UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION V

DATE: June 6, 1986

SUBJECT: Trip Report, PRP Audit/Training - Geoscience Research Associates - May 13-15, 1986

FROM: Dennis Wesolowski, Patrick Churilla, Chemists, CPM Section, CRL

TO: Files

Introduction:

From May 13th through the 15th, 1986 Dennis Wesolowski, Patrick Churilla, and Jay Thakkar audited Responsible Party Data being reviewed by Geoscience Research Associates (GRA) of Bloomington, Indiana. The data was generated by Compuchem Laboratories for the Midco I and II sites in Indiana following the Contract Laboratory Program (CLP) protocols.

The audit included organic and inorganic data from water, sediment, soil, and test pit matracies. The visit also included CLP data review and training for 2,3,7,8 tetrachloro dibento dioxin data. Over 10% of the approximately 350 samples were audited. An example of a review of dioxin data was explained to Dr. James Keith and Daryl Schulz. They will review about 45 dioxin sample results.

FINDINGS AND RECOMMENDATIONS:

The following items were found in organic data that was reviewed and that need to be addressed by GRA along with the auditor's recommendations:

- In a group of 17 ground water a sample (1WG30G1) which was not one of the group but was one of the 34 collected on that day was used as a matrix spike/spike duplicate.

- In a group of sediments, a test pit sample was inappropriately used as a matrix spike/spike duplicate.

- In a group of sediments samples a field blank was inappropriately used as a matrix spike/spike duplicate.

- In order to assure that an appropriate matrix type sample is used for a group of samples and that at least 1 matrix spike/spike duplicate set is performed per 20 samples we recommend that the samples as designate and clearly label a sample to be used by the laboratory for spiking purposes.

- In a group of ground water two (2) samples 1WG4MW1 and 1WG6MW1R in the volatile fraction had no documented GC/MS tuning associated with them.

- In a group of ground water two (2) samples 1WG9WM1 and 1WGBLK4E in the semi-volatile (ABN) fraction had no documented GC/MS tuning associated.

- We recommend that the review SOP be followed in using the qualifier "R" for all data associated with these sample fractions unitl a time when the laboratory can produce documentation of the instrument tuning meeting protocol criteria. This should be noted in the QA/QC comments.

- In calibrations several compounds other than the SPCC and CCC designated compounds were out of specifications in their response factors percent relative standard deviation on percent difference.

- We recommend that the review SOP be followed in using either the "R" or "J" qualifier as appropriate by the reviewer. A comment as to reason for the qualification should be made in the QA/QC comments.

- In samples 1WG6MW1 and 1WGGMW1R for pesticide/PCB analysis two different injections amounts were used by the laboratory. The D.L.'s were calculated on the original 5 ul injection. However, since they then injected 1 ul because of several offscale peaks, the new data sheet should have reflected this essentially diluted sample with D.L.'s five (5) times the original. It did not.

- We recommend that the reviewers include this dilution factor on these data sheets and examine all other data sheets to be sure changes are made were necessary. If this is not done, the data user would be misled.

- Many TIC containant are attributed to acctone by the laboratory.

- This form of gross contamination needs to be addressed by the laboratory before generating more data. All associated TIC data cannot be used for those particular contaminants.

- A dioxin case of fifteen (15) samples and blanks was examined. There was no performance evaluation sample in the set. GRA was advised to examine the two (2) PE's sent by QAO to the laboratory before reviewing the dioxin data to be assured that they have not the requirement results of the review were discussed and several points of review protocol were explained including the data qualifers used in routine 2,3,7,8 TCDD analyses.

- Each sampling episode should have a unique number. Samples could be easily grouped by episode and not need to be sorted when the lab return the data.

- The laboratory needs to make method blanks easily identifiable on the summary form. The method blanks are important since they go through the some processes as the sample.

OTHER RECOMMENDATIONS:

GRA should ask the laboratory to designate the column used on all pesticide/PCB chromatograms. This would cause less confusion as to which standards should be compared to the sample in checking retention times and peak patterns.

The review SOP for HSL and non-HSL spectra not meeting the ion criteria should be followed. The approrpiate qualifers of "UR" and"JN" should be used as outlined. This should be explained in the comments. Up to now GRA has made note of some discrepancies but has not qualifed the results on the data sheets.