

QAPP AMENDMENT FORM: Issue 5

DATE FORM SUBMITTED: 10/12/06

QAPP Title **Quality Assurance Project Plan for the Ambient Air Monitoring Program**
130 Liberty Street Deconstruction Project
September 7, 2005

AMENDMENT #1

Flow rate checks and calibrations associated with the high volume samplers used for metals will be revised as follows:

- A magnehelic gauge will be permanently installed to the side of the sampler for calibrations and daily flow rate checks. This will replace the orifice previously used.
- Flow rates will be verified daily with a calibrated orifice. The percent difference (%D) must be ≤ 20 .
- The requirement for the weekly flow rate check will be removed. Currently, the samplers are calibrated once per quarter and/or after maintenance. The flow rates are checked before and after sampling on a daily basis via the magnehelic readings.
- A criterion of ≤ 20 will be introduced for the relative percent difference (RPD) between the initial and final magnehelic readings.
- Calculation of flow rates on a daily basis will be revised to correct for the average temperature and pressure readings during the sampling period.
- The SOP will be revised to require the recording of Q_{actual} slope and Q_{actual} intercept during calibration instead of Q_{standard} .

Reason for Amendment:

Since the flow rates are verified on a daily basis, the weekly flow checks are redundant and therefore have been eliminated. In order to assess the precision of sample collection, the RPD criterion for initial and final magnehelic readings has been introduced as a means of evaluating initial and final flow differences. This evaluation will serve as an additional measure to verify the accuracy of the reported volumes. If RPDs are greater than 20, associated data will be flagged as estimated. In order to assess the accuracy of the flow rates calculated using the calibration curve, the %D criterion for the daily orifice checks and calculated flow rates has been introduced. If %Ds are greater than 20, the orifice check will be redone and/or recalibration will be performed. The flow rate calculations will be corrected for the actual average temperature and pressure readings during the sampling period so as to be consistent with the flow rate calculations currently in place for all other parameters collected as part of this program.

Sections of QAPP Affected:

10.2.1, Metals (TSP Filters): A magnehelic gauge will be added to the list of required equipment.

13.1.1, Field Equipment, Table 13-1a: The weekly flow check of the high volume samplers will be eliminated and replaced with daily checks of the flow rate via the magnehelic readings. An RPD criterion of ≤ 20 will be introduced as a means of evaluating the initial and final magnehelic readings. The corrective action will be to flag the associated data as estimated if the RPD criterion is exceeded.

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10.2.1, Metals (TSP Filters): A magnehelic gauge will be added to the list of required equipment.

13.1.1, Field Equipment, Table 13-1a: The weekly flow check of the high volume samplers will be eliminated and replaced with daily checks of the flow rate via the magnehelic readings. An RPD criterion of ≤ 20 will be introduced as a means of evaluating the initial and final magnehelic readings. The corrective action will be to flag the associated data as estimated if the RPD criterion is exceeded.

13.2.1, Field Equipment, Table 13-3a: The weekly flow check of the high volume samplers will be eliminated and replaced with daily checks of the flow rate via the magnehelic readings. An RPD criterion of ≤ 20 will be introduced as a means of evaluating the initial and final magnehelic readings. The corrective action will be to flag the associated data as estimated if the RPD criterion is exceeded. A %D criterion of ≤ 20 will be introduced as a means of evaluating the actual flow and orifice flow readings. The corrective action will be to recalibrate if the %D criterion is exceeded.

Attachment C, SOP for TE-5170V Total Suspended Particulate VFC High Volume Air Sampler for Metals: The SOP has been revised to reflect the edits discussed above. In addition, the calibration frequency has been revised to reflect the frequencies cited in the QAPP. Details of the calibration procedure, including all required equations, and calculation of sample flow rates have been added to the SOP. Calculation of sample flow rates has been revised to include correction based on the actual average temperature and pressure reading during the sampling period. This SOP has been reissued as Revision 1, September 2006.

Date Implemented:

January 2006 (Phase I) for all except orifice checks: 9/1/06

AMENDMENT #2

Flow rate checks and calibrations associated with the PS-1 samplers used for PAHs and dioxin/furans will be revised as follows:

- The requirement for the weekly flow rate check will be removed. Currently, the samplers are calibrated once per quarter and/or after maintenance. The flow rates are checked before and after sampling on a daily basis via the magnehelic readings.
- Flow rates will be verified daily with a calibrated orifice. The percent difference (%D) must be ≤ 10 .
- A criterion of ≤ 20 will be introduced for the RPD between the initial and final magnehelic readings.
- Calculation of flow rates on a daily basis will be revised to correct for the actual average temperature and pressure readings during the sampling period.

Reason for Amendment:

Since the flow rates are verified on a daily basis, the weekly flow checks are redundant and therefore have been eliminated. In order to assess the precision of sample collection, the RPD criterion for initial and final magnehelic readings has been introduced as a means of evaluating initial and final flow differences. This evaluation will serve as an additional measure to verify the accuracy of the reported volumes. If RPDs are greater than 20, associated data will be flagged as estimated. In order to assess the accuracy of the flow rates calculated using the calibration curve, the %D criterion for the daily orifice checks and calculated flow rates has been introduced. If %Ds are greater than 10, the orifice check will

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be redone and/or recalibration will be performed. The flow rate calculations will be corrected for the actual average temperature and pressure readings during the sampling period so as to be consistent with the flow rate calculations currently in place for all other parameters collected as part of this program.

Sections of QAPP Affected:

13.1.1, Field Equipment, Table 13-1c: The weekly flow check of the PS-1 samplers will be eliminated and replaced with daily checks of the flow rate via the magnehelic readings. An RPD criterion of ≤ 20 will be introduced as a means of evaluating the initial and final magnehelic readings. The corrective action will be to flag the associated data as estimated if the RPD criterion is exceeded.

13.2.1, Field Equipment, Table 13-3c: The weekly flow check of the PS-1 samplers will be eliminated and replaced with daily checks of the flow rate via the magnehelic readings. An RPD criterion of ≤ 20 will be introduced as a means of evaluating the initial and final magnehelic readings. The corrective action will be to flag the associated data as estimated if the RPD criterion is exceeded. A %D criterion of ≤ 10 will be introduced as a means of evaluating the actual flow and orifice flow readings. The corrective action will be to recalibrate if the %D criterion is exceeded.

Attachment C, SOP for TE-1000 Poly-Urethane Foam (PUF) High Volume Air Sampler for PAHs and Dioxins/Furans: The SOP has been revised to reflect the edits discussed above. In addition, the calibration frequency has been revised to reflect the frequencies cited in the QAPP. Details of the calibration procedure, including all required equations, and calculation of sample flow rates have been added to the SOP. Calculation of sample flow rates has been revised to include correction based on the average temperature and pressure readings during the sampling period. This SOP has been reissued as Revision 1, September 2006.

Date Implemented:

January 2006 (Phase I) for all except orifice checks: 9/1/06

AMENDMENT #3

When performing the flow audit of the E-BAM particulate monitor, the E-BAM will be allowed to pull through the flow standard for one minute until stabilization has occurred instead of at least five minutes, as listed in the SOP.

Reason for Amendment:

Based on actual field experience in the past year with the E-BAM monitors, stabilization consistently occurs within one minute, thereby eliminating the need for a minimum five minute waiting period.

Sections of QAPP Affected:

Attachment C, SOP for Met One E-BAM Particulate Monitor: The SOP has been revised to reflect the edit discussed above. This SOP has been reissued as Revision 1, September 2006.

Date Implemented:

September 2006 (Phase I)