# Radiochemical Data Review Checklist
## Schofield Barracks

**Project:** 07-3080.04 **Work Order:** 7912
**LAB ID:** SC&A **Analysis Type:** Alpha Spec
**Reviewer:** Bachir Badaoui
**Date:** 12/12/2007

| 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-3020-BA | Soil | 9/10/2007 | 9/25/2007 | 10/11/2007 | N/A | 10/18/2007 | N/A |
| SB-CZ-SS-3021-BA | Soil | 9/10/2007 | 9/25/2007 | 10/11/2007 | N/A | 10/18/2007 | N/A |
| SB-CZ-SS-3022-BA | Soil | 9/10/2007 | 9/25/2007 | 10/11/2007 | N/A | 10/18/2007 | N/A |
| SB-CZ-SS-3023-BA | Soil | 9/10/2007 | 9/25/2007 | 10/11/2007 | N/A | 10/18/2007 | N/A |
| SB-CZ-SS-3024-BA | Soil | 9/10/2007 | 9/25/2007 | 10/11/2007 | N/A | 10/18/2007 | N/A |
| SB-CZ-SS-3025-BA | Soil | 9/10/2007 | 9/25/2007 | 10/11/2007 | N/A | 10/18/2007 | N/A |
| SB-CZ-SS-3026-BA | Soil | 9/10/2007 | 9/25/2007 | 10/11/2007 | N/A | 10/24/2007 | N/A |
| SB-CZ-SS-3027-BA | Soil | 9/10/2007 | 9/25/2007 | 10/11/2007 | N/A | 10/18/2007 | N/A |
| SB-CZ-SS-3028-BA | Soil | 9/10/2007 | 9/25/2007 | 10/11/2007 | N/A | 10/18/2007 | N/A |
| SB-CZ-SS-3029-BA | Soil | 9/10/2007 | 9/25/2007 | 10/11/2007 | N/A | 10/18/2007 | N/A |

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| Validation Item | Acceptable (YES) | Not Acceptable (NO) | Not Applicable (N/A) |
|---|---|---|---|
| **Sample Chain of Custody Review** | | | |
| 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(2) | | |
| 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.<br>2. Sample SB-CZ-SS-3026-BA was re-analyzed as batch 8025. | | | |
| **Sample Receipt Checklist Review** | | | |
| Did the laboratory complete the Sample Receiving Checklist? | X | | |
| Are all receipt inspection items marked “Yes”? (If “No” are they acceptable?). | X | | |
| Comments: | | | |
| **Case Narrative/Analytical Report** | | | |
| 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: | | | |
| **Laboratory Quality Control Sample Review** | | | |
| 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(3-5) | | |

Comments:

2. Matrix Spikes are not necessary for alpha spec analysis. The laboratory does not typically analyze matrix spikes for alpha spec analysis.
3. LCS and NAD results are all acceptable.
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.
5. Potential blank contaminations were suspected U-238. No samples flagged.

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|---|---|---|---|
| **Other Evaluation Factors** | | | |
| 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 $^{3}H$, 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 | | |
| Comments: | | | |