

DATA VALIDATION CHECKLIST FOR ALPHA SPECTROSCOPY

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Sample Delivery Group #: _____ Matrix: _____

Laboratory: _____ Project ID: _____

	Field Sample ID.	Lab Sample ID
1		
2		
3		
4		
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20		

Instructions: If criteria in this checklist are not met, follow qualification provided in the "Q" column. Sections titled "Raw Data Confirmation" need only be performed if necessary, as determined through the Data Quality Objective (DQO) process. *Qualification may require professional judgment. Data validation qualifiers are defined in Appendix E of procedure EPWSD-QPA-TP-202 and are included as an attachment to this form.*

Validated by: _____ Date: _____

Peer Reviewed by: _____ Date: _____

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1.0 Custody of Samples

Validation Step	Y	N	NA	Q	
				≥ MDA	< MDA
1. Is raw data present for all requested analyses?				*	*
2. Can the COC sample identification be traced to the actual sample in the data package?				R	R
3. Were the COCs completed with signatures and custody maintained?				R	R
Qualified Sample(s)					
* Qualify only if the deviation indicates an adverse effect on data quality.					

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9.0 Sample Data Evaluation

Validation Step
1. Manually recalculate 1 detected and 1 non-detected results from a selected sample in the SDG. Did recalculation confirm reported results? If not, increase the frequency of recalculations until adequate confidence is gained in the reported results.
2. Examine the data for sample-specific spectra for changes in energies, positions of target radionuclides, and significant peak overlap. For example, examine the annihilation peak at 511 keV and K-40 peak at 1460 keV.
3. On the sample preparation worksheet were spikes identified (including expiration dates and nominal activities) and initial sample aliquot.
4. In the raw data, has the following information been identified: <ul style="list-style-type: none">• Detector;• Identified isotopes (Full Width Half Maximum);• Unidentified isotopes been resolved; and• Nuclide Line Activity Report (energy, area, abundance, key line, % Efficiency)
Action: Indicate instances of manual calculations not confirming reported results. Where samples have been reanalyzed, and both re-analyses are included in the data package, indicate on the laboratory reporting forms which results are the most reliable.
Description of Sample-specific Evaluation Problems:

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APPENDIX E - DATA VALIDATION QUALIFIERS

Qualifier	Stands For	Definition
B	Blank	The analysis was performed and the analyte was detected above the MDA in the batch blank.
H	Holding Time	The sample was not prepared for analysis or analyzed within the specified holding time.
J	Approximate	The associated numerical value of an estimated result.
R	Rejected	The data has non-correctable problems (quantitative and/or qualitative) and is not usable (or unreliable).
U	Undetected	The analysis was performed and the analyte was not detected above the MDA. The associated numerical value is the MDA.
UJ	Estimated Non-detect	The analysis was performed and the analyte was not detected above the MDA. The associated numerical value is the MDA and is estimated.
*	Professional Judgment	The data is qualified based on the reviewer's professional judgment when after assessing all quality control criteria.