

ACZ Laboratories, Inc. Memorandum

To	Analytical Staff		
From	Mark McNeal		
Cc	Audrey Stover, Matt Sowards, Michael Beaty		
Subject	RAD-73 Unacceptable Results	Laboratory ID(s): L68551; L69751	
CAR#	884	Open: 6/10/2008	Close: 10/17/2008

ACZ received the results of ERA's RAD-73 study. Unacceptable results and corrective actions are as follows.

Unacceptable Results							
Analyte	Method	Units	Reported	Assigned	Limits	%Rec.	Workgroup#
Cesium – 134	EPA 901.1	pCi/L	54.7	46.6	37.4 - 51.3	117	244733
Cobalt – 60	EPA 901.1	pCi/L	87.8	76.6	68.9 - 86.7	115	244733

CORRECTIVE ACTIONS

Gamma Instrument Problems – In the time period between running the PT sample (L68551) and the corrective action single blind sample (L69751), several issues affected the untimeliness of this corrective action. First, the D-Spec went out and needed to be replaced. Then the detector would not connect to the new D-Spec, so both were sent back to the manufacturer to correct the issue. The problem was that the module had incorrect compatibility. Once the D-Spec and the detector were returned and functioning, all but 4 of the 12 gamma calibration source isotopes had decayed out. A new gamma calibration source was obtained. Then new gamma source did not match the associated calibration certificate. The source was sent back to the manufacturer and another new gamma calibration source was sent. The new calibration source matched its certificate properly. Please note, no client sample data was reported between the time that the D-spec malfunctioned and completion of this corrective action.

Cesium 134— Cesium 134 was analyzed by EPA 901.1 and a value of 54.7 pCi/L was reported, which is outside the PT acceptance limits of 37.4-51.3 pCi/L. No indications of contamination or other systematic problems are apparent in the raw data.

The PT sample was re-logged as a single-blind sample (L79751). A value of 47.27 pCi/L was reported which is within the PT acceptance limits of 37.4 - 51.3 pCi/L. The system is judged to be in control.

Cobalt-60 — Cobalt-60 was analyzed by EPA 901.1 and a value of 87.8 pCi/L was reported, which is outside the PT acceptance limits of 68.9 - 86.7pCi/L. No indications of contamination or other systematic problems are apparent in the raw data.

The PT sample was re-logged as a single-blind sample (L79751). A value of 70.9 pCi/L was reported, which is within the PT acceptance limits of 68.9 - 86.7 pCi/L. The system is judged to be in control.



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L68551

RAD-73



Final Report

RadChem™ Proficiency Testing

RadChem™ Study

Open Date: 04/07/08

Close Date: 05/22/08

Report Issued Date: 05/29/08



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Study: **RAD-73**

ERA Customer Number: **A144801**

Laboratory Name: **ACZ Laboratories**

RAD Results





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EPA ID: CO00028
ERA Customer Number: A144801
Report Issued: 05/29/08
Study Dates: 04/07/08 - 05/22/08

Anal. No.	Analyte	Units	Reported Value	Assigned Value	Acceptance Limits	Performance Evaluation	Method Description
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RAD Gamma Emitters™

0007	Barium-133	pCi/L	64.3	58.3	48.3 - 64.3	Acceptable	EPA 901.1
0005	Cesium-134	pCi/L	54.7	46.6	37.4 - 51.3	Not Acceptable	EPA 901.1
0006	Cesium-137	pCi/L	111	102	91.8 - 115	Acceptable	EPA 901.1
0003	Cobalt-60	pCi/L	87.8	76.6	68.9 - 86.7	Not Acceptable	EPA 901.1
0004	Zinc-65	pCi/L	97.3	106	95.4 - 126	Acceptable	EPA 901.1

RAD Gross™ Alpha/Beta

0001	Gross Alpha	pCi/L	52.2	50.8	26.5 - 63.7	Acceptable	EPA 900.0 GPC
0002	Gross Beta	pCi/L	47.2	51.4	35.0 - 58.4	Acceptable	EPA 900.0 GPC

RAD NaturalS™

0012	Radium-226	pCi/L	13.6	15.3	11.4 - 17.6	Acceptable	EPA 903.1 SC
0013	Radium-228	pCi/L	12.0	17.0	11.4 - 20.4	Acceptable	EPA 904.0
0014	Uranium (Nat)	pCi/L		24.6	19.8 - 27.6	Not Reported	
0014	Uranium (Nat) mass	µg/L	31.4	36.2	29.1 - 40.7	Acceptable	EPA 200.8

RAD NaturalS™

0012	Radium-226	pCi/L	16.2	15.3	11.4 - 17.6	Acceptable	EPA 903.0 GPC
0013	Radium-228	pCi/L		17.0	11.4 - 20.4	Not Reported	
0014	Uranium (Nat)	pCi/L		24.6	19.8 - 27.6	Not Reported	
0014	Uranium (Nat) mass	µg/L		36.2	29.1 - 40.7	Not Reported	





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Report Recipient	Contact/Phone Number	Reporting Type
Alaska	Shera Hickman / 907-375-8210	All Analytes
Arizona	Terry Norcop / 602-364-0720	All Analytes
Colorado	Ken Johnson / 303-692-3045	All Analytes
EPA Region 8 (Radchem)	Lon Hesla / 303-312-7080	All Analytes
Hawaii	Richard Kiyokane / 808-453-6679	All Analytes
Nevada	Sara Rairick / 775-687-9490	All Analytes
Oklahoma	David Caldwell / 405-702-1039	All Analytes
Utah	Kristin Brown / 801-584-8467	All Analytes
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