

## **13.0 CORRECTIVE ACTIONS**

### **13.1 CORRECTIVE ACTION REQUIREMENTS**

**13.1.0.1.** Corrective action is the process of identifying, recommending, approving, and implementing measures to counter unacceptable procedures or performance that may affect data quality. All proposed and implemented corrective action shall be documented in quality assurance reports or other reporting vehicles as specified in the delivery order and contract. Corrective action shall be implemented only after approval by the Prime Contractor's Project Manager or designee, the field team leader, or Hill AFB. If immediate corrective action is required, approvals secured by telephone from Hill AFB and the Field Team Leader shall be documented in writing and included in the project file.

**13.1.0.2.** For each incidence of noncompliance, a formal corrective action program shall be established and implemented at the time the problem is identified. The person who identifies the problem shall be responsible for notifying the Prime Contractor's project manager, who in turn shall notify Hill AFB. Implementation of corrective action shall be confirmed in writing.

**13.1.0.3.** Any nonconformance with the established QC procedures specified in the project-specific work plans or this QAPP shall be identified and corrected in accordance with the QAPP. Corrective actions shall be implemented and documented in the field logbook. No staff member shall initiate corrective action without prior communication of findings through the proper channels as defined in the project-specific organization chart.

#### **13.1.1. Field Corrective Action**

**13.1.1.1.** During any field activity, the field staff shall be responsible for documenting and reporting all suspected technical and QA nonconformances, and suspected

deficiencies. The nonconformances and/or deficiencies shall be documented in the field logbook and reported to the Prime Contractor's Project Manager. If the problem is associated with field measurements or sampling equipment, the field staff shall take the appropriate steps to correct the problem. Typical field procedures to correct problems include the following:

- Repeating the measurement to check for error.
- Making sure the meters or instruments are adjusted properly for ambient conditions, such as temperature.
- Checking or replacing batteries.
- Recharging batteries.
- Recalibrating the instruments.
- Replacing the meters or instruments used to measure field parameters.
- Stopping work (if necessary) until the problem is corrected.

**13.1.1.2.** If a nonconformance or problem requires a major adjustment to the field procedures outlined in the project-specific work plans or this QAPP (e.g., changing sampling methodology or sampling schedule), the Prime Contractor's project manager, in conjunction with Hill AFB, shall be responsible for initiating corrective actions. The Prime Contractor's project manager shall be responsible for:

- Evaluating the reported nonconformance.
- Controlling additional work on nonconforming items.

- Determining the appropriate corrective actions in conjunction with the Hill AFB Project Manager and the appropriate regulatory agency.
- Maintaining a log of all nonconformances and corrective actions.
- Approving all changes in writing or verbally prior to field implementation, if feasible. If deemed unacceptable, the action taken during the period of deviation shall be evaluated to determine the significance of any departure from established program practices.
- Ensuring that explanation of nonconformances and corrective actions is included in an appendix to the report scheduled for the investigation.
- Ensuring that no additional work that is dependent on the nonconforming activity is performed until the appropriate corrective actions are completed.
- Reporting all changes to all affected parties, including Hill AFB and the appropriate regulatory agencies.

### **13.1.2. Laboratory Corrective Action**

**13.1.2.1.** Corrective actions are required whenever unreliable analytical results prevent the quality control criteria from being met, as specified by the method, project-specific work plans or this QAPP. The corrective action taken depends on the analysis and the nonconformance. Appendices A through H provide a summary of corrective actions that shall be undertaken for problems associated with specific laboratory analyses.

**13.1.2.2.** Corrective action shall be undertaken if one of the following occurs:

- QC data are outside the acceptance criteria for precision and accuracy.
- Blanks contain contaminants above acceptance levels.
- Undesirable trends are detected in spike recoveries, spike recoveries are outside the QC limits, or RPDs between duplicate analyses are consistently outside QC limits.
- There are unusual changes in detection limits.
- Deficiencies are detected during QA audits.
- Inquiries concerning data quality are received from Prime Contractor's project chemist.

**13.1.2.3.** Corrective actions shall be handled primarily at the bench level by the analyst who reviews the sample preparation or extraction procedures, and performs the instrument calibration and analysis. If the problem persists or its cause cannot be identified, the matter shall be referred to the department supervisor or QA department for further investigation. Once resolved, full documentation of the corrective action procedure shall be filed with the QA department. A summary of the corrective actions shall be included in the data reports (Comprehensive Certificates of Analysis).

### **13.1.3. Data Validation Corrective Actions**

**13.1.3.1.** Corrective action may also be initiated during data validation or data assessment. Potential types of corrective action include resampling by the field team or reinjection/reanalysis of samples by the laboratory.

**13.1.3.2.** These actions are dependent upon the ability to mobilize the field team, how critical the data are to the project DQOs, and whether the samples are still within holding time criteria. When a corrective action situation is identified, the Prime Contractor's Project Manager and Hill AFB shall be notified, and will have the final responsibility for authorizing the implementation of the corrective action, including resampling and documenting the corrective action.