

**Radiochemical Data Review Checklist  
Schofield Barracks**

**Project:** 07-3080.04  
**LAB ID:** SC&A  
**Reviewer:** Bachir Badaoui  
**Date:** 12/20/2007

**Work Order:** 7930  
**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-2141-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/13/2007    | N/A                            |
| SB-CZ-SS-2142-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/13/2007    | N/A                            |
| SB-CZ-SS-2143-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/13/2007    | N/A                            |
| SB-CZ-SS-2144-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/13/2007    | N/A                            |
| SB-CZ-SS-2145-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/14/2007    | N/A                            |
| SB-CZ-SS-2146-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/14/2007    | N/A                            |
| SB-CZ-SS-2147-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/14/2007    | N/A                            |
| SB-CZ-SS-2148-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/14/2007    | N/A                            |
| SB-CZ-SS-2149-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/14/2007    | N/A                            |
| SB-CZ-SS-2150-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/14/2007    | N/A                            |
| SB-CZ-SS-2151-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/14/2007    | N/A                            |
| SB-CZ-SS-2152-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/14/2007    | N/A                            |
| SB-CZ-SS-2153-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/14/2007    | N/A                            |
| SB-CZ-SS-2154-ST | Soil   | 9/25/2007       | 9/27/2007     | 10/5/2007        | N/A                            | 11/14/2007    | N/A                            |

## Radiochemical Data Review Checklist Schofield Barracks

| Validation Item   | Acceptable<br>(YES) | Not<br>Acceptable<br>(NO) | Not<br>Applicable<br>(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. - Actinides Pu & U, and Gamma Isotopes w/Ra-226) | 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:<br><br>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                   |                           |                            |

## Radiochemical Data Review Checklist Schofield Barracks

| Validation Item  | Acceptable | Not<br>Acceptable | Not<br>Applicable |
|--|------------|-------------------|-------------------|
| 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:  |            |                   |                   |
| <b>Laboratory Quality Control Sample Review</b>  |            |                   |                   |
| Did the laboratory properly complete all required laboratory quality control samples at required frequencies?<br>LCS - 1 per matrix and one per batch or 1/20 samples whichever is more frequent<br>Matrix Spike – 1 per matrix and one per batch or 1/20 samples whichever is more frequent<br>Duplicates - 1 per matrix and one per batch or 1/20 samples whichever is more frequent<br>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)?<br>LCS - 30% -69% estimated (J); >130% estimated (J); <30% unusable (R)<br>Matrix Spike – 20% -70% estimated (J); >130% estimated (J); <20% unusable (R)<br>Duplicates - Duplicates – Normalized Absolute Difference (NAD)>1.96 estimated (J)   | X(3-4)     |                   |                   |
| Comments: <ol style="list-style-type: none"> <li>2. Matrix Spikes are not necessary for Gamma Spec.</li> <li>3. LCS and NAD results are all acceptable.</li> <li>4. 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> </ol>  |            |                   |                   |

**Radiochemical Data Review Checklist  
Schofield Barracks**

| 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(5)       |                |                |
| <b>Comments:</b><br><br>5. The required gamma spectrometry detection limit was not met for the following sample:<br>Th-234: SB-CZ-SS-2142-ST. Result was qualified with a "DL" flag. |            |                |                |