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LETTER REGARDING U S GEOLOGICAL SURVEY REVIEW AND COMMENTS ON
REVISIONS TO SUPPLEMENTAL RCRA FACILITY INVESTIGATION REPORT FOR SITE 11
NSB KINGS BAY GA
10/21/1997
U S GEOLOGICAL SURVEY



United States Department of the Interior

GEOLOGICAL SURVEY
Water Resources Division
Peachtree Business Center, Suite 130
3039 Amwiler Road
Atlanta, Georgia 30360-2824

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Dear Ms. Harris,

Thank you for allowing me the opportunity to review the supplemental RFI addendum for Site 11. I want to give you a brief explanation of what I have included in the review. The USGS review process is relatively stringent and formalized. The process requires that any reviewer address four components including: *technical correctness*--the report's interpretations are valid; *readability*--the report is written for the intended audience and with correct grammar, syntax, and a minimum of scientific jargon. Illustrations and tables are legible and readily understandable; *policy*--the report is free of statements that violate USGS policy, and finally, *verification*--values given in the body of the report, figures, and tables agree. Because this is not published by the USGS policy is not addressed. In addition, some of the specific points of readability--syntax and grammar--are not addressed.

Page 2, paragraph 4--you report a range of ground-water flow velocities from 3 to 6 feet per year. It must be noted that these values are Darcy velocities and therefore do not account for the porosity of the sediments. The average horizontal velocity (the speed at which a particle would move through a given sediment over a given period of time, not accounting for dispersion and gravity), was not reported by USGS because there are no site-specific effective porosity data. If one were to use porosity values from the literature, an average horizontal velocity could be derived by dividing the Darcy velocity by the porosity hence, 6 feet per year divided by a porosity of 20 percent for a coarse sand, would yield an average horizontal flow velocity of about 30 feet per year.

Page 2, paragraph 5-- You state that "*the comprehensive data tables are included in attachment (*". I believe that the reader would be better served if you were to include a summary table in the body of your report that clearly indicates the analytes that were detected, and their depths. Making the reader flip back and forth from the body of the report to an appendix is time-consuming. In addition, while you explain, in the body of your report, that the depths of the sample are in the comprehensive data tables, this is not obvious from the tables themselves.

Figure 3--This figure only indicates the locations of the direct push and monitoring well locations, no "delineation" data are presented. If the chemical data used for delineation were included, (similar to figure 2) this figure would be much more useful to the reader.

Finally, in regards to the overall conclusion of your report, I do believe that you have the data to substantially delineate the boundary of the plume. While the data from direct push location T306 indicates you may not have been totally outside the plume at that point in time, you are very close, and this data can and likely will be used to place the "down-gradient" clean well required by FPD rules. In addition, your data "fit" with the physical model of the site, including the preferential contaminant

migration--in the middle of the water-table water-bearing zone--and relatively steep ground-water gradients to the west of the landfill.

On a partially related topic, I would like to address the exclusion of the "Cottage Court direct push data and the SCAPS data" from this report. At the Oct. 14-15 team meeting there was some concern from both the EPD and D.W. Hicks (USGS) that this data was not included in the SRFI addendum. My perception of the EPD's concern is one of omission, I believe that the EPD wishes to have all the data readily available to them so that they can make a regulatory decision. Another argument I would make for relaying this data to the EPD is one of perception. Not presenting data that were collected concurrently with the rest of the push data, could lead one to the misperception that all data were not presented.

As we discussed on the phone I do not believe that incorporating this data would be a major effort. I envision simply a location map (with or without "data boxes"), followed by a data table--that includes only the analytes detected, concentrations and depths--followed by a brief synopsis of the data. I would include all of the data in an appendix, but only have the detected analytes in the body of the report. I would do this separately for the all of the 11/92 data, the 3/97 SCAPS data and then again for the 9/97 direct push and well data. Once again, I believe that the EPD is simply looking for a cogent synopsis, that allows them to make a regulatory decision that is comfortable to them. I believe that you have both the data, and the knowledge to do this, just keep in mind when presenting the data that you are infinitely more familiar with this data than they.

If you have any questions please feel free to call.

Sincerely,
Chris Leeth



Hydrologist

cc: whicks
arobinson
rbath