

FEBRUARY 1, 2011

ADDENDUM TO

QUALITY ASSURANCE PROJECT PLAN  
RADIOLOGICAL BACKGROUND STUDY  
SANTA SUSANA FIELD LABORATORY  
VENTURA COUNTY, CALIFORNIA

**MODIFICATION:**

Table 1.14, *General Laboratory QC Procedures for Radiological Methods*, does not consider that all radiochemistry results are required to be reported with their associated measurement uncertainties. The following changes to the Validator Qualification Criteria prevent the inappropriate qualification of data where the reported activity concentration and associated uncertainty accurately describe the expected true value of the radionuclide activity concentration in the sample.

Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Validator Qualification Criteria
Chemical yield	Each sample, as required by individual analytical methods	Chemical yield within laboratory control limits (as established by control charts), but not less than 40% for methods that employ a stable carrier or 20% for methods that employ a radioactive tracer.	Examine system and evaluate whether it is in control; correct any system problems and reanalyze affected samples.	<p>For methods that employ a stable carrier:</p> <ul style="list-style-type: none"><li>• If the yield is above the upper limit, qualify detected results L and non-detected results UL.</li><li>• If the yield is below the lower limit, qualify detected results K.</li><li>• If the yield is grossly above or below the control range, evaluate the data to determine if affected results require qualification of R.</li></ul> <p>For methods that employ a radioactive tracer:</p> <ul style="list-style-type: none"><li>• If the yield is above the upper limit, qualify detected results L and non-detected results UL.</li><li>• If the yield is below the lower limit, determine whether there is technical justification to use the data without further qualification or to require qualification of J as estimated values. Otherwise, qualify detected results K.</li></ul>

Check	Minimum Frequency	Acceptance Criteria	Corrective Action	Validator Qualification Criteria
				<ul style="list-style-type: none"> <li>If the yield is grossly above or below the control range, evaluate the data to determine if affected results require qualification of R.</li> </ul>
Chemical yield	Each sample, as required by individual analytical methods	1 $\sigma$ counting uncertainty < 5% (400 counts) for radioactive tracers	Examine system and evaluate whether it is in control; correct any system problems and reanalyze affected samples.	<p>If the counting uncertainty of the tracer is NOT reflected in the sample TPU, qualify results J</p> <p>If the counting uncertainty of the tracer IS reflected in the sample TPU, determine whether the sample results may be used without further qualification or require a qualifier of J.</p> <p>If less than 100 tracer counts are acquired qualify as R.</p>
Analyte quantitation	NA	None	None	If a result is reported less than 2S counting uncertainty, qualify U.

**CLARIFICATION:**

In support of **Section 4.2, *Reconciliation with User Requirements***, the qualification of the data shall include an assessment of the usability of the data for its intended purpose; that is, to develop a statistical profile against which to compare individual on-site sample analysis results to determine the extent of potential site contamination that may be attributable to site activities.

Results which may be subject to additional potential uncertainty, not reflected in the reported uncertainty, but for which the intended statistical profile is not believed to be affected, may be reported without further qualification. The nature of the additional potential uncertainty shall be discussed in the data validation case narrative.