

**Dragon, Karen E. (CDC/NIOSH/EID)**

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**From:** NIOSH Docket Office (CDC)  
**Sent:** Friday, November 20, 2015 6:59 AM  
**To:** Dragon, Karen E. (CDC/NIOSH/EID)  
**Subject:** FW: RF 032 Docket  
**Attachments:** 2015.11.19\_Comments and Documentation to Board .pdf

This is in the Docket box.

**From:** Kinman, Josh (CDC/NIOSH/DCAS)  
**Sent:** Thursday, November 19, 2015 4:46 PM  
**To:** NIOSH Docket Office (CDC) <niocindocket@cdc.gov>  
**Cc:** Sundin, David S. (CDC/NIOSH/DCAS) <dss2@cdc.gov>; Katz, Ted (CDC/NIOSH/OD) <tmk1@cdc.gov>; Kinman, Josh (CDC/NIOSH/DCAS) <eky1@cdc.gov>  
**Subject:** FW: RF 032 Docket

Please see the request for the attached document.

Thank you.

**From:** stephanie carroll [  
**Sent:** Thursday, November 19, 2015 3:32 PM  
**To:** NIOSH Docket Office (CDC) <niocindocket@cdc.gov>; Katz, Ted (CDC/NIOSH/OD) <tmk1@cdc.gov>  
**Subject:** RF 032 Docket

Mr. Katz,

Please upload my comments and documentation to the Rocky Flats Plant number 032 Docket.

**Stephanie Carroll**  
Nuclear Worker Advocate  
DEEOIC Intermediary Advisory Board Member

My name is Stephanie Carroll. I am an AR for Rocky Flats claimants, and I have contributed research and documentation to the petitioners that helped pass the 1983 SEC. My position as an AR allows me to review Site exposure records, personal records, medical documentation, and worker firsthand accounts via interviews. I would like to thank the Board for allowing me to make comments today, and especially would like to thank the petitioners and for their dedication to the expansion of the SEC and to Rocky Flats workers.

I have great concerns related to the validity of TLD data used to reconstruct dose at Rocky Flats. I intend to describe documents that I believe prove modification and data falsification of TLD findings reported to the RHRS electronic system.

On October 13, 2015, I was on the call between the CML lead scientist and NIOSH related to the White Paper on the Critical Mass Lab. He worked from 1964 to 1995, not 1986 as was stated earlier.

NIOSH stated during the call that they depend on personal monitoring data (TLDs) to reconstruct dose – specifically to fission and activation products created in the CML.

The lead scientist during the call expressed concern related to the limitations of external monitoring data, and the ability of NIOSH to reconstruct dose related to the CML was impossible.

I have in my possession monitoring records for the CML lead scientist that are not comprehensive, and also an employee working building 886.

The employee working in 886 gave me copies of two TLD data investigation reports from his personal files from 1996 and 1997 that were not found in his DOE file. Were the TLD investigations destroyed?

I reviewed two RHRS generated reports, with hand written notes "Before" (with exposure) and "After" (zero exposure) on the documents, showing that neutron exposure in both investigations had ultimately been reported as zero. This lead me to investigate further.

I would like to submit the documents that I believe indicate a falsification of data used to document exposure to fission and activation products.

The 1996 external dose reconstruction analysis indicates in the comments – *quote*, "that a data investigation was initiated because of an apparent over-response of elements 2 and 5. This reconstruction replaces a dose previously electronically uploaded" *unquote*.

Also in the comments was the statement *quote* "E2 and E5 were elevated above the other element readings. They appeared abnormal. The dose should be re-determined after eliminating the results from the suspect elements." *Un quote*

Note: Because element 2 and 5 did not agree with the other elements, they were eliminated and ultimately recorded as having a zero reading related to neutron exposure.

In regards to the 1997 investigation, with Neutron findings of 338 mlr that later were modified to a calculation of zero. The reason given for an investigation was noted as findings above 200 mlr.

In the Comments related to the investigation: *quote* "Glow curve of element 8 was abnormal and therefore the dose will be recalculated eliminating the neutron dose from E8 and will use the E2 calculation which would include any neutron dose received." *Un quote*

E8 had a high gross response of 202.9 while E2 had a gross response of 62.7.

Note: Element 2 was used to calculate the neutron dose, which ultimately was reported as zero in the RHRS report.

Reviewing the final verified documentation in the RHRS report from these two investigations, you will find zero exposure to any neutron dose from Oct 28/1994 to Oct 7, 1997 for this worker who was exposed to neutrons in building 886. This is not an accurate representation of the exposure found on his TLD, and makes it impossible to use the TLD documentation to reconstruct dose.

I am very concerned about the ability of NIOSH to depend on the data from the TLDs at Rocky Flats as late as 1997.

It is only through my experience representing claimants with their EEO/CPA claims, that I was able to have access to this documentation. All claimants should request a complete copy of their file via fax to the District Offices handling their claims. A FOIA request is not required. DOE records should be included in the case file.

Thank you for allowing me to comment and to present this documentation.

I can be reached at \_\_\_\_\_ . Thank you.









Rocky Flats Environmental Technology Site  
 Radiation Dosimetry Health  
 Radiation Dosimetry Detail Report

All Doses Reported In Millirem (mrem)

Report Date: 02-APR-97

Employee Number:

Name:

Company Name: LATA

SSN:

O-g Code: 0133

EXTERNAL DOSIMETRY DATA FOR 1996

Dosimeter Results	Begin	Ending	Effective Dose Equivalents		Dose Equivalents		Hand	LDE
			Neutron	Gamma	Skin	Ext		
	19-JAN-96	02-APR-96	0	0	0	0	0	0
	01-APR-96	21-JUL-96	0	11	11	11	11	11
	21-JUL-96	01-OCT-96	0	0	0	0	0	0
	01-OCT-96	02-JAN-97	0	0	0	0	0	0
Sum			0	11	11	11	11	11

INTERNAL DOSIMETRY DATA  
 From Intakes Reporting in 1996

Intake Data	Committed Effective Dose Equivalent	Committed Dose Equivalent	Lung	Thyroid	Bone
Radionuclide	CEDE	Committed Dose Equivalent	Breast	Narrow	



**APPENDIX 1**  
Page 1 of 4

**TLD DATA INVESTIGATION / DOSE RECONSTRUCTION FORM**

ADR - \_\_\_\_\_ ✓

Extremity Dosimeter Worn:  Yes  No

**Section 1: PERSONNEL DATA**

11/09/97  
Initials Date

Name \_\_\_\_\_ Health Physics ID No: \_\_\_\_\_  
Social Security Number: \_\_\_\_\_ Building: 779  
Issue Data Base: P970701 Issue Date: 07-02-97 Return Date: 10-07-97  
Case: C010817 UD-802: 2010580 UD-809: 9004008 UD-813: N/A

	Neutron	Gamma	Deep	Skin	Ext	Hand	Lens of Eye
	338	0	338	338	338	338	338

Reason for Investigation: High Dose > 200 mrem, Net E8/Net E6 ratio > 3.

**Section 2: DOSE EQUIVALENT ASSIGNMENT**

	Neutron	Gamma	Deep	Skin	Ext	Hand	Lens of Eye
	0	11	11	11	11	11	11

New  Modify Record  Other \_\_\_\_\_

**Section 3: SIGNATURES**

Ext. Dosimetry Staff/Designee \_\_\_\_\_ Date: 09 Nov 1997 Data Entry, Rad. Records \_\_\_\_\_ Date: 11-12-97  
Ext. Dosimetry Staff Review \_\_\_\_\_ Date: 11/09/97 Manager, Radiological Health \_\_\_\_\_ Date: 11/12/97

**Appendix 1**  
 Page 2 of 4

**Section 4: DATA COLLECTION**

			<u>10-29-97</u>
		Initials	Date
Use/History Report Obtained	<input checked="" type="checkbox"/>	Issue Data Base	<u>P970701</u>
IDB Report Obtained	<input checked="" type="checkbox"/>	Dose Run Number	<u>802/813 229</u>
Mixed Dose Report/Anomaly Report Obtained	<input checked="" type="checkbox"/>	Dose Run Number	<u>809 230</u>
Glow Curves Obtained	<input checked="" type="checkbox"/>	Processing Filename	<u>802/813 09710057</u>
Single ECF Generated	<input checked="" type="checkbox"/>	Processing Filename	<u>809 09710058</u>
Auto ECF Report Attached	<input checked="" type="checkbox"/>	Processing Date	<u>802/813 10-23-97</u>
		Processing Date	<u>809 10-23-97</u>
		Entry Number	<u>802/813 34</u>
		Entry Number	<u>809 34</u>

**Section 5: DATA REVIEW**

11-9-97  
 Initials      Date

Section 5.1: IDB Report Review

0

Section 5.2: Use/History Report Review

OK

Section 5.3: Glow Curve Review

UD-802/UD-813

UD-809

E1	E2	E3	E4	E1	E2	E3	E4
✓	✓	✓	✓	✓	✓	✓	B

Key: ✓ or X = OK, ? = Questionable, B = Bad

Appendix 1  
 Page 3 of 4

Section 5.4: TLD ECF Change Evaluation

UD-802/UD-813

UD-809

	E1	E2	E3	E4	E1	E2	E3	E4
Current ECFs	0.817	0.956	0.805	0.669	1.316	1.170	0.904	1.137
Previous ECFs	0.732	0.908	0.818	0.686	1.311	1.261	1.080	1.242
Percent Change	11.61%	5.29%	-1.59%	-2.48%	0.38%	-7.82%	-19.74%	-9.45%

Section 5.5: Visual Inspection of TLD(s)

OK

Section 6: Dose Reconstruction Tracking System Data Entry

Information Entered into Dose Reconstruction Tracking System

Initials

11/9/97  
 /Date

Information Updated in Dose Reconstruction Tracking System

Initials

11/9/97  
 /Date

Section 7: External Dosimetry Staff Review

Three Time ECFs Required

UD-802/UD-813 YES  NO  N/A   
 UD-809 YES  NO  N/A

TLD(s) Needing Three Time ECFs Placed in New ECF Drawer

UD-802/UD-813 YES  NO  N/A   
 UD-809 YES  NO  N/A

**APPENDIX 1**

Page 4 of 4

**TLD DATA INVESTIGATION / DOSE RECONSTRUCTION FORM (cont'd)**

COMMENTS: The Net E8/Net E6 (N86) ratio was greater than 3, causing the investigation of this dosimeter. The glow curve for E8 was abnormal. The ECF Check of all elements indicated that the ECFs for E1 and E7 changed by 11.61% and -10.74%. Neither element was used in the dose calculation. The other neutron sensitive elements of the dosimeter did indicate some exposure to neutron radiation, but not to the extent indicated by E8. Therefore, the dose will be recalculated, eliminating the neutron dose from E8. The dose will be calculated from E2, which would include any neutron dose received.

**Section 8: ABBREVIATED EXTERNAL DOSE RECONSTRUCTION**

Radiological Engineering Notification Required

Yes       No

Method of Notification

Writing      Internal Correspondence No: \_\_\_\_\_

Telephone      Date & Time: \_\_\_\_\_

Person Notified: \_\_\_\_\_

ECF Check

TLD #	2010580				9004008			
	E1	E2	E3	E4	E5	E6	E7	E8
Current ECF	0.817	0.956	0.805	0.669	1.316	1.170	0.964	1.137
Previous ECF	0.732	0.908	0.818	0.686	1.311	1.261	1.080	1.242
% Change	11.61%	5.29%	-1.59%	-2.48%	0.38%	-7.22%	-10.74%	-8.45%

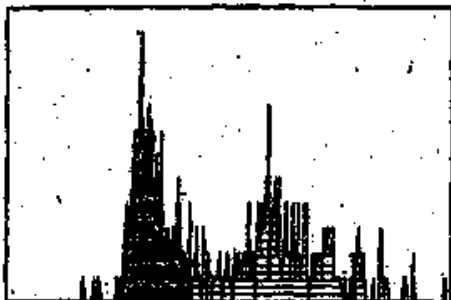
Calculated by:

on 11/09/97 @ 14:49

UD-710A Reader #2 SN 50E24 - 10/09/1997

D9710058 Entry # 034 # 9-9004008

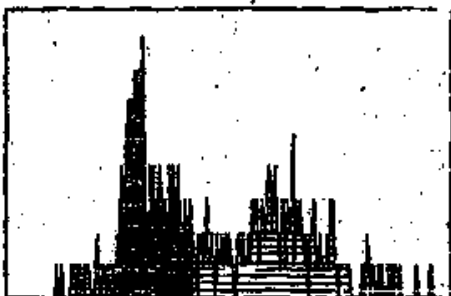
E1 7630mr\* - PHOTON



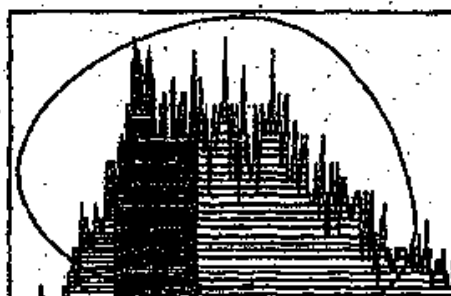
E2 7760mr\* - PHOTON



E3 7634mr\* - PHOTON



E4 0252mr\* - PHOTON

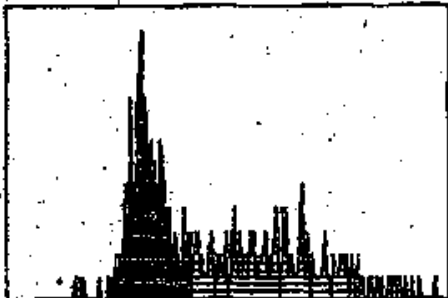


*Bob*

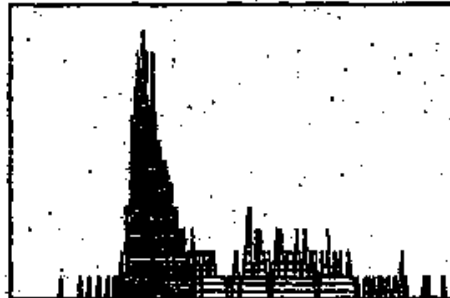
UD-710A Reader #2 SN 50E24 - 10/09/1997

D9710057 Entry # 034 # 2-2010580

E1 7459mr\* - PHOTON



E2 7556mr\* - PHOTON



E3 7356mr\* - PHOTON



E4 7292mr\* - PHOTON



Rocky Flats Plant  
External Dosimetry  
802/809 Pair WHOLE BODY BADGE RESULTS

Run Date: 11-09-1997  
Description: P970701  
Input Method: Responses

Time: 14:59:04  
Performed by:

Comment: - 2010580-9004008

	E1	E2	E3	E4	E5	E6	E7	E8
Gross responses:	62.7	61.2	43.5	42.5	48.0	60.3	58.7	202.9
Background:	42.4	49.8	36.8	39.7	43.2	49.0	48.5	50.0
Correction factors(*):	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Net responses(mR*):	20.3	11.4	6.7	2.8	4.8	11.3	10.2	152.9
Error:	24.5	47.6	44.4	112.7	90.9	66.6	59.3	6.1

R34 = 0.98    E34 = 120.0    R54 = 0.98    E54 = 661.9    Energy(keV) = 661.9  
 Net E1E4 = 18.0    Net E2E4 = 8.6    R12E4 = 2.1  
 Net E1E5 = 16.2    Net E2E5 = 6.6    R12E5 = 2.5  
 NetE1 = -63.4    NetE2 = -85.8    NE6 = 6.5    NE7 = 5.4    NE8 = 147.9  
 The selected dose unit is (mrem)

PHOTON	shallow	deep	BETA	NEUTRON
E2	11.4	11.4	R12 100.0	NE8/NE6 4.95
E4	2.8	2.8	Beta7 -172.0	Neutron 0
E5	4.8	4.8	Beta300 0.0	337.8 11-9-97

Reported Doses:	Shallow	Lens of Eye	Deep	
Beta:	0.0	0.0		
Gamma:	0.0	0.0	0.0	
Neutron:	337.8	337.8	337.8	11-9-97
TOTALS:	337.8	337.8	337.8	Flatt out 11-9-97

Performed by \_\_\_\_\_ Date 11-9-97  
 Reviewed by \_\_\_\_\_ Date 11/09/97

Revision: RFPWB.7 5/29/94  
Version: SDRFP1 10/5/93



2010580/9004008									
UD-802					UD-809				
Date & Time	E1	E2	E3	E4	Date & Time	E5	E6	E7	E8
Anneal 06/02/97 12:11	3.7	6.6	2.7	2.5	06/02/97 22:24	7.8	9.9	10.8	11.0
Rav 10/09/97 08:39	45.9	55.6	35.6	29.7	10/09/97 09:48	53.0	76.0	63.4	252.0
SCF	0.732	0.908	0.818	0.696		1.311	1.261	1.080	1.242
Net	20.3	11.4	6.7	2.8		4.8	11.3	10.2	152.9
Total Background	42.422	49.790	36.802	39.723		43.207	48.963	48.542	49.969

Calculated by:

Date: 11/09/97

Reviewed by:

Date: 11/09/97

Employee Number:			SSN:	Name:						Dose
Badge.	Issue	Return	Neutron	(reported in millirem)			Ext.	Hand	LDE	Reconst#
	04/01/96	06/21/96	0	11	11	11	11	11	11	
	01/19/96	04/01/96	0	10	10	10	10	10	10	
	09/25/95	01/19/96	0	0	0	0	0	0	0	
	08/02/95	09/25/95	0	0	0	0	0	0	0	
	03/21/95	05/03/95	0	0	0	0	0	0	0	
	10/28/94	01/04/95	0	0	0	0	0	0	0	

Explanation of Key Functions &lt;CTRL K&gt;

MENU &lt;CTRL N&gt;

CANCEL &lt;PF4&gt;

U95150

Dosimeter Number (Employee Number, HSID, Badge) Thermoluminescent TLD  
Count: \*6

&lt;Replace&gt;

*Before*

RHS - External Dosimetry

MAINTAIN ED\_TLD\_DOS TABLE

09-SEP-1996

Employee Number:

SSN:

Name:

(reported in millirem)

Dose

Badge	Issue	Return	Neutron	Gamma	Deep	Skin	Ext.	Hand	LOE	Reconst#
	04/01/96	06/21/96	0	11	11	11	11	11	11	
	01/19/96	04/01/96	0	0	0	0	0	0	0	9951986
	09/25/95	01/19/96	0	0	0	0	0	0	0	
	08/02/95	09/25/95	0	0	0	0	0	0	0	
	03/21/95	05/03/95	0	0	0	0	0	0	0	
	10/28/94	01/04/95	0	0	0	0	0	0	0	

Explanation of Key Functions <CTRL K>

MENU <CTRL N>

CANCEL <PF4>

U95150

Dosimeter Number (Employee Number, HSID, Badge) Thermoluminescent TLD

Count: \*6

<Replace>

*Alta*

# TLD DATA INVESTIGATION FORM

**6.1[2] SECTION 1, ASSIGNMENT INFORMATION**

4-10-96

Initials/Date

Employee Number: \_\_\_\_\_

Name: \_\_\_\_\_

Social Security Number: \_\_\_\_\_

Building: 460

Issue Period: JAN - Mar '96 UD-802: 2026101 UD-809: 9022715 UD-813: N/A

Reported Dose Results	Shallow	Lens of Eye	Neutron	Deep
mrem	<u>20</u>	<u>23</u>	<u>0</u>	<u>23</u>

Reason For Investigation: E 2 & E 5 do not agree with other elements

6.1[4] Plastic Bag Labeled:

6.1[6] TLD(s) Placed in Plastic Bag:

**SECTION 2, DATA COLLECTION**

6.2[13] 4-10-96

Initials/Date

6.2[4] Use/History Report Obtained

6.2[2] Issue Data Base: P 960101

6.2[7] IDB Report Obtained

Dose Run Number: 802/813 151

6.2[10][A] Mixed Dose Report/Anomaly Report Obtained

Dose Run Number: 809 152

6.2[12][A] Glow Curves Obtained

Processing Filename: 802/813 D9604013

6.2[15][B][b] TLDs Annealed

Processing Filename: 809 D9604014

6.2[15][D] TLDs Irradiated

Processing Date: 802/813 4-3-96

6.2[15][F] TLDs Fade: 24 days

Processing Date: 809 4-3-96

6.2[15][F] TLDs Fade

Entry Number: 802/813 10

6.2[15][H] TLDs Readout

Entry Number: 809 10

6.2[15][T] Filename: T9604038  
79604039

6.2[16] QC Program

## SECTION 3, DATA REVIEW

6.3[9]

4-29-96  
Initials/Date6.3[3][A] SECTION 3.1 IDB REPORT REVIEW *OK*6.3[4][A] SECTION 3.2, USE/HISTORY REPORT REVIEW *OK*

6.3[5][B] SECTION 3.3, GLOW CURVE REVIEW

UD-802/UD-813

UD-809

<i>ok</i>	<i>ok</i>	<i>ok</i>	<i>ok</i>	<i>?</i>	<i>ok</i>	<i>ok</i>	<i>ok</i>
E1	E2	E3	E4	E1	E2	E3	E4

6.3[6][A] SECTION 3.4, ANNEAL VALUES REVIEW

UD-802/UD-813

UD-809

12.5	9.1	4.3	3.6	13.9	12.6	11.8	9.3
E1	E2	E3	E4	E1	E2	E3	E4

## SECTION 3.5, TLD PERFORMANCE VERIFICATION

6.3[7][B] QC Upper Limits

6.3[7][A] READER NUMBER: 2

UD-802/UD-813

UD-809

353.3	436.9	374.1	409.8	399.5	403.9	401.1	396.7
E1	E2	E3	E4	E1	E2	E3	E4

6.3[7][B] QC Lower Limits

UD-802/UD-813

UD-809

289.1	357.5	306.1	335.3	326.9	330.5	328.1	324.5
E1	E2	E3	E4	E1	E2	E3	E4

6.3[7][C] TLD ECF Corrected Values

UD-802/UD-813

UD-809

332.8	425.7	352.3	383.4	348.3	395.3	374.2	378.3
E1	E2	E3	E4	E1	E2	E3	E4

6.8[8][C][a] VISUAL INSPECTION OF TLDS: 802-OK 809-OK

---

**6.4 SECTION 4, STAFF DOSIMETRIST LEVEL II REVIEW**

6.4[1][A]

No Change

6.4[1][B]

Dose Reconstruction Required

Comments: E2 and E5 were elevated above the other element readings. Inspection of the glow curves for these elements revealed that the E2 and E5 glow curves appear abnormal. The dose should be redetermined based on the algorithm output after eliminating the results from the suspect elements. Of the reliable elements, the dose should be taken from the more conservative element and/or the average of the elements.

6.4[2]

\_\_\_\_\_ /  
Print Name

\_\_\_\_\_ /  
Signature

8/2/96  
\_\_\_\_\_  
Date

ADR - \_\_\_\_\_

EDR - \_\_\_\_\_

## EXTERNAL DOSE RECONSTRUCTION ANALYSIS

Date: 8/2/86

Investigator: \_\_\_\_\_ RFETS ID:                     

Employee: \_\_\_\_\_ RFETS ID: \_\_\_\_\_ SSN: \_\_\_\_\_

Was the employee interviewed?  Yes  No

If yes, the interview was:  by Telephone  in Person

### Discussion / Comments:

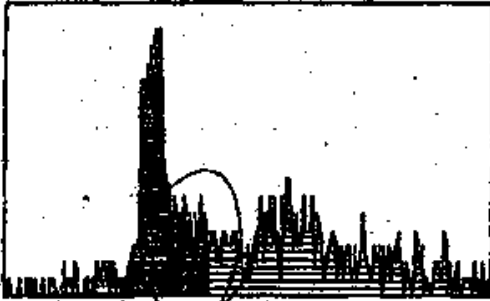
A data investigation was initiated on this individual's dosimeter because of an apparent over-response of Elements 2 and 5. The dose was redetermined based on the algorithm output after eliminating the results from the suspect elements. This resulted in the dose which appears on page one of this dose reconstruction.

This dose reconstruction replaces a dose previously electronically uploaded from an algorithm run and based upon a method of element averaging and substitution.

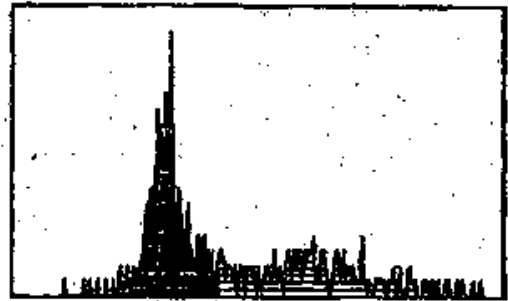
Note: Supporting documentation is attached.

UD-710A Reorder #3 SN 24506 - 04/01/1996  
D9604014 Entry # 010 # 9-9022715

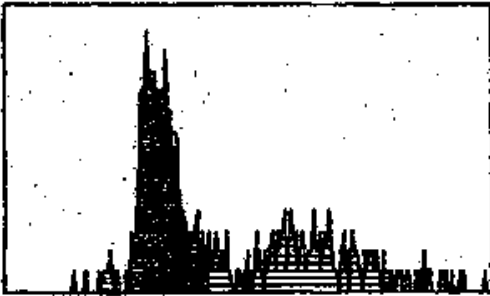
E1 7799mr\* - PHOTON



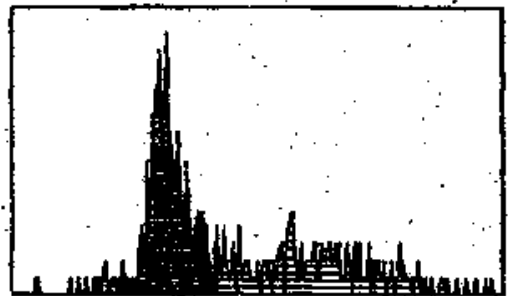
E2 7685mr\* - PHOTON



E3 7755mr\* - PHOTON



E4 7787mr\* - PHOTON



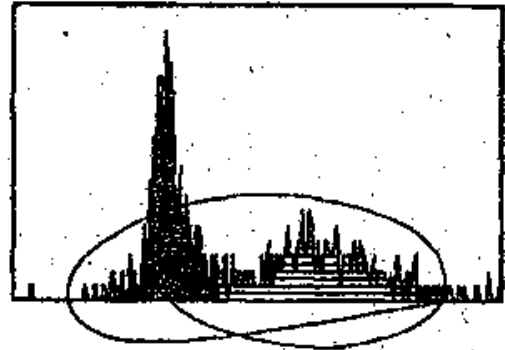


UD-710A Reactor #3 SN 24506: 04/01/1996  
D9604013 Entry # 010 # 2-2026101

E1 7554mr\* - PHOTON



E2 7569mr\* - PHOTON



E3 7412mr\* - PHOTON



E4 7363mr\* - PHOTON



\*\*\*\*\*  
 Rocky Flats Environmental Technology Site  
 External Dosimetry  
 P.O. Box 464  
 Golden, CO 80402-0464  
 \*\*\*\*\*

*PULLER*

04/03/1996 13:05:39  
Version 3.5-09

Thermoluminescence Dosimetry Data Processing  
Mixed TLD Dose Equivalent Processing

Page 0001

Issue Data Base Identification Information

Data Base Name . . . . . P960101  
 Data Base Device . . . . . Issue Data Base  
 Report Device . . . . . System Batch Printer  
  
 Operator . . . . .  
 Location . . . . . 123  
 Comments . . . . . 1QT QUARTER 1996 EXCHANGE

---

Exposure Period Starts . . . 11/22/1995 09:55  
 Exposure Period Ends . . . 11/22/1995 09:55  
  
 Data Base Created . . . . 11/22/1995 09:55  
  
 Issue Runs Previously Stored . . . 25  
 Dose Runs Previously Stored . . . 152

*updated  
4-3-96  
960401C*

*11 pulled  
Data INV*

Mixed Dose Processing Information

**ALGORITHM**  
 Algorithm to be Processed . . . non  
 Dose Equivalent Units . . . . .

**CORRECTIONS**  
 Correction Factors . . . . . NE-2001

**DOSE RUN**  
 First Dose Run in Range . . . . 151  
 Last Dose Run in Range . . . . 151

**ASSIGNMENT**  
 Assignment Source . . . . . History/Use Assignment

**REPORT FORMAT**  
 Anomaly Report Format . . . . . LONG

*11  
Data  
Invent.*

*Approved  
April 3, 1996*

*updated  
4-3-96*

Rocky Flats Plant  
External Dosimetry  
802/809 Pair WHOLE BODY BADGE RESULTS

Run Date: 06-04-1996

Time: 08:59:49

Description: P960101, Jan-Mar 1996

Input Method: File input

Performed by:

Input File : C:\DATA\XLS\ADRF\FILES\RUN106.CSV

Output File : C:\DATA\XLS\ADRF\FILES\RUN106.OUT

Comment: 2026101

	E1	E2	E3	E4	E5	E6	E7	E8
Gross responses:	48.3	63.1	47.7	45.8	64.1	53.9	55.2	59.3
Background:	39.8	43.2	35.4	37.9	41.3	48.3	46.5	50.5
Correction factors(*):	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Net responses(mR*):	8.5	19.9	12.3	7.9	22.8	5.6	8.7	8.8
±error:	53.1	26.7	24.8	40.4	21.7	133.0	67.7	81.1

R34 = 0.98    E34 = 120.0    R54 = 0.98    E54 = 661.9    Energy(keV) = 661.9  
 Net E1E4 = 1.9    Net E2E4 = 12.1    R12E4 = 0.2  
 Net E1E5 = -10.8    Net E2E5 = -2.9    R12E5 = 100.0  
 NetE1 = 1.9    NetE2 = 12.1    NE6 = 1.0    NE7 = -14.1    NE8 = 1.0  
 The selected dose unit is (mrem)

PHOTON	shallow	deep	BETA	NEUTRON
E2	<del>19.9</del>	<del>19.8</del>	R12	0.2
E4	<u>7.8</u>	<u>7.8</u>	Beta7	2.1
E5	<del>22.8</del>	<del>22.8</del>	Beta300	0.5
				NE8/NE6
				4.95
				Neutron
				2.3
Reported Doses:	Shallow	Lens of Eye	Deep	
Beta:	0.0	0.0		
Gamma:	<del>19.9</del>	<del>22.8</del>	<del>22.8</del>	
Neutron:	0.0	0.0	0.0	
TOTALS:	<u>19.9</u>	<u>22.8</u>	<u>22.8</u>	Flag

Performed by \_\_\_\_\_

Date 2 Aug 1996

Reviewed by \_\_\_\_\_

Date 8/13/96

Revision: RFPWB.7 5/29/94  
 Version: SDRFP1 10/5/93

ADR - \_\_\_\_\_

EDR - \_\_\_\_\_

## EXTERNAL DOSE RECONSTRUCTION REPORT

Name: \_\_\_\_\_ Department: N/A

Rocky Flats ID: \_\_\_\_\_ Job Classification: N/A

Social Security #: \_\_\_\_\_ Supervisor: N/A

Telephone: N/A Supervisor's Telephone: N/A

### DOSIMETER IDB-P960101

Whole Body     Wrist     Other \_\_\_\_\_

### DOSE EQUIVALENT ASSIGNMENT (all doses recorded in mrem)

Neutron	Gamma	Deep	SKn	Ext	Hand	Lens of Eye
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

New     Modify Record     Change Activity Date

### EMPLOYEE COMMENTS \_\_\_\_\_

Not Required on ADR  
Employee Signature

Date

Data Entry, Rad. Records

9.9.96  
Date

Health Physicist

8/2/96  
Date

Manager, Rad. Records

9.10.96  
Date

Program Administrator,  
External Dosimetry

8/10/96  
Date

Manager, Radiological Health

9/11/96  
Date





x RHR6 - External Dosime( ) MAINTRAIN ED\_TLD\_DOS Y LE 12-NOV-1997 x  
 x Employee Number: SSN: Name:

		(reported in millirem)						Dose			
x	Badge	Issue	Return	Neutron	Gamma	Deep	Skin	Ext	Hand	LOE	Reconstit
x		04/02/97	07/02/97	0	0	0	0	0	0	0	
x		01/02/97	04/02/97	0	0	0	0	0	0	0	
x		10/01/96	01/02/97	0	0	0	0	0	0	0	
x		06/21/96	10/01/96	0	0	0	0	0	0	0	
x		04/01/96	06/21/96	0	11	11	11	11	11	11	
x		01/19/96	04/01/96	0	0	0	0	0	0	0	P961986
x		09/25/95	01/19/96	0	0	0	0	0	0	0	
x		08/02/95	09/25/95	0	0	0	0	0	0	0	
x		03/21/95	05/03/95	0	0	0	0	0	0	0	
x		10/28/94	01/04/95	0	0	0	0	0	0	0	
x											
x											

x Explanation of Key Functions <CTRL K> x MENU <CTRL N> x CANCEL <PF4> x U95150x  
 Dosimeter Number (Employee Number, HSID, Badge) Thermoluminescent TLD  
 Count: \*11 <Replace>

*Before*







**APPENDIX 1**  
Page 1 of 4

**TLD DATA INVESTIGATION / DOSE RECONSTRUCTION FORM**

ADR -

Extremity Dosimeter Worn:  Yes  No

**Section 1: PERSONNEL DATA**

11/09/97  
Initials Date

Name \_\_\_\_\_ Health Physics ID No: \_\_\_\_\_  
Social Security Number: \_\_\_\_\_ Building: 779  
Issue Data Base: P970701 Issue Date: 07-02-97 Return Date: 10-07-97  
Case: C010817 UD-802: 2010580 UD-809: 9004008 UD-813: N/A

	Neutron	Gamma	Deep	Skin	Ext	Hand	Lens of Eye
	338	0	338	338	338	338	338

Reason for Investigation: High Dose > 200 mrem, Net E8/Net E6 ratio > 3.

**Section 2: DOSE EQUIVALENT ASSIGNMENT**

	Neutron	Gamma	Deep	Skin	Ext	Hand	Lens of Eye
	0	11	11	11	11	11	11

New  Modify Record  Other \_\_\_\_\_

**Section 3: SIGNATURES**

Ext. Dosimetry Staff/Designee \_\_\_\_\_ Date 09 Nov 1997 Data Entry, Rad. Records \_\_\_\_\_ Date 11-12-97  
Ext. Dosimetry Staff Review \_\_\_\_\_ Date 11/09/97 Manager, Radiological Health \_\_\_\_\_ Date 11/12/97

Appendix I  
 Page 2 of 4

Section 4: DATA COLLECTION

		10-29-97
		Initials    Date
Use/History Report Obtained	<input checked="" type="checkbox"/>	Issue Data Base <u>P970701</u>
IDB Report Obtained	<input checked="" type="checkbox"/>	Dose Run Number <u>802/813 229</u>
Mixed Dose Report/Anomaly Report Obtained	<input checked="" type="checkbox"/>	Dose Run Number <u>809 230</u>
Glow Curves Obtained	<input checked="" type="checkbox"/>	Processing Filename <u>802/813 D9710057</u>
Single ECF Generated	<input checked="" type="checkbox"/>	Processing Filename <u>809 D9710058</u>
Auto ECF Report Attached	<input checked="" type="checkbox"/>	Processing Date <u>802/813 10-23-97</u>
		Processing Date <u>809 10-23-97</u>
		Entry Number <u>802/813 34</u>
		Entry Number <u>809 34</u>

Section 5: DATA REVIEW

11-9-97  
 Initials    Date

Section 5.1: IDB Report Review

0

Section 5.2: Use/History Report Review

OK

Section 5.3: Glow Curve Review

UD-802/UD-813

UD-809

E1	E2	E3	E4	E1	E2	E3	E4
✓	✓	✓	✓	✓	✓	✓	B

Key: ✓ or X = OK, ? = Questionable, B = Bad

Appendix I  
 Page 3 of 4

Section 5.4: TLD ECF Change Evaluation

UD-802/UD-813

UD-809

	E1	E2	E3	E4	E1	E2	E3	E4
Current ECFs	0.817	0.956	0.805	0.669	1.316	1.170	0.904	1.137
Previous ECFs	0.732	0.908	0.818	0.686	1.311	1.261	1.080	1.242
Percent Change	11.41%	5.29%	-1.51%	-2.41%	0.38%	-7.22%	10.74%	-9.45%

Section 5.5: Visual Inspection of TLD(s)

OK

Section 6: Dose Reconstruction Tracking System Data Entry

Information Entered into Dose Reconstruction Tracking System

Initials

11/9/97  
 /Date

Information Updated in Dose Reconstruction Tracking System

Initials

11/9/97  
 /Date

Section 7: External Dosimetry Staff Review

Three Time ECFs Required

UD-802/UD-813 YES  NO  N/A   
 UD-809 YES  NO  N/A

TLD(s) Needing Three Time ECFs Placed in New ECF Drawer

UD-802/UD-813 YES  NO  N/A   
 UD-809 YES  NO  N/A

**APPENDIX 1**

Page 4 of 4

**TLD DATA INVESTIGATION / DOSE RECONSTRUCTION FORM (cont'd)**

COMMENTS: The Net E8/Net E6 (N86) ratio was greater than 3, causing the investigation of this dosimeter. The glow curve for E8 was abnormal. The ECF Check of all elements indicated that the ECFs for E1 and E7 changed by 11.61% and -10.74%. Neither element was used in the dose calculation. The other neutron sensitive elements of the dosimeter did indicate some exposure to neutron radiation, but not to the extent indicated by E8. Therefore, the dose will be recalculated, eliminating the neutron dose from E8. The dose will be calculated from E2, which would include any neutron dose received.

**Section 8: ABBREVIATED EXTERNAL DOSE RECONSTRUCTION**

Radiological Engineering Notification Required

Yes       No

Method of Notification

Writing

Internal Correspondence No: \_\_\_\_\_

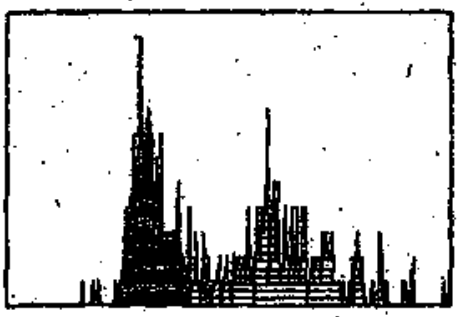
Telephone

Date & Time: \_\_\_\_\_

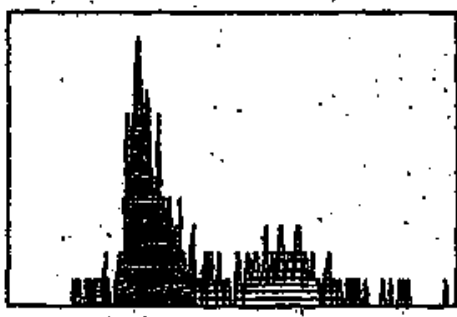
Person Notified: \_\_\_\_\_

UD-710A Reader #2 SN 50E24 - 10/09/1997  
D9710058 Entry # 034 # 9-9004008

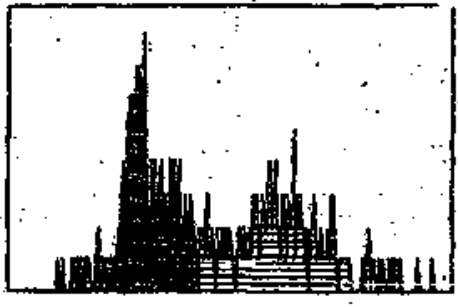
E1 7630mr\* - PHOTON



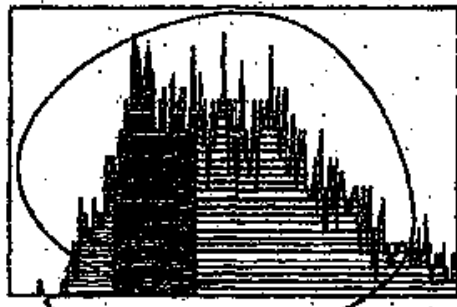
E2 7760mr\* - PHOTON



E3 7634mr\* - PHOTON



E4 0252mr\* - PHOTON

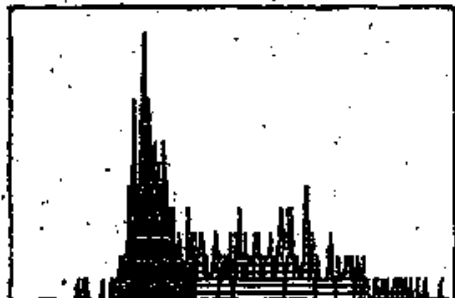


*Bel*

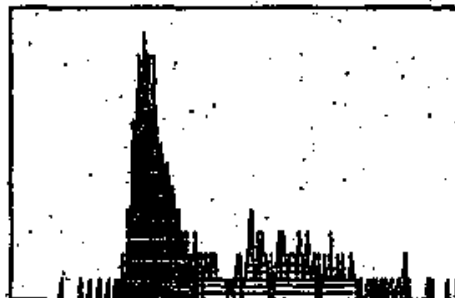
UD-710A Reader #2 SN 50E24 - 10/09/1997

D9710057 Entry # 034 # 2-2010580

E1 7459mr\* - PHOTON



E2 7556mr\* - PHOTON



E3 7356mr\* - PHOTON



E4 7292mr\* - PHOTON



ECF Check

TLD #	2010580				9004008			
	E1	E2	E3	E4	E5	E6	E7	E8
Current ECF	0.817	0.956	0.805	0.669	1.316	1.170	0.964	1.137
Previous ECF	0.732	0.908	0.818	0.686	1.311	1.251	1.080	1.242
% Change	11.61%	5.28%	-1.59%	-2.48%	0.38%	-7.22%	-10.74%	-8.45%

Calculated by: \_\_\_\_\_ on 11/09/97 @ 14:49



Rocky Flats Plant  
External Dosimetry  
802/809 Pair WHOLE BODY BADGE RESULTS

Run Date: 11-09-1997  
Description: F970701  
Input Method: Responses

Time: 14:59:04  
Performed by:

Comment: - 2010580-9004008

	E1	E2	E3	E4	E5	E6	E7	E8
Gross responses:	62.7	61.2	43.5	42.5	48.0	60.3	58.7	202.9
Background:	42.4	49.8	36.8	39.7	43.2	49.0	48.5	50.0
Correction factors(*):	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Net responses(MR*):	20.3	11.4	6.7	2.8	4.8	11.3	10.2	152.9
±error:	24.5	47.6	44.4	112.7	90.9	66.6	59.3	6.1

R34 = 0.98    E34 = 120.0    R54 = 0.98    E54 = 661.9    Energy(keV) = 661.9  
 Net E1E4 = 18.0    Net E2E4 = 8.6    R12E4 = 2.1  
 Net E1E5 = 16.2    Net E2E5 = 6.6    R12E5 = 2.5  
 NetE1 = -63.4    NetE2 = -85.8    NE6 = 6.5    NE7 = 5.4    NE8 = 147.9  
 The selected dose unit is (mrem)

PHOTON	shallow	deep	BETA	NEUTRON
E2	11.4	11.4	R12 100.0	NE8/NE6 4.95
E4	2.8	2.8	Beta7 -172.0	Neutron 0
E5	4.8	4.8	Beta300 0.0	337.8 11-9-97

Reported Doses:	Shallow	Lens of Eye	Deep	Flag
Beta:	0.0	0.0		
Gamma:	0.0	0.0	0.0	11-9-97
Neutron:	337.8	337.8	337.8	neut
TOTALS:	337.8	337.8	337.8	11-9-97

Performed by  
Reviewed by

Date 11-9-97  
Date 11/09/97

Revision: RFPWB.7 5/29/94  
Version: SDRFP1 10/5/93

2010580/9004008									
UD-802					UD-809				
Date & Time	R1	R2	R3	R4	Date & Time	R5	R6	R7	R8
Annual 06/02/97 14:11	1.7	6.6	2.7	2.5	06/02/97 22:24	7.8	9.9	10.8	11.0
Raw 10/09/97 08:39	45.9	55.6	35.6	29.2	10/09/97 09:48	63.0	76.0	63.4	252.0
RCT	0.732	0.908	0.828	0.686		1.311	1.261	1.080	1.242
	20.3	11.4	6.7	2.4		4.8	11.3	10.2	152.9
Total Background	42.422	49.790	36.802	39.723		43.207	48.963	48.562	49.969

Calculated by: \_\_\_\_\_ Date: 11/09/97

Reviewed by: \_\_\_\_\_ Date: 11/09/97

Employee Number:

SSN:

Name:

(reported in millirem)

Dose

Badge.	Issue	Return	Neutron	Gamma	Deep	Skin	Ext.	Hand	LOE	Reconst#
	04/01/96	06/21/96	0	11	11	11	11	11	11	
	01/19/96	04/01/96	0	10	10	10	10	10	10	
	09/25/95	01/19/96	0	0	0	0	0	0	0	
	08/02/95	09/25/95	0	0	0	0	0	0	0	
	03/21/95	05/03/95	0	0	0	0	0	0	0	
	10/28/94	01/04/95	0	0	0	0	0	0	0	

Explanation of Key Functions &lt;CTRL K&gt;

MENU &lt;CTRL N&gt;

CANCEL &lt;PF4&gt;

U95150

Dosimeter Number (Employee Number, HSID, Badge) Thermoluminescent TLD  
Count: #6

&lt;Replace&gt;

*Before*

Employee Number:	SSN:	Name:								Dose
Badge	Issue	Return	Neutron	Gamma	Deep	Skin	Ext.	Hand	LOE	Reconst#
	04/01/96	06/21/96	0	11	11	11	11	11	11	
	01/19/96	04/01/96	0	0	0	0	0	0	0	P951986
	09/25/95	01/19/96	0	0	0	0	0	0	0	
	08/02/95	09/25/95	0	0	0	0	0	0	0	
	03/21/95	05/03/95	0	0	0	0	0	0	0	
	10/28/94	01/04/95	0	0	0	0	0	0	0	

Explanation of Key Functions <CTRL K> MENU <CTRL N> CANCEL <PF4> V95150

Dosimeter Number (Employee Number, HSID, Badge) Thermoluminescent TLD  
 Count: \*6 <Replace>

*Alto*

# TLD DATA INVESTIGATION FORM

**6.1[2] SECTION 1, ASSIGNMENT INFORMATION**

4-10-96  
Initials/Date

Employee Number: \_\_\_\_\_ Name: \_\_\_\_\_

Social Security Number: \_\_\_\_\_ Building: 460

Issue Period: JAN - Mar '96 UD-802: 2026101 UD-809: 9022715 UD-813: N/A

Reported Dose Results	Shallow	Lens of Eye	Neutron	Deep
mrem	<u>20</u>	<u>23</u>	<u>0</u>	<u>23</u>

Reason For Investigation: E 2 & E 5 do not agree with other elements

6.1[4] Plastic Bag Labeled:

6.1[6] TLD(s) Placed in Plastic Bag:

**SECTION 2, DATA COLLECTION**

6.2[13] BG 4-10-96  
Initials/Date

6.2[4] Use/History Report Obtained

6.2[2] Issue Data Base: P960101

6.2[7] IDB Report Obtained

Dose Run Number: 802/813 151

6.2[10][A] Mixed Dose Report/Anomaly Report Obtained

Dose Run Number: 809 152

6.2[12][A] Glow Curves Obtained

Processing Filename: 802/813 D9604013

6.2[15][B][b] TLDs Annealed

Processing Filename: 809 D9604014

6.2[15][D] TLDs Irradiated

Processing Date: 802/813 4-3-96

6.2[15][F] TLDs Fade: 24 days

Processing Date: 809 4-3-96

6.2[15][F] TLDs Fade

Entry Number: 802/813 10

6.2[15][H] TLDs Readout

Entry Number: 809 10

6.2[15][T] Filename: T9604038  
T9604039

6.2[16] QC Program

## SECTION 3, DATA REVIL

6.3[9]

Initials/Date

4-29-96

6.3[3][A] SECTION 3.1 IDB REPORT REVIEW *OK*6.3[4][A] SECTION 3.2, USE/HISTORY REPORT REVIEW *OK*

6.3[5][B] SECTION 3.3, GLOW CURVE REVIEW

UD-802/UD-813

*✓=OK*

UD-809

<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>	<i>?</i>	<i>✓</i>	<i>✓</i>	<i>✓</i>
E1	E2	E3	E4	E1	E2	E3	E4

6.3[6][A] SECTION 3.4, ANNEAL VALUES REVIEW

UD-802/UD-813

UD-809

12.5	9.1	4.3	3.6	13.9	12.6	11.8	9.3
E1	E2	E3	E4	E1	E2	E3	E4

## SECTION 3.5, TLD PERFORMANCE VERIFICATION

6.3[7][B] QC Upper Limits

6.3[7][A] READER NUMBER:

2

UD-802/UD-813

UD-809

353.3	436.9	374.1	409.8	399.5	403.9	401.1	396.7
E1	E2	E3	E4	E1	E2	E3	E4

6.3[7][B] QC Lower Limits

UD-802/UD-813

UD-809

289.1	357.5	306.1	335.3	326.9	330.5	328.1	324.5
E1	E2	E3	E4	E1	E2	E3	E4

6.3[7][C] TLD ECF Corrected Values

UD-802/UD-813

UD-809

332.1	425.7	352.3	382.4	348.3	395.3	374.3	378.3
E1	E2	E3	E4	E1	E2	E3	E4

**6.4 SECTION 4, STAFF DOSIMETRIST LEVEL II REVIEW**

6.4(1)(A)

No Change

6.4(1)(B)

Dose Reconstruction Required

Comments: E2 and E5 were elevated above the other element readings. Inspection of the glow curves for these elements revealed that the E2 and E5 glow curves appear abnormal. The dose should be redetermined based on the algorithm output after eliminating the results from the suspect elements. Of the reliable elements, the dose should be taken from the more conservative element and/or the average of the elements.

6.4(2)

Print Name \_\_\_\_\_

Signature / \_\_\_\_\_

8/7/96  
Date

ADR - \_\_\_\_\_  
 EDR - \_\_\_\_\_

## EXTERNAL DOSE RECONSTRUCTION ANALYSIS

Date: 8/2/96

Investigator: \_\_\_\_\_ RFETS ID:                     

Employee: \_\_\_\_\_ RFETS ID: \_\_\_\_\_ SSN: \_\_\_\_\_

Was the employee interviewed?  Yes  No

If yes, the interview was:  by Telephone  in Person

**Discussion / Comments:**

A data investigation was initiated on this individual's dosimeter because of an apparent over-response of Elements 2 and 5. The dose was redetermined based on the algorithm output after eliminating the results from the suspect elements. This resulted in the dose which appears on page one of this dose reconstruction.

This dose reconstruction replaces a dose previously electronically uploaded from an algorithm run and based upon a method of element averaging and substitution.

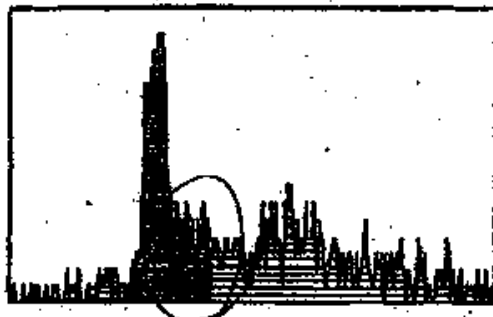
Note: Supporting documentation is attached.



UD-710A Reo: ar #3 SN 24506 - 04/01/1996

D9604014 Entry # 010 # 9-9022715

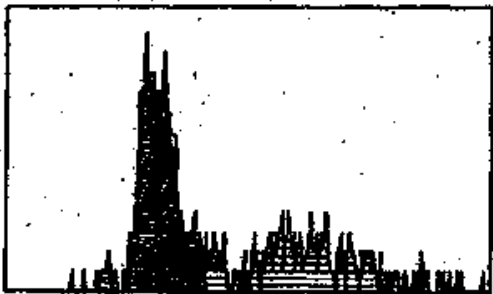
E1 7799mr\* - PHOTON



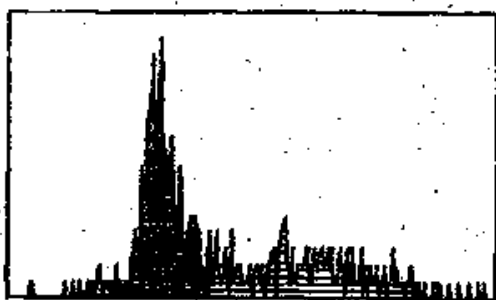
E2 7685mr\* - PHOTON



E3 7755mr\* - PHOTON



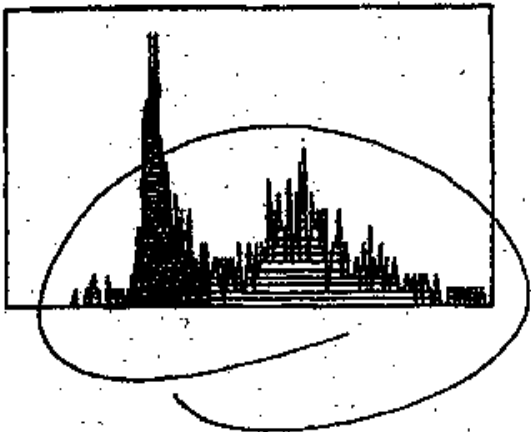
E4 7787mr\* - PHOTON



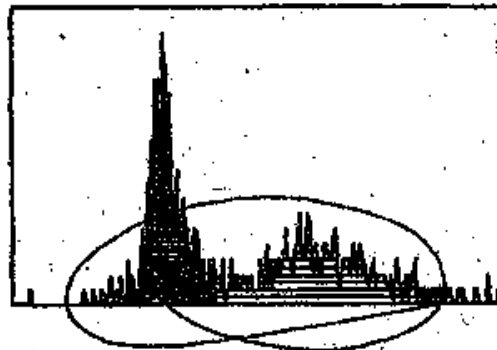
UD-710A Reo:er #3 SN 24506: 04/01/1996

D9604013 Entry # 010 # 2-2026101

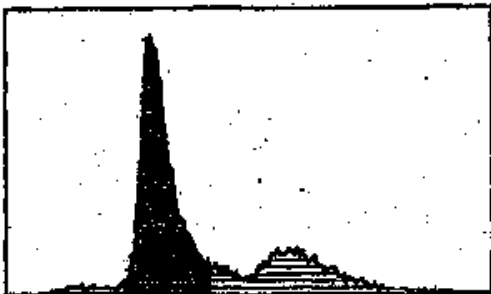
E1 7554mr\* - PHOTON



E2 7569mr\* - PHOTON



E3 7412mr\* - PHOTON



E4 7363mr\* - PHOTON



\*\*\*\*\*  
 Rocky Flats Environmental Technology Site  
 External Dosimetry  
 P.O. Box 464  
 Golden, CO 80402-0464  
 \*\*\*\*\*

*PULLED*

04/03/1996 13:05:39  
Version 3.5-0g

Thermoluminescence Dosimetry Data Processing  
Mixed TLD Dose Equivalent Processing

Page 00001

Issue Data Base Identification Information

Data Base Name . . . . . P960101  
 Data Base Device . . . . . Issue Data Base  
 Report Device . . . . . System Batch Printer  
  
 Operator . . . . .  
 Location . . . . . 123  
 Comments .1ST QUARTER 1996 EXCHANGE  
  
 Exposure Period Starts . . 11/22/1995 09:55  
 Exposure Period Ends . . . 11/22/1995 09:55  
  
 Data Base Created . . . . . 11/22/1995 09:55  
  
 Issue Rens Previously Stored . . .25  
 Dose Rens Previously Stored . . .152

*updated  
4-3-96  
960401C*

*11 pulled  
DATA INV*

Mixed Dose Processing Information

**ALGORITHM**  
 Algorithm to be Processed . . . SDALGREP  
 Dose Equivalent Units . . . . . rem  
  
**CORRECTIONS**  
 Correction Factors . . . . . NE-2001  
  
**DOSE RUN**  
 First Dose Run In Range . . . . 151  
 Last Dose Run In Range . . . . 151  
  
**ASSIGNMENT**  
 Assignment Source . . . . . History/Use Assignment  
  
**REPORT FORMAT**  
 Anomaly Report Format . . . . . LONG

*Data  
Inv*

*Approved  
April 3, 1996*

*updated  
4-3-96*

Rocky Flats Plant  
External Dosimetry  
802/809 Pair WHOLE BODY BADGE RESULTS

Run Date: 06-04-1996

Time: 08:59:49

Description: P960101, Jan-Mar 1996

Input Method: File input

Performed by:

Input File : C:\DATA\XLS\ADRF\FILES\RUN106.CSV

Output File : C:\DATA\XLS\ADRF\FILES\RUN106.OUT

Comment: 2026101

	E1	E2	E3	E4	E5	E6	E7	E8
Gross responses:	48.3	63.1	47.7	45.8	64.1	53.9	55.2	59.3
Background:	39.8	43.2	35.4	37.9	41.3	48.3	46.5	50.5
Correction factors(*):	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Net responses(mR*):	8.5	19.9	12.3	7.9	22.8	5.6	8.7	8.8
Error:	53.1	26.7	24.8	40.4	21.7	133.0	67.7	81.1

R34 = 0.98    E34 = 120.0    R54 = 0.98    E54 = 661.9    Energy(keV) = 661.9  
 Net E1E4 = 1.9    Net E2E4 = 12.1    R12E4 = 0.2  
 Net E1E5 = -10.8    Net E2E5 = -2.9    R12E5 = 100.0  
 NetE1 = 1.9    NetE2 = 12.1    NE6 = 1.0    NE7 = -14.1    NE8 = 1.0  
 The selected dose unit is (mrem)

PHOTON	shallow	deep	BETA	NEUTRON
E2	<del>19.9</del>	<del>19.8</del>	R12	0.2
E4	<u>7.8</u>	<u>7.8</u>	Beta7	2.1
E5	<del>22.8</del>	<del>22</del>	Beta300	0.5
				NE8/NE6
				4.95
				Neutron
				2.3

Reported Doses:	Shallow	Lens of Eye	Deep	Flag
Beta:	0.0	0.0		
Gamma:	<del>19.9</del>	<del>22.8</del>	<del>22</del>	
Neutron:	0.0	0.0	0.0	
TOTALS:	<u>19.9</u>	<u>22.8</u>	<u>22</u>	

Performed by \_\_\_\_\_  
 Reviewed by \_\_\_\_\_

Date 2 Aug 1996  
 Date 8/13/96

Revision: RFPWB.7 5/29/94  
 Version: SDRFP1 10/5/93

ADR - \_\_\_\_\_

EDR - \_\_\_\_\_

### EXTERNAL DOSE RECONSTRUCTION REPORT

Name: \_\_\_\_\_ Department: N/A

Rocky Flats ID: \_\_\_\_\_ Job Classification: N/A

Social Security #: \_\_\_\_\_ Supervisor: N/A

Telephone: N/A Supervisor's Telephone: N/A

#### DOSIMETER IDB-P960101

Whole Body     Wrist     Other \_\_\_\_\_

#### DOSE EQUIVALENT ASSIGNMENT (all doses recorded in mrem)

Neutron	Gamma	Deep	Skn	Ext	Hand	Lens of Eye
<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>

New     Modify Record     Change Activity Date

#### EMPLOYEE COMMENTS \_\_\_\_\_

<u>Not Required on ADR</u> Employee Signature	Date	Data Entry, Rad. Records	<u>9-9-96</u> Date
Health Physicist	<u>8/2/96</u> Date	Manager, Rad. Records	<u>9-10-96</u> Date
Program Administrator, External Dosimetry	<u>8/13/96</u> Date	Manager, Radiological Health	<u>9/11/96</u> Date