



Alachua County Environmental Protection Department

Chris Bird, Director

February 28, 2006

Ms. Amy McLaughlin
Remedial Project Manager
US EPA Region IV
61 Forsyth Street
Atlanta, GA 30303-3104

RE: ACEPD Comments on Beazer Report on Initial Laboratory Water Quality Results Transect Wells FW10-B through FW16-B Cabot Carbon/Koppers Superfund Site (February 10, 2006)

Dear Amy:

ACEPD has the following comments about the above referenced water quality sampling results for Transect Wells FW10-B through FW16-B as well as general comments about sampling and quality assurance procedures. Because several of these comments address important quality assurance concerns with the field sampling procedures, in order to assure high quality data, ACEPD believes these comments must be integrated into the site sampling and analytical activities that are proposed to begin in March 2006.

- 1) No Matrix Spike and Matrix Spike duplicate (MS/MSD) samples were analyzed with this data set for determination of acidic and base-neutral analytes by Method 8270C. Insufficient sample volume was taken in the field to allow analysis of these important QC data. Surrogate spike recoveries were performed which do provide an indication of the recovery of similar analytes to the phenolic and polynuclear aromatic compounds of interest, however, surrogate recoveries alone are not sufficient in this case to determine the precision and accuracy for the analytes of interest without MS/MSD data. This is especially the case since Beazer has indicated in a recent response to ACEPD, that surrogate recoveries do not correlate well with sample concentrations measured due to emulsion problems and poor recoveries experienced by the laboratory especially for the phenolic analytes. ACEPD strongly recommends that sufficient sample volume be obtained in future sampling to allow analysis of at least 5% of samples as matrix spike and matrix spike duplicates for the Method 8270C analytes. The Quality Assurance Project Plan (QAPP) for the site (January 2002 revision, Section 10.2.3 Matrix Spike and Matrix Spike Duplicate Analyses) requires MS/MSD analyses for all methods in which matrix spiking is possible, at a frequency of 1 in 20 samples. Sufficient quantity of sample should be collected from selected wells to ensure that MS/MSD analyses can be conducted at the prescribed frequency for each sampling event.
- 2) High bromide concentrations in FW10B-1 (180 mg/L), FW12B-1 (110 mg/L), and FW 16B-1 (150 mg/L) may indicate that these wells were not adequately over-pumped/developed for bromide reduction before sampling. ACEPD recommends that these wells be over-pumped/developed to further reduce the bromide concentration prior to re-sampling in the future.
- 3) The low and "outside the control limits" surrogate recoveries for the phenol-d6 (6% recovery) and 2-Fluorophenol (3% recovery) obtained in FW 11B-4 suggests a continuing quality control problem for the phenolic analysis in these samples. These low recoveries as well as the low nitrobenzene-d5 (12% recovery), indicates that the phenolic and perhaps other constituent analyses in this sample may have questionable accuracy. There seems to be a continuing problem with emulsion

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formation in the acid fraction of this analysis. Since the phenolic constituents are an important leading indicator of creosote contamination, ACEPD believes it is important that this emulsion problem be corrected expeditiously prior to further sampling. Review of the phenol-d6 recoveries in several Method Blank samples also indicates that recoveries are at the low end of the acceptable range even for a "clean" matrix method blank. Perhaps investigation needs to be performed on laboratory technique or spike solution accuracy to see if this recovery can be improved to allow more confidence in the analytical data. These recoveries do not meet the acceptable recoveries set forth in Table 10.2 (QAPP, revised January 2002) for Nitrobenzene d-5 40-100%, 2-Fluorobiphenyl 20-120% and Phenol-d6 40-110%.

- 4) The QAPP for the site (January 2002 revision, Section 10.1 Ground Water Sample Quality Control) requires collection and analysis of both equipment rinsate blanks and field blanks. Daily equipment rinsate blanks are required QC during a sampling event, with initial analyses required only for samples obtained every other day. If constituents related to the project site contaminants are found in the rinsate then the remaining rinsate blank samples must be analyzed. Only one equipment or rinsate blank (41B-1) was collected and analyzed during the nine days of field sampling. The QAPP also requires that field blanks be collected and analyzed (for all related parameters) for each source of water used. Only one field blank (42B-1) representing the store bought DI water was analyzed. Written documentation of analyte-free water source(s) used for equipment decontamination, whether "store bought" or obtained from an analytical laboratory, must be provided and include the brand name and lot number, if applicable.
- 5) The QAPP for the site (January 2002 revision, Section 10.1 Ground Water Sample Quality Control) requires collection and analysis of field duplicates at a frequency of 10% of the total number of sampling points. The only field duplicate collected was 33B, a field duplicate of FW-13B, Zone 1.
- 6) Field calibration results must be documented. The QAPP for the site (January 2002 revision, Section 8.0 Calibration Procedures and Frequency) requires written calibration records. Records must include meter ID and/or serial number and should comply with Florida Department of Environmental Protection (DEP) Standard Operating Procedures (SOPs). ACEPD strongly recommends, and DEP SOPs require calibration verification by measuring standards or buffers of known values as if they were samples and comparing those values to calibration acceptance criteria set forth in the DEP SOP. Calibration verification should be conducted with standards or buffers of known values that bracket the interval anticipated for the natural water sampled. All results of calibration and subsequent verifications must be recorded in writing. Standards used for calibration and calibration verifications should not be reused. Specific details are set forth in DEP-SOP-001/01 FT 1000 General Field Testing and Measurement (Revision Date: February 1, 2004) and in the individual SOPs for each field analyte; pH (FT1000), specific conductance (FT1200), temperature (FT1400), dissolved oxygen (FT1500), turbidity (FT1600), and ORP (FT 2100).
- 7) Chemical stability monitored during purging with the Waterra pump must meet acceptable quality assurance objectives. DEP-SOP-001/01 FS 2200 Groundwater Sampling requires field measurement stabilization. Three consecutive measurements of field parameters must meet the following criteria: temperature ± 0.2 °C, pH ± 0.2 Standard Units, specific conductance $\pm 5.0\%$ of the reading, dissolved oxygen $\leq 20\%$ saturation and turbidity ≤ 20 NTU.
- 8) Analyses for arsenic, chromium, copper and zinc are reported as "total dissolved metals" in the analytical report. Samples were acidified when collected (and indicated so on the sample custody form), and were not field filtered after collection before preservation. For any samples that were acidified without prior field or laboratory filtration the metals must be reported as "totals", not as "dissolved". The QAPP states that metals will be filtered prior to preservation and analysis and the

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results would be reported in terms of "dissolved" metals (January 2002 revision, Section 10.1 Ground Water Sample Quality Control). The QAPP states that groundwater samples for metals may be filtered either in the field or laboratory with a 0.45 um filter within 24 hours of collection. If samples are filtered, the QAPP requires that filter blanks be collected at a frequency of no less than one filter blank for every 15 samples filtered.

- 9) The full suite of compounds set forth in EPA methods 8260 and 8270 should be reported for all samples analyzed. Organic non-priority pollutant compounds present in groundwater at the site may be valuable to site assessment activities. The analytical laboratory should tentatively identify, and if possible quantify, all unknown GC/MS peaks 10% or greater above background. These additional compounds are essential to a comprehensive understanding of site contamination.
- 10) The existing QAPP for the site must be revised to include additional site assessment and monitoring activities. It should be inclusive of all monitoring activities including those proposed to be conducted by Key Environmental or other contractors. Specific details on purging and sampling of multi-zone wells that contain Westbay units must be addressed in detail.

Again, in order to assure high quality data, ACEPD strongly recommends that the QA issues addressed in these comments need to be considered and addressed prior to commencing the site sampling activities that are proposed to begin in March 2006. Please do not hesitate to contact me or Robin Hallbourg if you have specific questions regarding these comments.

Sincerely,



John J. Mousa, Ph.D.
Pollution Prevention Manager

Cc: Chris Bird, EPD (email)
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