

Meeting Minutes

Project: Tronox (TRX)
Location: Conference Call
Time and Date: 9:00 AM, Wednesday, July 18, 2007
In Attendance: NDEP-BCA – Brian Rakvica, Shannon Harbour
Teri Copeland (for NDEP)
Hackenberry Assoc. – Paul Hackenberry (for NDEP)
Tronox – Keith Bailey, Susan Crowley
ENSR (for TRX) – Dave Gerry, Lisa Bradley, Mike Flack, Sally Bilodeau

CC: Jim Najima, Paul Black, Todd Croft

1. The meeting was held to discuss a variety of topics including the Phase A Report and Phase B Work Plan.
2. TRX provided a number of draft tables and figures for discussion purposes via e-mail.
3. Data validation / usability issues:
 - a. NDEP provided BRC table for TRX to review. NDEP noted that this table was created only to address criterion 6 of the Data Quality Indicator (DQI) criteria.
 - b. NDEP stated that TRX should be documenting data usability properly throughout the phased characterization process. TRX can track data usability with a formal or informal checklist.
 - c. TRX has updated their database with data validation criteria. Only validated data will be reported.
 - d. TRX supplied a list of tables that are included in Appendix E of the DVSR addressing data validation and usability.
 - e. NDEP suggested that these tables be used to develop a data usability report that contains statements about and explanations for the selection and/or rejection of data. TRX noted that details of the DQIs are included in the validation memos submitted to the NDEP with the DVSR. TRX suggested that NDEP's risk consultant do a brief review of some of the memos. TRX will include a data usability section in the Phase A report.
 - f. TRX will refer to the DVSR memos for support in their uncertainty analysis.
4. Dilution attenuation factor, DAF 1 vs. DAF 20:
 - a. Table 5-14, TRX added a DAF 1 column and additional analytes (radionuclides).
 - b. Table 5-X, summary of detected chemicals with a listing on their respective comparison levels including DAF 1 and DAF 20.
 - i. 16 new chemicals were identified as being greater than the comparison level using the DAF 1 versus DAF 20.
 - ii. TRX believes that DAF 1 is too conservative for this site and that DAF 20 is also conservative but that a site-specific DAF cannot be calculated due to the sporadic nature of the water pipeline releases at the site.
 - iii. NDEP and TRX discussed the exclusion of
 - 1) Aroclor 1260 due to single detection and low concentration
 - 2) Uranium should be eliminated in comparison to background

- 3) Hexachlorobenzene (detected in 6 of 116 samples and only 3 detections above comparison levels) may be eliminated in some areas dependent upon source.
 - a) TRX investigating the historical data in the vicinity of the former asphalt plant (near the western boundary of the site). Concentrations of hexachlorobenzene greater than 1 mg/kg were reported historically. No detections of hexachlorobenzene in groundwater have been reported.
 - b) TRX did not resample the former Koch asphalt plant area in Phase A.
 - c) Hexachlorobenzene was detected historically in the Beta Ditch but was not detected in Phase A sampling of Beta Ditch.
 - d) NDEP suggested that TRX use historic data in conjunction with Phase A data to make additional characterization decisions. The NDEP understands that the historic data has not been validated but believes that it should be used to support decisions.
 - e) Detection limits for soil analysis have been reported greater than the comparison levels, but less than the PRG. NDEP noted (risk consultant) that in such cases, the data could be considered usable.
 - f) It was noted that most of the detected samples had concentrations reported by the lab that were less than the detection limit (J flag). Because the lab could report detections below the detection limit, this decreases the uncertainty in the non-detected results.
 - g) It was noted that all of the detection limits for standard SVOC analysis were greater than the comparison level.
 - h) NDEP noted that for future sampling TRX may use PAH analysis instead of SVOC SIM analysis. It was noted that the SVOC SIM analysis appeared to provide adequate detection limits; however, there may be a cost difference. While TRX is unsure of using the PAH method, ENSR is investigating addition of hexachlorobenzene to the chlorinated pesticide analytical method
5. Proposed Phase B Sample Locations and Potential Ammonia Source Areas map, figure provided by TRX for discussion purposes.
 - a. High concentrations of ammonia in groundwater are coincident with detections in soil.
 - b. Paul suggested that the ammonia would be converted to nitrate and nitrite if the environment is aerobic.
 - c. TRX stated that there is a bigger nitrate plume coincident with the ammonia detections.
 - d. The NDEP noted that there were rejected soil results. [Note – 15 rejections in 116 samples]

- e. TRX stated that ammonia was chosen as a simple example so that the NDEP could review the layout of the map and the thought process.
 - f. TRX pointed out that the ammonia plume was surrounded by wells with non-detects. TRX proposed borings that stepped-out from the source area toward the wells with non-detects for additional characterization of the extent.
 - g. TRX noted that they may request to use indicator compounds. NDEP noted that this seemed sensible, especially for compound such as ammonia that have very limited toxicity data.
6. Action items from previous conference calls:
- a. 06/28/07: TRX to provide the list of SSLs in a table similar to what NDEP reviewed previously and the reference for the VI levels. **COMPLETED.**
 - b. 07/06/07: NDEP to discuss depth of sampling internally and advise TRX.
Completed during call.
 - i. USEPA 2002 Vapor Intrusion (VI) Guidance suggests a 5 ft depth for soil gas sampling for vapor intrusion. NDEP concerned that soil gas results may be biased low at this depth since the source is groundwater and not soil.
 - ii. TRX will consider collecting soil gas samples from both 5 ft and 10 ft bgs for comparison from approximately 10% of the proposed borings locations. TRX will check into the costs associated with rapid analysis for the co-located samples so that a decision on which depth to collect the remaining samples can be made.
 - iii. NDEP and TRX discussed that the deeper soil gas samples would be collected from areas with higher chemical concentrations in groundwater as well as one or two from areas that are less impacted.
 - c. 07/06/07: TRX to find out whether duplicate samples were handled by selecting the maximum concentration or the average concentration of the duplicate samples. **Completed during call.**
 - i. Maps: TRX will list all duplicate concentrations
 - ii. Tables: TRX will use an average of the duplicate samples
 - d. 07/06/07: TRX submitted a list of references used in the development of this table. NDEP requested copies of the references not authored by the EPA. TRX will supply at a minimum, the referenced pages of these sources. **COMPLETED.**
 - e. 07/06/07: The NDEP suggested that a DAF = 1 be used in the screening calculations for this initial work. TRX will use DAF = 1 to calculate new screening levels to determine the impact on the number of required analytes. This item will be discussed at or before the next meeting. **COMPLETED.**
 - f. 07/06/07: TRX to revise Table 5-20A as necessary prior to next meeting. **Will be completed as part of the process of revising the report.**
 - g. 07/06/07: Teri will review this table and discuss hexachlorobenzene and chloroform with ENSR. **This item was discussed as part of this meeting and will be discussed at the next meeting.**
 - h. 07/06/07: The NDEP will supply a copy of the Borrow Pit data adequacy protocol to TRX. **NDEP will respond by the next meeting.**
7. Next Meeting: July 25, 2007, 9:00 AM – 5:00 PM PDT at NDEP offices.

FINAL

- a. TRX will provide histograms of Henderson background data set; BRC/TIMET background data set and TRX upgradient data set for discussion. **ACTION ITEM.**
- b. TRX will provide maps of various chemicals (in same format as map provided for today's meeting) for discussion on sample location. **ACTION ITEM.**
- c. TRX will provide copies of a map of the source areas. **ACTION ITEM.**