

Idaho Cleanup Project

CH2M♦WV G IDAHO, LLC

INTEROFFICE MEMORANDUM

Date: May 23, 2013

To: H. S. Forsythe MS 9140 3-3563

From: B. A. McIlwain *BAM* MS 9136 3-3493

Subject: TRANSMITTAL OF RESULTS FOR RADIOANALYTICAL PE SAMPLES INCLUDED IN OU 3-14 SRPA - 2013

Radioanalytical performance evaluation (PE) water samples 35285-01, 35285-02, and 35285-03 were submitted to GEL Laboratories, LLC as double blind performance evaluation samples included with the OU 3-14 SRPA - 2013 field samples. The PE samples, prepared by the U.S. Department of Energy (DOE) Radiological and Environmental Sciences Laboratory (RESL), provide a real-time monitor that is used to assess the laboratory's proficiency in performing "routine" radioanalytical measurements.

The radioanalytical results were evaluated using the electronic data system at DOE RESL. For a result to be acceptable the statistical difference between the laboratory result and known value must be within 3-sigma and the laboratory result must be within $\pm 30\%$ of the known value.

The results met the acceptance criteria established by DOE RESL.

The result values and evaluations are presented in the attachments.

Should you have any questions, please contact me at 533-3493, or by e-mail at Beth.McIlwain@icp.doe.gov.

Attachments

cc: J. R. Forbes, MS 9140
D. E. Shanklin, MS 9140
K. A. Otter, MS 9125/r/ARDC Files/r/Field Data Files
D. M. Smith, MS 9140
B. A. McIlwain Letter File (BAM-046-13)

Uniform File Code: 7101

Disposition Authority: ENV5-c-3

Retention Schedule: Destroy in 75 years

NOTE: Original disposition authority, retention schedule, and Uniform Filing Code applied by the sender may not be appropriate for all recipients. Make adjustments as needed.

DEPARTMENT OF ENERGY RADIOLOGICAL & ENVIRONMENTAL SCIENCES LABORATORY

Samples Prepared For: OU 3-14

Matrix: Water

LogNo	SampleID	Nuclide	Known Activity	Expt'l Activity	Ratio Exp/Known	Agreement
SMO 378	35285-01	I-129	1.206 +/- 0.017 E1 pCi/L	1.06 +/- 0.07 E1 pCi/L	0.88 +/- 0.06	YES

Samples Prepared By: _____

ACTIVITIES ARE AS OF: 4/1/2013 UNCERTAINTIES ARE ONE SIGMA

Acceptance Criteria: 3 sigma 30 % -30 %

DEPARTMENT OF ENERGY

RADIOLOGICAL & ENVIRONMENTAL SCIENCES LABORATORY

Samples Prepared For: OU 3-14

Matrix: Water

LogNo	SampleID	Nuclide	Known Activity	Expt'l Activity	Ratio Exp/Known	Agreement
SMO 376	35285-02	Co-57	5.48 +/- 0.17 E1 pCi/L	6.3 +/- 0.5 E1 pCi/L	1.15 +/- 0.10	YES
SMO 376	35285-02	Co-60	BLANK	6.30 +/- 13.5 E-1 pCi/L		YES
SMO 376	35285-02	Cs-134	4.56 +/- 0.11 E1 pCi/L	4.4 +/- 0.4 E1 pCi/L	0.97 +/- 0.10	YES
SMO 376	35285-02	Cs-137	7.01 +/- 0.13 E1 pCi/L	7.0 +/- 0.5 E1 pCi/L	1.00 +/- 0.07	YES
SMO 376	35285-02	Mn-54	1.01 +/- 0.02 E2 pCi/L	1.09 +/- 0.07 E2 pCi/L	1.08 +/- 0.07	YES
SMO 376	35285-02	Pu-238	3.43 +/- 0.06 E0 pCi/L	3.8 +/- 0.4 E0 pCi/L	1.11 +/- 0.12	YES
SMO 376	35285-02	Pu-239	3.27 +/- 0.06 E0 pCi/L	3.6 +/- 0.4 E0 pCi/L	1.10 +/- 0.12	YES
SMO 376	35285-02	Sr-90	4.01 +/- 0.10 E1 pCi/L	3.8 +/- 0.3 E1 pCi/L	0.95 +/- 0.08	YES
SMO 376	35285-02	Tc-99	5.00 +/- 0.15 E2 pCi/L	4.8 +/- 0.3 E2 pCi/L	0.96 +/- 0.07	YES
SMO 376	35285-02	U-234	1.69 +/- 0.05 E0 pCi/L	1.8 +/- 0.2 E0 pCi/L	1.06 +/- 0.13	YES
SMO 376	35285-02	U-238	6.56 +/- 0.18 E0 pCi/L	6.4 +/- 0.6 E0 pCi/L	0.98 +/- 0.10	YES
SMO 376	35285-02	Zn-65	7.15 +/- 0.19 E1 pCi/L	8.4 +/- 0.8 E1 pCi/L	1.18 +/- 0.12	YES

Samples Prepared By: _____

ACTIVITIES ARE AS OF: 4/1/2013 UNCERTAINTIES ARE ONE SIGMA

Acceptance Criteria: 3 sigma 30 % -30 %

DEPARTMENT OF ENERGY RADIOLOGICAL & ENVIRONMENTAL SCIENCES LABORATORY

Samples Prepared For: OU 3-14

Matrix: Water

LogNo	SampleID	Nuclide	Known Activity	Expt'l Activity	Ratio Exp/Known	Agreement
SMO 377	35285-03	H-3	8.7 +/- 0.2 E3 pCi/L	8.0 +/- 0.8 E3 pCi/L	0.92 +/- 0.10	YES

Samples Prepared By: _____

ACTIVITIES ARE AS OF: 4/1/2013 UNCERTAINTIES ARE ONE SIGMA

Acceptance Criteria: 3 sigma 30 % -30 %