Anson Environmental, Ltd.

256 Main Street
Northport, NY 11768

Fax Transmittal

Date: 8 Apr 92

Number of pages (including cover page): 6

To: Dorothy Allen, USEPA (212) 264-7611

From: Dean Anson

Regarding: TCLP, CLP data validation
Soil composite.

Please contact us immediately if
transmission is incomplete.
516.757.7090

Comments: Here is the cover letter and section 1
which accompany sections 2+3
(which should arrive via Fed Exp
this morning.)

PLEASE NOTE OUR NEW
FAX #
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Environmental Standards, Inc.
Specialists in Environmental Risk Assessment and Data Validation

The Commons at Valley Forge, Unit 4, 1220 Valley Forge Rd.
P.O. Box 911, Valley Forge, PA 19481 (215) 935-5577

March 25, 1992

Ms. Fritzi Mazzola
Anson Environmental
256 Main Street
Northport, NY 11768

Dear Ms. Mazzola:

Please find enclosed the quality assurance review of the data package for the TCLP analysis of Sample #1 #2 #3 (composite sample). This report should replace the report dated 12/10/92 for the sample. As before, the detection limits for all compounds in the semivolatile, pesticide and herbicide analyses have been qualified due to holding time issues. In addition, the analyses for methylethylketone should be considered unreliable due to calibration issues and the detection limits for mercury have been qualified based on the CRA standard recoveries.

If you have any questions or comments, or if I can be of any further assistance, please do not hesitate to call.

Sincerely,

Donald J. Lancaster
Senior Quality Assurance Chemist

DJL:cs
Enc.

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Section 1 Quality Assurance Review

A. Introduction

This quality assurance review is based upon an examination of the QA/QC summary forms and raw data generated from Sample #1 #2 #3 which was collected November 6, 1991 at the Anchor Chemical site.

The validation has been performed in accordance with the following U.S. EPA Region II documents:

"CLP Organics Data Review and Preliminary Review," SOP No. HW-6, Revision #7

"Evaluation of Metals Data for the Contract Laboratory Program (CLP)," SOP No. HW-2, Revision X

The reported analytical results are presented as a summary of the data in Section 2. Data were examined to determine the usability of the analytical results and also to determine contractual compliance relative to the TCLP analytical requirements specified in SW846 (Third Edition). Qualifier codes have been placed next to the results so that the data user can quickly assess the qualitative and/or quantitative reliability of any result. Details of this quality assurance review are presented below in the narrative section of this report. This report was prepared to provide a critical review of the laboratory analyses and reported chemical results. Rigorous quality assurance reviews of laboratory-generated data routinely identify various problems associated with analytical measurements, even from the most experienced and capable laboratories. The nature and extent of the problems identified in this quality assurance review should not be interpreted to mean that those results that do not have qualifier codes are less than valid.

B. TCLP Data

The analyses of 1 composite sample were performed by Ceimic Corporation of Narragansett, Rhode Island. The analyses of this sample were performed in accordance with SW846 (Third Edition) procedures.

The findings offered in this report are based on an evaluation of the holding times, blank analysis results, surrogate recoveries, calibrations, internal standards, matrix spike recoveries and quantitation of positive results. The analytical results are presented in Section 2. It should be noted that in accordance with current requirements, the analytical results (non-detects and positive results) were recovery-corrected for matrix spike recoveries less than 100% except where noted below.

While reviewing the raw data and reported QC summary results, the reviewer identified the following deficiencies.

7. The calibration factors reported for chlordane in the pesticide analysis were calculated from *alpha*-chlordane in the INDB mixture, not from the technical chlordane standard.

8. The data reviewer could not duplicate the calibration factors reported for the herbicide analysis. However, the data reviewer has determined that the initial and continuing calibrations display good instrument performance (sensitivity and stability).

9. The laboratory used a 3-point calibration for the initial calibration in the pesticide analysis. SW846 methods require a 5-point initial calibration.

10. SW846 requires an interference check standard analysis before and after sample analysis by ICP (SW846, 6010-13). The laboratory did not perform this analysis. Consequently, instrument performance based on background correction and interelement signal correction could not be assessed.

With respect to data quality, principal areas of concern include holding times, calibration issues and low CRA standard recoveries. Based upon a review of the data package, the following data qualifiers are offered. It should be noted that the following data usability issues represent an interpretation of the quality control results obtained for the project samples. Quite often, data qualifications address issues relating to the sample matrix problems. Similarly, the validation guidelines routinely specify areas of the data that require qualification, yet the methods used for analysis do not require any corrective action by the laboratory. Accordingly, the following data usability issues should not necessarily be construed as an indication of laboratory performance.

- The actual detection limits for semivolatile compounds, pesticides and herbicides in Sample #1 #2 #3 may be higher than reported and have been flagged "UJ" on the data tables. The TCLP leachate was prepared 2 days in excess of the 7-day holding time from the date of sample collection.

- The detection limit for 2-butanone (methylethylketone) in Sample #1 #2 #3 has been flagged "R" on the sample data table and should be considered unreliable. The continuing calibration associated with Sample #1 #2 #3 displayed a low response factor (<0.050) for 2-butanone in the volatile organics analysis.

- The detection limit for mercury in Sample #1 #2 #3 has been flagged "UJ" on the sample data table and should be considered biased low. The actual detection limit of mercury in the sample may be higher than that reported by the laboratory. A low recovery (40.0%) was reported for the associated CRA standard analysis for mercury.

A complete support documentation for this quality assurance review of the TCLP data is presented in Section 3 of this report.

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1. The result page for the TCLP semivolatile compounds indicates that reporting limits have the units of mg/L, which is incorrect. The reporting limits should have the units of µg/L. The data tables have been changed to reflect the correct units.

2. Sample #1 #2 #3 was collected 11/6/91. However, the VOA result page for this sample indicates that the sample was collected 11/8/91.

3. The laboratory did not recovery-correct the positive result for barium or the detection limits for all analytes in the pesticide and metals analyses. The data reviewer has performed the recovery-correction and has reported the corrected positive result and detection limits for the analytes on the sample data tables. It should be noted that the laboratory did not perform a matrix spike analysis for chlordane or toxaphene for Sample #1 #2 #3. Consequently, the detection limits reported on the sample data tables for these analytes are not recovery-corrected.

4. The GC/MS tuning and mass calibration form (Form V) for the volatile organics analysis of 11/13/91 (page 49) for instrument MS6 was not submitted with the data package for review. However, the raw data for this VOA tuning was included in the data package. The raw data displayed an acceptable tuning and mass calibration, and the associated continuing calibration, method blank and sample analyses were performed within 12 hours of the GC/MS tuning.

5. Based upon the raw data, it appears that the laboratory did not perform an initial calibration for pyridine in the semivolatile organics analysis. Although responses for pyridine were observed in the raw data for the continuing calibrations, the response factors were not entered on the continuing calibration summary forms. Without the initial calibration, the data reviewer could not measure the reliability of the daily instrument performance for pyridine. The continuing calibration response factors as calculated by the data reviewer are presented below:

Date	Instrument	Response Factor
11/21/91	MS10	0.539
11/23/91	MS10	1.101
11/25/91	MS10	0.306

Semivolatile initial calibrations associated with this project case were performed on 9/14/91 and 11/24/91.

6. The second page of the semivolatile organics continuing calibration form (Form VII) for 11/21/91 (page 148) was not included with the data package submitted for validation. In addition, the raw data and Form VII's for the continuing calibrations were paginated incorrectly (the pages did not follow numerical order).

C. Conclusions

This quality assurance review has identified several aspects of the data that have required qualification. A notable portion of the organic data was qualified as estimated due to holding time violations. To confidently use any of the data in the sample set, the data users should understand the limitations and qualifications presented in this report.

Report prepared by:

Donald J. Lancaster
Senior Quality Assurance Chemist

Report reviewed and approved by:

Rock J. Vitale
Quality Assurance Specialist/Principal

Date: 3/25/92

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