

SWAMP QA Team	SOP Procedure Number:	Draft – Please do not distribute or cite
Standard Operating Procedure (SOP) for Contract Laboratory Data Verification and Validation	Date:	January 3, 2005
	Page:	1 of xx

Approved:

Beverly H. van Buuren, SWAMP QA Officer

Date:

SURFACE WATER AMBIENT MONITORING PROGRAM (SWAMP) QA PROGRAM CONTRACT LABORATORY DATA VERIFICATION AND VALIDATION

1.0 PURPOSE

This standard operating procedure (SOP) describes the process used by Surface Water Ambient Monitoring Program (SWAMP) contract laboratories to verify and validate their program data packages. Data verification ensures that reported results accurately depict work performed by the contract laboratory. Data validation confirms that these verified results meet the overall quality requirements of the SWAMP project.

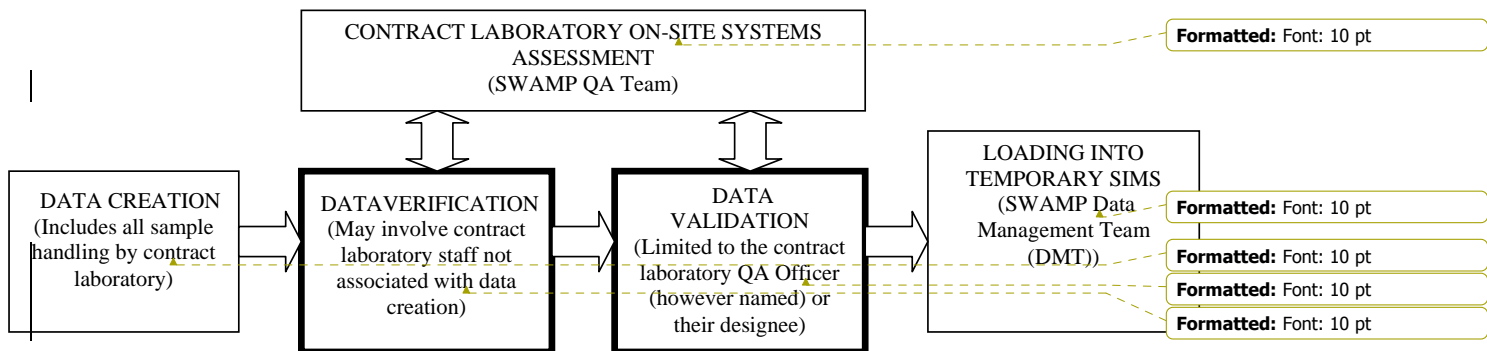
Data packages that have been verified and validated according to this procedure can be incorporated into a temporary SWAMP Information Management System (SIMS) according to SOP-XXX: *Data Loading and Management of the SWAMP Database*. Once here, a data quality assessment (DQA) is made by the SWAMP QA Team according to SOP-XXX: *Title*. SWAMP data passing this final assessment is included in the SIMS.

2.0 RESPONSIBILITIES

The QA Officer (however named) of each SWAMP contract laboratory is ultimately responsible for the verification and validation of their own outgoing data. However, the actual practice of this procedure can be delegated as appropriate.

The data verification portion of this SOP may be carried out by any contract lab employee not associated with data creation. The appropriate degree of independence should be determined by the contract laboratory. Data validation must be limited to the QA Officer (however named) or their designee.

As described in SOP-XXX: *QA Program On-site Systems Assessment*, both data verification and validation are subject to auditing by the SWAMP QA Team.



SWAMP QA Team	SOP Procedure Number:	Draft – Please do not distribute or cite
Standard Operating Procedure (SOP) for Contract Laboratory Data Verification and Validation	Date:	January 3, 2005
	Page:	2 of xx

3.0 PROCEDURE FOR CONTRACT LABORATORY DATA VERIFICATION

Contract laboratory results must be verified in order for data validation and subsequent assessment to be meaningful. Data verification ensures that reported results have been transcribed and reduced to accurately depict work conducted by the contract laboratory. While data verification systems are expected to vary among contract laboratories, certain guidelines can be universally applied. These guidelines may be made more stringent on a contract-specific basis.

- Contract laboratories that assign internal sample IDs must ensure that SWAMP sample IDs are accurately restored before data is released.
- Ensure that relevant sample hold time requirements have been met.
- Ensure that raw detector output (e.g., intensity, peak area) is properly transcribed for use in data reduction.
- Ensure that all preparation and analytical values (e.g., aliquot sizes, total solids results) are properly transcribed for use in data reduction.
- Ensure that 100% of formulas used in data reduction are correct.
- Independently hand calculate at least 10% of sample results to confirm that the above formulas are being properly applied.
- Independently hand calculate at least 25% of quality control sample results to confirm that the above formulas are being properly applied.
- Ensure correct transcription of at least 10% of electronic data deliverable (EDD) entries.

4.0 PROCEDURE FOR CONTRACT LABORATORY DATA VALIDATION

Data validation confirms that verified results meet the overall quality needs of the SWAMP project. This assessment is based heavily on the recommended data acceptability criteria established in Appendix C of the SWAMP Quality Assurance Management Plan (QAMP) (December 2002). These criteria are also included as an Appendix to this SOP. While contract laboratories will have varying systems of data validation, they are expected to meet some universal guidelines. These guidelines may be made more stringent on a contract-specific basis.

- Ensure that all quality control “Sample Types” specified in the Appendix are associated with outgoing SWAMP data.
- Ensure that “Frequency of Analysis” requirements specified in the Appendix are met for each “Sample Type”.
- Ensure that “Recommended Control Limits” specified in the Appendix are met for each “Sample Type”.
- Ensure that deviations from, additions to, or exclusions from the test method are properly narrated for use in future data interpretation
- Ensure that non-standard test conditions relevant to data quality are properly narrated for use in future data interpretation.

SWAMP QA Team	SOP Procedure Number:	Draft – Please do not distribute or cite
Standard Operating Procedure (SOP) for Contract Laboratory Data Verification and Validation	Date:	January 3, 2005
	Page:	3 of xx

- Ensure that data which has been verified and validated is distinguishable from draft data.

5.0 CORRECTIVE ACTION

All corrective actions required by the data verification process must precede data validation.

During data validation, ensure that the “Recommended Corrective Action” specified in the Appendix is met or exceeded for a failure of any “Sample Type”.

6.0 REFERENCES

Surface Water Ambient Monitoring Program (SWAMP), Quality Assurance Management Plan (QAMP), 1st revision, December 2002.

Environmental Protection Agency, Guidelines on Environmental Data Verification and Validation, EPA QA/G-8.

7.0 APPENDIX

DRAFT
ATTACH RE-FORMATTED FILE

*Please do not
distribute or cite*