Technical Procedure for Balances

1.0 Purpose – This technical procedure shall be followed for the operation of the balances within the Trace Evidence Section.

2.0 Scope – This procedure applies to all balances located within the Trace Evidence Section.

3.0 Definitions – N/A

4.0 Equipment, Materials, and Reagents

- Mettler Toledo PB3002 Balance
- A&D Model No. HR-200 Analytical Balance
- Certified weight standards

5.0 Procedure

5.1 Annual Calibration

5.1.1 All balances are cleaned, serviced and calibrated annually by an outside vendor.

5.1.2 Service records shall be maintained with the balances.

5.2 Daily Performance Check

5.2.1 Each day that a Trace Evidence Section balance is used, its performance shall be checked using certified weight standards. If the balance is not being used, the daily check shall not be required.

5.2.2 Procedure

5.2.2.1 Turn on balance and allow it to warm up for approximately 30 minutes.

5.2.2.2 Remove any load from the balance pan and re-zero.

5.2.2.3 Weigh the 100 g, 10 g, 1 g, and 0.1 g calibrated weight standards.

5.2.2.4 Record the balance reading for each certified weight standard, date, and initials of employee performing the quality control check in the log maintained with the balance.

5.2.3 Results of the Performance Check

5.2.3.1 The recorded weight shall be within the uncertainty at the 95 % Confidence Level as listed on the Certificate of Calibration for the certified weights.

5.2.3.2 If results are outside these parameters, the balance shall not be used until all necessary steps have been taken to bring the balance into compliance. These steps may include cleaning, leveling, taring, or contacting an approved service contractor.

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5.2.3.3 Once the recorded weights meet the above stated criteria, the balance may be returned to service.

5.3 Performance Verification for New Instrument Set Up

5.3.1 New balances shall be installed by a certified engineer according to manufacturer guidelines.

5.3.2 The monthly performance check shall be performed. Upon successful completion of the check, the balance may be used in casework.

5.4 Standards and Controls

5.4.1 Certified weight standards. Do not touch the weight standards with bare hands.

5.4.2 There are no special storage requirements for the certified weight standards.

5.5 Maintenance

5.5.1 Maintenance performed on a balance shall be recorded in the log maintained with the balance and shall include the date and the initials of the employee performing the maintenance

5.6 Sampling and Sample Selection – N/A

5.7 Calculations – N/A

5.8 Uncertainty of Measurement – N/A

6.0 Limitations – N/A

7.0 Safety – N/A

8.0 References

Mettler Toledo B-S/FACT line of balances, Operating Instructions.

A&D HR-SERIES Instruction Manual, Precision Electronic Balance, v.5.a.

9.0 Records

- Balance logs (Monthly QC Check, Maintenance).
- Certificate of Calibration for the certified weights.

10.0 Attachments – N/A

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Revision History		
Effective Date	Version Number	Reason
09/17/2012	1	Original ISO Document

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