Meeting Notes

Data Requirements for 241-TX Farm Direct Push Logging and Sampling

Meeting Date:	Thursday September 6, 2012
Location:	Ecology Building, room 3A
Purpose:	Discuss data requirements for the direct push logging and sampling that will be performed at 241-TX tank farm to evaluate potential interim measures
Attendees:	Joe Caggiano (Ecology), Maria Skorska (Ecology), Jared Mathey (Ecology) , Chris Kemp (ORP), Mark Triplett (PNNL), Mike Connelly (WRS), Susan Eberlein (WRPS), Harold Sydnor (WRPS)

Topics of Discussion:

- Mike Connelly discussed the general approach to defining data requirements for a direct push field activity (State the problem, Identify the decision, Identify inputs to the decision, Define study boundaries, Develop a decision rule, Optimize the direct push locations).
- It was noted that the purpose of this direct push campaign is to determine if an interim surface barrier or other interim measure would be beneficial at TX farm. Future characterization will be required for a complete Phase 2 RCRA Facility Investigation/Corrective Measures Study, beyond the scope of the current activity.
- Mike summarized the body of information that led to the conclusion that TX tank farm contains vadose zone contaminants (see attachment 1 for summary information from previous studies).
- Joe Caggiano noted that although many of the TX farm tanks are designated as "assumed leakers", the designation may be the result of an overfill or other loss, rather than a loss of tank integrity.
- Joe noted that the TX tanks served as feed and receiver tanks for the 242-T evaporator, with the result that there were many transfers of waste through pipelines, which could have resulted in undocumented losses.
- Mark Triplett raised a question about the soil inventory estimate used in the draft Tank Closure and Waste Management (TC&WM) Environmental Impact Statement (EIS). Mark subsequently confirmed that in the publicly available draft, TX farm has the highest estimated leak inventory for Tc-99 and Nitrate of all of the farms. (See Table D-26 in the draft.) They used an inventory of 107 Ci of Tc-99. T Farm was 2nd with 67 Ci and C farm 3rd with 56 Ci. The estimate may be revised in the final.

- Joe noted that the depth of plumes and the mobility of the contaminants will determine how effective an interim surface barrier would be.
- Joe recommended that we review history of any large liquid releases (e.g. water line leaks) in the area.
- The approach to direct push logging and sampling was briefly summarized:
    - A first direct push bore hole is pushed to refusal, and is logged for gamma and moisture.
    - The logging results are used to select appropriate sampling depths. Mobile contaminants are likely to accumulate in the same regions as the higher moisture.
    - The first probe hole is decommissioned, placing multiple electrodes for use in subsequent resistivity work if needed.
    - A second direct push probe hole is pushed adjacent to the first (a few feet away). Approximately 3 samples are taken during pushing of the second probe hole. Each sample is approximately 18 inches in length, and about 600-700 g of soil.
    - Sample analysis is performed on a "quick turnaround" basis (about 1 week) for a few key analytes. A more complete suite of analyses is performed over a longer time period.
- It was proposed that the direct push sites be selected in 2 phases. In the first phase, about 8 locations should be identified to get the approximate outline of the area of interest. Based on the results of logs and quick-turnaround samples from the first locations, an additional 4 locations should be chosen to better define the area of interest.
- The group selected 8 tentative locations for the first round of direct push (see page 17 of attachment 1 – red triangles indicate proposed locations). Each proposed location will have a logging probe hole and a sampling probe hole.
- The proposed locations will be subject to some adjustment once ground penetrating radar is completed, to avoid contact with sub-surface structures.
- The final 4 locations will be selected based on results from the first 8 locations. It was agreed that the details for the final 4 would not be included in the work plan, but only a general outline of potential areas (see attachment 1, page 17, areas noted as "Round 2").
- The group will meet again in approximately 2 weeks, following opportunities to review additional information and address questions. At that meeting, the proposed 8 locations will be reviewed again to determine if any changes are needed.
- Proposed analytes for the sample analysis were discussed. Pages 18 and 19 include tables of analytes that had been included for the interim surface barrier investigation at S farm. Attendees were asked to review the tables to identify if any changes were needed before the next meeting.

Actions:

1. Provide meeting notes with summary of proposed direct push locations (Eberlein)
2. Review historic records to determine if any large liquid releases (e.g. water line leaks) occurred in the area of TX farm (Connelly).
3. Review notes and background information (as needed) to determine if any changes should be proposed for the initial 8 locations, shown on attachment 1 page 17 (all attendees).
4. Review tables of proposed analytes (attachment 1, pages 18-19) to determine if any changes are warranted (all attendees).
5. Schedule field trip and follow-on meeting to finalize plans, tentatively the week of September 17 (Eberlein)

Concurrence:

CJ Kemp 10-23-12

C.J. Kemp, ORP Date

Matt W Boyer 10-30-12

Jeff Lyon, Ecology Date