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(was SOP-5.13)

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## Environmental & Remediation Support Services

### Standard Operating Procedure

# for ANALYTICAL DATA VERIFICATION/VALIDATION PROCESS

#### APPROVAL SIGNATURES:

Subject Matter Expert:	Organization	Signature	Date
Karen Schultz-Paige	ERSS		12/4/06
Quality Assurance Specialist: Ed Webb CD 12/22/2006 Phil Doll	ERSS		12/22/06 12/6/2006
Responsible Line Manager: Craig Eberhart	ERSS		12/6/2006

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## 1.0 PURPOSE AND SCOPE

This purpose of this procedure is to describe the process for analytical data verification and validation for Environment & Remediation Support Services (ERSS) data.

Subcontractors performing work under the ERSS quality assurance program (QAP) will follow this procedure. Subcontractors who work to their own QAP must have a procedure that meets the requirements prescribed by the ERSS QAP and is approved by the QA Department before commencement of the designated activities.

## 2.0 BACKGROUND AND PRECAUTIONS

### 2.1 Background

*ERSS presents summary tables of these data and Level II QA/QC results to the Department in the formats described in Section XI of this Order. The raw analytical data, including calibration curves, instrument calibration data, data calculation work sheets, and other laboratory support data for samples from this project, shall be compiled and kept on file at the Facility for reference. ERSS makes the data available to the Department upon request. ERSS does not censor the data based on detection limits, quantitation limits, or measurement uncertainty.*

*ERSS evaluates the sample data, field, and laboratory QA/QC results for acceptability with respect to the data quality objectives (DQOs). Each group of samples is compared with the DQOs and evaluated using data validation guidelines contained in EPA guidance documents, the latest version of SW-846, and industry-accepted QA/QC methods and procedures.*

### 2.2 Precautions

None.

## 3.0 EQUIPMENT AND TOOLS

None.

## 4.0 STEP-BY-STEP PROCESS DESCRIPTION

### 4.1 Notification of Data Quality Exceptions

Project Manager	1.	<b>Contact NMED within one (1) working day of receipt of laboratory notification of data quality exceptions that may affect the ability to meet the objectives of the investigation or compliance activity in order to discuss the implications and determine whether the data will still be considered acceptable or if sample re-analysis or re-sampling is necessary.</b>
	2.	<b>Summarize the results of the discussion with the NMED Project Leader regarding the data quality exceptions in a memorandum.</b>
	3.	<b>Submit the memorandum to the NMED by fax or electronic mail within three (3) working days of the conclusion of the data quality decision.</b>

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## 4.2 Data Verification

- Data Verifier
1. Open verification/validation module on the ERSS Web Site.
  2. Select "List" under "Validation".
  3. Select a request number.
  4. Within an opened request number, select a specific analytical suite.
  5. Select "Form 1" button that opens Form 1 Report view.
  6. Verify Form 1 hardcopy with Electronic Form 1.
  7. Perform the following if hardcopy and electronic data match or not:
    - Select "Accepted" in "Verification Status" field if data match.
    - Select "Save" button.
    - Select appropriate verification status in "Verification Status" field.
    - [NOTE: If the verifier selects "In Process" status, may continue work process later. If verifier selects "Problem" or "Rejected" status:
      - Fill in the appropriate comments;
      - Select "Email Problem" button;
      - Select "Save" button;
      - Appropriate personnel will fix problem; and
      - Request Number/Analytical Suite "kicked back" to "Verification List" in order to complete verification; and
      - Repeat data verification steps.

## 4.3 Data Validation

- Data Validator
1. Select "List" under "Validation".
  2. Select "Request Number".
  3. Select Analytical Suite.
  4. Select "Qualifier Reasons" button.
  5. Select validation qualifier/reason code, as applicable, per "Analytical Suite Type".
  6. Select "Final Reporting Qualifier/Reason Code" button.
  7. Complete qualifier/reason code entry for each analytical suite.

- Data Validator  
(Continued)
8. Determine "Validation Status":
    - If complete, select "Complete" in "Validation Status" field, and select "Save" button.
    - If not complete, select appropriate validation in "Validation Status" field.
  9. If "Problem" or "Rejected" status:
    - Fill in appropriate comments;
    - Select "Email Problem" button;
    - Appropriate personnel will fix problem; and
    - Request Number/Analytical Suite "kicked back" to "Validation List" in order to complete validation.
  10. If validation of request number is not complete, repeat.
  11. If validation of request number is complete, perform validation check.

#### 4.4 Perform Validation Check

- Data Verifier
1. **Select "List" under "Validation Check".**
  2. Select "Request Number".
  3. Select "Analytical Suite".
  4. **Select "Form 1" button.**
  5. Verify Electronic Qualifier Reason Code against hardcopy Validation Form 1 Report.
  6. If match:
    - Select "Complete" in the "Verification Status" field; and
    - Select "Save" button.
  7. If validation check is incomplete:
    - Select "List" under "Upload";
    - Select "Request Number";
    - Select "Analytical Suite"; and
    - Select "Load to CAR".
  8. If validation check is not complete, return and repeat.
  9. Select appropriate status in "Verification Status" field if Electronic Qualifier Reason Code and hardcopy Validation Form 1 Report do not match.

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- Data Verifier  
(Continued)
10. If Data Verifier selects "In Process", may continue work process later.
  11. If "In Process" is not selected:
    - Select "Problem" or "Rejected" status;
    - Fill in appropriate comments;
    - Select "Email Problem" button;
    - Select "Save" button;
    - Appropriate personnel will fix problem; and
    - Request Number/Analytical Suite "kicked back" to "Validation Check", and repeat.

#### 4.5 Review of Blanks, Field Duplicates, Reporting Limits, and Holding Times

- Data  
Evaluator
1. ***Review the analytical results of field blanks and field rinseate blanks to evaluate the adequacy of the equipment decontamination procedures and the possibility of cross-contamination caused by decontamination of sampling equipment.***
  2. ***Review the analytical results of trip blanks to evaluate the possibility for contamination resulting from the laboratory-prepared sample containers or the sample transport containers.***
  3. ***Review the analytical results of laboratory blanks to evaluate the possibility of contamination caused by the analytical procedures.***
  4. ***Qualify the sample data, as appropriate, if contaminants are detected in field or laboratory blanks.***
  5. ***Review the sampling, extraction, and analysis dates to confirm that extraction and analyses were completed within the recommended holding times, as specified by EPA protocol.***
  6. ***Note appropriate data qualifiers if holding times were exceeded.***
  7. ***Calculate relative percent difference (RPD) for field duplicates.***

**4.6 Laboratory Reporting, Documentation, Data Reduction, and Corrective Action**

- Data Evaluator
1. ***Evaluate data against the established criteria, and note any deviation by qualifying the data.***
  2. ***Check the following, when appropriate:***
    - ***holding times;***
    - ***detection limits;***
    - ***field equipment rinseate blanks;***
    - ***field blanks;***
    - ***field duplicates;***
    - ***trip blanks;***
    - ***reagent blanks;***
    - ***laboratory duplicates;***
    - ***laboratory blanks;***
    - ***laboratory matrix spikes;***
    - ***laboratory matrix spike duplicates;***
    - ***laboratory blank spikes;***
    - ***laboratory blank spike duplicates; and***
    - ***surrogate recoveries.***
  3. ***Implement appropriate corrective action if significant quality assurance problems are encountered.***
  4. ***Ensure all corrective actions are defensible and corrected data is qualified.***

**4.7 Records**

1. None.

**5.0 PROCESS FLOW CHART**

Flow chart is to be included later.

**6.0 ATTACHMENTS**

None.

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## 7.0 REVISION HISTORY

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Revision No <i>[Enter current revision number, beginning with Rev.0]</i>	Effective Date <i>[DCC inserts effective date for revision]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>	Type of Change <i>[Technical (T) or Editorial (E)]</i>
0.0	02/09/07	Incorporated NMED Requirements, supersedes SOP-5.13	T

[Using a CRYPTOCard, click here to record "self-study" training to this procedure.](#)

If you do not possess a CRYPTOCard or encounter problems, contact the EP training specialist.

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