

**Radiochemical Data Review Checklist  
Schofield Barracks**

**Project:** 07-3080.04 Schofield Barracks  
**LAB ID:** SC & A  
**Reviewer:** Stacey Sedano  
**Date:** 12/31/07

**Work Order:** 7953  
**Analysis Type:** Gamma Spectroscopy

| 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-2284-SD | Soil   | 9-27-07         | 10-01-07      | 10-19-07         | N/A                            | 12-11-07      | N/A                            |
| SB-CZ-SS-2285-SD | Soil   | 9-27-07         | 10-01-07      | 10-19-07         | N/A                            | 12-11-07      | N/A                            |
| SB-CZ-SS-2286-SD | Soil   | 9-27-07         | 10-01-07      | 10-19-07         | N/A                            | 12-11-07      | N/A                            |
| SB-CZ-SS-2287-SD | Soil   | 9-27-07         | 10-01-07      | 10-19-07         | N/A                            | 12-11-07      | N/A                            |
| SB-CZ-SS-2288-SD | Soil   | 9-27-07         | 10-01-07      | 10-19-07         | N/A                            | 12-11-07      | N/A                            |
| SB-CZ-SS-2289-SD | Soil   | 9-27-07         | 10-01-07      | 10-19-07         | N/A                            | 12-11-07      | N/A                            |
| SB-CZ-SS-2290-SD | Soil   | 9-27-07         | 10-01-07      | 10-19-07         | N/A                            | 12-11-07      | N/A                            |
| SB-CZ-SS-2291-SD | Soil   | 9-27-07         | 10-01-07      | 10-19-07         | N/A                            | 12-11-7       | N/A                            |
| SB-CZ-SS-2292-SD | Soil   | 09-2707         | 10-01-07      | 10-19-07         | N/A                            | 12-11-07      | N/A                            |
| SB-CZ-SS-2293-SD | Soil   | 09-27-07        | 10-01-07      | 10-19-07         | N/A                            | 12-11-07      | N/A                            |
| SB-CZ-SS-2294-SD | Soil   | 09-27-07        | 10-01-07      | 10-19-07         | N/A                            | 12-11-07      | N/A                            |
| SB-CZ-SS-2295-SD | Soil   | 09-27-07        | 10-01-07      | 10-19-07         | N/A                            | 12-11-07      | N/A                            |
|                  |        |                 |               |                  |                                |               |                                |
|                  |        |                 |               |                  |                                |               |                                |
|                  |        |                 |               |                  |                                |               |                                |
|                  |        |                 |               |                  |                                |               |                                |

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| 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.)         | 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>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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| Validation Item                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Acceptable | Not Acceptable | Not 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(2,3,4)   |                |                |
| Comments:<br>2. Matrix Spikes are not necessary for Gamma Spec.<br>3. LCS and NAD results are all acceptable.<br>4. Potential Blank contamination for samples with Ra-233 activity less than 0.82pCi/g. No samples flagged.                                                                                                                                                                                                                                                  |            |                |                |

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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 (5)      |                |                |
| <b>Comments:</b><br><br>5. Detection limit of 0.5 pCi/g was not met for the below sample for Th-234:<br><br>SB-CZ-SS-2290-SD |            |                |                |