

ER PROGRAM DATA ASSESSMENT
SUMMARY REPORT FORM

Batch No. E88-3369/4th Quarter 1988 Site Area 2 - 881 Hillside
Laboratory RFP - 881 General Lab No. of Samples/Matrix 22/Water
Reviewer Org. TechLaw, Inc.

Sample Numbers TB(10/18/88), FB(10/18/88), 45-87, 52-87, 70-86, 5-87, TB(10/20/88), FB(10/20/88), 2-87, 56-86, D56-86, 69-86, 62-86, 4-87, 3-87, TB(10/25/88), FB(10/25/88), 9-74, 10-74, 8-87, TB(10/27/88), FB(10/27/88)

Alpha Spectrometric Analyses
Data Assessment Summary

	Iso-U _s	Iso-Pu _s	Am ²⁴¹	Comments
1. Holding Times	<u>V</u>	<u>V</u>	<u>V</u>	
2. Initial Calibrations	<u>V</u>	<u>V</u>	<u>V</u>	
3. Blanks	<u>V</u>	<u>V</u>	<u>V</u>	
4. Lab Replicates	<u>V</u>	<u>V</u>	<u>V</u>	
5. Lab Control Samples	<u>V</u>	<u>V</u>	<u>V</u>	
6. QC-LLD	<u>V</u>	<u>V</u>	<u>V</u>	
7. Recovery Factors	<u>V</u>	<u>V</u>	<u>V</u>	
8. Sample Calculations	<u>V</u>	<u>V</u>	<u>V</u>	
9. Overall Assessment	<u>V</u>	<u>V</u>	<u>V</u>	

V = Data had no problems.
A = Data acceptable but qualified due to problems.
R = Data rejected.
X = Problems, but do not affect data.

Data Quality: Data contained in this batch were reviewed and found to be valid, however, the Lower Limits of Detection (LLD's) exceed the Required Detection Limits(RDL's) for isotopes of Plutonium and Americium. (Refer to attached Results Summary Tables).

ADMIN RECORD

A-0001-000063

"REVIEWED FOR CLASSIFICATION
By R. B. Hoffman (6)
Date 7-11-90

REVIEWED FOR CLASSIFICATION/UCM
1 By George H. Setlock 3369/rk22
Date @ 6/27/90

Action Items: None.

Comments: 1) Iso-Uraniums analysis of samples TB(10/20/88 and 3-87 were run past the holding time limit, but these were reruns or lab duplicates and they did not affect the overall results.

2) The reagent blanks analyzed for iso-Plutonium and Americium exceed the Required Detection Limits (RDL's) due to contamination in the tracer solution used to spike each sample, however the results are valid.

3) The Am²⁴¹ control chart contained one control sample outside 2 σ control limits, but none of the samples in this batch were affected.

4) Due to contamination in the tracer solution used to spike each sample, the background activity was raised such that (LLD's) exceeded the (RDL's) for Am and iso-Pu, however all results are valid. The Uranium control standard number 630179 run with samples 3-87 and TB(10/20/88 had a high bias due to contamination. A separate statistical analysis and control chart analysis was made of the biased control standard showing values obtained for it to be within 2 σ control limits, and sample results are accepted as valid.

Note: Data Summary Tables are attached.

Richard Thurman
Reviewer Signature

1/12/90
Date

**Radiochemical Data Completeness
Checklist for Alpha Spectrometric Analyses
of Soil and Water**

- A. Yes Case Narrative
Yes Abnormalities explained
Yes Matrix Problems explained
Yes Instrument problems explained
Yes Improper collection, storage, preservation, container explained
Yes Hold times were met, explained if not met
- B. Yes Initial and Continuing Calibration Data Package
Yes Detector ID
Yes Analyst initials
Yes Date, Time calibrated
Yes NBS traceable standards with certification dates and DPMs
Yes Observed channel numbers of isotopes of interest
Yes Book values for proper channel numbers of isotopes of interest
Yes Voltage settings, gain settings, vacuum settings
Yes FWHMs in spectra, peak heights
Yes Results of chi square test for background
- C. Yes Blanks Data Package
Yes ID number of each detector blank is counted in
Yes Analyst initials
Yes Date, Times of counts
Yes Number and ID of samples included with the blank
Yes Type of method blank used, LLD of method
- D. Yes Replicate Sample Data Package
Yes Detector ID
Yes Analyst Initials
Yes Date, Time Analyzed
Yes Value obtained for sample, replicates, mean values
Yes Count Durations of samples and backgrounds
Yes Statistical Analysis of Range, Control Limits
- E. Yes Lab Control Samples Data Package
Yes Sample ID, Detector ID
Yes Analyst initials
Yes Values obtained, true value of sample
Yes Statistical Analysis of Results

- F. Yes Lower Limits of Detection
Yes Background Measurements
Yes Detector ID
Yes Date and time of count, counting duration
Yes Mean background CPM over long period
Yes Calculated LLD for isotope of interest
- G. Yes Internal Recovery Factors
Yes Efficiency determined experimentally, copy of raw data
Yes Detector ID
Yes Analyst Initials, Date, Time of count
Yes Isotopic Tracer used and DPM value
Yes Certification Date of Tracer
Yes Net CPM obtained
Yes Count duration
Yes Overall Efficiency Factor
Yes Instrument Efficiency
Yes Calculated Chemical Recovery
- H. Yes Sample Data Package
Yes Printed report of results for sample, reruns
Yes Computer calculations

**RADIOCHEMICAL ANALYSIS
ANALYTICAL RESULTS (pCi/L)**

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SITE NAME: RFP - Area 2 - 881 Hillside

Sample Location	TB	FB	45-87	52-87	70-86	5-87	TB	FB	2-87																				
Sample Number	3369-TB	3369-FB	3369-45-87	3369-52-87	3369-70-86	3369-5-87	3369-TB	3369-FB	3369-2-87																				
Sample Date	10/18/88	10/18/88	10/18/88	10/18/88	10/18/88	10/18/88	10/20/88	10/20/88	10/20/88																				
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water																				
Parameter	DL	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ	Val.	+/-	DQ																
Gross Alpha	2																												
Gross Beta	4																												
Total Strontium	1																												
Total Cesium	1																												
Radium 228	1																												
Tritium	400																												
Uranium 234 & 233	0.6	.04U	.06	V	.09U	.07	V	1.2	0.2	V	22.6	2.2	V	0.60	.14	V	13.6	1.3	V	-.02U	.06	V	.05U	.06	V	7.4	0.8	V	
Uranium 235	0.6	.01U	.02	V	-.01U	.02	V	.03U	.03	V	0.54	0.10	V	.01U	.03	V	2.4	.07	V	0.0U	.02	V	0.0U	.02	V	.13	.05	V	
Uranium 238	0.6	.03U	.07	V	.13U	.08	V	.63	.12	V	15.9	1.5	V	.42	.12	V	8.2	.84	V	-.04U	.06	V	.02U	.07	V	4.0	0.4	V	
Plutonium 239 & 240	0.01	0.0U	.03	V	0.0U	.03	V	-.01U	.03	V	.02U	.04	V	.02U	.03	V	.01U	.03	V	0.02U	.06	V	0.01U	.03	V	-.04U	.06	V	
Americium 241 & 242	0.01	.03U	.08	V	.01U	.08	V	.02U	.08	V	.04U	.08	V	.03U	.08	V	.01U	.08	V	.16U	.18	V	.07U	.08	V	.02U	.06	V	
Radium 226	0.05																												
Gamma scan																													
Other Isotopes																													

- U Indicates the parameter was not detected above the Instrument Quantitation Limit
- J Quantitation is approximate due to limitations identified during the quality control review
- Value is rejected due to other contractual criteria examined during the quality control review
- ** Value is rejected due to blank contamination identified during the quality control review
- DL Detection Limit in PicoCuries per Liter (pCi/L)

DQ Data Qualifier
V Valid
A Acceptable with qualifications
R Rejected

3369L/K22

EG&G ER Program
Rocky Flats Plant

RADIOCHEMICAL ANALYSIS
ANALYTICAL RESULTS (pCi/L)
TABLE #: E88-3369/4th Quarter 1988
SITE NAME: RFP - Area 2 - 881 Hillside
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Sample Location	56-86	D56-86	69-86	E2-86	4-87	3-87	TB	FB	9-74
Sample Number	3369-56-86	3369-D56-86	3369-69-86	3369-62-86	3369-4-87	3369-3-87	3369-TB	3369-FB	3369-9-74
Sample Date	10/20/88	10/20/88	10/20/88	10/20/88	10/20/88	10/25/88	10/25/88	10/25/88	10/25/88
Matrix	Water	Water	Water	Water	Water	Water	Water	Water	Water
Parameter	DL								
Gross Alpha	2								
Gross Beta	4								
Total Strontium	1								
Total Cesium	1								
Radium 228	1								
Tritium	400								
Uranium 234 & 233	0.6 .10	0.07	0.05U .06	10.3 .11	3.7 .04	12.8 .12	0.94 .19	0.05U .06	0.00U .06
Uranium 235	0.6 -.01U	0.02	0.01U .02	0.29 .07	0.07 .04	0.35 .08	0.01U .03	0.00U .02	0.01U .02
Uranium 238	0.6 .17	0.09	0.06U .07	6.3 .07	3.0 .04	9.4 .09	0.00U .06	0.01U .07	0.30 .07
Plutonium 239 & 240	0.01 0.0U	0.03	0.01U .03	-0.01U .03	0.01U .03	0.01U .03	0.02U .06	-0.01U .07	8.1 .08
Americium 241 & 242	0.01 .09U	0.07	0.01U .14	0.07U .08	0.01U .08	0.05U .09	0.02U .09	-0.01U .03	0.01U .06
Radium 226	0.05								
Gamma scan									
Other isotopes									

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 V Valid
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