(Comments TO BOARD)

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 Terrie Barrie 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 EEOICPA 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.

RHRS - External Dosimet) VIEW ED_TLD_DOS TABLE( ) 09-NOV-1997

Employee Number: SSN: Name:

(reported in millirem)

Badge	Issue	Return	Neutron	Gamma	Deep	Skin	Ext.	Hand	LOE	Dose Reconst#
				338	338	338	338	338	338	P9700DI
513311	07/02/97	10/07/97	338	0	338	0	0	0	0	
513311	04/02/97	07/02/97	0	0	0	0	0	0	0	
513311	01/02/97	04/02/97	0	0	0	0	0	0	0	
513311	10/01/96	01/02/97	0	0	0	0	0	0	0	
513311	06/21/96	10/01/96	0	0	0	0	0	0	0	
513311	04/01/96	06/21/96	0	11	11	11	11	11	11	
513311	01/19/96	04/01/96	0	0	0	0	0	0	0	P961986
513311	09/25/95	01/19/96	0	0	0	0	0	0	0	
513311	08/02/95	09/25/95	0	0	0	0	0	0	0	
513311	03/21/95	05/03/95	0	0	0	0	0	0	0	
513311	10/28/94	01/04/95	0	0	0	0	0	0	0	

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

Dosimeter Number (Employee Number, HSID, Badge) Thermoluminescent TLD <Replace>

Count: *11

RHRS - External Dosimet   VIEW ED_TLD_DOS TABLE   09-NOV-1997

Employee Number: SSN: Name:

Badge	Issue	Return	Type	Gamma Skin	Beta	TLD_802	TLD_809	TLD_813	IDB Name
513311	07/02/97	10/07/97	C	0	0	2-2010580	9-9004008		P970701
513311	04/02/97	07/02/97	C	0	0	2-2026721	9-9002026		P970401
513311	01/02/97	04/02/97	C	0	0	2-2005801	9-9008505		P970101
513311	10/01/96	01/02/97	C	0	0	2-2012628	9-9009876		P961001
513311	06/21/96	10/01/96	C	0	0	2-2023497	9-9021279		P960701
513311	04/01/96	06/21/96	C	11	0	2-2003621	9-9003723		P960401
513311	01/19/96	04/01/96	C	0	0	2-2026101	9-9022715		P960101
513311	09/25/95	01/19/96	C	0	0	2-2001829	9-9001574		P951001
513311	08/02/95	09/25/95	C	0	0	2-2020935	9-9017000		P950701
513311	03/21/95	05/03/95	C	0	0	2-2005863	9-9009394		P950401
513311	10/28/94	01/04/95	C	0	0	2-2013775	9-9000364		P941001

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

(C) - Body, (R) - Wrist, (H) - Body and Wrist

Count: *11

<Replace>

RHRS - External Dosime[illegible] MAINTAIN ED_TLD_DOS T[illegible]LE 12-NOV-1997

Employee Number: SSN: Name:

(reported in millirem)

Badge	Issue	Return	Neutron	Gamma	Deep	Skin	Ext	Hand	LOE	Dose Reconst#
~~x5133[illegible]~~	~~07/02/97~~	~~10/07/97~~	~~338~~	~~0~~	~~338~~	~~338~~	~~338~~	~~338~~	~~338~~	~~RS700[illegible]~~
x513311	04/02/97	07/02/97	0	0	0	0	0	0	0	
x513311	01/02/97	04/02/97	0	0	0	0	0	0	0	
x513311	10/01/96	01/02/97	0	0	0	0	0	0	0	
x513311	06/21/96	10/01/96	0	0	0	0	0	0	0	
x513311	04/01/96	06/21/96	0	11	11	11	11	11	11	
x513311	01/19/96	04/01/96	0	0	0	0	0	0	0	P961986
x513311	09/25/95	01/19/96	0	0	0	0	0	0	0	
x513311	08/02/95	09/25/95	0	0	0	0	0	0	0	
x513311	03/21/95	05/03/95	0	0	0	0	0	0	0	
x513311	10/28/94	01/04/95	0	0	0	0	0	0	0	

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

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

<Replace>

Count: *11

Before

lqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqk

x RHRS - External Dosime( ) MAINTAIN ED_TLD_DOS T( )LE 12-NOV-1997 x

tqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqu

x Employee Number: SSN: Name: x

(reported in millirem)

Badge	Issue	Return	Neutron	Gamma	Deep	Skin	Ext.	Hand	LOE	Dose Reconst#
513311	07/02/97	10/07/97	0	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	P973084
513311	04/02/97	07/02/97	0	0	0	0	0	0	0	
513311	01/02/97	04/02/97	0	0	0	0	0	0	0	
513311	10/01/96	01/02/97	0	0	0	0	0	0	0	
513311	06/21/96	10/01/96	0	0	0	0	0	0	0	
513311	04/01/96	06/21/96	0	11	11	11	11	11	11	
513311	01/19/96	04/01/96	0	0	0	0	0	0	0	P961986
513311	09/25/95	01/19/96	0	0	0	0	0	0	0	
513311	08/02/95	09/25/95	0	0	0	0	0	0	0	
513311	03/21/95	05/03/95	0	0	0	0	0	0	0	
513311	10/28/94	01/04/95	0	0	0	0	0	0	0	

tqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqwqqqqqqqqqqqqqqqqqwqqqqqqqqqqqqqqqqqwqqqqqqqqqu

x Explanation of Key Functions <CTRL K> x MENU <CTRL N> x CANCEL <PF4> x V95150x

mqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqqvqqqqqqqqqqqqqqqqqvqqqqqqqqqqqqqqqqqvqqqqqqqqqj

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

Count: *11 <Replace>

After

APPENDIX 1
Page 1 of 4

TLD DATA INVESTIGATION / DOSE RECONSTRUCTION FORM

ADR - 973084 ✓

Extremity Dosimeter Worn: [ ] Yes [x] 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

Reported Dose Results	Neutron	Gamma	Deep	Skin	Ext	Hand	Lens of Eye
(mrem)	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

Final Dose Results	Neutron	Gamma	Deep	Skin	Ext	Hand	Lens of Eye
(mrem)	0	11	11	11	11	11	11

[ ] New [x] Modify Record [ ] Other _____

Section 3: SIGNATURES

_____ 09 Nov 1997 _____ 11-12-97
Ext. Dosimetry Staff/Designee Date Data Entry, Rad. Records Date

_____ 11/09/97 _____ 11/17/97
Ext. Dosimetry Staff Review Date Manager, Radiological Health Date

Rocky Flats Environmental Technology Site
Radiological Health
Radiation Dosimetry Detail Report

All Doses Reported in millirem (mrem) Report Date: 03-APR-97

Company Name: LATA

Employee Number: Name: SSN: Org Code: 81133

EXTERNAL DOSIMETRY DATA FOR 1996

Dosimeter Results

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

INTERNAL DOSIMETRY DATA
From Intakes Occurring in 1996

		Committed Effective Dose Equivalents	Committed Dose Equivalent					
Intake Date	Radionuclide	CEDE	Gonads	Breast	Marrow	Lung	Thyroid	Bone

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Section 4: DATA COLLECTION

BG 10-29-97
Initials Date

Use/History Report Obtained	☒	Issue Data Base	P970701
IDB Report Obtained	☒	Dose Run Number	802/813 229
Mixed Dose Report/Anomaly Report Obtained	☒	Dose Run Number	809 230
Glow Curves Obtained	☒	Processing Filename	802/813 D9710057
Single ECF Generated	☒	Processing Filename	809 D9710058
Auto ECF Report Attached	☒	Processing Date	802/813 10-23-97
		Processing Date	809 10-23-97
		Entry Number	802/813 34
		Entry Number	809 34

Section 5: DATA REVIEW

11-9-97
Initials Date

Section 5.1: IDB Report Review

O

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	0.964	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%	-7.22%	-10.74%	-8.45%

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 [x] No

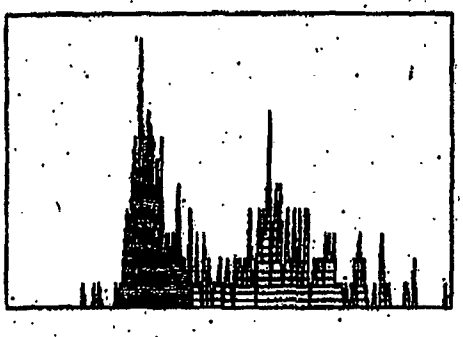
Method of Notification
[ ] Writing Internal Correspondence No: _____

[ ] Telephone Date & Time: _____
Person Notified: _____

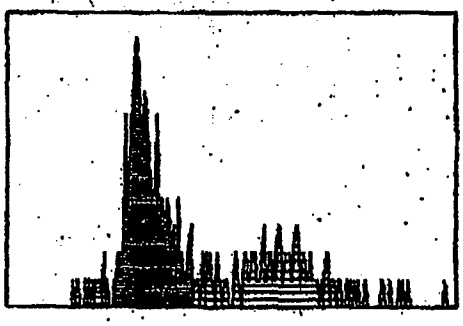
UD-710A Reader #2 SN 50E24 - 10/09/1997

D9710058 Entry # 034 # 9-9004008

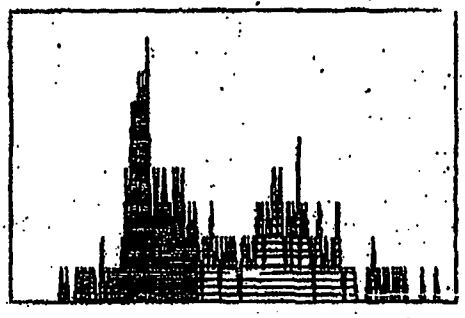
E1 7630mr* - PHOTON



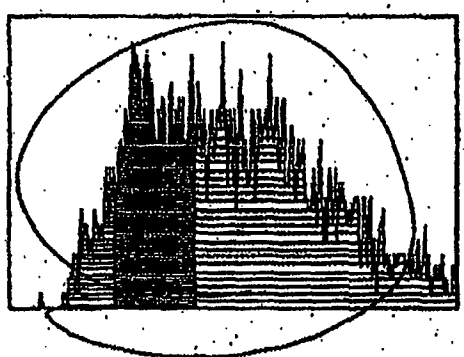
E2 7760mr* - PHOTON



E3 7634mr* - PHOTON



E4 0252mr* - PHOTON

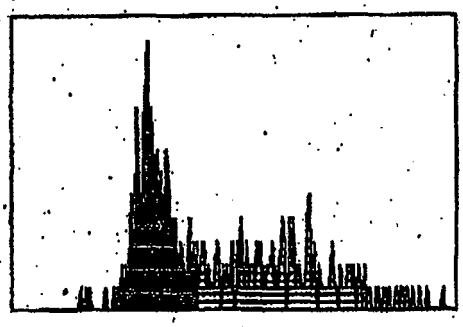


Bad

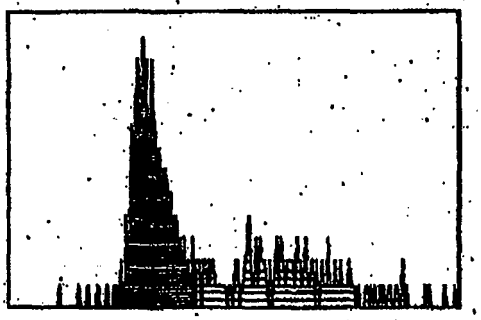
UD-710A Reader #2 SN 50E24 - 10/09/1997

D9710057 Entry # 034 # 2-2010580

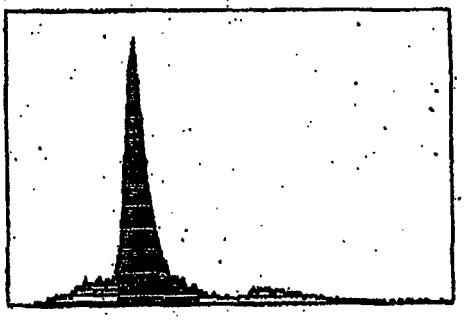
E1 7459mr* - PHOTON



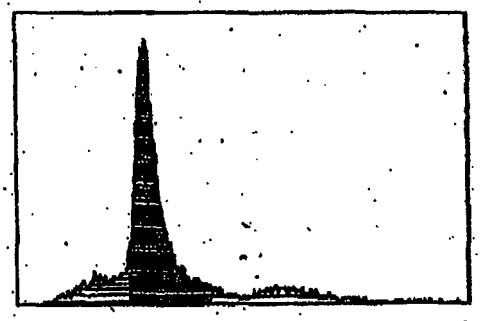
E2 7556mr* - PHOTON



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	1.261	1.080	1.242
% Change	11.61%	5.29%	-1.59%	-2.48%	0.38%	-7.22%	-10.74%	-8.45%

Calculated by: 11/09/97 @ 14:49

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

Run Date: 11-09-1997 Time: 14:59:04
Description: P970701
Input Method: Responses 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		0
E5	4.8	4.8	Beta300	0.0	Neutron	~~337.8~~ 11-9-97

Reported Doses:	Shallow	Lens of Eye	Deep	
Beta:	0.0	0.0		
Gamma:	~~0.0~~ 11	~~0.0~~ 11	~~0.0~~ 11	11-9-97
Neutron:	~~337.8~~ 0	~~337.8~~ 0	~~337.8~~ 0	Flag
TOTALS:	~~337.8~~ 11	~~337.8~~ 11	~~337.8~~ 11	~~neut~~ 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
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
ECF		0.732	0.908	0.818	0.686		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

RHRS - External Dosimetry MAINTAIN ED_TLD_DOS TABLE 09-SEP-1996

Employee Number: SSN: Name:

Badge	Issue	Return	(reported in millirem) Neutron	Gamma	Deep	Skin	Ext.	Hand	LOE	Dose Reconst#
513311	04/01/96	05/21/96	0	11	11	11	11	11	11	
513311	01/19/96	04/01/96	0	10	10	10	10	10	10	
513311	09/25/95	01/19/96	0	0	0	0	0	0	0	
513311	08/02/95	09/25/95	0	0	0	0	0	0	0	
513311	03/21/95	05/03/95	0	0	0	0	0	0	0	
513311	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>

Before

RHRS - External Dosimetry MAINTAIN ED_TLD_DOS TABLE 09-SEP-1996

Employee Number: SSN: Name:

Badge	Issue	Return	(reported in millirem) Neutron	Gamma	Deep	Skin	Ext.	Hand	LOE	Dose Reconst#
513311	04/01/96	06/21/96	0	11	11	11	11	11	11	
513311	01/19/96	04/01/96	0	0	0	0	0	0	0	P961986
513311	09/25/95	01/19/96	0	0	0	0	0	0	0	
513311	08/02/95	09/25/95	0	0	0	0	0	0	0	
513311	03/21/95	05/03/95	0	0	0	0	0	0	0	
513311	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>

TLL 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	20	23	0	23

Reason For Investigation: E2 & E5 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 hr/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 REVIEW / 6.3[9] 4-29-96
Initials/Date

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

✓=OK

UD-802/UD-813				UD-809			
bad ✓	bad	✓	✓	?	✓	✓	✓
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	374.3	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] _____ _____ 8/2/96

Print Name Signature Date

[x] ADR - 961986

[ ] EDR - _____

EXTERNAL DOSE RECONSTRUCTION ANALYSIS

Date: 8/2/96

Investigator: _____ RFETS ID: [redacted]

Employee: _____ RFETS ID: 513311 SSN: _____

Was the employee interviewed? [ ] Yes [x] 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.

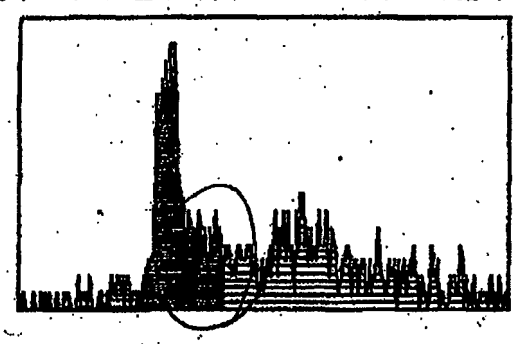
This dose reconstruction replaces a dose previously electronically uploaded from an algorithm rerun and based upon a method of element averaging and substitution.

Note: Supporting documentation is attached.

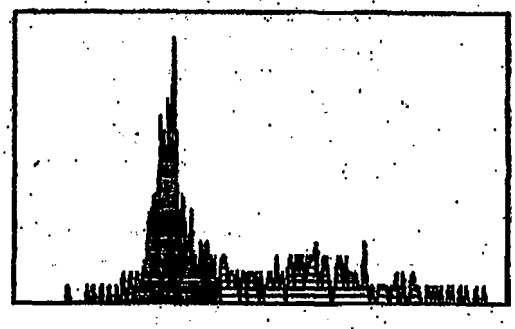
UD-710A Reader #3 SN 24506 - 04/01/1996

D9604014 Entry # 010 # 9-9022715

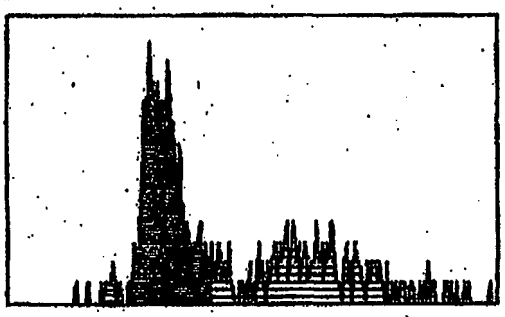
E1 7799mr* - PHOTON



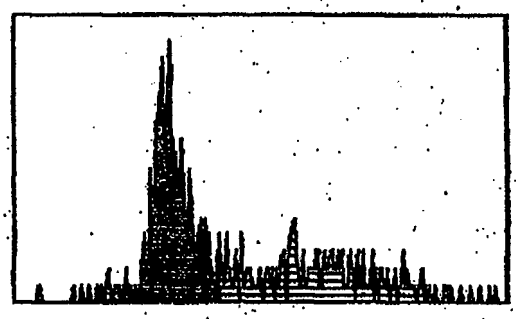
E2 7685mr* - PHOTON



E3 7755mr* - PHOTON



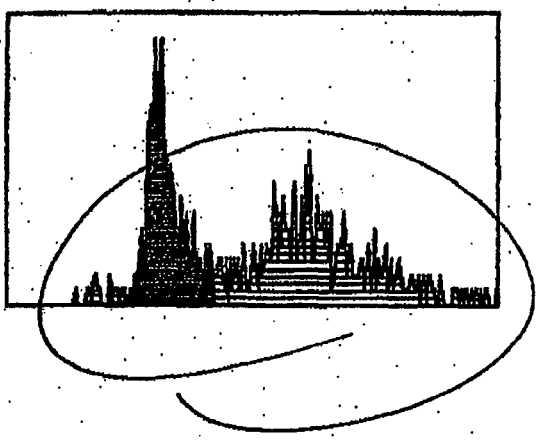
E4 7787mr* - PHOTON



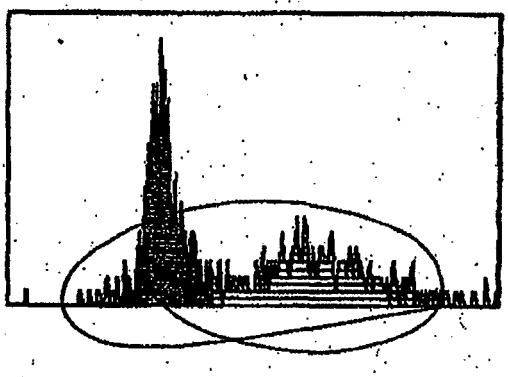
UD-710A Reader #3 SN 24506 · 04/01/1996

D9604013 Entry # 010 # 2-2026101

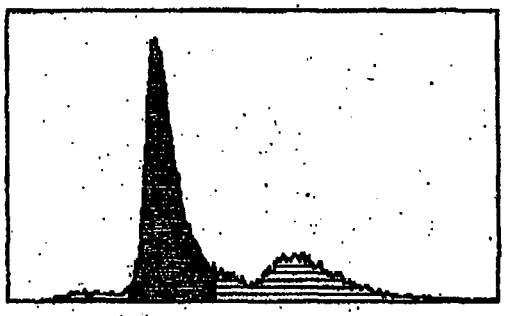
E1 7554mr* – PHOTON



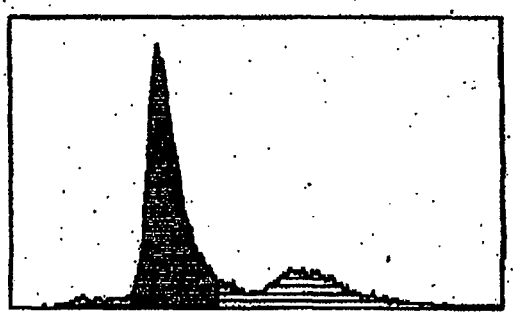
E2 7569mr* – PHOTON



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 — Thermoluminescence Dosimetry Data Processing — Page 00001
Version 3.5-ag — Mixed TLD Dose Equivalent Processing

updated 4-3-96 960401C

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

11 pulled Data INV

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

Mixed Dose Processing Information

ALGORITHM
Algorithm to be Processed . . SDALGRFP
Dose Equivalent Units . . . . mrem

CORRECTIONS
Correction Factors ME-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 Invest.

April 3, 1996

uploaded 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:\DATAXLS\ADRFILES\RUN106.CSV
Output File : C:\DATAXLS\ADRFILES\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	~~19.9~~	~~19.8~~	R12	0.2	NE8/NE6	4.95
E4	7.8	7.8	Beta7	2.1		
E5	~~22.8~~	~~22.8~~	Beta300	0.5	Neutron	2.3

Reported Doses:	Shallow	Lens of Eye	Deep
Beta:	0.0	0.0	
Gamma:	~~19.9~~ 0	~~22.8~~ 0	~~22.8~~ lower 0
Neutron:	0.0	0.0	0.0
TOTALS:	~~19.9~~ 0	~~22.8~~ 0	~~22.8~~ lower 0

Flag

Performed by _ Date 2 Aug 1996

Reviewed by _ Date 8/13/96

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

[x] ADR - 961986

[ ] 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

[x] Whole Body [ ] Wrist [ ] Other _____

DOSE EQUIVALENT ASSIGNMENT (all doses recorded in mrem)

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

[ ] New [x] 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	8/13/96 Date	Manager, Radiological Health	9/11/96 Date

RHRS - External Dosimet VIEW ED_TLD_DOS TABLE 09-NOV-1997

Employee Number: SSN: Name:

(reported in millirem)

Badge	Issue	Return	Neutron	Gamma	Deep	Skin	Ext.	Hand	LOE	Dose Reconst#
513311	07/02/97	10/07/97	338	0	338	338	338	338	338	P9700DI
513311	04/02/97	07/02/97	0	0	0	0	0	0	0	
513311	01/02/97	04/02/97	0	0	0	0	0	0	0	
513311	10/01/96	01/02/97	0	0	0	0	0	0	0	
513311	06/21/96	10/01/96	0	0	0	0	0	0	0	
513311	04/01/96	06/21/96	0	11	11	11	11	11	11	
513311	01/19/96	04/01/96	0	0	0	0	0	0	0	P961986
513311	09/25/95	01/19/96	0	0	0	0	0	0	0	
513311	08/02/95	09/25/95	0	0	0	0	0	0	0	
513311	03/21/95	05/03/95	0	0	0	0	0	0	0	
513311	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: *11 <Replace>

RHRS - External Dosimet VIEW ED_TLD_DOS TABLE 09-NOV-1997

Employee Number: SSN: Name:

Badge	Issue	Return	Type	Gamma Skin	Beta	TLD_802	TLD_809	TLD_813	IDB Name
513311	07/02/97	10/07/97	C	0	0	2-2010580	9-9004008		P970701
513311	04/02/97	07/02/97	C	0	0	2-2026721	9-9002026		P970401
513311	01/02/97	04/02/97	C	0	0	2-2005801	9-9008505		P970101
513311	10/01/96	01/02/97	C	0	0	2-2012628	9-9009876		P961001
513311	06/21/96	10/01/96	C	0	0	2-2023497	9-9021279		P960701
513311	04/01/96	06/21/96	C	11	0	2-2003621	9-9003723		P960401
513311	01/19/96	04/01/96	C	0	0	2-2026101	9-9022715		P960101
513311	09/25/95	01/19/96	C	0	0	2-2001829	9-9001574		P951001
513311	08/02/95	09/25/95	C	0	0	2-2020935	9-9017000		P950701
513311	03/21/95	05/03/95	C	0	0	2-2005863	9-9009394		P950401
513311	10/28/94	01/04/95	C	0	0	2-2013775	9-9000364		P941001

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

(C) - Body, (R) - Wrist, (H) - Body and Wrist

Count: *11 <Replace>

```
RHRS - External Dosime(  )     MAINTAIN ED_TLD_DOS 1  LE                12-NOV-1997
Employee Number:          SSN:                Name:
                                (reported in millirem)                        Dose
Badge   Issue     Return    Neutron Gamma Deep  Skin  Ext   Hand  LOE   Reconstr
x513311 04/02/97 07/02/97 0       0     0     0     0     0     0
x513311 01/02/97 04/02/97 0       0     0     0     0     0     0
x513311 10/01/96 01/02/97 0       0     0     0     0     0     0
x513311 06/21/96 10/01/96 0       0     0     0     0     0     0
x513311 04/01/96 06/21/96 0       11    11    11    11    11    11
x513311 01/19/96 04/01/96 0       0     0     0     0     0     0     P961986
x513311 09/25/95 01/19/96 0       0     0     0     0     0     0
x513311 08/02/95 09/25/95 0       0     0     0     0     0     0
x513311 03/21/95 05/03/95 0       0     0     0     0     0     0
x513311 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: #11                                                        <Replace>
```

Before

RHRS - External Dosime( ) MAINTAIN ED_TLD_DOS T( )LE 12-NOV-1997

Employee Number: SSN: Name:

(reported in millirem)

Badge	Issue	Return	Neutron	Gamma	Deep	Skin	Ext.	Hand	LOE	Dose Reconst#
[redacted]										P973084
513311	04/02/97	07/02/97	0	0	0	0	0	0	0	
513311	01/02/97	04/02/97	0	0	0	0	0	0	0	
513311	10/01/96	01/02/97	0	0	0	0	0	0	0	
513311	06/21/96	10/01/96	0	0	0	0	0	0	0	
513311	04/01/96	06/21/96	0	11	11	11	11	11	11	
513311	01/19/96	04/01/96	0	0	0	0	0	0	0	P961986
513311	09/25/95	01/19/96	0	0	0	0	0	0	0	
513311	08/02/95	09/25/95	0	0	0	0	0	0	0	
513311	03/21/95	05/03/95	0	0	0	0	0	0	0	
513311	10/28/94	01/04/95	0	0	0	0	0	0	0	

MENU <CTRL N> x CANCEL <PF4> x V95150

Explanation of Key Functions <CTRL K>

Dosimeter Number (Employee Number, HSID, Badge) Thermoluminescent TLD <Replace>

Count: *11

After

Rocky Flats Environmental Technology Site
Radiological Health
Radiation Dosimetry Detail Report

All Doses Reported in millirem (mrem) Report Date: 12-MAY-98

Company Name: SAFE SITES OF COLORADO
Employee Number: Name: SSN: Org Code: S1310

EXTERNAL DOSIMETRY DATA FOR 1997

Dosimeter Results

		Effective Dose Equivalents			Dose Equivalents			
Begin	Ending	Neutron	Gamma	Deep	Skin	Ext	Hand	LOE
02-JAN-97	02-APR-97	0	0	0	0	0	0	0
02-APR-97	02-JUL-97	0	0	0	0	0	0	0
02-JUL-97	07-OCT-97	0	11	11	11	11	11	11
07-OCT-97	12-JAN-98	0	0	0	0	0	0	0
Sum		0	11	11	11	11	11	11

INTERNAL DOSIMETRY DATA
From Intakes Occurring in 1997

		Committed Effective Dose Equivalents	Committed Dose Equivalent					
Intake Date	Radionuclide	CEDE	Gonads	Breast	Marrow	Lung	Thyroid	Bone

APPENDIX 1
Page 1 of 4

TLD DATA INVESTIGATION / DOSE RECONSTRUCTION FORM

ADR - 973084 ✓

Extremity Dosimeter Worn: [ ] Yes [x] 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

Reported Dose Results	Neutron	Gamma	Deep	Skin	Ext	Hand	Lens of Eye
(mrem)	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

Final Dose Results	Neutron	Gamma	Deep	Skin	Ext	Hand	Lens of Eye
(mrem)	0	11	11	11	11	11	11

[ ] New [x] Modify Record [ ] Other _____

Section 3: SIGNATURES

Ext. Dosimetry Staff/Designee — 09 Nov 1997 Date — Data Entry, Rad. Records — 11-12-97 Date

Ext. Dosimetry Staff Review — 11/09/97 Date — Manager, Radiological Health — 11/17/97 Date

Appendix 1
Page 2 of 4

Section 4: DATA COLLECTION

10-29-97
Initials Date

Use/History Report Obtained	☒	Issue Data Base	P970701
IDB Report Obtained	☒	Dose Run Number	802/813 229
Mixed Dose Report/Anomaly Report Obtained	☒	Dose Run Number	809 230
Glow Curves Obtained	☒	Processing Filename	802/813 D9710057
Single ECF Generated	☒	Processing Filename	809 D9710058
Auto ECF Report Attached	☒	Processing Date	802/813 10-23-97
		Processing Date	809 10-23-97
		Entry Number	802/813 34
		Entry Number	809 34

Section 5: DATA REVIEW

11-9-97
Initials Date

Section 5.1: IDB Report Review

O

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	0.964	1.137
Previous ECFs	0.732	0.908	0.818	0.686	1.311	1.261	1.080	1.242
Percent Change	11.6%	5.29%	-1.59%	-2.48%	0.38%	-7.22%	-10.74%	-8.45%

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 [x] No

Method of Notification

[ ] Writing Internal Correspondence No: _____

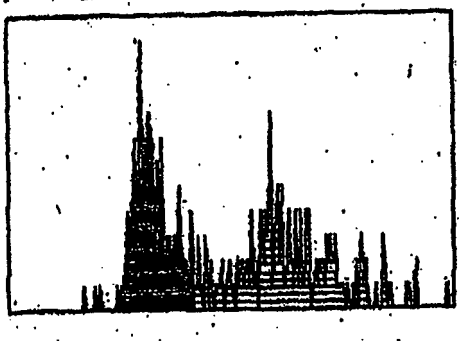
[ ] Telephone Date & Time: _____

Person Notified: _____

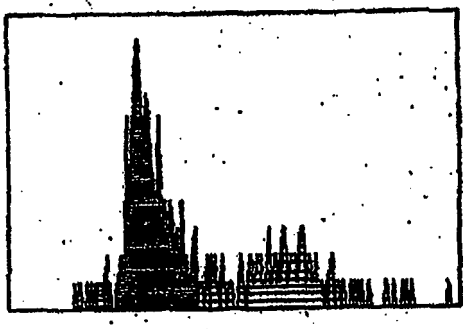
UD-710A Reader #2 SN 50E24 - 10/09/1997

D9710058 Entry # 034 # 9-9004008

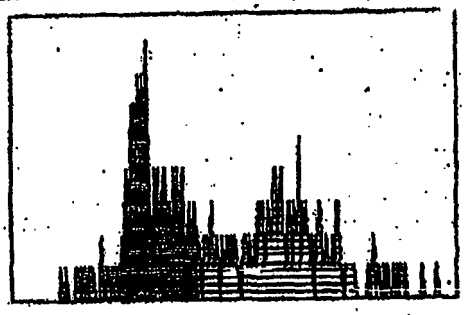
E1 7630mr* - PHOTON



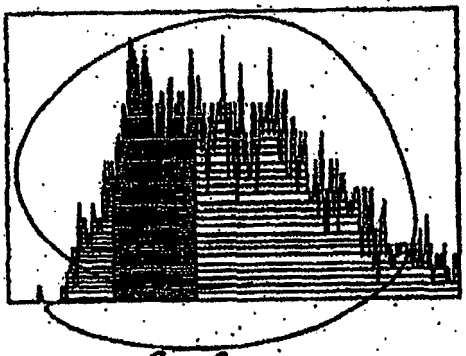
E2 7760mr* - PHOTON



E3 7634mr* - PHOTON



E4 0252mr* - PHOTON

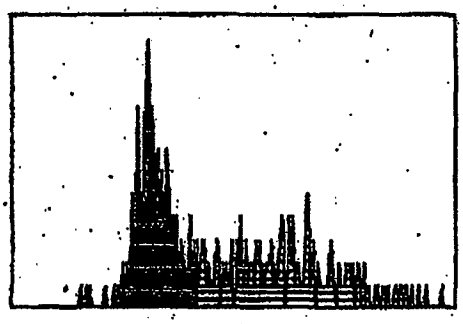


Bad

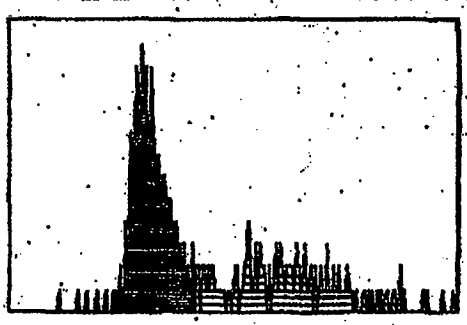
UD-710A Reader #2 SN 50E24 - 10/09/1997

D9710057 Entry # 034 # 2-2010580

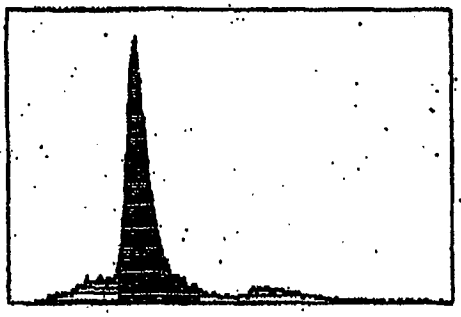
E1 7459mr* - PHOTON



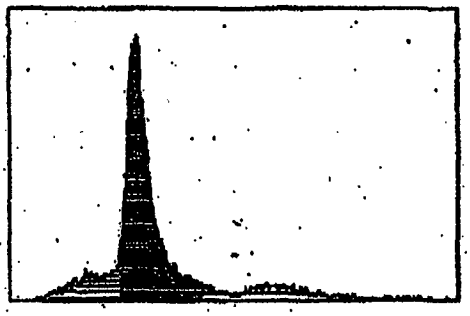
E2 7556mr* - PHOTON



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	1.261	1.080	1.242
% Change	11.61%	5.29%	-1.59%	-2.48%	0.38%	-7.22%	-10.74%	-8.45%

Calculated by: 11/09/97 @ 14:49

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

Run Date: 11-09-1997 Time: 14:59:04
Description: P970701
Input Method: Responses Performed by:

Comment: 513311 - 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		
E5	4.8	4.8	Beta300	0.0	Neutron	~~337.8~~ 0 11-9-97

Reported Doses:	Shallow	Lens of Eye	Deep	
Beta:	0.0	0.0		
Gamma:	~~0.0~~ 11	~~0.0~~ 11	~~0.0~~	11-9-97
Neutron:	~~337.8~~ 0	~~337.8~~ 0	~~337.8~~ 0	
				Flag
TOTALS:	~~337.8~~ 11	~~337.8~~ 11	~~337.8~~ 11	~~neut~~ 11-9-97

Performed by _____ Date 11-9-97

Reviewed by I 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
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
ECF		0.732	0.908	0.818	0.686		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

RHRS - External Dosimetry MAINTAIN ED_TLD_DOS TABLE 09-SEP-1996

Employee Number: SSN: Name:

Badge.	Issue	Return	(reported in millirem) Neutron	Gamma	Deep	Skin	Ext..	Hand	LOE	Dose Reconst#
513311	04/01/96	05/21/96	0	11	11	11	11	11	11	
513311	01/19/96	04/01/96	0	10	10	10	10	10	10	
513311	09/25/95	01/19/96	0	0	0	0	0	0	0	
513311	08/02/95	09/25/95	0	0	0	0	0	0	0	
513311	03/21/95	05/03/95	0	0	0	0	0	0	0	
513311	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>

Before

RHRS - External Dosimetry | MAINTAIN ED_TLD_DOS TABLE | 09-SEP-1996

Employee Number: SSN: Name:

Badge	Issue	Return	(reported in millirem) Neutron	Gamma	Deep	Skin	Ext.	Hand	LOE	Dose Reconst#
513311	04/01/96	06/21/96	0	11	11	11	11	11	11	
513311	01/19/96	04/01/96	0	0	0	0	0	0	0	P961986
513311	09/25/95	01/19/96	0	0	0	0	0	0	0	
513311	08/02/95	09/25/95	0	0	0	0	0	0	0	
513311	03/21/95	05/03/95	0	0	0	0	0	0	0	
513311	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 <Replace>
Count: *6

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	20	23	0	23

Reason For Investigation: E2 & E5 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:	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 hr/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 REVI. / 6.3[9] 4-29-96
Initials/Date

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

✓=OK

UD-802/UD-813				UD-809			
bad ✓	bad	✓	✓	?	✓	✓	✓
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	425.9	352.3	383.4	348.3	395.3	374.3	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] _____ _____ 8/2/96

Print Name Signature Date

[x] ADR - 961986

[ ] EDR -

EXTERNAL DOSE RECONSTRUCTION ANALYSIS

Date: 8/2/96

Investigator: _____ RFETS ID: [redacted]

Employee: _____ RFETS ID: SSN:

Was the employee interviewed? [ ] Yes [x] 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.

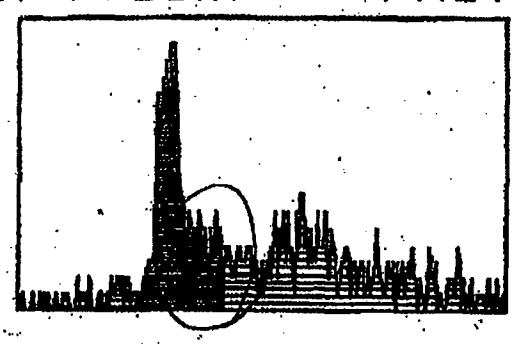
This dose reconstruction replaces a dose previously electronically uploaded from an algorithm rerun and based upon a method of element averaging and substitution.

Note: Supporting documentation is attached.

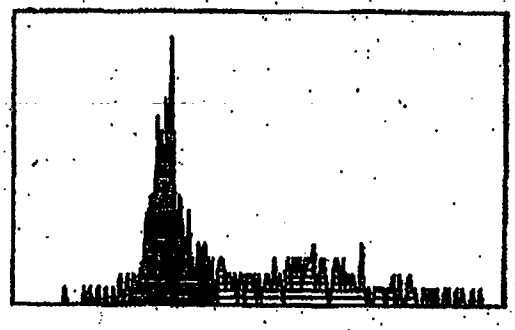
UD-710A Reader #3 SN 24506 - 04/01/1996

D9604014 Entry # 010 # 9-9022715

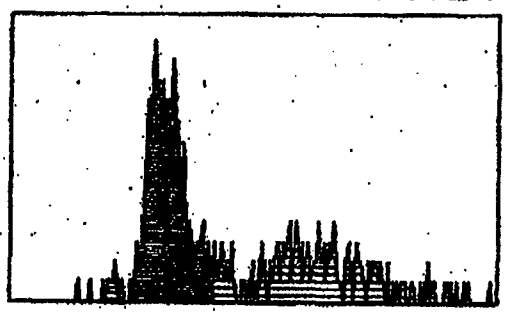
E1 7799mr* - PHOTON



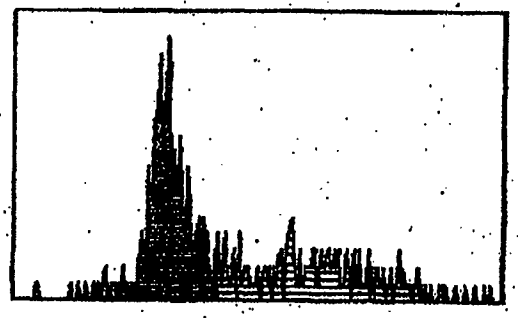
E2 7685mr* - PHOTON



E3 7755mr* - PHOTON

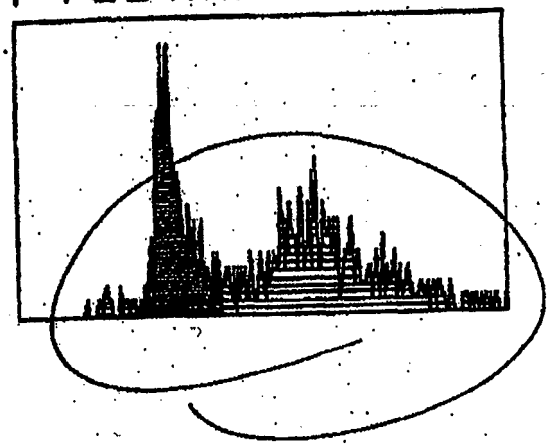


E4 7787mr* - PHOTON

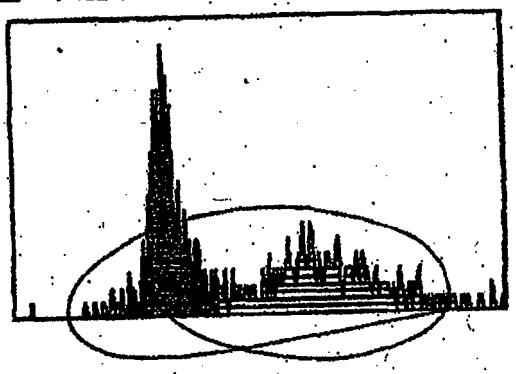


UD-710A Rea.'er #3 SN 24506 · 04/01/1996
D9604013 Entry # 010 # 2-2026101

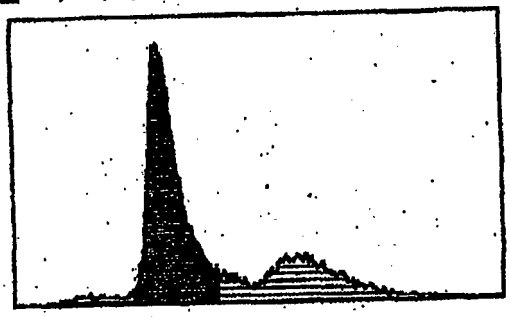
E1 7554mr* – PHOTON



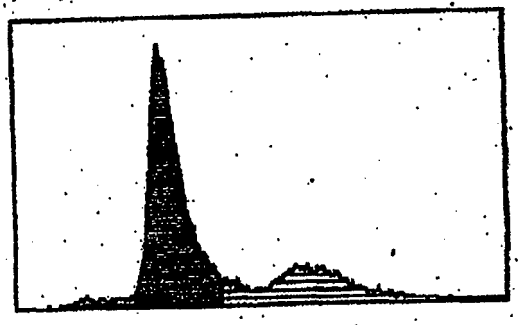
E2 7569mr* – PHOTON



E3 7412mr* – PHOTON



E4 7363mr* – PHOTON



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

PUIER

updated 4-3-96 960401C

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

11 pulled Data INV

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

Mixed Dose Processing Information

ALGORITHM
Algorithm to be Processed . . SDALGREP
Dose Equivalent Units . . . . mrem

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

uploaded 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:\DATAXLS\ADRFILES\RUN106.CSV
Output File : C:\DATAXLS\ADRFILES\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	~~19.9~~	~~19.8~~	R12	0.2	NE8/NE6	4.95
E4	7.8	7.8	Beta7	2.1		
E5	~~22.8~~	~~22.8~~	Beta300	0.5	Neutron	2.3

Reported Doses:	Shallow	Lens of Eye	Deep	
Beta:	0.0	0.0		
Gamma:	~~19.9~~ 0	~~22.8~~ 0	~~22.8~~ 0	
Neutron:	0.0	0.0	0.0	Flag
TOTALS:	~~19.9~~ 0	~~22.8~~ 0	~~22.~~ 0	

Performed by _____ Date 2 Aug 1996

Reviewed by _____ Date 8/13/96

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

[x] ADR - 961986

[ ] 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

[x] Whole Body [ ] Wrist [ ] Other _____

DOSE EQUIVALENT ASSIGNMENT (all doses recorded in mrem)

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

[ ] New [x] 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	8/13/96 Date	Manager, Radiological Health	9/11/96 Date