

**Radiochemical Data Review Checklist  
Schofield Barracks**

**Project:** 07-3080.04  
**LAB ID:** SC&A  
**Reviewer:** B. Badaoui  
**Date:** 1/8/2008

**Work Order:** 707073  
**Analysis Type:** Gamma Spec

Sample	Matrix	Collection Date	Date Received	Preparation Date	Hold Times Met? (Y, N< or N/A)	Analysis Date	Hold Times Met? (Y, N< or N/A)
SB-CZ-SS-RA9-ST	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/4/2007	N/A
SB-CZ-SS-RA10-ST	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/4/2007	N/A
SB-CZ-SS-RA11-ST	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/4/2007	N/A
SB-CZ-SS-RA12-ST	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/4/2007	N/A
SB-CZ-SS-RA1-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/4/2007	N/A
SB-CZ-SS-RA2-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/4/2007	N/A
SB-CZ-SS-RA3-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/5/2007	N/A
SB-CZ-SS-RA4-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/5/2007	N/A
SB-CZ-SS-RA5-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/5/2007	N/A
SB-CZ-SS-RA6-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/5/2007	N/A
SB-CZ-SS-RA7-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/5/2007	N/A
SB-CZ-SS-RA8-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/5/2007	N/A
SB-CZ-SS-RA9-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/5/2007	N/A
SB-CZ-SS-RA10-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/5/2007	N/A
SB-CZ-SS-RA11-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/5/2007	N/A
SB-CZ-SS-RA12-SD	Soil	10/12/2007	11/30/2007	11/30/2007	N/A	12/5/2007	N/A

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Validation Item	Acceptable (YES)	Not Acceptable (NO)	Not Applicable (N/A)
<b>Sample Chain of Custody Review</b>			
Are there printed names and signatures present in the Relinquished By and Received By Blocks?	X(1)		
Does the COC date match the Relinquished By date?	X		
Is the Received By date consistent with sample custody transfer (Relinquished By)?	X		
Have all the samples listed on the Chain of Custody have been analyzed? (Verify this by checking that the Memo and/or case narratives are consistent with the COC. - Gamma Isotopes)	X		
Were the sample(s) preserved appropriately?			X
Are all the samples included in the analytical report are listed correctly on the Chain of Custody?	X		
Are the analytes reported consistent with the project requirements? (See Attached Sheet)	X		
Comments:  1. Printed name not present in received by block. No data were qualified as a result of this omission.			
<b>Sample Receipt Checklist Review</b>			
Did the laboratory complete the Sample Receiving Checklist?	X		
Are all receipt inspection items marked "Yes"? (If "No" are they acceptable?).	X		
Comments:			
<b>Case Narrative/Analytical Report</b>			
Does the Case Narrative report submitted by the laboratory indicate any problems with the analysis or other factors which could impact the validity of the sample analysis?	X		
Does the Analytical report agree with the analyte list specified for the project?	X		

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Are results that are flagged by laboratory necessary and complete, and are understandable comments provided?	X		
Are the reporting units are correct and consistent? (pCi/g)	X		
Comments:			
<p><b>Laboratory Quality Control Sample Review</b></p>			
Did the laboratory properly complete all required laboratory quality control samples at required frequencies? LCS - 1 per matrix and one per batch or 1/20 samples whichever is more frequent Matrix Spike – 1 per matrix and one per batch or 1/20 samples whichever is more frequent Duplicates - 1 per matrix and one per batch or 1/20 samples whichever is more frequent Blanks - 1 per matrix and one per batch or 1/20 samples whichever is more frequent	X(2)		
Are the laboratory quality control sample results acceptable (solids)? LCS - 30% -69% estimated (J); >130% estimated (J); <30% unusable (R) Matrix Spike – 20% -70% estimated (J); >130% estimated (J); <20% unusable (R) Duplicates - Duplicates – Normalized Absolute Difference (NAD)>1.96 estimated (J)	X(3-4)	X(5)	
Comments: <ol style="list-style-type: none"> <li>Matrix Spikes are not necessary for Gamma Spec.</li> <li>LCS and NAD results are all acceptable.</li> <li>The alpha LCS, duplicate analyses, and tracer recoveries indicate acceptable data quality, so the data will not be qualified despite the lack of a matrix spike.</li> <li>Blank contamination was suspected for Bi-214. No associated samples were qualified with a “J” flag.</li> </ol>			

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Validation Item	Acceptable	Not Acceptable	Not Applicable
<b>Other Evaluation Factors</b>			
If a result has an uncertainty greater than the result, is the uncertainty is less than the required detection limit?	X		
Are the sample hold times acceptable? (Six months or less for all Rad except <sup>3</sup> H, which is three months or less )			X
Are total propagated uncertainty (TPU) values provided for all results?	X		
Are the aliquot sizes appropriate – (1 g minimum for dry solids)	X		
Are soil sample results reported on a dry-weight basis? (See Case Narrative)	X		
Were required detection limits achieved? (see “QA/QC Plan” Table 2.2)	X (6)		
<b>Comments:</b>  6. Detection limit of 0.5 pCi/g was met for all samples for Th-234.			