

TABLE A-20

Quality Control Acceptance Criteria for Method E300.0 — Anions
(Sulfate and Nitrate/Nitrite)

RLs - Water
Sulfate = 2.0 mg/L
Nitrate/Nitrite = 0.1 mg/L
Accuracy Water (% R) = 75-125
Precision Water (RPD) = ±20

QC Check	Minimum Frequency	Acceptance Criteria	Corrective Action ^a	Flagging Criteria ^b
Initial calibration (4 standards and a blank)	Prior to sample analysis	Correlation coefficient (r) > 0.995 Calibration MUST meet acceptance criteria prior to sample analysis.	1) Repeat outlying points. 2) Recalculate curve using valid points. 3) If still out, correct problem and recalibrate.	Apply R to all results for specific analyte(s) for all samples associated with the calibration
Initial calibration verification	After initial calibration and before sample analysis	Result within 90 - 110% of the true value	Correct problem then repeat initial calibration	Apply J to positive results and UJ to non-detects for all results for specific analyte(s) for all samples associated with the calibration
Continuing calibration verification (CCV)	Every 10 samples	± 15 % true value	1) Reanalyze CCV. 2) If still out, identify and correct problem. 3) Recalibrate and reanalyze CCV and all affected samples.	Apply J to positive results and UJ to non-detects for all results for specific analyte(s) for all samples associated with the calibration
Method blank	1 per analytical batch and per preparation batch	All analytes < RL	1) If sample analyte concentration is < RL or if the sample analyte concentration is > 10 times the concentration in the method blank, then report results and address in case narrative 2) If preparative method blank does not meet item 1), re-extract/re analyze if still within HT and enough sample volume; if not within HT or enough sample, contact project QA officer for decision.	Apply U to all results for the specific analyte in all samples in the associated analytical batch whose concentration is less than 5 times the blank concentration.
Laboratory control sample (LCS)	1 LCS per preparation batch and per analytical batch	80-120% recovery	1) If the preparative LCS recovers high outside the acceptance criteria and the analyte is ND, flag the LCS results and address in case narrative 2) If the preparative LCS fails the acceptance criteria (other than shown in item 1), re-extraction and reanalysis will be necessary if samples are still within holding time and enough sample volume; if not, contact the project chemist for a decision for possible resampling.	For specific analyte in all samples in the associated analytical batch: if the LCS %R > UCL, apply J to all positive results if the LCS %R < LCL, apply J to all positive results, apply UJ to all non-detects. If LCS <50%, R flag results.
Matrix spike/ matrix spike duplicate (MS/MSD)	One MS/MSD per 40 samples.	75-125% recovery and RPD < 20%	Flagging to be based on site information and reviewer's judgement. Recommended flags are J for positive results and UJ for non-detects.	For specific analyte in all samples in the associated analytical batch: if the MS/MSD is > UCL, J all hits; if < LCL but greater than 30%, J all hits, UJ all non-detects. If < 30%, R all non-detects and J all hits. If precision outside criteria, J all hits, UJ all non-detects.
Field duplicate	Minimum 10% of field samples	RPD < 50%	Project chemist will evaluate results for possible source of variability; notify data users.	none

^a All corrective actions associated with project work shall be documented, and all records shall be maintained by the laboratory.

^b Flagging criteria are applied when acceptance criteria were not met and corrective action was not successful or corrective action was not performed.