovery activities for apparent upgradient source of groundwater contamination.

During Phase II of the RI, Facility A conducts a soil gas investigation to rule out on-site sources of contamination. PCE soil gas concentrations were detected at levels up to 18,000 ug/m3. As with groundwater, highest concentrations were found at the upgradient property boundary.

DEQ Site Assessment identifies the adjacent property as a location of a former industrial laundry facility and this facility is required by DEQ to conduct a site investigation. Facility B collects groundwater samples from the area of a former UST and current location of a fuel AST. PCE concentrations are detected at levels up to 160 ug/L. Soil gas samples were also collected from several operational areas including two former UST locations and where the former dry cleaning operations were conducted. PCE is detected in the soil gas sub-slab sample in the area of the former dry cleaning operation at a concentration of 5,900,000 ug/m3, and at a concentration of 800,000 ug/m3 at a depth of 10 feet bgs.

Figures 1 and 2 illustrate the PCE concentrations in groundwater and soil gas at Facility A and B, respectively.

Exercise Instructions:

Break out into groups of 4 to 6 people. Please work through the exercise questions over the next 30 minutes. We will reconvene and each group will have an opportunity to present their responses to the exercise questions.

EXERCISE QUESTIONS:

1. Are hot spots present at Facility A. How about Facility B?

2. What should be the next steps at Facility A to complete the vapor intrusion assessment for their buildings? (Assume information from Facility B has not been generated and available at the time of this evaluation.)

3. What should be the next steps at Facility B based on your response to Question 1? Please complete the schematic showing proposed sampling locations and discuss rationale for your proposed scope of work.

4. What are your proposed remedial action objectives for Facility B?

5. Identify remedial strategies that you would evaluate for Facility A and B.

6. What conditions did you consider critical in the evaluation of effectiveness and protectiveness of potential remedies for Facility B?

7. What performance monitoring would you propose to demonstrate the preferred remedy you identified in Question 6 is meeting is remedial action objectives?