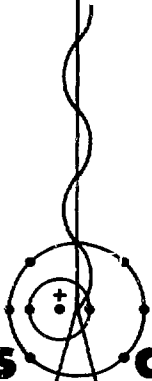


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# Plutonium in Autopsy Tissue



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Printed in the United States of America. Available from  
National Technical Information Service  
U. S. Department of Commerce  
5285 Port Royal Road  
Springfield, Virginia 22151  
Price: Printed Copy \$3.00; Microfiche \$0.95

LA-4875

UC-48

ISSUED: January 1973



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by

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Morris F. Milligan  
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Work partially supported by the US AEC Division of Biology and Medicine.

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# PLUTONIUM IN AUTOPSY TISSUE

by

Evan E. Campbell, Morris F. Milligan,  
William D. Moss, Harry F. Schulte, and James F. McInroy

## ABSTRACT

Since 1959, selected tissues from deceased humans have been examined for the presence of plutonium. The original purpose was to correlate plutonium body burden calculated from urine assay and actual burden determined by analysis of autopsy materials. The tissues have provided data on plutonium deposition in man resulting from general distribution of plutonium in the environment through global fallout and that resulting from plutonium fabrication or research and development operations.

Lung, liver, kidney, lymph, and skeletal tissue are the principal materials examined. The analytical data, the significance of the findings, and the considerable uncertainties in the radiochemical analysis and calculations are discussed. The data will be completely evaluated in other Los Alamos Scientific Laboratory reports.

The results are contained in the appendixes to this report. Median concentrations in the organs and tissues of a general population (not occupationally exposed) were (each number represents *dis/min Pu per kg*): liver, 1.4; lung, 0.8; lymph nodes, 3.0; bone, 0.6; and kidney, 0.6. Plutonium concentration is generally higher in the tissues of those who have been occupationally exposed to plutonium; the concentration obviously depends upon the nature of the exposure and its severity and duration.

---

## I. INTRODUCTION

Since 1959, the Los Alamos Scientific Laboratory Industrial Hygiene Group has collected necropsy material for analysis. The analysis consists of plutonium measurement by variations of the methods routinely used in the bioassay program to determine plutonium in the urine of employees potentially exposed to plutonium.

The original intent of our tissue-analysis effort was to seek confirmation or denial of the validity of estimates of plutonium body burdens by urinalysis. In at least one notable case,<sup>1</sup> confirmation of estimates of body burden made during life was obtained by analysis of tissues from the deceased. The ubiquity of plutonium in the environment has since led us to examine autopsy material from

the general population, to learn whether plutonium exists in detectable amounts in the tissues of individuals from that population.

Harley<sup>2</sup> has estimated that the testing of nuclear weapons distributed ~300 kCi of <sup>238</sup>Pu over the surface of the earth before the beginning of the moratorium. Tests by France and China have added about 5%. More recently, <sup>238</sup>Pu became detectable in the environment because of the burnup of a SNAP generator. It is therefore expected that plutonium can be detected in the tissue of nonoccupationally exposed humans. Tissue data are limited because of the various tissue-analysis problems that will be discussed.

Magno<sup>3</sup> reported an average of 0.14 to 1.1 pCi of <sup>239</sup>Pu/kg wet weight in the lungs, with the bone

concentrations ranging from 0.04 to 0.12 pCi/kg. Tarasov et al.<sup>4</sup> tried to correlate the measured air concentration in each year with the lung concentration of humans over the age of 50 who did not suffer from any pulmonary pathology. Their data suggest that pulmonary deposition is consistent with air concentration. They gave:

0.15 ± 0.1 pCi of <sup>239</sup>Pu/kg in the lung for 1965, and

0.11 ± 0.2 pCi of <sup>239</sup>Pu/kg in the lung for 1966.

The concentrations in the tracheobronchial lymph nodes for the same period were 6.85 ± 8.5 and 9.6 ± 7.6 pCi/kg, respectively. Takizawa<sup>5</sup> analyzed two to five cases per year from the Niigata District in Japan from 1960 to 1967; his analyses showed that the lung contained 0.012 to 0.038 pCi/kg. Takizawa stated that he found 2.36 pCi <sup>239</sup>Pu/kg in the genital organs of a 70-yr-old woman and 6.3 pCi/kg in her bone. Krey et al.<sup>6</sup> reported the following results for a group of cases.

#### PLUTONIUM CONCENTRATION

	<u>(dis/min)/kg</u>
Lung	1.74 ± 0.17
Lymph Node	11 ± 4
Kidney	0.99 ± 0.22
Gonad	7.9 ± 1.9

They concluded that the lung and lymph-node deposition confirmed values that might be calculated from airborne contamination.

Because of the variable values reported above, the AEC provided a number of samples from metropolitan New York City so that we might confirm or deny the plutonium concentrations previously reported.

## II. TISSUE SAMPLES

### A. Sample Selection

The local pathologist provides samples from as many autopsies as possible. No attempt is made to exclude any case. Therefore, we receive a number of samples from outside the geographical area as a result of traumatic accidents occurring within the jurisdiction of the pathologist. Most of the samples, however, are from residents of Los Alamos, New Mexico. This is a single-industry town, with a population of approximately 14,000, containing a research laboratory. The industry includes a plutonium-research development laboratory. Studies of the plutonium in the environs of this laboratory have been documented.<sup>7-9</sup>

A special series of samples were collected in New York City through the cooperation of Dr. John Harley of the New York Operations Office of the AEC. These samples were from males and were received by the medical examiner's office. Generally only small weights of each organ were made available, but the gonads were included. The limited mass available for these analyses permitted detection of ~0.03 dis/min of plutonium in the aliquot, or a lower limit of 1.5 (dis/min)/kg if a 20-g sample was used.

Since June 1970, this program has been expanded to include a number of other areas, using a similar selection of cases.

### B. Sample Storage

The pathologist selects the tissues and packages each separately in a plastic bag. These tissues are held in a freezer until released by the pathologist for chemical processing. A small section of the lung, liver, kidney, and lymph node is preserved for analysis for other metals.

### C. Autopsy Samples

**Lung.** Both lungs are normally received and treated without special preparation. Small amounts of tissue other than lung normally accompany the sample. No attempt is made to separate the lower bronchial lymph nodes or other lymphatic tissue from the lung tissue itself. The weight recorded is the weight actually received at the time of preparation and represents both lungs. The amount of plutonium in the lung includes that in the pulmonary lymph tissue.

**Liver.** The whole organ is normally received and prepared for chemical analysis.

**Kidney.** At least one kidney has been used in each case. Every attempt is made to obtain both kidneys for analysis.

**Gonads.** The gonads were included in samples received from New York City and Denver, Colorado.

**Lymph Nodes** The lymphatic tissue of the tracheobronchial region is received for analysis. Usually it includes only the lymph nodes of that region and is only a small part of the total lymph-node mass. In a few cases, adnexal tissue is included.

**Bone.** Unless otherwise designated, all bone samples are wedges from the 4th and 5th lumbar vertebrae. The bone weights include only a small amount of adnexal tissue. If other types of bones are available, they are analyzed separately.

### III. ANALYTICAL PROCEDURE

#### A. Method

1. Each tissue is placed in an appropriate vessel for dry ashing. The liver and lung are placed in porcelain evaporating dishes, and the other tissues are placed in Pyrex beakers of appropriate size. Since June of 1971, all tissues have been air dried at 100 to 150°C to remove excess water.

2. The samples are placed on shelves in a muffle furnace to prevent direct heating of the vessel. The temperature-programmed muffle furnace is operated from 200 to 500°C, reaching maximum temperature in 24 h. The samples are held an additional 24 h at 500°C partly to whiten them.

3. After the samples cool in the furnace, the liver and lung residues are transferred to 800-cm<sup>3</sup> beakers. The vessels are thoroughly washed with 2N nitric acid, and the washing, combined with the residue, is evaporated to dryness.

4. Each residue is heated repeatedly with nitric and hydrofluoric acid until it remains white. From 1968 to 1971, we used hydrogen peroxide in conjunction with nitric acid to speed the ashing process, but because of concentrated hydrogen peroxide's high metal content, we no longer use it. Excess HF is removed by repeated evaporation with nitric acid.

5. Each residue is finally dissolved in 2N nitric acid and transferred to a volumetric flask. Except for the lung and bone samples, the procedure brings about complete dissolution of the residue. The following volumetric flasks are normally used for each sample.

Liver	1000-cm <sup>3</sup>	Lymph Nodes	50-cm <sup>3</sup>
Lung	1000-cm <sup>3</sup>	Bone	250-cm <sup>3</sup>
Kidney	100-cm <sup>3</sup>	Gonads	50-cm <sup>3</sup>

6. Each sample is mixed well and stored pending analysis of groups of samples.

7. At the time of analysis, aliquots are taken from each sample as indicated in Table I. Each aliquot is "spiked" with <sup>236</sup>Pu at a level of 2 dis/min and evaporated to dryness, treated with concentrated nitric acid several times, and allowed to evaporate almost to dryness. The salts of the lung and liver are dissolved in 200 cm<sup>3</sup> of 8N nitric acid, sodium nitrite is added, and the mixture is allowed to stand overnight before anion-exchange separation.

TABLE I

#### FRACTIONS ANALYZED

Tissue	Through 1969		Since 1970 & Repeats	
	Aliquot (cm <sup>3</sup> )	% of Total	Aliquot (cm <sup>3</sup> )	% of Total
Lung	50	5	500	50
Liver	50	5	500	50
Kidney	10	10	50	50
Lymph Node	10	20	10	20
Bone	10	4	50	20

Normally, all the salts except the lung and bone are in solution. These latter two suspensions are shaken before aliquoting as listed above. Most of the tissue salts are in solution after evaporation and redissolution in 8N HNO<sup>3</sup>. All the salts are treated with hydrofluoric acid, and the excess HF is removed by repeated nitric acid evaporation and treatment with boric acid.

8. Each aliquot is subjected to anion exchange on a Bio-Rad AG 1 x 2 anion-exchange resin, using a modification of the procedure of Campbell and Moss.<sup>10</sup> The 6-mm by 10-cm columns are eluted with dilute hydrochloric acid, and the eluate is evaporated to dryness and prepared for electrodeposition using an acid oxalate electrolyte. The plutonium is electroplated on 1/2-in.-diam stainless steel plates and counted by alpha spectrometry, using a 300-mm<sup>2</sup> silicon-surface barrier detector. The column effluents that do not contain plutonium are saved for possible future use. Each sample is counted for 1000 min with a counter efficiency of 30% and a counter background of 0.004 ± 0.003 counts/min. The <sup>239</sup>Pu reagent blank is 0.007 ± 0.004 counts/min, including the <sup>236</sup>Pu internal standard.

Until 1967, we analyzed all samples by Schwendiman and Healy's<sup>11</sup> method, using nuclear-track alpha counting, preceded by electrodeposition as stated above. We have reanalyzed many samples from that time which contained analytically significant amounts, using <sup>236</sup>Pu tracer added when the aliquot is taken. Schwendiman and Healy's method cannot be used in the presence of added <sup>236</sup>Pu tracer. We have also reanalyzed a number of samples of analytical significance using larger aliquots to demonstrate that the plutonium recovery was essentially complete.

## B. Replicate Analyses

Our former procedure was to select 50-cm<sup>3</sup> aliquots of a 1000-cm<sup>3</sup> solution of lung or liver tissue for analysis. This is 1/20th of the total weight, or ~50 g of the lung or ~60 g of liver, a quantity satisfactory for a surveillance of occupational-exposure cases. We reanalyzed 15 lung and liver tissue solutions containing measurable amounts of plutonium, using a 500-cm<sup>3</sup> aliquot.

Measurements from analysis of large (500-cm<sup>3</sup>) and small (50-cm<sup>3</sup>) aliquots indicate that use of the large aliquot reduces the standard deviation of the individual analysis significantly, but also show no statistically significant difference in results obtained from analyzing large or small aliquots of the same solution. Replicate analyses of various tissue-ash solutions analyzed at the same time by the same method indicate good agreement among aliquots. Table II indicates the typical degree of replication.

## C. Effect of Salts on Plutonium Recovery

Because our chosen procedure involves an isolation technique (ion exchange) without a preconcentration step, we investigated the effects of normally occurring salts in tissue-sample solutions. We used a solution of bone and lung from a case known to have a detectable plutonium burden for analysis. Each aliquot was evaporated to dryness and made to the same volume for ion-exchange separation. The mass of salt in each solution was determined by weighing an evaporated aliquot. The results are shown in Table III.

Because these results suggest that analysis of unnecessarily large aliquots can lead to low recoveries, we use no

TABLE II

TYPICAL REPLICATION OF VALUES  
(dis/min per aliquot)

Solution	1	2	3	Mean
A	0.38	0.62	0.36	0.45
B	0.01	0.06	0.02	0.01
C	0.33	0.39	0.53	0.42
D	1.1	1.1	1.2	1.2
E	0.07	0.03	0.11	0.07
F	5.9	7.8	5.3	6.3
G	28	25		26.5
H	38	35	40	38
I	3.5	3.7		3.6
J	0.11	0.10		

TABLE III

EFFECT OF SALTS ON PLUTONIUM RECOVERY

Tissue Solution Analyzed (cm <sup>3</sup> )	Bone		Lung	
	Measured Activity (dis/min/cm <sup>3</sup> )	Mass of Solids (g)	Measured Activity (dis/min/cm <sup>3</sup> )	Mass of Solids (g)
1	0.39	0.058	5.31	0.014
2	0.39	0.117	4.16	0.027
3	0.34	0.175	4.25	0.041
5	0.37	0.292	3.75	0.068
10	0.32	0.584	3.32	0.137
15	0.25	0.876	3.42	0.206
25	0.23	1.46	3.78	0.342
50	0.15	2.92	3.34	0.685

more than 50 cm<sup>3</sup> in aliquoting highly concentrated solutions. Each aliquot is evaporated to dryness, treated with nitric acid, and made to 500 cm<sup>3</sup> with 8N nitric acid for ion-exchange isolation\* to reduce the salt concentration. By increasing the total volume of the tissue-salt solution and increasing the column size to 6 mm by 10 cm, we have minimized the effects of high ionic strength noted above.

## D. Recovery of Plutonium During Analysis

The use of <sup>236</sup>Pu to evaluate the radiochemical separation does not represent an attempt to determine total yield of the overall procedure; accordingly, the tracer is added at the time of aliquotting, not at the time of ashing. The library of tissue solutions is still available for analysis for other nuclides. Examples of tracer recovery are given in Table IV.

TABLE IV

RECOVERY OF <sup>236</sup>Pu FROM TISSUE SOLUTIONS

Tissue	Bone	Liver	Lung	Gonad
No. of Samples	9	9	9	9
Mean Recovery (%)	80.1	74.1	74.1	85.7
Standard Deviation	13.4	18.9	12.3	26.7

The analytical losses after the tissue is ashed are low, and may be estimated from the percentages of recovery given above.

#### E. Overall Recovery

We spiked beef tissues of the same weight as human organs with  $^{239}\text{Pu}$  and used the outlined procedure to ash and analyze the tissue for plutonium. The overall recovery was  $87 \pm 8\%$ .

#### F. Observed Losses

Because some insoluble material normally defies dissolution in  $2N$  nitric acid, we conducted additional studies. The salts, probably silicates and phosphates, cannot be brought into complete solution at this stage. We used solutions of tissue salts from individuals known to have been occupationally exposed to plutonium in the following study. We examined paired aliquots of the solution and of the insoluble residue in the following manner.

The suspension (in  $2N$  nitric acid) was well mixed during aliquoting to produce as homogeneous a mixture as possible. Small aliquots of the suspension were taken and centrifuged. The insoluble portion and the centrifugate were separated and spiked with  $^{236}\text{Pu}$  as an internal tracer. Each portion was evaporated to dryness, treated repeatedly with hydrofluoric acid and nitric acid, and finally evaporated repeatedly with nitric acid to remove the excess HF. Any fluoride surviving the evaporation was complexed as the fluoborate, after which the solutions were carried through the ion-exchange procedure and the separated plutonium was counted by alpha spectrometry. The results indicate that the loss by incomplete dissolution of the plutonium from the salts in the procedure *without* repeated HF treatment may be as much as 20%.

### IV. RESULTS

All of the results obtained under this program are reported in the appendixes:

Appendix A - Tables of Individual Cases

Appendix B - Cumulative Frequency Distributions

Appendix C - Summary Tables

The tables of individual cases contain the most detailed, properly available information about each case examined. Included are case numbers, assigned by this laboratory and unrelated to any numbers assigned by pathologists or hospitals, occupation at time of death, age, sex, city of residence, and cause of death as described by the pathologist. The cause of death is also described by the HEW Code Number.<sup>1,2</sup> Laboratory data included are: weight of organ (or tissue) as received; total volume

of ash solution; aliquot of ash solution analyzed; disintegrations per minute of plutonium in the aliquot, of plutonium in the total sample, and of plutonium per gram of sample (concentration); and disintegrations per minute per standard organ, calculated for convenience, weights of standard organs having been defined by ICRP Publication 2.<sup>1,3</sup>

The cumulative frequency distributions (Appendix B) are presented for convenience in viewing the results on a population basis rather than the individual basis used in Appendix A.

The summary tables (Appendix C) are the least detailed, and briefly present the median values (50th percentile) derived from Appendix B.

### V. EVALUATION OF RESULTS

The plutonium concentrations in the analyzed tissues cannot be compared directly because the portions of the organs analyzed were never identical. To put the data on a common basis, therefore, we converted the results per aliquot to disintegrations per minute per kilogram and disintegrations per minute per standard organ weight. We used these data to estimate the concentration of plutonium in human tissues per unit of weight for each of the population groups listed in Appendix A.

Because of incomplete knowledge of sample selection, incomplete tissue collection, and uncertainties in the assay, we have not tried to evaluate statistical differences among groups of data, but have chosen to leave the testing to another study involving additional data with better controls.

Histograms of the frequency distribution of the data for each type of tissue from Appendix A were found to be skewed to the right. We therefore assumed that the data are distributed log-normally, and demonstrated the validity of that assumption by plotting the cumulative frequency of the number of samples against the plutonium concentration on logarithmic normal-probability graph paper. The data thus plotted gave acceptable straight-line fits, and these graphs are presented in Appendix B.

Every data point obtained experimentally is included in Appendix B. It is obvious that excluding all those results that were below our detection limit would increase the median unrealistically; therefore, results that were, in fact, below our detection limit are assigned an artificial value of 0.03 (dis/min)/kg simply to aid in the presentation of the data.

This assignment makes the plots flatten at the lower section, consistent with limitations of measurement sensitivity. Similar deviation from the straight-line fit at the upper end is associated with a selection against an upper



limit of sample specification. From the logarithmic-probability plots, we estimated the median, or 50th percentile, data points for each distribution expressed as disintegrations per minute per kilogram. The estimates are shown in Table C-I (Appendix C). The median values for each tissue type and population group suggest that there are no significant differences among the population groups except for the high-potential-exposure group.

Other aspects of the plutonium concentration in human tissue may be obtained from the log-normal probability graphs. We combined the data from Tables A-I through A-III and A-VII into a single unexposed population group and plotted the data for each tissue on log-normal probability graphs. These graphs provided estimates of the median, the 95th percentile, and the 5th percentile. These points include 90% of the results. These data are shown in Table C-II, along with similarly derived estimates of the occupationally exposed groups.

#### ACKNOWLEDGMENTS

We acknowledge the assistance of the entire staff of the Laboratory Section of Group H-5 and all members of the Health Division who have helped collect supportive information, especially B. C. Eutsler, H. M. Ide, I. K. Kressin, and Jean McClelland. We are grateful to the late Thomas L. Shipman, M. D., Health Division Leader, for his encouragement in this program. The program continues under the direction of George L. Voelz, M. D., with the assistance of the Division of Biomedical and Environmental Research of the Atomic Energy Commission and is a cooperative effort among Battelle Northwest Laboratories, LASL, and the U. S. "Transuranium Registry." We thank various Divisions within the Laboratory, in particular P Division, for their assistance and preparation of electronic equipment used to determine plutonium. Many people have assisted in the preparation and analysis of samples; these include Rita Bieri, Romualda Madrid, Romayne Owens, Sherry Stephens, Patricia Isham, and Eudena Boyles. Doctors C. C. Lushbaugh and Michael W. Stewart performed the autopsies and selected many of the samples.

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## APPENDIX A

### TABLES OF INDIVIDUAL CASES

The data tabulations are divided into convenient population categories based on residential area and occupational exposure.

TABLE A-I. Los Alamos residents with no occupational exposure to plutonium.

TABLE A-II. Nonresidents of Los Alamos with no known occupational exposure to plutonium.

TABLE A-III. Colorado cases analyzed for plutonium.

Former employees of the Los Alamos Scientific Laboratory were grouped according to their potential exposure to plutonium. If the work area or job assignment was directly related to plutonium handling, or known potential exposure of short duration, the case was considered as having a high potential exposure and placed in Table A-V or A-VI. Because of the nature of the Laboratory's work, all other former employees have a potential for exposure to plutonium; these cases are listed in Table A-IV.

TABLE A-IV. LASL employees known to have a potential exposure to plutonium.

TABLE A-V. LASL employees known to have a high plutonium-exposure potential.

TABLE A-VI. Special cases. Cases discussed in other reports<sup>1</sup> and for which other than the standard set of tissues were analyzed for plutonium.

TABLE A-VII. New York City cases analyzed for plutonium. (These cases are listed separately because of the differences in weight of organs received and because the gonads were always included.)

The minimum reporting level (MRL) is based on the total counts, background, and recovery statistics. The MRL is 0.03 dis/min of plutonium found in the aliquot analyzed.

Uranium, mercury, and other elements have been determined and will be reported elsewhere. Tissues received during the past three years have been examined by gamma spectroscopy to determine <sup>40</sup>K, <sup>137</sup>Cs, and other radionuclides used therapeutically. Americium 241 and <sup>238</sup>Pu will be reported separately. A complete review of the occupationally exposed cases reported here has been published.<sup>1,4</sup>

TABLE A-1 RESIDENTS OF LOS ALAMOS, NO OCCUPATIONAL EXPOSURE TO PLUTONIUM

\*MRL = MINIMUM REPORTING LEVEL = 0.03 DPM PER SAMPLE VOL ANALYZED BASED ON TOTAL COUNTS/RNG AND RECOVERY STATISTICS

			TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
CASE NO.	1- 60	SEX M	LIVER	1213.0	250	100	1.251	3.12	2.58	4.38
OCCUPATION	UNEMPLOYED	AGE 80	LUNG	890.0	1000	50	0.000	<MRL*	<MRL*	
RESIDENT	LOS ALAMOS	YEARS 15	LYMPH	6.6	100	10	.150	1.50	227.27	2.27
STATE	NEW MEXICO		KIDNEY	100.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	PNEUMONIA	YEAR 1959	RIB	138.0	250	100	.022	<MRL*	<MRL*	
NEW CODE NO.	491.8	KG NA	VERTEBRAE	172.0	200	100	.094	.19	1.09	7.65
			SPLEEN	125.0	250	100	.708	1.77	14.16	2.12
CASE NO.	1- 84	SEX M	LIVER	615.0	500	50	.040	.40	.65	1.11
OCCUPATION	STUDENT	AGE 16	LYMPH	4.5	25	10	.010	<MRL*	<MRL*	
RESIDENT	LOS ALAMOS	YEARS 16	KIDNEY	326.0	100	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO		SPLEEN	234.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	GUNSHOT IN HEAD	YEAR 1960								
NEW CODE NO.	E979.0	KG NA								
CASE NO.	1- 70	SEX M	LIVER	701.0	500	50	.060	.60	.86	1.46
OCCUPATION	CHILD	AGE 07	LUNG	210.0	500	50	.020	<MRL*	<MRL*	
RESIDENT	LOS ALAMOS	YEARS 07	LYMPH	5.0	25	10	.020	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	135.0	100	10	.010	<MRL*	<MRL*	
CAUSE OF DEATH	ENCEPHALITIS	YEAR 1960								
NEW CODE NO.	343.0	KG NA								
CASE NO.	1- 76	SEX F	LIVER	330.0	500	50	.200	2.00	6.06	10.30
OCCUPATION	CHILD	AGE 11	LUNG	700.0	500	50	.490	4.90	7.00	7.00
RESIDENT	LOS ALAMOS	YEARS 11	LYMPH	30.0	25	10	.050	.13	4.17	.04
STATE	NEW MEXICO		KIDNEY	95.0	100	10	.040	.40	4.21	1.26
CAUSE OF DEATH	ACUTE MENINGITIS	YEAR 1960								
NEW CODE NO.	340.9	KG NA								
CASE NO.	1- 88	SEX M	LIVER	776.0	500	50	.100	1.00	1.29	2.19
OCCUPATION	CHILD	AGE 08	LUNG	307.0	250	50	.470	2.35	7.65	7.65
RESIDENT	LOS ALAMOS	YEARS 08	LYMPH	1.8	25	10	.040	.10	100.00	1.00
STATE	NEW MEXICO		KIDNEY	124.0	100	10	.010	<MRL*	<MRL*	
CAUSE OF DEATH	BRAIN TUMOR	YEAR 1960								
NEW CODE NO.	193.3	KG NA								
CASE NO.	1- 90	SEX M	LIVER	2520.0	1000	50	.040	.80	.32	.54
OCCUPATION	RETIRED	AGE 80	LUNG	1010.0	1000	500	.332	.66	.66	.66
RESIDENT	LOS ALAMOS	YEARS NA	LYMPH	10.0	50	10	.020	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	270.0	100	10	.010	<MRL*	<MRL*	
CAUSE OF DEATH	LEUKEMIA	YEAR 1960								
NEW CODE NO.	204.0	KG NA								
CASE NO.	1- 96	SEX F	LIVER	906.0	1000	50	.030	.60	.66	1.13
OCCUPATION	HOUSEWIFE	AGE 59	LUNG	576.0	1000	500	.203	.41	.70	.70
RESIDENT	LOS ALAMOS	YEARS 05	LYMPH	7.0	50	10	.020	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	180.0	100	10	.030	.30	1.67	.50
CAUSE OF DEATH	CANCER	YEAR 1960								
NEW CODE NO.	199.0	KG NA								
CASE NO.	1-100	SEX M	LIVER	2409.0	1000	50	.120	2.40	1.00	1.69
OCCUPATION	RESIDENT	AGE 56	LUNG	1292.0	1000	50	.360	7.20	5.57	5.57
RESIDENT	LOS ALAMOS	YEARS 02	LYMPH	23.0	50	10	.070	.35	15.22	.15
STATE	NEW MEXICO		KIDNEY	202.0	100	10	.050	.50	2.48	.74
CAUSE OF DEATH	CORONARY DCC	YEAR 1960								
NEW CODE NO.	420.1	KG NA								
CASE NO.	1-102	SEX F	LIVER	1400.0	1000	50	.060	1.20	.86	1.46
OCCUPATION	HOUSEWIFE	AGE 55	LUNG	680.0	1000	50	.130	2.60	3.82	3.82
RESIDENT	LOS ALAMOS	YEARS 05	LYMPH	35.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	255.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	RHEUMATIC HEART	YEAR 1960								
NEW CODE NO.	416.0	KG NA								
CASE NO.	1-106	SEX M	LIVER	1141.0	1000	50	.060	1.20	1.05	1.79
OCCUPATION	RESIDENT	AGE 61	LUNG	1380.0	1000	50	.050	1.00	.72	.72
RESIDENT	LOS ALAMOS	YEARS 08	LYMPH	26.0	50	10	.030	.15	5.77	.06
STATE	NEW MEXICO		KIDNEY	239.0	100	10	.040	.40	1.67	.50
CAUSE OF DEATH	EMPHYSEMA	YEAR 1960								
NEW CODE NO.	527.1	KG NA								
CASE NO.	1-116	SEX M	LUNG	759.0	1000	50	.180	3.00	3.95	3.95
OCCUPATION	RESIDENT	AGE 47	LYMPH	16.0	50	10	.030	.15	9.37	.09
RESIDENT	LOS ALAMOS	YEARS 13	KIDNEY	259.0	100	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO									
CAUSE OF DEATH	CORONARY OCC	YEAR 1960								
NEW CODE NO.	420.1	KG NA								
CASE NO.	1-118	SEX M	LIVER	1355.0	1000	50	.050	1.00	.74	1.25
OCCUPATION	RESIDENT	AGE 35	LUNG	617.0	1000	50	0.000	<MRL*	<MRL*	
RESIDENT	LOS ALAMOS	YEARS 06	LYMPH	16.0	50	10	.010	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	249.0	100	10	.010	<MRL*	<MRL*	
CAUSE OF DEATH	VAGAL SHOCK	YEAR 1961								
NEW CODE NO.	451.9	KG NA								

			TISSUE	WET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
CASE NO.	1-134	SEX	F LIVER	1734.0	1000	80	.030	.60	.35	.59
OCCUPATION	HOUSEWIFE	AGE	48 LUNG	675.0	1000	50	.010	<MRL*	<MRL*	
RESIDENT	LOS ALAMOS	YEARS	01 LYMPH	5.0	50	10	0.002	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	277.0	100	10	.010	<MRL*	<MRL*	
CAUSE OF DEATH	NOSE CANCER	YEAR	1961							
NEW CODE NO.	160.0	KG	NA							
CASE NO.	1-138	SEX	F LIVER	1317.0	1000	50	.060	1.20	.91	1.55
OCCUPATION	HOUSEWIFE	AGE	76 LUNG	611.0	1000	500	.259	.52	.85	.85
RESIDENT	LOS ALAMOS	YEARS	02 LYMPH	16.0	50	10	.120	.60	37.50	.37
STATE	NEW MEXICO		KIDNEY	203.0	100	10	9.000	<MRL*	<MRL*	
CAUSE OF DEATH	RUPTURED AORTA	YEAR	1961							
NEW CODE NO.	451.9	KG	NA							
CASE NO.	2- 8	SEX	F LIVER	1192.0	1000	50	.005	<MRL*	<MRL*	
OCCUPATION	HOUSEWIFE	AGE	53 LUNG	720.0	1000	50	.230	4.60	6.39	6.39
RESIDENT	LOS ALAMOS	YEARS	14 LYMPH	11.0	50	10	.005	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	200.0	100	10	.002	<MRL*	<MRL*	
CAUSE OF DEATH	CANCER	YEAR	1961							
NEW CODE NO.	199.0	KG	NA							
CASE NO.	2- 10	SEX	M LIVER	957.0	1000	50	.120	2.40	2.51	4.26
OCCUPATION	RETIRED	AGE	80 LUNG	345.0	100	10	.113	1.13	3.28	3.28
RESIDENT	LOS ALAMOS	YEARS	07 LYMPH	7.0	50	10	.210	1.05	150.00	1.50
STATE	NEW MEXICO		KIDNEY	170.0	100	10	.012	<MRL*	<MRL*	
CAUSE OF DEATH	ARTERIOSCLEROSIS	YEAR	1961							
NEW CODE NO.	450.0	KG	NA							
CASE NO.	2- 26	SEX	F LIVER	1025.0	1000	50	.042	.84	.82	1.39
OCCUPATION	HOUSEWIFE	AGE	62 LUNG	705.0	1000	50	.008	<MRL*	<MRL*	
RESIDENT	LOS ALAMOS	YEARS	05 LYMPH	3.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	295.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	UNKNOWN	YEAR	1961							
NEW CODE NO.	NA	KG	NA							
CASE NO.	2- 34	SEX	F LIVER	1627.0	1000	50	.089	1.78	1.09	1.86
OCCUPATION	HOUSEWIFE	AGE	71 LUNG	875.0	1000	500	.796	1.59	1.82	1.82
RESIDENT	LOS ALAMOS	YEARS	14 LYMPH	20.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY							
CAUSE OF DEATH	PULMON EMBOLISM	YEAR	1962							
NEW CODE NO.	465.0	KG	NA							
CASE NO.	2- 36	SEX	M LIVER	1505.0	1000	250	1.603	6.41	4.26	7.24
OCCUPATION	HOTEL MNGR	AGE	60 LUNG	490.0	1000	500	.482	.56	1.97	1.97
RESIDENT	LOS ALAMOS	YEARS	08 LYMPH	13.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	275.0	100	10	.004	<MRL*	<MRL*	
CAUSE OF DEATH	MYOCARDIAL INF	YEAR	1962							
NEW CODE NO.	420.1	KG	NA							
CASE NO.	2- 60	SEX	F LIVER	2759.0	1000	50	.016	<MRL*	<MRL*	
OCCUPATION	HOUSEWIFE	AGE	46 LUNG	441.0	500	50	.302	3.02	6.85	6.85
RESIDENT	LOS ALAMOS	YEARS	12 LYMPH	3.0	50	10	.003	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	226.0	100	10	.003	<MRL*	<MRL*	
CAUSE OF DEATH	CANCER	YEAR	1962							
NEW CODE NO.	199.0	KG	NA							
CASE NO.	2- 90	SEX	M LIVER	1203.0	1000	50	.150	3.00	2.49	4.24
OCCUPATION	STUDENT	AGE	16 LUNG	775.0	1000	80	.200	4.00	5.16	5.16
RESIDENT	LOS ALAMOS	YEARS	15 LYMPH	5.0	50	10	.040	.20	40.00	.40
STATE	NEW MEXICO		KIDNEY	248.0	100	10	.010	<MRL*	<MRL*	
CAUSE OF DEATH	HEAD INJURIES	YEAR	1962							
NEW CODE NO.	853.0	KG	NA							
CASE NO.	2- 92	SEX	F LIVER	1333.0	1000	50	.040	.80	.60	1.02
OCCUPATION	HOUSEWIFE	AGE	72 LUNG	669.0	1000	50	.060	1.20	1.79	1.79
RESIDENT	LOS ALAMOS	YEARS	03 LYMPH	4.0	50	10	.010	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	255.0	100	10	.030	.30	1.18	.35
CAUSE OF DEATH	UNKNOWN	YEAR	1962							
NEW CODE NO.	NA	KG	NA							
CASE NO.	2-102	SEX	F LIVER	1615.0	1000	50	.106	2.12	1.31	2.23
OCCUPATION	CLERK	AGE	44 LUNG	1190.0	1000	50	.421	8.42	7.08	7.08
RESIDENT	LOS ALAMOS	YEARS	16 LYMPH	3.0	50	10	.110	.55	103.33	1.83
STATE	NEW MEXICO		KIDNEY	237.0	100	10	.002	<MRL*	<MRL*	
CAUSE OF DEATH	DRUGS	YEAR	1962							
NEW CODE NO.	972.0	KG	NA							
CASE NO.	2-122	SEX	F LIVER	1200.0	1000	50	0.000	<MRL*	<MRL*	
OCCUPATION	CLERK	AGE	51 LUNG	549.0	1000	50	0.000	<MRL*	<MRL*	
RESIDENT	LOS ALAMOS	YEARS	10 LYMPH	11.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	120.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	CANCER OF BREAST	YEAR	1962							
NEW CODE NO.	170.0	KG	NA							

			TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOB ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)	
CASE NO.	2-124	SEX	F	LIVER	1384.0	1000	25	.164	6.56	4.74	8.06
OCCUPATION	MAILMAN	AGE	45	LUNG	940.0	180	25	.177	.71	.75	.75
RESIDENT	LOS ALAMOS	YEARS	17	LYMRH	13.0	50	10	.032	.16	12.31	.12
STATE	NEW MEXICO			KIDNEY	100.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	NEPHRITIS	YEAR	1962								
NEW CODE NO.	592.0	KG	NA								
CASE NO.	2-134	SEX	F	LIVER	905.0	1000	25	.041	1.64	1.81	3.08
OCCUPATION	HOUSEWIFE	AGE	92	LUNG	585.0	1000	500	.618	1.24	2.11	2.11
RESIDENT	LOS ALAMOS	YEARS	03	LYMPH	9.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO			KIDNEY	163.0	107	10	.015	<MRL*	<MRL*	
CAUSE OF DEATH	CANCER	YEAR	1963	VERTEBRAE	160.0	250	10	0.000	<MRL*	<MRL*	
NEW CODE NO.	199.0	KG	NA								
CASE NO.	2-136	SEX	F	LIVER	1141.0	1000	25	.113	4.52	3.96	6.73
OCCUPATION	HOUSEWIFE	AGE	54	KIDNEY	285.0	100	10	.025	<MRL*	<MRL*	
RESIDENT	LOS ALAMOS	YEARS	18								
STATE	NEW MEXICO										
CAUSE OF DEATH	UNKNOWN	YEAR	1963								
NEW CODE NO.	NA	KG	NA								
CASE NO.	2-140	SEX	M	LIVER	2753.0	1000	50	0.000	<MRL*	<MRL*	1.36
OCCUPATION	REPAIRMAN	AGE	52	LUNG	1525.0	1000	500	1.039	2.08	1.36	
RESIDENT	LOS ALAMOS	YEARS	07	LYMRH	14.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO			KIDNEY	368.0	100	10	.020	<MRL*	<MRL*	
CAUSE OF DEATH	CARDIAC	YEAR	1963	VERTEBRAE	360.0	580	10	.020	<MRL*	<MRL*	
NEW CODE NO.	NA	KG	NA								
CASE NO.	2-146	SEX	F	LIVER	1564.0	1000	25	.030	1.20	.77	1.30
OCCUPATION	HOUSEWIFE	AGE	42	LUNG	1180.0	1000	500	.595	1.19	1.00	1.00
RESIDENT	LOS ALAMOS	YEARS	11	LYMPH	2.0	50	10	.030	.15	75.00	.75
STATE	NEW MEXICO			KIDNEY	265.0	100	10	.030	.30	1.13	.34
CAUSE OF DEATH	MYOCARDIAL INF	YEAR	1963	RIB	215.0	580	10	.100	5.00	23.26	162.79
NEW CODE NO.	420.1	KG	NA								
CASE NO.	3- 36	SEX	M	LIVER	1185.0	1000	25	.078	3.12	2.63	4.48
OCCUPATION	INS AGENT	AGE	92	LUNG	888.0	1000	500	.945	1.89	2.13	2.13
RESIDENT	LOS ALAMOS	YEARS	04	LYMPH	7.0	50	10	.087	.43	62.14	.62
STATE	NEW MEXICO			KIDNEY	315.0	100	10	.556	5.56	17.65	5.30
CAUSE OF DEATH	PERITONITIS	YEAR	1967	RIB	143.0	290	10	0.060	<MRL*	<MRL*	
NEW CODE NO.	576.0	KG	NA								(DIS/MIN)
CASE NO.	3- 38	SEX	F	LIVER	1750.0	1000	250	3.560	14.24	8.14	13.83
OCCUPATION	HOUSEWIFE	AGE	63	LUNG	843.0	1000	500	1.108	2.22	2.63	2.63
RESIDENT	LOS ALAMOS	YEARS	NA	LYMPH	20.0	50	10	.050	.25	12.50	.13
STATE	NEW MEXICO			KIDNEY	199.0	100	25	2.200	8.80	44.22	13.27
CAUSE OF DEATH	HEART ATTACK	YEAR	1967	RIB	170.0	250	50	1.630	8.15	47.94	338.59
NEW CODE NO.	447.0	KG	NA								
CASE NO.	3- 42	SEX	M	LIVER	1015.0	1000	25	.056	2.24	2.21	3.75
OCCUPATION	NA	AGE	61	LUNG	1030.0	1000	25	.061	2.44	2.37	2.37
RESIDENT	LOS ALAMOS	YEARS	NA	LYMPH	12.0	50	10	.051	.25	21.25	.21
STATE	NEW MEXICO			KIDNEY	355.0	180	10	.055	.55	1.55	.66
CAUSE OF DEATH	ARTERIOSCLEROSIS	YEAR	1967	RIB	130.0	250	10	.186	4.65	35.77	250.38
NEW CODE NO.	450.0	KG	NA								
CASE NO.	3- 48	SEX	M	LIVER	1870.0	1000	25	.069	2.76	1.48	2.51
OCCUPATION	STUDENT	AGE	17	LUNG	1215.0	1000	25	.063	2.52	2.07	2.07
RESIDENT	LOS ALAMOS	YEARS	17	LYMPH	10.0	50	10	.021	<MRL*	<MRL*	
STATE	NEW MEXICO			KIDNEY	330.0	100	10	.022	<MRL*	<MRL*	
CAUSE OF DEATH	TRAUMATIC INJ	YEAR	1967	RIB	110.0	250	100	.095	.24	2.16	15.11
NEW CODE NO.	825.0	KG	NA								
CASE NO.	3- 54	SEX	F	LIVER	2180.0	1000	25	.061	2.44	1.12	1.90
OCCUPATION	HOUSEWIFE	AGE	41	LUNG	600.0	1000	25	.072	2.88	4.80	4.80
RESIDENT	LOS ALAMOS	YEARS	14	LYMPH	10.0	50	10	.209	1.04	104.50	1.04
STATE	NEW MEXICO			KIDNEY	350.0	100	10	.114	1.14	3.26	.98
CAUSE OF DEATH	CANCER OF RECTUM	YEAR	1967	RIB	130.0	250	10	.004	<MRL*	<MRL*	
NEW CODE NO.	154.0	KG	NA								
CASE NO.	3- 58	SEX	M	LIVER	2060.0	1000	25	.205	8.20	3.98	6.77
OCCUPATION	REALTOR	AGE	54	LUNG	1090.0	1000	25	.034	1.36	1.25	1.25
RESIDENT	LOS ALAMOS	YEARS	02	KIDNEY	270.0	180	10	.004	<MRL*	<MRL*	
STATE	NEW MEXICO			RIB	120.0	250	10	.027	<MRL*	<MRL*	
CAUSE OF DEATH	CIRRHOSIS	YEAR	1967								
NEW CODE NO.	561.0	KG	NA								
CASE NO.	3- 62	SEX	M	LIVER	1520.0	1000	25	.078	3.12	2.05	3.49
OCCUPATION	BAKER	AGE	57	LUNG	767.0	1000	25	.270	10.80	14.08	14.08
RESIDENT	LOS ALAMOS	YEARS	04	LYMPH	10.0	50	10	.031	.15	15.50	.15
STATE	NEW MEXICO			KIDNEY	260.0	189	10	.117	1.17	4.50	1.45
CAUSE OF DEATH	CARDIAC	YEAR	1967	RIB	88.0	250	10	.046	1.85	18.75	131.25
NEW CODE NO.	422.9	KG	NA								

			TISSUE	WEI WEIGHT SAMPLE (GRAM)	VOLUME OR SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
CASE NO.	3- 68	SEX	M LUNG	987.0	1000	25	.142	5.68	5.75	5.75
OCCUPATION	DRUGGIST	AGE	67 LYMPH	13.0	50	10	.003	<MRL*	<MRL*	
RESIDENT	LOS ALAMOS	YEARS	02 KIDNEY	380.0	100	10	.010	<MRL*	<MRL*	
STATE	NEW MEXICO		RIB	62.0	100	10	.012	<MRL*	<MRL*	
CAUSE OF DEATH	CORONARY OCC	YEAR	1967							
HEM CODE NO.	420.1	KG	NA							
CASE NO.	3- 74	SEX	M LIVER	2150.0	1000	25	.096	3.92	1.82	3.10
OCCUPATION	MECHANIC	AGE	42 LUNG	1275.0	1000	500	.011	1.62	1.27	1.27
RESIDENT	LOS ALAMOS	YEARS	NA LYMPH	5.0	50	10	.020	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	440.0	100	10	.072	.72	1.64	.49
CAUSE OF DEATH	PNEUMONIA	YEAR	1968				.001	<MRL*	<MRL*	
HEM CODE NO.	493.9	KG	NA							
CASE NO.	3- 76	SEX	M LIVER	1660.0	1000	25	0.000	<MRL*	<MRL*	
OCCUPATION	STUDENT	AGE	15 LUNG	1780.0	1000	500	.426	.85	.48	.48
RESIDENT	LOS ALAMOS	YEARS	15 LYMPH	5.0	50	10	.033	.16	33.00	.33
STATE	NEW MEXICO		KIDNEY	270.0	100	10	.026	<MRL*	<MRL*	
CAUSE OF DEATH	BIRTH DEFECTS	YEAR	1968				.259	2.49	49.80	348.60
HEM CODE NO.	053.8	KG	NA							
CASE NO.	3- 82	SEX	M LIVER	2100.0	1000	25	.149	5.96	2.84	4.02
OCCUPATION	BUSINESS	AGE	41 LUNG	1325.0	1000	500	.076	1.35	1.02	1.02
RESIDENT	LOS ALAMOS	YEARS	20 LYMPH	4.0	50	10	.001	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	410.0	100	10	.003	<MRL*	<MRL*	
CAUSE OF DEATH	GUNSHOT IN HEAD	YEAR	1968				.075	.75	19.74	138.16
HEM CODE NO.	979.0	KG	NA							
CASE NO.	3-124	SEX	MA LIVER	1400.0	1000	800	.077	1.75	1.25	2.13
OCCUPATION	STUDENT	AGE	15 LUNG	1228.0	1000	500	.236	.47	.38	.38
RESIDENT	LOS ALAMOS	YEARS	NA KIDNEY	297.0	100	10	.012	<MRL*	<MRL*	
STATE	NEW MEXICO		RIB	83.0	100	100	.009	<MRL*	<MRL*	
CAUSE OF DEATH	MEMORRHAGE	YEAR	1969							
HEM CODE NO.	856.9	KG	NA							
CASE NO.	3-140	SEX	F LUNG	680.0	500	250	.036	1.37	2.02	2.02
OCCUPATION	TEACHER	AGE	74 LYMPH	1.0	50	10	.005	<MRL*	<MRL*	
RESIDENT	LOS ALAMOS	YEARS	20 KIDNEY	270.0	100	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO		RIB	88.0	150	50	.014	<MRL*	<MRL*	
CAUSE OF DEATH	LIVER CANCER	YEAR	1969							
HEM CODE NO.	156.0	KG	NA							
CASE NO.	5- 2	SEX	F LIVER	3476.0	1000	250	.014	2.46	.71	1.20
OCCUPATION	HOUSEWIFE	AGE	68 LUNG	2267.0	1000	250	.369	1.48	1.16	1.16
RESIDENT	LOS ALAMOS	YEARS	68							
STATE	NEW MEXICO									
CAUSE OF DEATH	CARCINOMA	YEAR	1967							
HEM CODE NO.	156.0	KG	NA							
CASE NO.	5- 14	SEX	M LIVER	1692.0	1000	250	1.397	5.59	3.30	5.61
OCCUPATION	REST OWNER	AGE	49 LUNG	1757.0	1000	500	.453	.91	.52	.52
RESIDENT	LOS ALAMOS	YEARS	03 KIDNEY	270.0	100	50	.013	<MRL*	<MRL*	
STATE	NEW MEXICO		RIB	190.0	250	100	.065	.16	.86	5.99
CAUSE OF DEATH	CANCER	YEAR	1969							
HEM CODE NO.	199.0	KG	NA							
CASE NO.	5- 16	SEX	F LIVER	2570.0	1000	500	.379	.76	.29	.50
OCCUPATION	HOUSEWIFE	AGE	52 LUNG	530.0	500	250	1.235	2.47	4.66	4.66
RESIDENT	LOS ALAMOS	YEARS	23 LYMPH	2.0	50	10	.052	.26	130.00	1.30
STATE	NEW MEXICO		KIDNEY	300.0	100	10	.022	<MRL*	<MRL*	
CAUSE OF DEATH	LUNG CANCER	YEAR	1969				.085	.17	2.00	14.00
HEM CODE NO.	163.0	KG	NA							
CASE NO.	5- 18	SEX	M LIVER	1400.0	1000	250	.942	3.77	2.69	4.58
OCCUPATION	RES PROP	AGE	78 LUNG	1693.0	1000	900	.707	1.41	.84	.84
RESIDENT	LOS ALAMOS	YEARS	NA LYMPH	5.0	30	10	.053	.26	53.00	.53
STATE	NEW MEXICO		KIDNEY	311.0	100	10	.015	<MRL*	<MRL*	
CAUSE OF DEATH	PNEUMONIA	YEAR	1969				0.000	<MRL*	<MRL*	
HEM CODE NO.	493.9	KG	NA							
CASE NO.	5- 22	SEX	MA LIVER	1555.0	1000	800	7.000	14.00	9.00	15.31
OCCUPATION	HOUSEWIFE	AGE	80 LUNG	974.0	1000	800	8.948	9.90	6.05	6.05
RESIDENT	NA	YEARS	NA							
STATE	NA									
CAUSE OF DEATH	HEART ATTACK	YEAR	1969							
HEM CODE NO.	420.1	KG	NA							
CASE NO.	5- 26	SEX	F LIVER	1040.0	1000	250	.204	.02	.78	1.33
OCCUPATION	HOUSEWIFE	AGE	76 LUNG	650.0	500	250	.408	.02	1.26	1.26
RESIDENT	LOS ALAMOS	YEARS	NA LYMPH	8.0	50	10	.018	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	147.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	PUL EMBOLISM	YEAR	1969				.015	<MRL*	<MRL*	
HEM CODE NO.	445.	KG	NA							

			TISSUE	WET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
CASE NO.	5- 34	SEX F	LIVER	1270.0	1000	500	.019	<MRL*	<MRL*	
OCCUPATION	HOUSEWIFE	AGE 35	LUNG	563.0	1000	250	.171	.68	1.21	1.21
RESIDENT	LOS ALAMOS	YEARS NA	LYMPH	3.0	50	10	.005	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	213.0	100	10	.010	<MRL*	<MRL*	
CAUSE OF DEATH	GUNSHOT WND	YEAR 1969	RIB	78.0	100	50	0.000	<MRL*	<MRL*	
NEW CODE NO.	E979.0	KG NA								
CASE NO.	5- 38	SEX M	LIVER	1456.0	1000	500	.192	.38	.26	.45
OCCUPATION	NA	AGE 85	LUNG	1010.0	1000	500	.112	.22	.22	.22
RESIDENT	LOS ALAMOS	YEARS NA	LYMPH	10.0	50	10	.014	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	250.0	100	10	.023	<MRL*	<MRL*	
CAUSE OF DEATH	PULMONARY INF	YEAR 1969	RIB	170.0	250	100	.047	.12	.69	4.04
NEW CODE NO.	465.0	KG NA								
CASE NO.	5- 56	SEX F	LIVER	1434.0	1000	250	.067	.27	.19	.32
OCCUPATION	HOUSEWIFE	AGE 73	LUNG	1050.0	1000	250	.212	.05	.81	.81
RESIDENT	LOS ALAMOS	YEARS 72	LYMPH	3.0	50	10	.006	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	264.0	100	10	.044	.44	1.67	.50
CAUSE OF DEATH	HEART ATTACK	YEAR 19 0	VERTEBRAE	70.0	100	10	.058	.58	8.29	50.00
NEW CODE NO.	420.1	KG NA								
CASE NO.	5- 58	SEX F	LIVER	900.0	250	100	.718	1.79	1.99	3.39
OCCUPATION	BNK CLERK	AGE 37	LUNG	675.0	500	250	.794	1.59	2.34	2.34
RESIDENT	WHITE ROCK	YEARS 37	LYMPH	2.0	50	10	.044	.22	110.00	1.10
STATE	NEW MEXICO		KIDNEY	193.0	200	10	.018	<MRL*	<MRL*	
CAUSE OF DEATH	CANCER	YEAR 19 0	VERTEBRAE	75.0	250	100	.013	<MRL*	<MRL*	
NEW CODE NO.	199.0	KG NA								
CASE NO.	5- 60	SEX F	LIVER	1577.0	500	250	.133	.27	.17	.29
OCCUPATION	HOUSEWIFE	AGE 67	LUNG	430.0	500	250	.132	.26	.61	.61
RESIDENT	LOS ALAMOS	YEARS 67	LYMPH	5.0	50	10	.044	.22	44.00	.44
STATE	NEW MEXICO		KIDNEY	255.0	200	10	.013	<MRL*	<MRL*	
CAUSE OF DEATH	HEART ATTACK	YEAR 19 0	VERTEBRAE	106.0	200	100	.039	.08	.78	5.45
NEW CODE NO.	420.1	KG NA								
CASE NO.	5- 74	SEX F	LUNG	1214.0	500	250	.306	.61	.50	.50
OCCUPATION	HOUSEWIFE	AGE 48	LYMPH	22.0	25	10	.026	<MRL*	<MRL*	
RESIDENT	LOS ALAMOS	YEARS NA	KIDNEY	414.0	100	10	.019	<MRL*	<MRL*	
STATE	NEW MEXICO		RIB	90.0	200	100	.285	.57	5.82	40.71
CAUSE OF DEATH	COR PULMONALE	YEAR 1970								
NEW CODE NO.	434.7	KG NA								
CASE NO.	5- 86	SEX F	LIVER	1785.0	500	250	1.624	3.25	1.02	3.09
OCCUPATION	STUDENT	AGE 17	LUNG	543.0	500	250	.156	.31	.57	.57
RESIDENT	LOS ALAMOS	YEARS 17	LYMPH	5.0	25	10	.018	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	222.0	100	10	.105	1.05	4.73	1.42
CAUSE OF DEATH	HEAD INJURY	YEAR 1970	RIB	50.0	200	100	.036	.07	1.44	10.08
NEW CODE NO.	850.1	KG NA								
CASE NO.	5-110	SEX F	LIVER	957.0	500	100	.502	2.51	2.62	4.46
OCCUPATION	HOUSEWIFE	AGE 87	LUNG	801.0	1000	250	.241	.93	1.20	1.20
RESIDENT	LOS ALAMOS	YEARS NA	LYMPH	14.0	25	10	.008	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	299.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	PUL EMBOLISM	YEAR 1971	RIB	81.0	200	100	.064	.13	1.58	11.06
NEW CODE NO.	465.0	KG NA								
CASE NO.	7- 2	SEX F	LIVER	1140.0	1000	250	.920	3.68	3.23	5.49
OCCUPATION	HOUSEWIFE	AGE 88	LUNG	648.0	1000	250	.060	.24	.37	.37
RESIDENT	LOS ALAMOS	YEARS NA	LYMPH	4.1	25	10	.006	1.52	349.51	3.70
STATE	NEW MEXICO		KIDNEY	170.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	HEART ATTACK	YEAR 1971								
NEW CODE NO.	434.1	KG NA								
CASE NO.	7- 14	SEX F	LIVER	1275.0	1000	250	1.300	5.20	4.08	6.93
OCCUPATION	HOUSEWIFE	AGE 69	LUNG	967.0	1000	250	.405	2.42	2.50	2.50
RESIDENT	LOS ALAMOS	YEARS NA								
STATE	NEW MEXICO									
CAUSE OF DEATH	STROKE	YEAR 1971								
NEW CODE NO.	334.0	KG NA								

TABLE A-II NON-RESIDENTS OF LOS ALAMOS, NO OCCUPATIONAL EXPOSURE TO PLUTONIUM

\*MRL = MINIMUM REPORTING LEVEL = 0.03 DPM PER SAMPLE VOL ANALYZED BASED ON TOTAL COUNTS, BRQ, AND RECOVERY STATISTICS

			TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DPS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
CASE NO.	1- 72	SEX M	LIVER	1705.0	1000	50	.060	1.20	.70	1.20
OCCUPATION	RETIRED	AGE 76	LUNG	884.0	1000	300	.334	.67	.76	.76
RESIDENT	NEW ORLEANS	YEARS NA	LYMPH	20.0	25	10	.060	.15	7.50	.07
STATE	LOUISIANA		KIDNEY	300.0	100	10	0.000	<MRL*		
CAUSE OF DEATH	POST OP SHOCK	YEAR 1960								
NEW CODE NO.	998.0	KG NA								
CASE NO.	1- 78	SEX F	LIVER	1361.0	1000	50	0.000	<MRL*	<MRL*	
OCCUPATION	HOUSEWIFE	AGE 72	LUNG	475.0	1000	300	.697	1.39	2.93	2.93
RESIDENT	LAS VEGAS	YEARS NA	LYMPH	12.0	25	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	242.0	100	10	.030	.30	1.24	.37
CAUSE OF DEATH	POST OP SHOCK	YEAR 1960								
NEW CODE NO.	998.0	KG NA								
CASE NO.	1- 82	SEX F	LUNG	853.0	1000	300	1.366	2.73	3.20	3.20
OCCUPATION	RESIDENT	AGE 75	LYMPH	16.0	100	10	.010	<MRL*	<MRL*	
RESIDENT	SCRANTON	YEARS NA	KIDNEY	320.0	100	10	.830	8.30	25.94	7.78
STATE	PENNA.									
CAUSE OF DEATH	CARDIAC	YEAR 1960								
NEW CODE NO.	420.3	KG NA								
CASE NO.	1- 84	SEX F	LUNG	1068.0	1000	500	.916	1.83	1.72	1.72
OCCUPATION	HOUSEWIFE	AGE 80	LYMPH	6.0	100	10	.010	<MRL*	<MRL*	
RESIDENT	NA	YEARS NA	KIDNEY	234.0	100	10	.110	1.10	4.70	1.41
STATE	NA									
CAUSE OF DEATH	POST OP SHOCK	YEAR 1960								
NEW CODE NO.	998.0	KG NA								
CASE NO.	1- 86	SEX F	LIVER	2220.0	1000	50	.080	1.60	.72	1.23
OCCUPATION	HOUSEWIFE	AGE 40	LUNG	556.0	1000	500	1.101	2.20	3.96	3.96
RESIDENT	SANTA FE	YEARS NA	LYMPH	2.0	50	10	.010	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	450.0	100	10	.010	<MRL*	<MRL*	
CAUSE OF DEATH	LEUKEMIA	YEAR 1960								
NEW CODE NO.	204.0	KG NA								
CASE NO.	1- 92	SEX F	LIVER	1180.0	1000	50	.050	1.00	.85	1.44
OCCUPATION	HOUSEWIFE	AGE 77	LUNG	517.0	1000	300	.902	1.80	3.49	3.49
RESIDENT	NA	YEARS NA	LYMPH	3.0	50	10	.010	<MRL*	<MRL*	
STATE	NA		KIDNEY	246.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	ARTERIOSCLEROSIS	YEAR 1960								
NEW CODE NO.	420.0	KG NA								
CASE NO.	1- 98	SEX F	LIVER	854.0	1000	50	.030	.60	.70	1.19
OCCUPATION	HOUSEWIFE	AGE 89	LUNG	834.0	1000	300	.339	.68	.81	.81
RESIDENT	NOVA SCOTIA	YEARS 8	LYMPH	14.0	50	10	.090	.45	32.14	.32
STATE	BRITISH CO		KIDNEY	143.0	100	10	.040	.40	2.80	.84
CAUSE OF DEATH	PNEUMONIA	YEAR 1960								
NEW CODE NO.	493.9	KG NA								
CASE NO.	1-104	SEX M	LIVER	2120.0	1000	50	.060	1.20	.57	.96
OCCUPATION	NA	AGE 31	LUNG	1460.0	1000	500	1.249	2.50	1.71	1.71
RESIDENT	NA	YEARS NA	LYMPH	11.0	25	10	.640	1.60	145.45	1.45
STATE	NA		KIDNEY	375.0	100	10	.140	1.40	3.73	1.12
CAUSE OF DEATH	ALCOHOLISM	YEAR 1960								
NEW CODE NO.	381.0	KG NA								
CASE NO.	1-142	SEX F	LIVER	1480.0	1000	50	.140	2.80	1.89	3.22
OCCUPATION	HOUSEWIFE	AGE 78	LUNG	646.0	1000	300	.598	1.20	1.85	1.85
RESIDENT	NA	YEARS NA	LYMPH	28.0	50	10	.100	.50	17.86	.18
STATE	NA		KIDNEY	170.0	100	10	.130	1.30	7.65	2.29
CAUSE OF DEATH	MYOCARDIAL HYPER	YEAR 1961								
NEW CODE NO.	422.9	KG NA								
CASE NO.	1-143	SEX F	LIVER	2070.0	1000	50	.040	.80	.39	.66
OCCUPATION	HOUSEWIFE	AGE 45	LUNG	1415.0	1000	500	.630	1.26	.89	.89
RESIDENT	NA	YEARS NA	LYMPH	7.0	50	10	.140	.70	100.00	1.00
STATE	NA		KIDNEY	267.0	100	10	.040	.40	1.50	.45
CAUSE OF DEATH	PNEUMONIA	YEAR 1961								
NEW CODE NO.	490.9	KG NA								
CASE NO.	1-146	SEX F	LIVER	1149.0	1000	50	.180	3.60	3.13	5.33
OCCUPATION	HOUSEWIFE	AGE 58	LUNG	775.0	1000	50	.210	4.20	5.42	5.42
RESIDENT	NA	YEARS NA	LYMPH	4.0	50	10	0.000	<MRL*	<MRL*	
STATE	NA		KIDNEY	291.0	100	10	.060	.60	2.06	.62
CAUSE OF DEATH	BREAST CANCER	YEAR 1961								
NEW CODE NO.	170.0	KG NA								
CASE NO.	1-148	SEX M	LIVER	1292.0	1000	50	.040	.80	.62	1.05
OCCUPATION	FORST SERV	AGE 76	LUNG	510.0	1000	300	.593	1.19	2.33	2.33
RESIDENT	SANTA FE	YEARS NA	LYMPH	21.0	50	10	.010	<MRL*	<MRL*	
STATE	NEW MEXICO		KIDNEY	185.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	RUPTURED AORTA	YEAR 1961								
NEW CODE NO.	451.9	KG NA								



			TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)	
CASE NO.	2- 6	SEX	M	LIVER	1665.0	1000	50	.048	.96	.58	.98
OCCUPATION	RETIRED	AGE	78	LUNG	785.0	1000	500	.906	1.81	2.31	2.31
RESIDENT	NA	YEARS	NA	LYMPH	7.0	50	10	0.000	<MRL*	<MRL*	
STATE	NA			KIDNEY	310.0	100	10	.040	.40	1.29	.39
CAUSE OF DEATH	RUPT VENTRICLE	YEAR	1961								
NEW CODE NO.	420.1	KG	NA								
CASE NO.	2- 12	SEX	M	LIVER	1468.0	1000	50	.052	1.04	.71	1.20
OCCUPATION	RETIRED	AGE	70	LUNG	1187.0	1000	50	.015	<MRL*	<MRL*	
RESIDENT	NA	YEARS	NA	LYMPH	33.0	50	10	.020	<MRL*	<MRL*	
STATE	NEW JERSEY			KIDNEY	260.0	100	10	.026	<MRL*	<MRL*	
CAUSE OF DEATH	NEPHRITIS	YEAR	1961								
NEW CODE NO.	593.0	KG	NA								
CASE NO.	2- 16	SEX	F	LIVER	3555.0	1000	50	.003	<MRL*	<MRL*	
OCCUPATION	NA	AGE	54	LUNG	943.0	1000	50	.045	.90	.95	.95
RESIDENT	NA	YEARS	NA	LYMPH	14.0	50	10	.009	<MRL*	<MRL*	
STATE	NA			KIDNEY	430.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	NA	YEAR	1961								
NEW CODE NO.	NA	KG	NA								
CASE NO.	2- 18	SEX	F	LIVER	857.0	1000	50	.034	.68	.79	1.35
OCCUPATION	NA	AGE	59	LUNG	570.0	1000	50	.005	<MRL*	<MRL*	
RESIDENT	NA	YEARS	NA	LYMPH	20.0	50	10	.019	<MRL*	<MRL*	
STATE	NA			KIDNEY	254.0	100	10	.017	<MRL*	<MRL*	
CAUSE OF DEATH	BILE NEPHROSIS	YEAR	1961								
NEW CODE NO.	593.0	KG	NA								
CASE NO.	2- 22	SEX	F	LIVER	1505.0	1000	50	.018	<MRL*	<MRL*	
OCCUPATION	HOUSEWIFE	AGE	68	LUNG	541.0	1000	50	.002	<MRL*	<MRL*	
RESIDENT	NA	YEARS	NA	LYMPH	8.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW JERSEY			KIDNEY	400.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	PANCREAS CANCER	YEAR	1961								
NEW CODE NO.	157.0	KG	NA								
CASE NO.	2- 24	SEX	M	LIVER	1150.0	1000	50	.114	2.28	1.96	3.37
OCCUPATION	NA	AGE	74	LUNG	1400.0	1000	50	.104	2.08	1.49	1.49
RESIDENT	NA	YEARS	NA	LYMPH	20.0	50	10	0.000	<MRL*	<MRL*	
STATE	NA			KIDNEY	207.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	CEREBRAL MEM	YEAR	1961								
NEW CODE NO.	331.0	KG	NA								
CASE NO.	2- 28	SEX	F	LIVER	1480.0	1000	50	.494	9.88	6.68	11.35
OCCUPATION	HOUSEWIFE	AGE	71	LUNG	863.0	1000	50	1.567	31.34	36.32	36.32
RESIDENT	NA	YEARS	NA	LYMPH	11.0	50	10	.028	<MRL*	<MRL*	
STATE	NA			KIDNEY	272.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	BILIARY OCC	YEAR	1961								
NEW CODE NO.	586.1	KG	NA								
CASE NO.	2- 32	SEX	M	LIVER	845.0	1000	50	.119	2.38	2.02	4.79
OCCUPATION	RETIRED	AGE	80	LUNG	875.0	1000	50	.052	1.04	1.19	1.19
RESIDENT	ESPAÑOLA	YEARS	NA	KIDNEY	200.0	100	10	.015	<MRL*	<MRL*	
STATE	NEW MEXICO										
CAUSE OF DEATH	EMPHYSEMA	YEAR	1962								
NEW CODE NO.	527.1	KG	NA								
CASE NO.	2- 38	SEX	M	LIVER	840.0	1000	50	.063	1.26	1.50	2.55
OCCUPATION	RETIRED	AGE	86	LUNG	910.0	1000	500	.341	.68	.75	.75
RESIDENT	CHARLOTTE	YEARS	NA	LYMPH	9.8	50	10	0.000	<MRL*	<MRL*	
STATE	N CAROLINA			KIDNEY	162.0	100	10	.004	<MRL*	<MRL*	
CAUSE OF DEATH	NA	YEAR	1962								
NEW CODE NO.	NA	KG	NA								
CASE NO.	2- 40	SEX	M	LIVER	1076.0	1000	50	.014	<MRL*	<MRL*	
OCCUPATION	RETIRED	AGE	87	LUNG	1177.0	1000	500	.363	.73	.62	.62
RESIDENT	ESPAÑOLA	YEARS	NA	LYMPH	4.0	50	10	.006	<MRL*	<MRL*	
STATE	NEW MEXICO			KIDNEY	215.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	PNEUMONIA	YEAR	1962	VERTEBRAL	254.0	250	10	0.000	<MRL*	<MRL*	
NEW CODE NO.	491.9	KG	NA								
CASE NO.	2- 42	SEX	M	LIVER	1043.0	1000	50	.016	<MRL*	<MRL*	
OCCUPATION	RETIRED	AGE	77	LUNG	742.0	1000	500	.138	.28	.37	.37
RESIDENT	ESPAÑOLA	YEARS	NA	LYMPH	9.0	50	10	.003	<MRL*	<MRL*	
STATE	NEW MEXICO			KIDNEY	350.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	UNKNOWN	YEAR	1962								
NEW CODE NO.	NA	KG	NA								
CASE NO.	2- 62	SEX	F	LIVER	1489.0	1000	50	.050	1.00	.67	1.14
OCCUPATION	HOUSEWIFE	AGE	72	LUNG	918.0	1000	500	.271	.54	.59	.59
RESIDENT	NA	YEARS	NA	LYMPH	12.0	50	10	0.000	<MRL*	<MRL*	
STATE	TEXAS			KIDNEY	211.0	100	10	.014	<MRL*	<MRL*	
CAUSE OF DEATH	NA	YEAR	1962	RIB	232.0	250	10	0.000	<MRL*	<MRL*	
NEW CODE NO.	NA	KG	NA								

CASE NO.	OCCUPATION	RESIDENT	STATE	CAUSE OF DEATH	NEW CODE NO.	SEX	AGE	YEARS	TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
2-72	NA	ESPAÑOLA	NEW MEXICO	CARDIAC	434.7	M	47	NA	LIVER LYMPH KIDNEY	1121.0 14.0 272.0	1000 50 100	50 10 10	0.050 <MRL* 0.000	1.00 <MRL* <MRL*	0.89 <MRL* <MRL*	1.52
2-104	CHILD	ESPAÑOLA	NEW MEXICO	LEUKEMIA	204.9	F	12	NA	LIVER LUNG LYMPH KIDNEY RIB	940.0 163.0 1.0 175.0 79.0	1000 160 50 100 100	50 10 10 10 10	0.020 .760 0.000 0.000 0.000	<MRL* 7.60 <MRL* <MRL* <MRL*	<MRL* 46.63 <MRL* <MRL* <MRL*	46.63
2-106	TRUCK DRIV	ESPAÑOLA	NEW MEXICO	INJURIES	E825.0	M	27	NA	LIVER LUNG KIDNEY RIB	1383.0 615.0 214.0 259.0	1000 1000 100 500	50 50 10 10	0.020 0.060 0.000 0.000	<MRL* 1.20 <MRL* <MRL*	<MRL* 1.95 <MRL* <MRL*	1.95
2-108	HOUSEWIFE	ESPAÑOLA	NEW MEXICO	NEPHRITIS	180.0	F	80	NA	LIVER LUNG LYMPH KIDNEY RIB	1117.0 631.0 11.0 100.0 214.0	1000 1000 50 100 250	50 50 10 10 10	0.030 0.010 0.000 0.000 0.070	0.60 <MRL* <MRL* <MRL* 1.75	0.54 <MRL* <MRL* <MRL* 8.18	0.91 57.24
2-116	HOUSEWIFE	HASTINGS	NEBRASKA	CORONARY THROMBO	420.1	F	64	NA	LIVER LUNG KIDNEY	1575.0 1306.0 288.0	1000 1000 100	50 50 10	0.030 0.100 0.000	0.60 3.60 <MRL*	0.38 2.76 <MRL*	0.65 2.76
2-118	HOUSEWIFE	ANTON	TEXAS	CANCER OF PELVIS	199.0	F	70	NA	LIVER LUNG LYMPH KIDNEY RIB	1210.0 573.0 7.0 217.0 283.0	1000 1000 50 100 250	50 50 10 10 25	0.090 0.110 0.110 0.000 0.000	1.80 2.20 0.55 <MRL* <MRL*	1.49 3.84 78.57 <MRL* <MRL*	2.53 3.84 0.79
2-120	NA	ALBUQUERQUE	NEW MEXICO	SKULL FRACTURE	E825.0	M	23	NA	LIVER LYMPH KIDNEY RIB	1341.0 11.0 235.0 225.0	1000 50 100 250	50 10 10 10	0.000 0.000 0.000 0.000	<MRL* <MRL* <MRL* <MRL*	<MRL* <MRL* <MRL* <MRL*	
2-128	DENT ASST	POJOAQUE	NEW MEXICO	LEUKEMIA	204.3	F	36	NA	LIVER LUNG LYMPH KIDNEY	2945.0 1348.0 8.0 261.0	1000 1000 50 100	25 25 10 10	0.032 0.054 0.156 0.026	1.28 2.16 0.78 <MRL*	0.43 1.60 97.50 <MRL*	0.74 1.60 0.97
2-138	RETIRED	LAS VEGAS	NEW MEXICO	MYOCARDIAL INF	420.1	M	89	NA	LIVER LUNG LYMPH KIDNEY RIB	1273.0 885.0 23.0 252.0 485.0	1000 1000 50 100 500	50 500 10 10 10	0.000 0.470 0.000 0.000 0.000	<MRL* 0.94 <MRL* <MRL* <MRL*	<MRL* 1.86 <MRL* <MRL* <MRL*	1.06
2-148	NA	TIERNA AMARILLA	NEW MEXICO	PNEUMONIA	491.9	M	71	NA	LIVER LUNG LYMPH KIDNEY RIB	800.0 679.0 10.0 228.0 321.0	1000 1000 100 100 250	25 500 10 10 10	0.105 1.632 0.018 0.023 0.223	4.20 3.26 <MRL* <MRL* 5.57	5.25 4.81 <MRL* <MRL* 17.37	8.92 4.81 121.57
2-150	CHILD	OJO CALIENTE	NEW MEXICO	LEUKEMIA	NA	M	13	NA	LIVER LUNG LYMPH RIB	1143.6 1315.3 24.8 223.8	1000 1000 50 280	25 500 10 10	0.076 1.152 0.014 0.112	3.04 2.32 <MRL* 2.88	2.66 1.76 <MRL* 12.56	4.52 1.76 87.89
3-38	NA	CHAMA	NEW MEXICO	STOMACH CANCER	151.0	M	56	NA	LIVER LUNG LYMPH KIDNEY RIB	1050.0 1040.0 10.0 348.0 75.6	1000 1000 50 100 250	25 500 10 10 10	0.100 0.678 0.011 0.007 0.231	4.00 1.36 <MRL* <MRL* 5.77	3.81 1.38 <MRL* <MRL* 77.88	6.48 1.38 830.88

CASE NO.	OCCUPATION	RESIDENT	STATE	CAUSE OF DEATH	NEW CODE NO.	SEX	AGE	YEARS NA	YEAR	KG	TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
3- 32	MILITARY	SANTA FE	NEW MEXICO	CANCER	153.0	M	71	NA	1967	NA	LUNG	1027.0	1000	500	.499	1.00	.97	.97
											LYMPH	3.0	50	10	0.000	<MRL*	<MRL*	
											KIDNEY	360.0	100	10	0.000	<MRL*	<MRL*	
											RIB	125.0	250	10	.040	1.00	6.00	50.00
3- 34	COOK	WALTER J	NEW MEXICO		410.0	M	64	NA	1967	NA	LIVER	987.0	1000	25	.058	2.32	2.35	4.00
											LUNG	1040.0	1000	500	1.052	2.10	2.02	2.02
											LYMPH	20.0	50	10	.020	<MRL*	<MRL*	
											KIDNEY	377.0	100	10	0.000	<MRL*	<MRL*	
											RIB	99.8	250	10	.030	.75	8.33	50.33
3- 40	NA	ESPAÑOLA	NEW MEXICO	PERITONITIS	576.0	M	47	NA	1967	NA	LIVER	1608.0	1000	25	.106	4.24	2.64	4.40
											LUNG	975.0	1000	25	.018	<MRL*	<MRL*	
											LYMPH	16.0	50	10	0.000	<MRL*	<MRL*	
											KIDNEY	360.0	100	10	.022	<MRL*	<MRL*	
3- 50	NA	TAOS	NEW MEXICO	PNEUMONIA	490.9	M	74	NA	1967	NA	LIVER	1000.0	1000	25	.080	3.20	1.78	3.02
											LUNG	1410.0	1000	25	.036	1.44	1.02	1.02
											LYMPH	14.0	50	10	.015	<MRL*	<MRL*	
											KIDNEY	520.0	100	10	.054	1.04		.31
											RIB	175.0	250	10	.237	5.92	33.06	237.00
3- 52	NA	TAOS	NEW MEXICO	SKULL FRACTURE	803.0	F	28	NA	1967	NA	LIVER	2140.0	1000	25	.026	<MRL*	<MRL*	
											LUNG	890.0	1000	25	.042	1.68	1.89	1.89
											LYMPH	2.0	90	10	.154	.77	385.00	3.85
											KIDNEY	320.0	100	10	.027	<MRL*	<MRL*	
											RIB	70.0	250	10	.168	4.20	60.00	420.00
3- 56	HOUSEWIFE	NA	NEW MEXICO	RPTRD SPLEEN	865.9	F	51	NA	1967	NA	LIVER	1330.0	1000	25	.131	5.24	3.94	6.70
											LUNG	945.0	1000	25	.048	1.92	2.03	2.03
											LYMPH	15.0	50	10	.033	.16	11.00	.11
											KIDNEY	220.0	100	10	.037	.37	1.60	.50
											RIB	63.0	250	10	.317	7.92	125.79	880.50
3- 64	HOUSEWIFE	SANTA FE	NEW MEXICO	PERFORATED ULCER	540.2	F	70	NA	1967	NA	LIVER	1300.0	1000	25	.023	<MRL*	<MRL*	
											LUNG	750.0	1000	25	.181	7.24	9.65	9.65
											KIDNEY	16.0	50	10	.042	.21	13.12	.13
											RIB	160.0	100	10	.003	<MRL*	<MRL*	
												50.0	250	10	.104	2.60	52.00	364.00
3- 66	FARMER	PENASCO	NEW MEXICO	RHEUMATIC HEART	416.0	M	55	NA	1967	NA	LIVER	1600.0	1000	25	.029	<MRL*	<MRL*	
											LUNG	1620.0	1000	25	.053	2.12	1.16	1.16
											LYMPH	3.0	50	10	0.000	<MRL*	<MRL*	
											KIDNEY	450.0	100	10	0.000	<MRL*	<MRL*	
											RIB	70.0	100	10	.012	<MRL*	<MRL*	
3- 78	NA	ESPAÑOLA	NEW MEXICO	PNEUMONIA	493.9	M	83	NA	1968	NA	LIVER	1000.0	1000	25	.058	2.32	2.32	3.94
											LUNG	1310.0	1000	25	.157	6.28	4.79	4.79
											LYMPH	6.0	50	10	.016	<MRL*	<MRL*	
											KIDNEY	270.0	100	10	.001	<MRL*	<MRL*	
											RIB	35.0	100	10	.023	<MRL*	<MRL*	
3- 80	HOUSEWIFE	NA	NEW MEXICO	ACUTE ASTHMA	241.9	F	75	NA	1968	NA	LIVER	1435.0	1000	25	.051	2.04	1.42	2.42
											LUNG	580.0	1000	25	.010	<MRL*	<MRL*	
											LYMPH	5.0	50	10	0.000	<MRL*	<MRL*	
											KIDNEY	310.0	100	10	.006	<MRL*	<MRL*	
											RIB	50.0	100	10	.001	<MRL*	<MRL*	
3- 90	FARMER	EMBUDDO	NEW MEXICO	LEUKEMIA	053.9	M	26	NA	1968	NA	LIVER	2710.0	1000	25	.114	4.56	1.68	2.80
											LUNG	1020.0	1000	25	.001	<MRL*	<MRL*	
											LYMPH	2.0	50	10	.010	<MRL*	<MRL*	
											KIDNEY	485.0	100	10	.025	<MRL*	<MRL*	
											RIB	50.0	100	10	.027	<MRL*	<MRL*	
3- 92	TEACHER	POJARQUE	NEW MEXICO	PNEUMONIA	493.9	M	63	NA	1968	NA	LIVER	1365.0	1000	25	.020	<MRL*	<MRL*	
											LUNG	1210.0	1000	25	.029	<MRL*	<MRL*	
											LYMPH	4.0	50	10	.113	.56	141.25	1.31
											KIDNEY	200.0	100	10	0.000	<MRL*	<MRL*	
											RIB	35.0	100	10	.013	<MRL*	<MRL*	

CASE NO.	OCCUPATION	RESIDENT	STATE	CAUSE OF DEATH	NEW CODE NO.	SEX	AGE	YEARS	YEAR	KG	TISSUE	WET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/GRAM)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
3- 94	NA	SANTA FE	NEW MEXICO	NA	NA	M	21	NA	1968	NA	LIVER	1670.0	1000	25	.032	1.28	.77	1.30
											LUNG	660.0	1000	25	3.854	154.16	231.62	231.62
											LYMPH	4.0	50	10	.012	<MRL*	<MRL*	
											KIDNEY	390.0	100	10	0.000	<MRL*	<MRL*	
											RIB	100.0	250	10	.002	<MRL*	<MRL*	
3- 96	FARMER	VELARDE	NEW MEXICO	CANCER	199.0	M	57	NA	1968	NA	LIVER	1625.0	1000	25	.025	<MRL*	<MRL*	
											LUNG	1010.0	1000	25	.011	<MRL*	<MRL*	
											LYMPH	3.0	50	10	.011	<MRL*	<MRL*	
											KIDNEY	295.0	100	10	0.000	<MRL*	<MRL*	
											RIB	150.0	250	10	.006	<MRL*	<MRL*	
5- 4	COLG OFICL	SANTA FE	NEW MEXICO	ARPLN ACCIDENT	E866.0	M	49	NA	1967	NA	LIVER	2352.0	1000	250	.014	2.46	1.04	1.78
											LUNG	820.0	1000	250	.120	.48	.59	.59
5- 6	NA	APACHE	RESERVATIO	ACUTE ALCHOLISM	301.2	M	57	NA	1967	NA	LIVER	1260.0	1000	250	1.152	4.61	3.66	6.22
											LUNG	1042.0	1980	250	.186	.74	.71	.71
5- 8	CONSTRUCTN	SANTA FE	NEW MEXICO	HEART ATTACK	420.1	M	50	NA	1967	NA	LIVER	1570.0	1000	250	8.680	10.72	6.03	11.61
											LUNG	730.0	560	250	.763	1.53	2.09	2.09
5- 10	FRST SERVC	SANTA FE	NEW MEXICO	HEART ATTACK	420.1	M	84	NA	1967	NA	LIVER	1415.0	1000	250	1.000	4.00	2.83	4.81
											LUNG	1005.0	1200	250	1.900	6.00	5.97	5.97
5- 12	NA	APACHE	RESV.	NA	NA	F	28	NA	1967	NA	LIVER	1660.0	1000	250	.478	1.91	1.15	1.96
											LUNG	985.0	1000	250	.180	.72	.73	.73
5- 20	NA	SANTA FE	NEW MEXICO	ART THROMBOSIS	570.2	M	78	NA	1969	NA	LUNG	1710.0	1000	500	1.216	2.43	1.42	1.42
5- 28	NA	ENSENADA	NEW MEXICO	GUNSHM WND	E919.9	M	22	NA	1969	NA	LIVER	1600.0	1000	500	.181	.36	.23	.38
											LUNG	830.0	1000	500	.279	.56	.67	.67
5- 32	FRST SERV	TOAS PUEBLO	NEW MEXICO	HOMICIDE	E983.0	M	47	NA	1969	NA	LIVER	1876.0	1000	500	1.227	2.45	1.31	2.22
											LUNG	927.0	1000	500	2.303	4.61	4.97	4.97
5- 42	HOUSEWIFE	VELARDE	NEW MEXICO	PANCREAS MEM	587.0	F	58	NA	1969	NA	LIVER	1256.0	1000	500	1.080	2.16	1.72	2.92
											LUNG	680.0	500	250	.427	.85	1.26	1.26
5- 44	NA	SANTA FE	NEW MEXICO	SUBARC MEMORGE	330.0	M	33	NA	1970	NA	LUNG	1380.0	1000	250	.294	1.18	.85	.85
											LYMPH	5.0	25	10	0.000	<MRL*	<MRL*	
											KIDNEY	366.0	100	10	0.000	<MRL*	<MRL*	
											VERTEBRAE	85.0	100	10	.070	.70	8.24	57.65

CASE NO.	OCCUPATION	RESIDENT	STATE	CAUSE OF DEATH	NEW CODE NO.	SEX	AGE	YEARS	YEAR	KG	TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
5- 34	NA	DEWITT	MICHIGAN	CARCINOMA	1942	M	70	70	19 0	NA	LIVER	961.0	1000	250	.912	3.65	3.80	6.45
											LUNG	733.0	1000	250	.158	.63	.86	.86
											LYMPH	5.0	50	10	.033	.16	33.00	.33
											KIDNEY	303.0	100	10	.064	.64	2.11	.63
											VERTEBRAE	135.0	250	100	.018	<MRL*	<MRL*	
5- 82	RYTRY WORKER	SANTA FE	MEXICO	CIRRHOSIS	5014	M	64	64	19 0	NA	LIVER	975.0	500	250	.382	.76	.78	1.33
											LUNG	1819.0	500	250	.373	.75	.41	.41
											LYMPH	5.0	25	10	.043	.11	21.50	.21
											KIDNEY	292.0	100	10	.023	<MRL*	<MRL*	
											VERTEBRAE	106.0	250	100	.056	.14	1.32	9.25
5- 86	NA	SANTA FE	NEW MEXICO	NATRL CAUSES	410.0	M	76	76	19 0	NA	LUNG	1042.0	500	250	.763	1.53	1.46	1.46
											LYMPH	3.0	25	10	.046	.11	38.33	.38
											KIDNEY	173.0	100	10	.031	.31	1.61	.48
											VERTEBRAE	172.0	250	100	.098	.24	1.42	9.97
5- 68	RADIO TECH	SANTA FE	NEW MEXICO	HEART ATTACK	410.0	M	48	47	19 0	NA	LIVER	2267.0	500	250	1.979	3.96	1.75	2.97
											LUNG	1824.0	500	250	1.508	3.02	1.65	1.65
											LYMPH	4.0	25	10	.069	.17	43.12	.43
											KIDNEY	494.0	100	10	.006	<MRL*	<MRL*	
											VERTEBRAE	60.0	250	100	.054	.13	2.25	15.75
5- 70	LABORER	SANTA FE	NEW MEXICO	SKULL FRACTURE	4958.0	M	60	59	19 0	NA	LIVER	1562.0	500	250	2.964	5.93	3.79	6.45
											LUNG	687.0	500	250	.684	1.37	1.49	1.99
											LYMPH	10.0	25	10	.062	.15	15.50	.15
											KIDNEY	228.0	100	10	.040	.40	1.75	.53
											VERTEBRAE	128.0	200	100	.027	<MRL*	<MRL*	
5- 72	CONTRACTOR	SANTA FE	NEW MEXICO	SHOT WOUND	4819.0	M	57	NA	19 0	NA	LUNG	710.0	500	250	.152	.30	.43	.43
											LYMPH	5.0	25	10	.061	.15	30.50	.10
											KIDNEY	320.0	100	10	.057	.57	1.70	.53
											VERTEBRAE	125.0	200	100	.119	.24	1.90	13.33
5- 75	HOUSEWIFE	CORDOVA	NEW MEXICO	BRAIN TUMOR	193.1	F	56	NA	1970	NA	LIVER	1295.0	500	250	1.474	2.95	2.28	3.87
											LUNG	950.0	500	250	.299	.60	.63	.63
											LYMPH	5.0	25	10	.024	<MRL*	<MRL*	
											KIDNEY	283.0	100	10	0.000	<MRL*	<MRL*	
											VERTEBRAE	90.0	200	100	.025	<MRL*	<MRL*	
5- 82	HOUSEWIFE	CORDOVA	NEW MEXICO	NA	NA	F	60	NA	1970	NA	LIVER	1473.0	500	10	.194	9.70	6.59	11.19
											LUNG	805.0	500	250	.121	.24	.30	.30
											LYMPH	10.0	25	10	.011	<MRL*	<MRL*	
											KIDNEY	195.0	100	10	.014	<MRL*	<MRL*	
											VERTEBRAE	60.0	200	100	.034	.07	1.13	7.93
5- 84	HOUSEWIFE	PARKVIEW	NEW MEXICO	PNEUMONIA	491.9	F	76	NA	1970	NA	LIVER	1010.0	500	250	1.793	3.59	3.55	6.04
											LUNG	843.0	500	250	.287	.57	.68	.68
											LYMPH	8.0	25	10	.144	.36	45.00	.45
											KIDNEY	254.0	100	10	0.000	<MRL*	<MRL*	
											VERTEBRAE	60.0	200	100	0.000	<MRL*	<MRL*	
5- 88	HOUSEWIFE	CORDOVA	NEW MEXICO	NA	NA	F	61	61	1970	NA	LIVER	2653.0	500	250	.756	1.51	.57	.97
											LUNG	655.0	500	100	.284	1.42	2.17	2.17
											LYMPH	2.0	25	10	.151	.38	188.75	1.89
											KIDNEY	368.0	100	10	.009	<MRL*	<MRL*	
											VERTEBRAE	55.0	200	100	.036	.07	1.31	9.16
5- 90	HIWAY DEPT	SANTA FE	NEW MEXICO	INJURIES	4025.0	M	58	NA	1970	NA	LIVER	2142.0	500	250	2.753	5.51	2.57	4.37
											LUNG	910.0	500	250	.314	.63	.69	.69
											LYMPH	10.0	25	10	0.000	<MRL*	<MRL*	
											KIDNEY	385.0	100	10	0.000	<MRL*	<MRL*	
											RIB	185.0	200	100	.043	.09	.46	3.25
5- 92	SALESMAN	SANTA FE	NEW MEXICO	ALCOHOLISM	326.3	M	41	19	1970	NA	LIVER	1727.0	900	250	1.165	2.33	1.35	2.29
											LUNG	631.0	500	250	.187	.37	.59	.59
											LYMPH	17.0	25	10	0.000	<MRL*	<MRL*	
											KIDNEY	350.0	100	10	.009	<MRL*	<MRL*	
											RIB	104.0	200	100	.306	.61	5.80	41.19

			TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)	
CASE NO.	5- 96	SEX	M	LIVER	1870.0	500	250	.2179	4.36	2.33	3.96
OCCUPATION	T CRT MNGR	AGE	52	LUNG	824.0	500	250	.227	.45	.55	.55
RESIDENT	SANTA FE	YEARS	NA	LYMFM	7.0	25	10	.008	<MRL*	<MRL*	
STATE	NEW MEXICO			KIDNEY	310.0	100	10	.005	<MRL*	<MRL*	
CAUSE OF DEATH	HEART ATTACK	YEAR	1970	RIB	106.0	200	100	.035	.07	.65	4.54
NEW CODE NO.	420.1	KG	NA								
CASE NO.	5- 98	SEX	M	LIVER	2075.0	500	250	.211	.42	.26	.35
OCCUPATION	NA	AGE	30	LUNG	1572.0	500	250	.205	.41	.26	.26
RESIDENT	SANTA FE	YEARS	NA	LYMPH	10.0	25	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO			KIDNEY	466.0	100	10	.006	<MRL*	<MRL*	
CAUSE OF DEATH	ASPIRATION	YEAR	1970	RIB	92.0	200	100	.059	.12	1.27	8.00
NEW CODE NO.	933.0	KG	NA								
CASE NO.	5-106	SEX	M	LUNG	650.0	500	250	.276	.55	.85	.85
OCCUPATION	MNTNCE MAN	AGE	27	LYMPH	3.0	25	10	0.000	<MRL*	<MRL*	
RESIDENT	SANTA FE	YEARS	27	KIDNEY	263.0	100	10	.009	<MRL*	<MRL*	
STATE	NEW MEXICO										
CAUSE OF DEATH	GNASH! WOUND	YEAR	1970								
NEW CODE NO.	E919.9	KG	NA								
CASE NO.	5-112	SEX	M	LIVER	1625.0	500	100	.756	3.78	2.33	3.95
OCCUPATION	PHYSICIAN	AGE	57	LUNG	1006.0	1000	250	.136	.54	.54	.54
RESIDENT	ESPANOLA	YEARS	NA	LYMPH	7.0	25	10	.015	<MRL*	<MRL*	
STATE	NEW MEXICO			KIDNEY	307.0	100	10	.005	<MRL*	<MRL*	
CAUSE OF DEATH	DRUGS	YEAR	1970	RIB	91.0	200	100	.018	<MRL*	<MRL*	
NEW CODE NO.	NA	KG	NA								
CASE NO.	5-148	SEX	M	LIVER	1350.0	1000	250	.649	2.60	1.92	3.27
OCCUPATION	EVIL DDER	AGE	19	LUNG	780.0	1000	250	.043	.17	.23	.23
RESIDENT	ANTON CHICO	YEARS	NA	LYMPH	2.0	25	10	.007	<MRL*	<MRL*	
STATE	NEW MEXICO			KIDNEY	280.0	100	10	.011	<MRL*	<MRL*	
CAUSE OF DEATH	BULLETS	YEAR	1971	VERTEBRAE	95.0	200	100	.074	.15	1.56	10.91
NEW CODE NO.	E919.0	KG	NA								
CASE NO.	7- 18	SEX	M	LIVER	1726.0	1000	250	.930	3.72	2.16	3.66
OCCUPATION	NA	AGE	38	LUNG	1917.0	1000	250	.169	.76	.39	.39
RESIDENT	DULCE	YEARS	NA	LYMPH	9.8	25	10	.004	<MRL*	<MRL*	
STATE	NEW MEXICO			KIDNEY	223.0	100	10	.012	<MRL*	<MRL*	
CAUSE OF DEATH	SEPSIS	YEAR	1971	VERTEBRAE	74.0	200	100	.019	<MRL*	<MRL*	
NEW CODE NO.	853.9	KG	NA								
CASE NO.	7- 22	SEX	M	LIVER	1474.0	1000	250	.240	.96	.65	1.11
OCCUPATION	NA	AGE	19	LUNG	1025.0	1000	250	.141	.56	.55	.55
RESIDENT	SANTA FE	YEARS	NA	LYMPH	3.0	25	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICO			KIDNEY	337.0	100	10	.006	<MRL*	<MRL*	
CAUSE OF DEATH	DRUG OVERDOSE	YEAR	1971	VERTEBRAE	102.0	200	100	.030	.86	.59	4.12
NEW CODE NO.	989.8	KG	NA								

TABLE A-III COLORADO CASES ANALYZED FOR PLUTONIUM

\*MRL = MINIMUM REPORTING LEVEL = 0.03 D/H PER SAMPLE VOL ANALYZED BASED ON TOTAL COUNTS, BKG, AND RECOVERY STATISTICS

CASE NO.	SEX	AGE	YEARS	STATE	CAUSE OF DEATH	MEM CODE NO.	TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
5-100	M	49	NA	COLORADO	CORONARY OCC	420.1	LUNG LYMPH KIDNEY RIB	1355.0 10.0 400.0 117.0	500 25 100 200	250 10 10 100	.331 .012 .010 .079	.66 <MRL* <MRL* .16	.49 <MRL* <MRL* 1.35	.49 <MRL* <MRL* 9.45
6- 2	NA	NA	NA	COLORADO	NA	NA	LIVER LUNG LYMPH RIB	465.0 190.0 3.0 162.0	500 500 25 200	250 250 10 50	.660 .125 .012 .009	1.32 .25 <MRL* <MRL*	2.84 1.32 <MRL* <MRL*	4.83 1.32 <MRL* <MRL*
6- 4	NA	NA	NA	COLORADO	NA	NA	LIVER LUNG LYMPH RIB	500.0 325.0 3.0 150.0	500 500 25 200	250 250 10 50	.666 .548 .051 .033	1.33 1.10 .13 .13	2.66 3.37 42.50 .88	4.53 3.37 .42 6.16
6- 6	NA	NA	NA	COLORADO	NA	NA	LIVER LUNG LYMPH RIB	387.0 233.0 25.0 151.0	500 500 25 200	250 250 10 50	.412 .064 0.000 .021	.82 .13 <MRL* <MRL*	2.13 .55 <MRL* <MRL*	3.62 .55 <MRL* <MRL*
6- 8	NA	NA	NA	COLORADO	NA	NA	LIVER LUNG LYMPH RIB	1013.0 502.0 10.0 144.0	500 500 25 200	250 250 10 50	1.545 .133 .076 .004	3.09 .27 <MRL* <MRL*	3.05 .53 <MRL* <MRL*	5.19 .53 <MRL* <MRL*
6- 10	NA	NA	NA	COLORADO	NA	NA	LUNG LYMPH RIB	404.0 17.0 197.0	500 25 200	250 10 50	1.000 .050 .057	2.00 .13 .23	4.95 7.35 1.16	4.95 .07 8.18
6- 12	NA	NA	NA	COLORADO	NA	NA	LIVER LUNG LYMPH RIB	343.0 137.0 2.0 116.0	500 500 25 200	250 250 10 50	.286 .030 .009 .037	.57 .06 <MRL* .15	1.67 .44 <MRL* 1.28	2.83 .44 <MRL* 8.93
6- 14	NA	NA	NA	COLORADO	NA	NA	LUNG LYMPH RIB	1165.0 107.0 230.0	500 25 200	250 10 50	.594 .018 .054	1.19 <MRL* .22	1.02 <MRL* .94	1.02 <MRL* 6.57
6- 16	NA	NA	NA	COLORADO	NA	NA	LIVER LUNG RIB	410.0 390.0 229.0	500 500 200	250 250 50	.615 .125 0.000	1.23 .25 <MRL*	3.00 .64 <MRL*	5.10 .64 <MRL*
6- 18	NA	NA	NA	COLORADO	NA	NA	LIVER LYMPH RIB	715.0 3.0 125.0	500 25 200	250 10 50	1.140 .009 .043	2.30 <MRL* .25	3.21 <MRL* 2.02	5.48 <MRL* 14.11
5- 20	NA	NA	NA	COLORADO	NA	NA	LIVER LUNG LYMPH RIB	613.0 443.0 12.0 210.0	500 500 25 200	250 250 10 50	.518 .192 0.000 0.000	1.04 .38 <MRL* <MRL*	1.69 .87 <MRL* <MRL*	2.87 .87 <MRL* <MRL*
6- 22	NA	NA	NA	COLORADO	NA	NA	LIVER LYMPH RIB	310.0 5.0 138.0	500 25 200	250 10 50	.154 0.000 .028	.31 <MRL* <MRL*	.99 <MRL* <MRL*	1.60 <MRL* <MRL*

CASE NO.	RESIDENT	STATE	CAUSE OF DEATH	MEM CODE NO.	SEX	AGE	YEARS	KG	TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
6- 26	NA	COLORADO	NA	NA	NA	NA	NA	NA	LUNG	428.0	1000	250	.021	<MRL*	<MRL*	
	NA	NA	NA	NA	NA	NA	NA	NA	LYMPH	10.0	25	10	.008	<MRL*	<MRL*	
	NA	NA	NA	NA	NA	NA	NA	NA	RIB	150.0	200	50	.014	<MRL*	<MRL*	
6- 28	NA	COLORADO	HEART DISEASE	420.1	M	75	NA	NA	LIVER	958.0	1000	250	.622	2.49	2.60	4.42
	NA	NA	NA	NA	M	75	NA	NA	LUNG	1215.0	1000	250	.387	1.55	1.27	1.27
	NA	NA	NA	NA	M	75	NA	NA	KIDNEY	358.0	100	10	.064	.64	1.79	.54
	NA	NA	NA	NA	M	75	NA	NA	RIB	23.0	200	50	.023	<MRL*	<MRL*	
6- 30	NA	COLORADO	CORONARY OCCLUSI	420.3	M	52	NA	NA	LIVER	2038.0	1000	250	.552	2.21	1.08	1.84
	NA	NA	NA	NA	M	52	NA	NA	LUNG	1001.0	1000	250	.107	.43	.43	.43
	NA	NA	NA	NA	M	52	NA	NA	LYMPH	284.0	74	10	0.000	<MRL*	<MRL*	
	NA	NA	NA	NA	M	52	NA	NA	KIDNEY	420.0	100	10	.082	.82	1.04	.50
	NA	NA	NA	NA	M	52	NA	NA	GONAD	181.0	100	10	.091	.91	5.03	.20
6- 32	NA	COLORADO	NA	NA	NA	NA	NA	NA	LIVER	867.0	1000	250	.906	3.62	4.18	7.11
	NA	NA	NA	NA	NA	NA	NA	NA	LUNG	255.0	1000	250	.064	.26	1.00	1.00
	NA	NA	NA	NA	NA	NA	NA	NA	LYMPH	2.0	25	10	.030	.07	37.50	.37
	NA	NA	NA	NA	NA	NA	NA	NA	RIB	68.0	200	50	0.000	<MRL*	<MRL*	
6- 34	NA	COLORADO	NA	NA	NA	NA	NA	NA	LIVER	423.0	1000	250	.327	1.31	3.09	5.26
	NA	NA	NA	NA	NA	NA	NA	NA	LUNG	370.0	1000	250	.034	.14	.37	.37
	NA	NA	NA	NA	NA	NA	NA	NA	RIB	225.0	200	50	0.000	<MRL*	<MRL*	
6- 36	NA	COLORADO	HEART DISEASE	420.0	M	72	NA	NA	LIVER	1400.0	1000	250	1.073	4.29	3.07	5.21
	NA	NA	NA	NA	M	72	NA	NA	KIDNEY	225.0	100	10	.096	.96	4.27	1.28
	NA	NA	NA	NA	M	72	NA	NA	RIB	16.0	200	50	.006	<MRL*	<MRL*	
	NA	NA	NA	NA	M	72	NA	NA	GONAD	72.0	100	10	.077	.77	10.69	.43
6- 38	NA	COLORADO	HEART FAILURE	420.2	M	81	NA	NA	LIVER	1785.0	1000	250	.493	1.97	1.18	1.88
	NA	NA	NA	NA	M	81	NA	NA	LUNG	1181.0	1000	250	.066	.26	.22	.22
	NA	NA	NA	NA	M	81	NA	NA	LYMPH	10.0	25	10	.027	<MRL*	<MRL*	
	NA	NA	NA	NA	M	81	NA	NA	KIDNEY	390.0	100	10	.121	1.21	3.10	.93
	NA	NA	NA	NA	M	81	NA	NA	RIB	37.0	200	50	.026	<MRL*	<MRL*	
6- 40	NA	COLORADO	PULMONARY THROMB	465.0	F	78	NA	NA	LIVER	1106.0	1000	250	.449	1.88	1.70	2.88
	NA	NA	NA	NA	F	78	NA	NA	LUNG	1211.0	1000	250	.276	1.10	.91	.91
	NA	NA	NA	NA	F	78	NA	NA	KIDNEY	357.0	100	10	-0.010	<MRL*	<MRL*	
	NA	NA	NA	NA	F	78	NA	NA	RIB	26.0	200	50	0.000	<MRL*	<MRL*	
6- 42	NA	COLORADO	LIVER ABSCESS	582.0	M	74	NA	NA	LIVER	1514.0	1000	250	.855	3.42	2.26	1.84
	NA	NA	NA	NA	M	74	NA	NA	LUNG	1310.0	1000	250	.341	1.36	1.04	1.04
	NA	NA	NA	NA	M	74	NA	NA	LYMPH	93.0	25	10	0.000	<MRL*	<MRL*	
	NA	NA	NA	NA	M	74	NA	NA	KIDNEY	1064.0	100	10	-0.014	<MRL*	<MRL*	
	NA	NA	NA	NA	M	74	NA	NA	RIB	17.0	200	50	.028	<MRL*	<MRL*	
6- 44	NA	COLORADO	ARTERIAL OCC	420.1	M	53	NA	NA	LIVER	2142.0	1000	250	.613	2.45	1.13	1.93
	NA	NA	NA	NA	M	53	NA	NA	LUNG	2251.0	1000	250	.349	1.40	.62	.62
	NA	NA	NA	NA	M	53	NA	NA	LYMPH	2.0	25	10	0.000	<MRL*	<MRL*	
	NA	NA	NA	NA	M	53	NA	NA	RIB	30.0	200	50	.016	.16	<MRL*	
	NA	NA	NA	NA	M	53	NA	NA	GONAD	60.0	100	10	.110	1.10	10.33	.73
6- 46	NA	COLORADO	MYCARDIAL INF	420.1	F	68	NA	NA	LIVER	717.0	1000	250	.411	1.64	2.29	3.90
	NA	NA	NA	NA	F	68	NA	NA	LUNG	1000.0	1000	250	.075	.38	.38	.38
	NA	NA	NA	NA	F	68	NA	NA	LYMPH	5.0	25	10	0.000	<MRL*	<MRL*	
	NA	NA	NA	NA	F	68	NA	NA	RIB	255.0	200	50	.017	<MRL*	<MRL*	
6- 48	NA	COLORADO	CARCINOMA	172	F	59	NA	NA	LIVER	985.0	1000	250	.588	2.24	2.20	3.49
	NA	NA	NA	NA	F	59	NA	NA	LUNG	490.0	1000	250	.022	<MRL*	<MRL*	
	NA	NA	NA	NA	F	59	NA	NA	RIB	52.0	200	50	.027	<MRL*	<MRL*	



			TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)	
CASE NO.	6- 50	SEX	M	LIVER	1399.0	1000	250	.357	1.43	1.03	1.75
OCCUPATION	MOTEL MNGR	AGE	58	LUNG	1508.0	1000	250	.092	.37	.24	.24
RESIDENT	NA	YEARS	NA	LYMPH	6.0	25	10	.017	<MRL>	<MRL>	
STATE	COLORADO	YEARS	NA	KIDNEY	343.0	100	10	.019	<MRL>	<MRL>	
CAUSE OF DEATH	CORONARY OCC	YEAR	1971	RIB	50.0	200	50	.019	<MRL>	<MRL>	
HEW CODE NO.	420.1	KG	NA								
CASE NO.	6- 52	SEX	F	LIVER	2156.0	1000	250	.322	1.20	.60	1.02
OCCUPATION	HOUSEWIFE	AGE	46	LUNG	1613.0	1000	250	.161	.64	.40	.40
RESIDENT	NA	YEARS	NA	LYMPH	3.0	25	10	.036	.09	30.00	.30
STATE	COLORADO	YEARS	NA	KIDNEY	355.0	100	10	.100	1.00	2.42	.85
CAUSE OF DEATH	DIARETES MELL	YEAR	1971								
HEW CODE NO.	260.0	KG	NA								
CASE NO.	6- 54	SEX	M	LIVER	3078.0	1000	250	.489	1.96	1.81	3.08
OCCUPATION	NET GROCER	AGE	66	LUNG	1375.0	1000	250	.075	.30	.19	.19
RESIDENT	NA	YEARS	NA	KIDNEY	480.0	100	10	.040	.49	1.02	.31
STATE	COLORADO	YEARS	NA	RIB	18.0	200	50	.006	<MRL>	<MRL>	
CAUSE OF DEATH	PERITONITIS	YEAR	1971	GONAD	68.0	100	10	.030	.38	4.41	.18
HEW CODE NO.	576	KG	NA								
CASE NO.	6- 56	SEX	F	LIVER	1070.0	1000	250	.017	<MRL>	<MRL>	
OCCUPATION	NA	AGE	86	LUNG	925.0	1000	250	.348	1.39	1.59	1.50
RESIDENT	NA	YEARS	NA	LYMPH	0.0	25	10	.003	<MRL>	<MRL>	
STATE	COLORADO	YEARS	NA	KIDNEY	425.0	100	10	.075	<MRL>	<MRL>	
CAUSE OF DEATH	HEART DISEASE	YEAR	1971	RIB	14.0	200	50	.019	<MRL>	<MRL>	
HEW CODE NO.	420.0	KG	NA								
CASE NO.	6- 58	SEX	M	LUNG	978.0	1000	250	.101	.40	.41	.41
OCCUPATION	NA	AGE	72	LYMPH	5.0	25	10	.023	<MRL>	<MRL>	
RESIDENT	NA	YEARS	NA	KIDNEY	259.0	100	10	.071	.71	2.46	.85
STATE	COLORADO	YEARS	NA	RIB	30.0	200	50	0.000	<MRL>	<MRL>	
CAUSE OF DEATH	HEART DISEASE	YEAR	1971								
HEW CODE NO.	420.2	KG	NA								
CASE NO.	6- 60	SEX	M	LIVER	1520.0	1000	250	.471	1.88	1.24	2.11
OCCUPATION	SALESMAN	AGE	NA	LUNG	1470.0	1000	250	.114	.47	.32	.32
RESIDENT	NA	YEARS	NA	LYMPH	3.0	25	10	0.000	<MRL>	<MRL>	
STATE	COLORADO	YEARS	NA	RIB	27.0	200	50	0.000	<MRL>	<MRL>	
CAUSE OF DEATH	EMPHYSEMA	YEAR	1971								
HEW CODE NO.	502.0	KG	NA								
CASE NO.	6- 62	SEX	M	LIVER	1600.0	1000	250	1.327	5.31	3.32	5.64
OCCUPATION	FLR MILLER	AGE	71	LUNG	2450.0	1000	250	.120	.52	.21	.21
RESIDENT	NA	YEARS	NA	LYMPH	7.0	25	10	.008	<MRL>	<MRL>	
STATE	COLORADO	YEARS	NA	RIB	142.0	200	50	.029	<MRL>	<MRL>	
CAUSE OF DEATH	EMPHYSEMA	YEAR	1971	GONAD	95.0	100	10	0.000	<MRL>	<MRL>	
HEW CODE NO.	527.1	KG	NA								
CASE NO.	6- 64	SEX	M	LIVER	2311.0	1000	250	.292	1.17	.51	.86
OCCUPATION	FARMER	AGE	75	LUNG	908.0	1000	250	.061	.24	.27	.27
RESIDENT	NA	YEARS	NA	LYMPH	8.0	25	10	.014	<MRL>	<MRL>	
STATE	COLORADO	YEARS	NA	KIDNEY	240.0	100	10	.066	.66	2.66	.89
CAUSE OF DEATH	HEART DISEASE	YEAR	1971	RIB	70.0	200	50	.131	.52	7.49	52.40
HEW CODE NO.	420.1	KG	NA								
CASE NO.	6- 66	SEX	M	LIVER	1067.0	1000	250	1.431	5.72	5.36	9.12
OCCUPATION	CARPENTER	AGE	70	LUNG	1510.0	1000	250	.262	1.05	.69	.69
RESIDENT	NA	YEARS	NA	KIDNEY	410.0	100	10	.030	.30	.73	.22
STATE	COLORADO	YEARS	NA	RIB	120.0	200	50	0.000	<MRL>	<MRL>	
CAUSE OF DEATH	CARCINOMA	YEAR	1971	GONAD	35.0	100	10	.060	.60	17.16	.69
HEW CODE NO.	162.1	KG	NA								
CASE NO.	6- 68	SEX	F	LIVER	1128.0	1000	250	.351	1.40	1.20	2.12
OCCUPATION	HOUSEWIFE	AGE	83	LUNG	950.0	1000	250	.185	.74	.78	.78
RESIDENT	NA	YEARS	NA	LYMPH	0.0	25	10	0.000	<MRL>	<MRL>	
STATE	COLORADO	YEARS	NA	KIDNEY	120.0	100	10	.070	.70	5.83	1.75
CAUSE OF DEATH	MYOCARDIAL INF	YEAR	1971	RIB	145.0	200	50	.057	.23	1.23	8.63
HEW CODE NO.	420.1	KG	NA	GONAD	3.0	100	10	.060	.60	200.00	0.60
CASE NO.	6- 70	SEX	M	LIVER	830.0	1000	250	.351	1.48	1.60	2.88
OCCUPATION	COAL MINR	AGE	69	LUNG	1078.0	1000	250	.223	.89	.83	.83
RESIDENT	NA	YEARS	NA	LYMPH	30.0	25	10	.014	<MRL>	<MRL>	
STATE	COLORADO	YEARS	NA	KIDNEY	157.0	100	10	.007	<MRL>	<MRL>	
CAUSE OF DEATH	PUL EMPHOLISM	YEAR	1971	RIB	300.0	200	50	.156	.62	1.64	11.49
HEW CODE NO.	465.0	KG	NA								
CASE NO.	6- 72	SEX	F	LIVER	1320.0	1000	250	.445	1.86	1.60	2.38
OCCUPATION	NA	AGE	80	LUNG	898.0	1000	250	.066	.25	.30	.30
RESIDENT	NA	YEARS	NA	LYMPH	140.0	25	10	0.000	<MRL>	<MRL>	
STATE	COLORADO	YEARS	NA	KIDNEY	272.0	100	10	.019	<MRL>	<MRL>	
CAUSE OF DEATH	PNEUMONIA	YEAR	1971	RIB	190.0	200	50	.200	.83	4.38	30.65
HEW CODE NO.	493.0	KG	NA								

			TISSUE	WF. WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
CASE NO.	6- 76	SEX	M LIVER	996.0	1000	250	0.000	<MRL*	<MRL*	
OCCUPATION	NA	AGE	66 LUNG	745.0	1000	250	.294	.82	1.10	1.10
RESIDENT	NA	YEARS	NA LYMPH	2.0	25	10	.018	<MRL*	<MRL*	
STATE	COLORADO	CAUSE OF DEATH	KIDNEY	282.0	100	10	.035	.35	1.24	.37
NEW CODE NO.	420.0	YEAR	1971 RIB	72.0	200	50	.055	.22	3.06	21.39
		KG	NA GONAD	42.0	100	10	.025	MRL*	MRL*	
CASE NO.	6- 78	SEX	M LIVER	1116.0	1000	250	1.011	4.04	3.62	6.16
OCCUPATION	RETIRED	AGE	26 LUNG	505.0	1000	250	.237	.95	1.87	1.87
RESIDENT	NA	YEARS	NA LYMPH	2.0	25	10	.005	<MRL*	<MRL*	
STATE	COLORADO	CAUSE OF DEATH	RIB	100.0	200	50	.058	.23	2.32	16.24
NEW CODE NO.	527.1	YEAR	1971 GONAD	38.0	100	10	.015	<MRL*	<MRL*	
		KG	NA							
CASE NO.	6- 80	SEX	M LUNG	1550.0	1000	250	.074	.30	.20	.20
OCCUPATION	MANTCEMAN	AGE	60 LYMPH	8.0	25	10	0.000	<MRL*	<MRL*	
RESIDENT	NA	YEARS	NA KIDNEY	280.0	100	10	.034	.34	1.21	.34
STATE	COLORADO	CAUSE OF DEATH	RIB	77.0	200	50	.109	.44	5.66	39.64
NEW CODE NO.	492.0	YEAR	1971							
		KG	NA							
CASE NO.	6- 82	SEX	M LIVER	1876.0	1000	250	.453	1.81	.97	1.64
OCCUPATION	PAINTER	AGE	62 LUNG	1323.0	1000	250	.069	.24	.18	.18
RESIDENT	NA	YEARS	NA LYMPH	6.0	25	10	0.000	<MRL*	<MRL*	
STATE	COLORADO	CAUSE OF DEATH	KIDNEY	688.0	100	10	.033	.33	.48	.34
NEW CODE NO.	998.1	YEAR	1971 RIB	107.0	200	50	.067	.27	2.46	17.21
		KG	NA							
CASE NO.	6- 84	SEX	M LIVER	1758.0	1000	250	.048	.19	.11	.19
OCCUPATION	RR TNS MAN	AGE	56 LUNG	939.0	1000	250	.284	1.14	1.22	1.22
RESIDENT	NA	YEARS	NA LYMPH	2.0	25	10	.001	<MRL*	<MRL*	
STATE	COLORADO	CAUSE OF DEATH	KIDNEY	468.0	100	10	.041	.43	.92	.28
NEW CODE NO.	332.1	YEAR	1971 RIB	180.0	200	50	.048	.27	1.51	10.58
		KG	NA							
CASE NO.	6- 85	SEX	M LIVER	1014.0	1000	250	.238	.95	.94	1.60
OCCUPATION	MINISTER	AGE	80 LUNG	970.0	1000	250	.366	1.46	1.51	1.51
RESIDENT	NA	YEARS	NA LYMPH	1.5	23	10	0.000	<MRL*	<MRL*	
STATE	COLORADO	CAUSE OF DEATH	KIDNEY	199.0	100	10	.013	<MRL*	<MRL*	
NEW CODE NO.	434.1	YEAR	1971 RIB	123.0	200	50	.263	1.05	8.55	50.87
		KG	NA							
CASE NO.	6- 88	SEX	NA LIVER	1611.0	1000	250	.466	1.86	1.18	1.97
OCCUPATION	LARDNER	AGE	18 LUNG	1613.0	1000	250	.623	2.49	1.54	1.54
RESIDENT	NA	YEARS	NA LYMPH	2.2	25	10	.006	<MRL*	<MRL*	
STATE	COLORADO	CAUSE OF DEATH	RIB	132.0	200	50	.284	1.14	8.61	60.24
NEW CODE NO.	493.9	YEAR	1971							
		KG	NA							
CASE NO.	6- 90	SEX	M LIVER	2432.0	1000	250	.497	1.99	.82	1.39
OCCUPATION	FARMER	AGE	75 LUNG	1085.0	1000	250	.021	<MRL*	<MRL*	
RESIDENT	NA	YEARS	NA LYMPH	3.0	25	10	.188	.47	156.67	1.57
STATE	COLORADO	CAUSE OF DEATH	RIB	415.0	200	50	.494	1.98	4.76	33.33
NEW CODE NO.	465.0	YEAR	1971							
		KG	NA							
CASE NO.	6- 92	SEX	M LIVER	2784.0	1000	250	.128	.51	.18	.31
OCCUPATION	US MR STDY	AGE	45 LUNG	1119.0	1000	250	.072	.29	.26	.26
RESIDENT	NA	YEARS	NA LYMPH	1.7	25	10	.005	<MRL*	<MRL*	
STATE	COLORADO	CAUSE OF DEATH	RIB	370.0	200	50	.034	.14	.37	2.57
NEW CODE NO.	578.2	YEAR	1971							
		KG	NA							
CASE NO.	6- 94	SEX	F LIVER	850.0	1000	250	.257	1.03	1.21	2.06
OCCUPATION	NA	AGE	79 LUNG	845.0	1000	250	.322	1.29	1.52	1.52
RESIDENT	NA	YEARS	NA LYMPH	3.4	25	10	.005	<MRL*	<MRL*	
STATE	COLORADO	CAUSE OF DEATH	KIDNEY	122.0	100	10	.080	.80	6.56	1.97
NEW CODE NO.	317.9	YEAR	1971 RIB	255.0	200	50	.194	.78	3.04	21.30
		KG	NA							
CASE NO.	6- 96	SEX	F LIVER	2463.0	1000	250	.092	.37	.15	.25
OCCUPATION	NA	AGE	38 LUNG	1460.0	1000	250	.076	.30	.21	.21
RESIDENT	NA	YEARS	NA KIDNEY	200.0	100	10	.067	<MRL*	<MRL*	
STATE	COLORADO	CAUSE OF DEATH	RIB	285.0	200	50	.071	.28	1.88	6.98
NEW CODE NO.	465.0	YEAR	1971							
		KG	NA							
CASE NO.	6- 98	SEX	M LIVER	1660.0	1000	250	.028	<MRL*	<MRL*	
OCCUPATION	NA	AGE	20 KIDNEY	170.0	100	10	.010	<MRL*	<MRL*	
RESIDENT	NA	YEARS	NA RIB	300.0	200	50	.110	.44	1.47	10.27
STATE	COLORADO	CAUSE OF DEATH	GONAD	50.3	100	10	.032	.32	6.56	.25
NEW CODE NO.	889.8	YEAR	1971							
		KG	NA							

CASE NO.	OCCUPATION	RESIDENT	STATE	CAUSE OF DEATH	NEW CODE NO.	SEX	AGE	YEARS	YEAR	KG	TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGM WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGM (DIS/MIN)
6-100	P.O. CLERK	NA	COLORADO	EMPHYSEMA	527.1	M	60	NA	1971	NA	LIVER RIB	2010.0 200.0	1000 200	250 50	1.250 .164	5.04 .66	2.91 3.28	4.26 22.98
6-102	M SHP WKR	NA	COLORADO	KID CANCER	780.0	M	66	NA	1971	NA	LIVER LUNG LYMPH RIB	1479.0 1298.0 16 150.0	1000 1000 25 200	250 250 10 50	.838 .122 .007 0.000	3.35 .49 <MRL> <MRL>	2.28 .38 1.72 <MRL>	3.88 .38 <MRL> <MRL>
6-104	PROFESSOR	NA	COLORADO	MYOCARDIAL INF	420.1	M	66	NA	1971	NA	LIVER LUNG LYMPH KIDNEY RIB	1210.0 1270.0 10.0 320.0 160.0	1000 1000 25 100 200	250 250 10 10 50	1.005 .122 .006 .055 .016	4.02 .60 <MRL> .55 <MRL>	3.32 .38 <MRL> 1.72 <MRL>	5.65 .38 <MRL> .52 <MRL>
6-106	NA	NA	COLORADO	PULMON EMROL	491.9	M	NA	NA	1971	NA	LUNG KIDNEY RIB VERTEBRAE	1700.0 170.0 60.0 210.0	1000 100 200 200	250 10 50 50	.029 .056 .004 .016	<MRL> .56 <MRL> <MRL>	<MRL> 3.29 <MRL> <MRL>	.09 <MRL> <MRL> <MRL>
6-108	PHYSICIST	NA	COLORADO	CAPRN MONKID	902.7	M	49	NA	1971	NA	LIVER LUNG KIDNEY RIB	1270.0 970.0 102.0 50.0	1000 1000 100 200	250 250 10 50	.163 .635 .040 .004	.65 2.54 .60 <MRL>	2.62 2.62 3.92 <MRL>	.87 2.62 1.18 <MRL>
6-110	BARRIER	NA	COLORADO	COLON CANCER	153.3	M	83	NA	1971	NA	LIVER LUNG KIDNEY RIB VERTEBRAE	1081.0 810.0 117.0 50.0 225.0	1000 1000 100 200 200	100 250 10 50 50	.421 .003 .049 .007 .007	4.21 .37 <MRL> .49 <MRL>	2.24 .46 4.10 <MRL> <MRL>	3.80 .46 1.28 <MRL> <MRL>
6-112	NA	NA	COLORADO	THYROID CANCER	194.0	F	75	NA	1971	NA	LIVER LUNG RIB	1300.0 559.0 5.0	1000 1000 200	250 250 50	.434 .093 .012	1.74 .37 <MRL>	1.33 .67 <MRL>	2.25 .67 <MRL>
6-114	NA	NA	COLORADO	EMPHYSEMA	434.7	M	65	NA	1971	NA	LIVER LUNG KIDNEY RIB	1200.0 1430.0 172.0 127.0	1000 1000 100 200	250 250 10 50	.420 .257 .049 .019	1.68 1.03 .49 <MRL>	1.40 .71 2.85 <MRL>	2.38 .71 .85 <MRL>
6-116	NA	NA	COLORADO	PULM INFARCT	465.0	F	98	NA	1971	NA	LIVER LUNG KIDNEY VERTEBRAE RIB	990.0 1031.0 104.0 104.0 52.0	1000 1000 100 200 200	250 250 10 50 50	.407 .154 .069 .004 .009	1.63 .62 .69 <MRL> <MRL>	1.64 .60 6.33 <MRL> <MRL>	2.80 .60 1.40 <MRL> <MRL>
6-118	CUSTODIAN	NA	COLORADO	CON THROMBOS	420.1	M	57	NA	1971	NA	LIVER LUNG KIDNEY RIB	1662.0 1090.0 181.0 133.0	1000 1000 100 200	250 250 10 50	.740 .153 .069 0.700	2.96 .61 .69 <MRL>	1.78 .56 3.81 <MRL>	3.03 .56 1.14 <MRL>
6-120	NA	NA	COLORADO	HEARTATTACK	433.1	M	64	NA	1971	NA	LIVER LUNG KIDNEY VERTEBRAE GONAD	1276.0 1582.0 199.0 205.0 53.0	1000 1000 100 200 100	250 250 10 100 10	.247 .113 .070 .176 .030	.99 .45 <MRL> .35 .30	.77 .29 <MRL> 1.72 5.66	1.32 .29 <MRL> 12.02 .23
6-122	NA	NA	COLORADO	PNEUMONIA	491.8	M	81	NA	1971	NA	LIVER LUNG KIDNEY VERTEBRAE GONAD	1050.0 486.0 154.0 186.0 37.0	1000 1000 100 500 100	250 250 10 108 10	.912 .063 .013 .047 .020	3.25 .33 <MRL> .23 <MRL>	3.07 .68 <MRL> 1.42 <MRL>	5.21 .68 <MRL> 9.01 <MRL>

			TISSUE	WEIGHT OF SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)	
CASE NO.	6-124	SEX	F	LIVER	598.0	1000	250	.023	<MRL*	<MRL*	
OCCUPATION	NA	AGE	36	LUNG	1032.0	1000	250	.048	.19	.19	
RESIDENT	NA	YEARS	NA	KIDNEY	122.0	100	10	.060	.60	4.92	1.48
STATE	COLORADO			VERTEBRAE	163.0	200	100	.110	.22	1.35	0.45
CAUSE OF DEATH	CIRRHOSIS	YEAR	1971								
MEM CODE NO.	581.1	KG	NA								
CASE NO.	6-126	SEX	M	LIVER	1072.0	1000	10	.560	56.00	52.24	88.81
OCCUPATION	NA	AGE	44	LUNG	2512.0	1000	10	.290	29.00	11.56	11.56
RESIDENT	NA	YEARS	NA	KIDNEY	196.0	100	10	.026	<MRL*	<MRL*	
STATE	COLORADO			GONAD	47.0	100	10	.043	.43	9.15	.37
CAUSE OF DEATH	PNEUMONIA	YEAR	1971								
MEM CODE NO.	493.9	KG	NA								
CASE NO.	6-128	SEX	M	LIVER	586.0	1000	10	.610	61.00	88.92	151.17
OCCUPATION	IND WKR	AGE	49	LUNG	1534.0	1000	250	.082	.33	.21	.21
RESIDENT	NA	YEARS	NA	KIDNEY	194.0	100	10	.040	.40	2.08	.42
STATE	COLORADO			VERTEBRAE	174.0	200	100	.073	.15	.84	5.87
CAUSE OF DEATH	FRACT SKULL	YEAR	1971	GONAD	50.0	100	10	.048	.48	9.60	.38
MEM CODE NO.	801.0	KG	NA								
CASE NO.	6-130	SEX	M	LIVER	2220.0	1000	10	.150	15.00	6.76	11.49
OCCUPATION	NA	AGE	46	LUNG	1137.0	1000	250	.071	.28	.25	.25
RESIDENT	NA	YEARS	NA	KIDNEY	345.0	100	10	.010	<MRL*	<MRL*	
STATE	COLORADO			VERTEBRAE	140.0	200	100	.091	.18	1.30	9.10
CAUSE OF DEATH	FRACT SKULL	YEAR	1971	GONAD	7.0	100	10	.120	1.20	16.44	.46
MEM CODE NO.	803.0	KG	NA								
CASE NO.	6-132	SEX	M	LIVER	1372.0	1000	10	.910	91.00	66.33	112.76
OCCUPATION	NA	AGE	89	LUNG	820.0	1000	250	.185	.74	.90	.90
RESIDENT	NA	YEARS	NA	KIDNEY	237.0	100	10	.040	.40	1.69	.51
STATE	COLORADO			GONAD	20.0	100	10	.040	.40	20.00	.80
CAUSE OF DEATH	SKULL FRACT	YEAR	1971								
MEM CODE NO.	803.0	KG	NA								
CASE NO.	6-134	SEX	F	LIVER	752.0	1000	250	.296	1.18	1.57	2.68
OCCUPATION	HOUSEWIFE	AGE	54	LUNG	912.0	1000	250	.113	.45	.50	.50
RESIDENT	NA	YEARS	NA	LYMPH	2.2	25	10	.030	.07	36.00	.36
STATE	COLORADO			KIDNEY	113.0	100	10	.090	.90	7.88	2.12
CAUSE OF DEATH	HEART DESFAS	YEAR	1971								
MEM CODE NO.	420.0	KG	NA								
CASE NO.	6-137	SEX	F	LUNG	1201.0	1000	250	.338	1.35	1.23	1.23
OCCUPATION	NA	AGE	57	LYMPH	4.8	25	10	.180	.45	93.75	.94
RESIDENT	NA	YEARS	NA	KIDNEY	99.0	100	10	0.000	<MRL*	<MRL*	
STATE	COLORADO			VERTEBRAE	136.0	500	100	.069	.36	2.54	17.76
CAUSE OF DEATH	NA	YEAR	1971								
MEM CODE NO.	NA	KG	NA								
CASE NO.	6-131	SEX	NA	LIVER	791.0	1000	250	.204	.82	1.63	1.75
OCCUPATION	NA	AGE	40	LUNG	1119.0	1000	250	.257	1.03	.92	.92
RESIDENT	NA	YEARS	NA	KIDNEY	227.0	100	10	.055	.55	2.42	.73
STATE	COLORADO			VERTEBRAE	255.0	500	100	.233	1.16	4.57	31.98
CAUSE OF DEATH	PNEUMONIA	YEAR	1971	GONAD	20.0	100	10	.050	.50	25.00	1.00
MEM CODE NO.	581.0	KG	NA								
CASE NO.	6-140	SEX	F	LIVER	585.0	1000	250	.266	1.06	1.82	3.09
OCCUPATION	NA	AGE	75	LUNG	394.0	1000	250	.138	.55	1.38	1.38
RESIDENT	NA	YEARS	NA	KIDNEY	86.0	100	10	.076	.76	8.84	2.65
STATE	COLORADO			VERTEBRAE	73.0	200	100	.012	<MRL*	<MRL*	
CAUSE OF DEATH	SUICIDE	YEAR	1971								
MEM CODE NO.	E979.	KG	NA								
CASE NO.	6-142	SEX	M	LIVER	534.0	1000	250	.468	1.87	3.51	5.98
OCCUPATION	NA	AGE	21	LUNG	1048.0	1000	250	.083	.33	.32	.32
RESIDENT	NA	YEARS	NA	LYMPH	1.6	25	10	.188	.42	262.50	2.62
STATE	COLORADO			KIDNEY	78.0	100	10	.069	.69	8.85	2.65
CAUSE OF DEATH	GUN WND HEAD	YEAR	1971	VERTEBRAE	105.0	200	100	.041	.08	.77	5.42
MEM CODE NO.	E979.	KG	NA	GONAD	26.0	100	10	0.000	MRL*	MRL*	
CASE NO.	6-144	SEX	M	LIVER	1514.0	1000	250	1.271	5.08	3.35	5.69
OCCUPATION	DENTIST	AGE	84	LUNG	1037.0	1000	250	.118	.47	.46	.46
RESIDENT	NA	YEARS	NA	GONAD	72.0	100	10	.100	1.00	13.89	.56
STATE	COLORADO										
CAUSE OF DEATH	NA	YEAR	1971								
MEM CODE NO.	NA	KG	NA								
CASE NO.	6-146	SEX	M	LIVER	1860.0	1000	250	.580	2.32	1.25	2.72
OCCUPATION	NA	AGE	61	LUNG	1650.0	1000	250	.137	.55	.33	.33
RESIDENT	NA	YEARS	NA	LYMPH	4.7	25	10	.085	.21	45.21	.45
STATE	COLORADO			VERTEBRAE	125.0	200	100	.132	.26	2.11	14.78
CAUSE OF DEATH	GUN WND HEAD	YEAR	1971	GONAD	37.0	100	10	.051	.51	13.78	.55
MEM CODE NO.	E919.9	KG	NA								

		TISSUE	WET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)		
CASE NO.	6-148	SEX	M	LUNG	1242.0	1000	250	.101	.40	.33	.33
OCCUPATION	NA	AGE	36	LYMPH	5.1	25	10	.068	.17	33.33	.33
RESIDENT	NA	YEARS	NA	KIDNEY	235.0	100	10	-.073	<MRL*	<MRL*	
STATE	COLORADO			VERTEBRAE	99.0	200	100	.067	.13	1.35	9.47
CAUSE OF DEATH	PNEUMONIA	YEAR	1971	GONAD	34.0	100	10	.044	.44	12.94	.52
NEW CODE NO.	581.0	KG	NA								
CASE NO.	6-150	SEX	M	LUNG	1370.0	1000	250	.434	1.74	1.27	1.27
OCCUPATION	NA	AGE	55	LYMPH	2.0	25	10	.157	.39	196.25	1.96
RESIDENT	NA	YEARS	NA	KIDNEY	281.0	100	10	.061	.61	2.17	.65
STATE	COLORADO			VERTEBRAE	282.0	500	100	.096	.48	1.70	11.91
CAUSE OF DEATH	NA	YEAR	1971	GONAD	35.0	100	10	.104	1.04	29.71	1.19
NEW CODE NO.	NA	KG	NA								

TABLE A-IV LASL EMPLOYEES KNOWN TO HAVE A POTENTIAL LOW EXPOSURE TO PLUTONIUM

\*MRL = MINIMUM REPORTING LEVEL = 0.03 D/M PER SAMPLE VOL ANALYZED

BASED ON TOTAL COUNTS, BKG AND RECOVERY STATISTICS

			ISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
CASE NO.	1-54	SEX	M	LUNG	354.0	200	.740	14.80	41.81	41.81
OCCUPATION	MACHINIST	AGE	60	LYMPH	25.4	25	1.220	3.85	120.08	1.20
RESIDENT	LCS ALAMOS	YEARS	10							
STATE	NEW MEXICO									
CAUSE OF DEATH	CARDIAC	YEAR	1959							
NEW CODE NO.	434-1	KG	78							
CASE NO.	1-58	SEX	M	LIVER	1320.0	1000	1.030	10.30	7.80	13.27
OCCUPATION	MACHINIST	AGE	50	LUNG	1020.0	1000	1.370	13.70	13.43	13.43
RESIDENT	LCS ALAMOS	YEARS	08	LYMPH	22.0	100	.040	<MRL	2.82	.02
STATE	NEW MEXICO			KIDNEY	222.0	100	.020	<MRL	<MRL	<MRL
CAUSE OF DEATH	CARDIAC	YEAR	1959	VERTEBRAE	124.0	100	0.000	<MRL	<MRL	<MRL
NEW CODE NO.	420-1	KG	NA	RIB	163.0	100	.020	<MRL	<MRL	<MRL
				SPLEEN	383.0	100	.080	.06	.16	.02
CASE NO.	1-68	SEX	M	LIVER	2152.0	1000	.070	1.40	.65	1.11
OCCUPATION	MATHICIAN	AGE	36	LUNG	712.0	1000	.020	<MRL	<MRL	<MRL
RESIDENT	LCS ALAMOS	YEARS	07	LYMPH	22.5	25	0.000	<MRL	<MRL	<MRL
STATE	NEW MEXICO			KIDNEY	308.0	250	.010	<MRL	<MRL	<MRL
CAUSE OF DEATH	BAC ENDOCARDITIS	YEAR	1960							
NEW CODE NO.	430-0	KG	NA							
CASE NO.	1-74	SEX	M	LIVER	1354.0	1000	.030	.60	.44	.75
OCCUPATION	MACHINIST	AGE	48	LUNG	1380.0	1000	.200	4.00	2.90	2.90
RESIDENT	LCS ALAMOS	YEARS	07	LYMPH	2.0	25	.030	.07	37.50	.37
STATE	NEW MEXICO			KIDNEY	287.0	100	.020	<MRL	<MRL	<MRL
CAUSE OF DEATH	CIRRHOSIS	YEAR	1960							
NEW CODE NO.	156-0	KG	NA							
CASE NO.	1-80	SEX	M	LIVER	1720.0	1000	.040	.80	.47	.79
OCCUPATION	ACCOUNTANT	AGE	54	LUNG	736.0	1000	.210	4.20	5.71	5.71
RESIDENT	LCS ALAMOS	YEARS	12	LYMPH	9.0	10	.020	<MRL	<MRL	<MRL
STATE	NEW MEXICO			KIDNEY	347.0	100	2.870	28.70	80.71	24.81
CAUSE OF DEATH	MULTIPLE MYELOMA	YEAR	1960							
NEW CODE NO.	203-0	KG	83							
CASE NO.	1-94	SEX	F	LIVER	1529.0	1000	1.200	24.00	15.70	26.68
OCCUPATION	CLERK	AGE	46	LUNG	552.0	1000	.260	17.20	29.05	29.05
RESIDENT	LCS ALAMOS	YEARS	11	LYMPH	14.0	50	.390	1.95	139.29	1.39
STATE	NEW MEXICO			KIDNEY	224.0	100	0.000	<MRL	<MRL	<MRL
CAUSE OF DEATH	CORONARY OCCLUSI	YEAR	1960							
NEW CODE NO.	420-1	KG	NA							
CASE NO.	1-126	SEX	M	LIVER	1745.0	1000	.070	1.40	.89	1.36
OCCUPATION	TECHNICIAN	AGE	40	LUNG	1043.0	1000	.070	1.40	1.34	1.34
RESIDENT	LCS ALAMOS	YEARS	03	LYMPH	16.0	10	0.000	<MRL	<MRL	<MRL
STATE	NEW MEXICO			KIDNEY	286.0	100	0.000	<MRL	<MRL	<MRL
CAUSE OF DEATH	SKULL FRACTURE	YEAR	1961							
NEW CODE NO.	803-0	KG	NA							
CASE NO.	1-128	SEX	M	LIVER	1776.0	1000	.140	2.80	1.58	2.68
OCCUPATION	TECHNICIAN	AGE	31	LUNG	802.0	1000	.230	4.60	5.74	5.74
RESIDENT	LCS ALAMOS	YEARS	06	LYMPH	15.0	10	.830	.15	10.00	.10
STATE	NEW MEXICO			KIDNEY	307.0	100	0.000	<MRL	<MRL	<MRL
CAUSE OF DEATH	ASPHYXIA	YEAR	1961							
NEW CODE NO.	962-7	KG	71							
CASE NO.	1-130	SEX	M	LIVER	2134.0	1000	.140	2.80	1.31	2.23
OCCUPATION	MACHINIST	AGE	58	LUNG	1115.0	1000	.290	5.80	5.20	5.20
RESIDENT	LCS ALAMOS	YEARS	11	LYMPH	20.0	50	.060	.30	15.00	.15
STATE	NEW MEXICO			KIDNEY	325.0	100	0.000	<MRL	<MRL	<MRL
CAUSE OF DEATH	LUNG CANCER	YEAR	1961							
NEW CODE NO.	163-0	KG	NA							
CASE NO.	1-132	SEX	M	LIVER	2179.0	1000	.060	1.20	.55	.94
OCCUPATION	DRAFTSMAN	AGE	32	LUNG	923.0	1000	.090	1.80	1.95	1.95
RESIDENT	LCS ALAMOS	YEARS	05	LYMPH	3.0	10	0.000	<MRL	<MRL	<MRL
STATE	NEW MEXICO			KIDNEY	410.0	100	0.000	<MRL	<MRL	<MRL
CAUSE OF DEATH	CORONARY CCC	YEAR	1961							
NEW CODE NO.	420-1	KG	NA							
CASE NO.	1-136	SEX	M	LIVER	1741.0	1000	.150	3.00	1.72	2.93
OCCUPATION	TECHNICIAN	AGE	58	LUNG	900.0	1000	.110	2.20	2.44	2.44
RESIDENT	LCS ALAMOS	YEARS	11	LYMPH	13.0	50	0.001	<MRL	<MRL	<MRL
STATE	NEW MEXICO			KIDNEY	280.0	100	.730	7.30	25.89	7.77
CAUSE OF DEATH	CORONARY CCC	YEAR	1961							
NEW CODE NO.	420-1	KG	NA							
CASE NO.	1-140	SEX	M	LIVER	2316.0	1000	.090	1.80	.78	1.32
OCCUPATION	CLERK	AGE	38	LUNG	921.0	1000	.600	12.00	13.03	13.03
RESIDENT	LCS ALAMOS	YEARS	14	LYMPH	9.0	50	.120	.60	16.67	.67
STATE	NEW MEXICO			KIDNEY	515.0	100	.020	<MRL	<MRL	<MRL
CAUSE OF DEATH	PLL INFARCTION	YEAR	1961							
NEW CODE NO.	465-0	KG	NA							

			TISSUE	WET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/4IN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)	
CASE NO.	2- 2	SEX	F	LIVER	1894.0	1000	50	.190	3.80	2.01	3.41
OCCUPATION	CLERK	AGE	32	LUNG	1122.0	1000	50	.040	.80	.71	.71
RESIDENT	LCS ALAMOS	YEARS	16	LYMPH	6.0	50	10	.460	2.30	383.33	3.83
STATE	NEW MEXICCC			KIDNEY	282.0	100	10	.020	<MRL*	<MRL*	
CAUSE OF DEATH	LEUKEMIA	YEAR	1961								
NEW CODE NO.	204.0	KG	NA								
CASE NO.	2- 14	SEX	M	LIVER	1550.0	1000	50	.480	9.60	6.19	10.53
OCCUPATION	ELECTRICIA	AGE	63	LUNG	515.0	1900	50	.845	16.90	32.82	32.82
RESIDENT	LCS ALAMOS	YEARS	15	LYMPH	22.0	50	10	.014	<MRL*	<MRL*	
STATE	NEW MEXICCC			KIDNEY	252.0	100	10	.043	.43	1.71	.51
CAUSE OF DEATH	THROMBO EMBOLISM	YEAR	1961								
NEW CODE NO.	420.1	KG	NA								
CASE NO.	2- 20	SEX	F	LIVER	2820.0	1000	50	.260	5.20	1.84	3.13
OCCUPATION	MCUSEWIFE	AGE	47	LUNG	510.0	1900	50	.046	.92	1.14	1.14
RESIDENT	LOS ALAMOS	YEARS	2	LYMPH	8.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICCC			KIDNEY	255.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	CANCER OF RECTUM	YEAR	1961								
NEW CODE NO.	154.0	KG	NA								
CASE NO.	2- 66	SEX	M	LIVER	2025.0	1000	50	.070	1.40	.69	1.18
OCCUPATION	TECHNICIA	AGE	40	LUNG	960.0	1900	50	.030	.60	.62	.62
RESIDENT	LCS ALAMOS	YEARS	11	LYMPH	13.0	50	10	.120	.60	46.15	.46
STATE	NEW MEXICCC			KIDNEY	264.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	DRUGS	YEAR	1962	VERTEBRAE	385.0	500	10	0.000	<MRL*	<MRL*	
NEW CODE NO.	972.0	KG	NA								
CASE NO.	2- 70	SEX	M	LIVER	1768.0	1000	50	.050	1.00	.57	.96
OCCUPATION	EL-MECH TE	AGE	54	LYMPH	10.0	50	10	0.000	<MRL*	<MRL*	
RESIDENT	LCS ALAMOS	YEARS	15	KIDNEY	280.0	100	10	.050	.90	3.21	.96
STATE	NEW MEXICCC			VERTEBRAE	291.0	250	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	CARDIAC	YEAR	1962								
NEW CODE NO.	420.1	KG	NA								
CASE NO.	2- 94	SEX	M	LIVER	995.0	1000	50	.180	3.60	3.62	6.15
OCCUPATION	MICROSCOPY	AGE	42	LUNG	825.0	1600	50	.280	5.60	6.79	6.79
RESIDENT	LCS ALAMOS	YEARS	14	LYMPH	8.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICCC			KIDNEY	251.0	100	10	.030	.30	1.28	.36
CAUSE OF DEATH	CARDIAC	YEAR	1962								
NEW CODE NO.	434.0	KG	NA								
CASE NO.	2- 98	SEX	M	LUNG	605.0	1000	50	.150	3.00	4.96	4.96
OCCUPATION	PHYSICIST	AGE	56	LYMPH	14.0	50	10	.160	.80	57.14	.57
RESIDENT	LOS ALAMOS	YEARS	16	KIDNEY	179.0	100	10	.020	<MRL*	<MRL*	
STATE	NEW MEXICCC			VERTEBRAE	31.0	250	25	.010	<MRL*	<MRL*	
CAUSE OF DEATH	CANCER	YEAR	1962								
NEW CODE NO.	NA	KG	NA								
CASE NO.	2-126	SEX	M	LIVER	2395.0	1000	25	.082	3.28	1.37	2.33
OCCUPATION	RESIDENT	AGE	52	LUNG	1580.0	1800	25	.146	5.84	3.70	3.70
RESIDENT	LCS ALAMOS	YEARS	07	LYMPH	11.0	50	.0	.209	1.06	95.00	.95
STATE	NEW MEXICCC			KIDNEY	364.0	250	10	.061	1.52	4.14	1.24
CAUSE OF DEATH	CIRRHOSIS	YEAR	1962	VERTEBRAE	306.0	500	10	.643	32.15	107.17	750.17
NEW CODE NO.	581.1	KG	79								
CASE NO.	2-132	SEX	M	LIVER	5300.0	1000	50	0.000	<MRL*	<MRL*	
OCCUPATION	REPAIRMAN	AGE	29	LUNG	1650.0	1600	50	0.000	<MRL*	<MRL*	
RESIDENT	LCS ALAMOS	YEARS	10	LYMPH	18.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICCC			KIDNEY	478.0	250	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	PNEUMONIA	YEAR	1962								
NEW CODE NO.	490.9	KG	NA								
CASE NO.	2-142	SEX	M	LIVER	2055.0	1000	50	0.000	<MRL*	<MRL*	
OCCUPATION	ELECT TECH	AGE	47	LUNG	783.0	1000	50	.006	<MRL*	<MRL*	
RESIDENT	LCS ALAMOS	YEARS	15	LYMPH	21.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICCC			KIDNEY	385.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	PUL EMBOLISM	YEAR	1963	VERTEBRAE	358.0	500	10	0.000	<MRL*	<MRL*	
NEW CODE NO.	46520	KG	NA								
CASE NO.	2-144	SEX	M	LIVER	1880.0	1000	50	0.000	<MRL*	<MRL*	
OCCUPATION	BLUER	AGE	45	LUNG	1720.0	1000	50	0.000	<MRL*	<MRL*	
RESIDENT	LCS ALAMOS	YEARS	05	LYMPH	26.0	50	10	0.000	<MRL*	<MRL*	
STATE	NEW MEXICCC			KIDNEY	330.0	100	10	0.000	<MRL*	<MRL*	
CAUSE OF DEATH	PNEUMONIA	YEAR	1963	VERTEBRAE	384.0	500	10	0.000	<MRL*	<MRL*	
NEW CODE NO.	434.2	KG	NA								
CASE NO.	3- 20	SEX	M	LIVER	2745.0	1000	25	0.000	<MRL*	<MRL*	1.04
OCCUPATION	DRAGSMAN	AGE	47	LUNG	710.0	1600	500	.368	.74	1.04	1.04
RESIDENT	LCS ALAMOS	YEARS	10	LYMPH	10.0	50	10	.027	<MRL*	<MRL*	
STATE	NEW MEXICCC			KIDNEY	180.0	100	10	.004	<MRL*	<MRL*	
CAUSE OF DEATH	CANCER	YEAR	1965	VERTEBRAE	120.0	250	10	.028	<MRL*	<MRL*	
NEW CODE NO.	199.0	KG	81								

			TISSUE	WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
CASE NO.	3- 28	SEX	M	LIVER	1150.0	1000	.109	4.36	3.79	6.45
OCCUPATION	AEC PRO FPC	AGE	31	LUNG	1250.0	1000	.853	1.71	1.36	1.36
RESIDENT	LCS ALAMOS	YEARS	10	LYMPH	8.0	50	0.000	<MRL>	<MRL>	
STATE	NEW MEXICO			KIDNEY	210.0	100	.020	<MRL>	<MRL>	
CAUSE OF DEATH	CORONARY THROMB	YEAR	1966	VERTEBRAE	150.0	250	.005	<MRL>	<MRL>	
MEM CODE NO.	420.1	KG	NA							
CASE NO.	3- 44	SEX	M	LIVER	1673.0	1000	.021	<MRL>	<MRL>	2.54
OCCUPATION	MACHINIST	AGE	37	LUNG	1432.0	1000	.091	3.64	2.94	
RESIDENT	LCS ALAMOS	YEARS	13	LYMPH	2.0	50	0.000	<MRL>	<MRL>	
STATE	NEW MEXICO			KIDNEY	292.0	100	0.000	<MRL>	<MRL>	
CAUSE OF DEATH	CANCER	YEAR	1967							
MEM CODE NO.	19990	KG	70							
CASE NO.	3- 58	SEX	M	LIVER	1720.0	1000	.025	<MRL>	<MRL>	4.50
OCCUPATION	PHYSICIST	AGE	41	LUNG	1130.0	1000	.127	5.08	4.50	
RESIDENT	LCS ALAMOS	YEARS	14	LYMPH	10.0	50	.024	<MRL>	<MRL>	
STATE	NEW MEXICO			HEART	330.0	100	.194	1.94	5.88	1.76
CAUSE OF DEATH	CORONARY CCC	YEAR	1967	VERTEBRAE	60.0	250	.441	11.02	183.75	1286.25
MEM CODE NO.	420.1	KG	71	KIDNEY	340.0	100	1.148	1.48	4.35	1.31
CASE NO.	3- 70	SEX	M	LIVER	1728.0	1000	.256	10.24	5.93	10.07
OCCUPATION	TECHNICIAN	AGE	67	LUNG	830.0	1000	.103	4.12	4.96	4.96
RESIDENT	LCS ALAMOS	YEARS	21	LYMPH	35.0	50	.016	<MRL>	<MRL>	
STATE	NEW MEXICO			KIDNEY	330.0	100	.017	<MRL>	<MRL>	
CAUSE OF DEATH	CORONARY CCC	YEAR	1967	VERTEBRAE	50.0	100	.017	<MRL>	<MRL>	
MEM CODE NO.	420.1	KG	NA							
CASE NO.	3- 72	SEX	M	LIVER	1375.0	1000	.148	5.92	4.31	7.32
OCCUPATION	CARETAKER	AGE	43	LUNG	1260.0	1000	3.020	7.64	6.06	6.06
RESIDENT	LCS ALAMOS	YEARS	24	LYMPH	4.0	50	.024	<MRL>	<MRL>	
STATE	NEW MEXICO			KIDNEY	365.0	100	.015	<MRL>	<MRL>	
CAUSE OF DEATH	CIRRHOSIS	YEAR	1968	VERTEBRAE	43.0	100	.037	.37	8.40	60.23
MEM CODE NO.	581.0	KG	64							
CASE NO.	3- 84	SEX	F	LIVER	1380.0	1000	0.000	<MRL>	<MRL>	5.73
OCCUPATION	CLERK	AGE	61	LUNG	1055.0	1000	.151	6.04	5.73	5.73
RESIDENT	LCS ALAMOS	YEARS	21	KIDNEY	255.0	100	.042	.42	1.65	.49
STATE	NEW MEXICO			LYMPH	7.0	50	.032	.16	22.86	.23
CAUSE OF DEATH	CORONARY CCC	YEAR	1968	VERTEBRAE	32.0	100	.002	<MRL>	<MRL>	
MEM CODE NO.	420.1	KG	NA							
CASE NO.	3- 86	SEX	F	LIVER	1710.0	1000	.039	1.56	.91	1.55
OCCUPATION	PRO-PRINTE	AGE	34	LUNG	920.0	1000	.091	3.64	3.96	3.96
RESIDENT	LCS ALAMOS	YEARS	03	LYMPH	5.0	50	.118	.59	118.00	1.18
STATE	NEW MEXICO			KIDNEY	425.0	100	.003	<MRL>	<MRL>	
CAUSE OF DEATH	DIABETES MELL	YEAR	1968	VERTEBRAE	40.0	100	.022	<MRL>	<MRL>	
MEM CODE NO.	260.0	KG	52							
CASE NO.	3- 88	SEX	M	LIVER	2000.0	1000	.154	6.16	3.03	5.24
OCCUPATION	FIREMAN	AGE	43	LUNG	1710.0	1000	.093	3.72	2.18	2.18
RESIDENT	LCS ALAMOS	YEARS	17	LYMPH	8.0	50	.038	.19	23.75	.24
STATE	NEW MEXICO			KIDNEY	350.0	100	.030	.30	.86	.26
CAUSE OF DEATH	CARDIAC	YEAR	1968	VERTEBRAE	55.0	100	.004	<MRL>	<MRL>	
MEM CODE NO.	420.1	KG	NA							
CASE NO.	3-108	SEX	NA	LUNG	970.0	1000	12.340	49.36	50.89	50.89
OCCUPATION	TECHNICIAN	AGE	69	LYMPH	6.0	50	.238	1.19	198.33	1.98
RESIDENT	LCS ALAMOS	YEARS	24	KIDNEY	250.0	100	.336	3.36	13.44	4.03
STATE	NEW MEXICO			VERTEBRAE	120.0	250	.071	.38	1.48	10.35
CAUSE OF DEATH	PNEUMONIA	YEAR	1969							
MEM CODE NO.	432.9	KG	NA							
CASE NO.	3-142	SEX	NA	LUNG	1152.0	1000	6.900	27.60	23.96	23.96
OCCUPATION	ENGINEER	AGE	38	LYMPH	4.0	50	.189	.94	236.25	2.36
RESIDENT	LCS ALAMOS	YEARS	14	KIDNEY	350.0	100	.018	<MRL>	<MRL>	
STATE	NEW MEXICO			VERTEBRAE	130.0	250	.142	.35	2.73	19.12
CAUSE OF DEATH	CARDIAC ARREST	YEAR	1969							
MEM CODE NO.	433.1	KG	82							
CASE NO.	5- 24	SEX	M	LUNG	632.0	1000	.080	.24	.38	.38
OCCUPATION	PHYSICIST	AGE	43	LYMPH	4.0	50	.370	1.85	462.50	4.62
RESIDENT	LCS ALAMOS	YEARS	05	KIDNEY	350.0	100	1.173	11.73	33.51	10.95
STATE	NEW MEXICO			VERTEBRAE	90.0	100	.145	.29	3.22	22.95
CAUSE OF DEATH	HEART ATTACK	YEAR	1969							
MEM CODE NO.	470.1	KG	75							
CASE NO.	5- 40	SEX	F	LUNG	1364.0	1000	1.955	3.91	2.87	2.87
OCCUPATION	MICROSPIST	AGE	55	LIVER	1089.0	1000	2.134	4.27	3.65	6.72
RESIDENT	LCS ALAMOS	YEARS	26							
STATE	NEW MEXICO									
CAUSE OF DEATH	MYOCARDIAL INF	YEAR	1969							
MEM CODE NO.	420.2	KG	61							



CASE NO.	OCCUPATION	RESIDENT	STATE	CAUSE OF DEATH	NEW CODE NO.	SEX	AGE	YEARS	YEAR	MO	DA	TISSUE	WEIGHT SAMPLE (GRAM)	VOLUME CP SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER CROM WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
5-64	PHYSICIST	LOS ALAMOS	NEW MEXICO	GASHOT WOUND	279.0	M	49	45	1970	NA	NA	LIVER	1286.0	500	250	3.000	6.02	4.70	7.99
												LUNG	652.0	500	250	5.707	11.40	17.43	17.44
												LYMPH	4.0	25	10	.274	.18	46.25	.48
												KIDNEY	265.0	250	10	.639	.47	3.48	1.10
												VERTEBRAE	190.0	100	10	.003	<URL>	<URL>	
5-74	LABORER	LOS ALAMOS	NEW MEXICO	HEPATIC FAIL	583.0	M	44	42	1970	64	64	LIVER	1724.0	500	10	.696	4.86	2.78	4.73
												LUNG	1045.8	900	250	10.460	21.92	29.48	29.98
												LYMPH	20.0	25	10	.292	.98	49.09	.44
												KIDNEY	404.0	100	10	0.200	<URL>	<URL>	
												VERTEBRAE	90.0	200	10	.070	1.40	15.50	129.80
5-80	PRO FRC	LOS ALAMOS	NEW MEXICO	BAN HEART	420.1	M	50	44	1970	93	93	LIVER	2013.0	500	10	.260	13.45	6.66	11.38
												LUNG	577.0	900	250	4.480	8.98	25.50	19.58
												LYMPH	8.0	25	10	.198	.40	61.25	.61
												KIDNEY	343.0	100	10	.214	<URL>	<URL>	
												VERTEBRAE	145.0	200	100	.007	.17	1.39	9.74
5-100	ACC PR FRC	LOS ALAMOS	NEW MEXICO	HEART ATTACK	420.1	M	53	44	1970	NA	NA	LIVER	2958.0	500	93	.501	5.86	2.44	4.15
												LYMPH	4.0	25	10	.041	.22	25.62	.76
												KIDNEY	263.0	100	10	.210	<URL>	<URL>	
												VERTEBRAE	94.0	200	100	.035	.07	.21	4.95
5-114	ACC COMM	LOS ALAMOS	NEW MEXICO	ASTHMA	441.0	M	65	14	1970	74	74	LIVER	1803.0	500	100	.444	2.72	1.19	2.03
												LUNG	1220.0	1900	250	.196	.78	1.64	.64
												KIDNEY	340.0	100	10	.017	<URL>	<URL>	
												VERTEBRAE	56.0	200	100	.063	.13	2.25	15.75
5-118	TECHNICIAN	LOS ALAMOS	NEW MEXICO	CANCER	199.0	F	52	20	1970	62	62	LIVER	1203.0	500	100	.014	4.07	3.22	5.40
												LUNG	889.0	1000	100	.074	.74	1.80	1.00
												LYMPH	8.0	25	10	.021	<URL>	<URL>	
												KIDNEY	280.0	100	10	.305	<URL>	<URL>	
												VERTEBRAE	124.0	200	10	.120	2.56	20.32	142.22
5-158	CHEMIST	LOS ALAMOS	NEW MEXICO	HEART ATTACK	420.1	M	41	11	1971	74	74	LIVER	1690.0	1000	250	1.000	4.36	2.50	5.38
												LUNG	1300.0	1000	250	2.144	9.38	4.89	6.89
												KIDNEY	385.0	100	10	.009	<URL>	<URL>	
												VERTEBRAE	50.0	400	100	0.006	<URL>	<URL>	
7-4	ACCOUNT	LOS ALAMOS	NEW MEXICO	CARCINOMA	199.0	M	76	74	1971	NA	NA	LIVER	2820.0	1000	250	.496	1.98	.78	1.28
												LUNG	590.0	1000	250	.705	2.82	4.78	4.78
												LYMPH	4.7	25	10	1.025	2.56	345.21	5.45
												KIDNEY	200.0	100	10	0.008	<URL>	<URL>	
												VERTEBRAE	100.0	250	100	.122	.30	3.05	21.33
7-6	PRO FRC	LOS ALAMOS	NEW MEXICO	CARCINOMA	199.0	M	52	14	1970	93	93	LIVER	1890.0	1000	250	1.101	4.72	2.62	5.46
												LUNG	1320.0	1000	250	.100	.43	.33	.33
												LYMPH	2.6	25	10	.004	<URL>	<URL>	
												KIDNEY	368.0	100	10	0.000	<URL>	<URL>	
												RIB	103.0	250	100	.137	.34	2.33	23.28

TABLE A-V LASL EMPLOYEES KNOWN TO HAVE HIGH POTENTIAL EXPOSURE TO PLUTONIUM

\*APPROX MINIMUM REPORTING LEVEL = 0.03 DPM PER SAMPLE VOL ANALYZED BASED ON TOTAL COUNTS+BRG+ACC RECOVERY STATISTICS

CASE NO.	OCCUPATION	RESIDENT	STATE	CAUSE OF DEATH	NEW CODE NO.	SEX	AGE	YEARS	YEAR	MO	DA	TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER COEM HEIGHT (DIS/CM)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANARD PROGRAM (DIS/MIN)
1-39	TECHNICIAN	LCS ALAMOS	NEW MEXICO	TRAILMA	E910-3	M	50	11	1950	75		LIVER	1030.0	1000	100	1910.117	19101.17	9834.50	16722.05
												LUNG	850.0	1000	100	528.307	5283.07	6334.78	6334.08
												LYMPH	5.3	100	10	45.101	451.01	8506.23	850.06
												KIDNEY	270.0	100	10	1.282	12.82	47.48	47.48
												VERTEBRAE	180.0	100	10	43.008	430.08	2384.33	16745.23
												BONE	21.2	100	10	2.462	24.62	1161.32	8124.25
												HEART	490.0	100	10	2.240	22.40	56.00	56.00
												MUSCLE	195.5	100	10	1.128	11.28	7.00	27.50
												SPLEEN	116.0	100	10	2.008	20.08	180.00	27.00
												STERNUM	122.0	100	10	13.646	136.46	1118.52	7829.67
1-100	MACHINIST	LCS ALAMOS	NEW MEXICO	CARDIAC	433-1	M	51	08	1950	NA		LIVER	1717.0	1000	100	3.463	34.63	22.00	24.24
												LUNG	1120.0	1000	100	35.535	355.35	272.43	272.43
												LYMPH	34.0	50	10	3.000	30.00	512.50	512.50
												KIDNEY	332.0	100	10	-276	2.76	0.31	2.40
2-4	MP LABORER	LCS ALAMOS	NEW MEXICO	LLUNG CANCER	163-0	M	60	11	1961	08		LIVER	1375.0	1000	100	597.200	5972.00	4343.27	7163.56
												LUNG	1360.0	1000	100	362.500	3625.00	2521.01	2521.01
												LYMPH	5.0	50	10	44.178	441.78	6470.80	647.08
												KIDNEY	280.0	100	10	1.400	14.00	50.62	15.00
2-38	MP MONITOR	LCS ALAMOS	NEW MEXICO	CARDIAC	456-1	M	46	13	1962	02		LIVER	1015.0	1000	100	290.926	2909.26	2886.27	4472.05
												LUNG	677.0	1000	100	378.030	3780.30	8538.11	8538.11
												LYMPH	12.0	50	10	362.150	3621.50	150695.03	1506.95
												KIDNEY	127.0	100	10	0.897	8.97	70.43	21.10
												VERTEBRAE	10.0	50	10	1.715	17.15	612.50	4267.50
2-58	PLUMBER	LCS ALAMOS	NEW MEXICO	CORONARY HEART	426-1	M	39	11	1962	NA		LIVER	2713.0	1000	100	3.417	34.17	21.05	25.70
												LUNG	1180.0	1000	100	6.427	64.27	55.41	55.41
												LYMPH	5.0	50	10	0.041	0.41	84.00	8.40
												KIDNEY	323.0	100	10	0.454	4.54	14.86	4.86
												VERTEBRAE	207.0	250	10	0.11	1.10	40.00	40.00
2-64	CARPENTER	LCS ALAMOS	NEW MEXICO	CARDIAC	429-1	M	49	NA	1962	NA		LIVER	1358.0	1000	100	1.385	13.85	9.01	10.34
												LUNG	890.0	1000	100	2.371	23.71	29.21	29.21
												LYMPH	12.0	50	10	0.800	8.00	208.23	20.82
												KIDNEY	255.0	100	10	0.880	8.80	40.00	40.00
												VERTEBRAE	107.0	250	10	0.042	0.42	0.29	44.01
2-80	ENGINEER	LCS ALAMOS	NEW MEXICO	CARDIAC	428-1	M	42	14	1962	NA		LIVER	1644.0	1000	100	1.010	10.10	6.33	16.79
												LUNG	1030.0	1000	100	0.09	0.90	9.07	9.07
												LYMPH	7.0	50	10	0.355	3.55	730.20	73.02
												KIDNEY	282.0	100	10	0.862	8.62	1.00	1.00
												VERTEBRAE	200.0	500	10	0.06	0.60	40.00	40.00
2-88	TRK DRIVER	LCS ALAMOS	NEW MEXICO	LIVER CANCER	156-0	M	52	22	1959	NA		LIVER	3713.0	1000	100	0.822	8.22	2.21	3.76
												LUNG	193.0	1000	100	0.700	7.00	11.24	11.24
												LYMPH	12.0	50	10	0.307	3.07	148.85	14.88
												KIDNEY	224.0	500	10	0.400	4.00	40.00	40.00
2-100	MP MONITOR	LCS ALAMOS	NEW MEXICO	PERITONITIS	434-0	M	44	19	1962	77		LIVER	2000.0	1000	50	0.228	0.00	2.20	3.73
												LUNG	546.0	2000	100	0.900	9.00	10.13	10.13
												LYMPH	0.0	50	10	0.287	2.87	172.50	1.72
												KIDNEY	263.0	100	25	0.713	7.05	10.00	7.25
												VERTEBRAE	358.0	500	10	0.457	4.57	64.37	433.58
2-138	ENGINEER	LCS ALAMOS	NEW MEXICO	CORONARY CCC	420-1	M	47	10	1962	72		LIVER	1700.0	1000	100	40.438	404.38	262.01	446.04
												LUNG	1164.0	1000	100	24.909	249.09	472.00	472.00
												LYMPH	24.0	50	10	1.410	14.10	293.75	2.94
												KIDNEY	378.0	250	10	4.093	40.93	294.51	88.35
												VERTEBRAE	310.0	500	10	1.170	11.70	177.07	1247.71
3-14	PHYSICIST	LCS ALAMOS	NEW MEXICO	CARDIAC	426-1	M	55	23	1956	77		LIVER	1095.0	1000	100	43.192	431.92	216.50	308.08
												LUNG	1003.0	1000	100	1.014	10.14	10.13	10.13
												LYMPH	14.0	50	10	0.146	1.46	05.42	0.46
												KIDNEY	108.0	100	10	0.180	1.80	9.42	2.04
												BONE	5.0	50	10	1.006	10.06	1004.00	13328.00

CASE NO.	3- 16	SEX	M	LIVER	1095.0	1800	100	76.815	768.15	701.51	1192.56
OCCUPATION	METLURGIST	AGE	50	LUNG	825.0	1600	100	23.551	235.51	376.82	376.82
RESIDENT	LCS ALAMOS	YEARS	19	LYMPH	2.0	50	10	10.738	53.69	2685.00	268.45
STATE	NEW MEXICO			KIDNEY	278.0	100	10	.021	PRLE	PRLE	
CAUSE OF DEATH	BRNIN TUMOR	YEAR	1959								
NEW CODE NO.	223-2	KG	75								
CASE NO.	3- 22	SEX	M	LIVER	2720.0	1000	100	.300	3.00	1.10	1.89
OCCUPATION	ENGINEER	AGE	53	LUNG	1180.0	1000	500	1.664	3.93	3.79	3.30
RESIDENT	LCS ALAMOS	YEARS	20	LYMPH	29.0	50	10	.063	.41	14.31	.14
STATE	NEW MEXICO			KIDNEY	155.0	100	10	.156	1.56	10.06	3.02
CAUSE OF DEATH	MYOCIS PANG	YEAR	1968	VERTEBRAE	145.0	250	10	.017	PRLE	PRLE	
NEW CODE NO.	705.0	KG	NA								
CASE NO.	5-130	SEX	M	LUNG	71.0	100	1	6.010	601.00	8464.79	8464.79
OCCUPATION	JR SCATIST	AGE	NA	LYMPH	1.0	25	1	22.550	563.74	56350.60	5637.50
RESIDENT	LCS ALAMOS	YEARS	NA	MUSCLE	1.0	25	1	.230	5.75	5750.00	12500.00
STATE	NEW MEXICO			RIB	25.0	100	1	.110	71.00	3550.00	2650.00
CAUSE OF DEATH	SIOPST SAMPL	YEAR	1959								
NEW CODE NO.	224-2	KG	NA								
CASE NO.	7- 16	SEX	M	LIVER	2002.0	1.00	250	3.313	33.25	6.62	11.25
OCCUPATION	MACHINIST	AGE	62	LUNG	1010.0	1000	250	7.551	38.20	29.67	20.67
RESIDENT	LCS ALAMOS	YEARS	NA	LYMPH	6.2	25	10	.301	1.25	262.82	2.82
STATE	NEW MEXICO			KIDNEY	221.0	100	10	0.000	PRLE	PRLE	
CAUSE OF DEATH	HEART ATTACK	YEAR	1971	VERTEBRAE	90.0	200	100	.261	.40	4.67	31.27
NEW CODE NO.	420-1	KG	56								

TABLE A-VI SPECIAL CASE STUDY REPLICATE ASSAYS  
 \*MINIMUM REPORTING LEVEL = 0.03 DPM PER SAMPLE VOL ANALYZED BASED ON TOTAL COUNTS, BKG AND RECOVERY STATISTICS

CASE NO.	ISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DPS/MIN)	ACTIVITY PER KG (DPS/MIN)	ACTIVITY PER KG (DPS/MIN)	ACTIVITY PER STANDARD ORGAN (DPS/MIN)			
CASE NO.	1- 30	SEX	M	LIVER	1050.0	1000	100	2053.350	20533.50	16530.00	17901.00
OCCUPATION	TECHNICIAN	AGE	30	LIVER	1050.0	1000	100	1762.485	17624.85	9142.00	15400.10
RESIDENT	LCS ALAMOS	YEARS	11	LUNG	850.0	1000	100	465.800	4658.00	5400.00	5400.00
STATE	NEW MEXICO			LUNG	850.0	1000	100	480.750	4807.50	9250.00	5750.80
CAUSE OF DEATH	7562NA	YEAR	1959	LUNG	850.0	1000	100	574.540	5745.40	4734.00	4734.00
NEW CODE NO.	6910-3	KG	75	LUNG	850.0	1000	100	322.045	3220.45	3789.00	3789.00
				LUNG	850.0	1000	100	1013.625	10136.25	11925.00	11925.00
				LUNG	850.0	1000	100	576.640	5766.40	6784.00	6784.00
				LUNG	850.0	1000	100	532.954	5329.54	6270.00	6270.00
				LUNG	850.0	1000	100	334.643	3346.43	3.37.88	3937.00
				LYMPH	5.3	100	10	103.350	1033.50	10500.00	1050.00
				LYMPH	5.3	100	10	15.177	152.77	2040.53	204.25
				LYMPH	5.3	100	10	17.802	172.82	3200.59	320.25
				LYMPH	5.3	100	10	64.495	644.95	8352.83	835.53
				KIDNEY	270.0	100	10	2.674	16.74	62.00	16.00
				KIDNEY	270.0	100	10	.891	8.91	33.00	4.90
				VERTEBRA	100.0	100	10	53.440	534.40	2000.00	2000.00
				VERTEBRA	100.0	100	10	46.572	465.72	2754.00	1920.00
				VERTEBRA	100.0	100	10	25.812	258.12	1434.00	1000.00
				STERNUM	122.0	100	10	10.220	102.20	1350.00	910.00
				STERNUM	122.0	100	10	11.605	116.05	920.07	634.77
				RIB	21.2	100	10	2.620	26.20	92.00	400.01
				RIB	21.2	100	10	3.096	30.96	1461.79	1020.55
				RIB	21.2	100	10	2.266	22.66	1069.41	768.60
				HEART	400.0	100	10	.425	4.25	23.00	4.00
				HEART	400.0	100	10	3.360	33.60	80.00	26.78
				SPLEEN	124.0	100	10	1.560	15.60	160.00	24.34
				SPLEEN	124.0	100	10	2.213	22.13	190.00	26.64
				MUSCLE	199.5	100	10	.279	2.79	13.00	410.55
				MUSCLE	199.5	100	10	.070	.70	1.00	59.16

TABLE A-VII NEW YORK CITY CASES ANALYZED FOR PLUTONIUM

\*C/M/L = MINIMUM REPORTING LEVEL = 0.03 DPM PER SAMPLE VOL ANALYZED BASED ON TOTAL COUNTS+BRG+ACC RECOVERY STATISTICS

CASE NO.	SEX	AGE	YEARS AA	STATE	CAUSE OF DEATH	NEW CODE NO.	TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/MIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)
4- 7	M	47	11	NEW YORK	GLNSHOT IN ABD	E618.0	LIVER	410.0	500	25	.050	1.00	2.44	4.15
4- 7	M	47	11	NEW YORK	GLNSHOT IN ABD	E618.0	LUNG	425.0	500	25	.246	4.92	7.47	7.87
4- 7	M	47	11	NEW YORK	GLNSHOT IN ABD	E618.0	OS/AD	23.0	50	10	.014	<M/L	<M/L	<M/L
4- 7	M	47	11	NEW YORK	GLNSHOT IN ABD	E618.0	R/L	155.0	250	10	.030	.75	4.94	33.87
4- 8	M	50	10	NEW YORK	CEREBRAL CONT	R03.0	LIVER	420.0	500	25	0.000	<M/L	<M/L	<M/L
4- 8	M	50	10	NEW YORK	CEREBRAL CONT	R03.0	LUNG	595.0	500	25	.100	3.78	6.35	6.35
4- 8	M	50	10	NEW YORK	CEREBRAL CONT	R03.0	OS/AD	35.0	50	10	.007	<M/L	<M/L	<M/L
4- 8	M	50	10	NEW YORK	CEREBRAL CONT	R03.0	R/L	160.0	250	10	.009	<M/L	<M/L	<M/L
4- 8	M	71	10	NEW YORK	ARTERIOSCLEROSIS	628.3	LIVER	453.0	500	25	.027	<M/L	<M/L	<M/L
4- 8	M	71	10	NEW YORK	ARTERIOSCLEROSIS	628.3	LUNG	905.0	500	25	.130	1.30	1.26	1.26
4- 8	M	71	10	NEW YORK	ARTERIOSCLEROSIS	628.3	OS/AD	25.0	50	10	.053	.26	10.40	.42
4- 8	M	71	10	NEW YORK	ARTERIOSCLEROSIS	628.3	R/L	205.0	250	10	.007	2.17	10.61	74.27
4- 8	M	76	10	NEW YORK	MULTIPLE INJ	E075.0	LIVER	275.0	250	25	.026	<M/L	<M/L	<M/L
4- 8	M	76	10	NEW YORK	MULTIPLE INJ	E075.0	LUNG	410.0	500	25	.263	5.26	10.96	10.96
4- 8	M	76	10	NEW YORK	MULTIPLE INJ	E075.0	OS/AD	34.0	50	10	.020	<M/L	<M/L	<M/L
4- 8	M	76	10	NEW YORK	MULTIPLE INJ	E075.0	R/L	138.0	250	10	.034	.85	6.16	43.12
4- 10	M	44	10	NEW YORK	RABBITURATE POIS	072.0	LIVER	454.0	500	25	.150	3.00	6.40	11.10
4- 10	M	44	10	NEW YORK	RABBITURATE POIS	072.0	LUNG	600.0	500	25	.003	1.26	1.91	1.91
4- 10	M	44	10	NEW YORK	RABBITURATE POIS	072.0	OS/AD	32.0	50	10	.010	<M/L	<M/L	<M/L
4- 10	M	44	10	NEW YORK	RABBITURATE POIS	072.0	R/L	170.0	250	10	.100	4.00	23.53	11.71
4- 12	M	45	10	NEW YORK	BRAIN SKULL WD	050.1	LIVER	287.0	250	25	.049	.49	2.40	4.09
4- 12	M	45	10	NEW YORK	BRAIN SKULL WD	050.1	LUNG	689.0	500	25	.007	<M/L	<M/L	<M/L
4- 12	M	45	10	NEW YORK	BRAIN SKULL WD	050.1	OS/AD	37.0	50	10	.021	<M/L	<M/L	<M/L
4- 12	M	45	10	NEW YORK	BRAIN SKULL WD	050.1	R/L	150.0	250	10	.019	<M/L	<M/L	<M/L
4- 14	M	45	10	NEW YORK	HEART STAB W/BLD	047.1	LIVER	250.0	250	25	.090	.60	2.40	4.08
4- 14	M	45	10	NEW YORK	HEART STAB W/BLD	047.1	LUNG	375.0	500	25	.010	<M/L	<M/L	<M/L
4- 14	M	45	10	NEW YORK	HEART STAB W/BLD	047.1	OS/AD	30.0	50	10	.002	<M/L	<M/L	<M/L
4- 14	M	45	10	NEW YORK	HEART STAB W/BLD	047.1	R/L	100.0	250	10	.053	1.32	8.28	57.07
4- 16	M	30	10	NEW YORK	GUN INJ SKULL	E018.0	LIVER	550.0	500	25	.014	<M/L	<M/L	<M/L
4- 16	M	30	10	NEW YORK	GUN INJ SKULL	E018.0	LUNG	440.0	500	25	.009	<M/L	<M/L	<M/L
4- 16	M	30	10	NEW YORK	GUN INJ SKULL	E018.0	OS/AD	26.0	50	10	.004	<M/L	<M/L	<M/L
4- 16	M	30	10	NEW YORK	GUN INJ SKULL	E018.0	R/L	150.0	250	10	.014	<M/L	<M/L	<M/L
4- 18	M	36	10	NEW YORK	ALTC ACCIDENT	E025.5	LIVER	415.0	500	25	.061	1.22	2.44	5.00
4- 18	M	36	10	NEW YORK	ALTC ACCIDENT	E025.5	LUNG	660.0	500	25	.075	1.50	2.27	2.27
4- 18	M	36	10	NEW YORK	ALTC ACCIDENT	E025.5	OS/AD	30.0	50	10	.045	.22	7.50	.30
4- 18	M	36	10	NEW YORK	ALTC ACCIDENT	E025.5	R/L	100.0	250	10	.018	<M/L	<M/L	<M/L
4- 20	M	40	25	NEW YORK	NA	NA	LIVER	340.0	500	25	.035	.70	2.00	3.50
4- 20	M	40	25	NEW YORK	NA	NA	LUNG	680.0	500	25	.035	.70	1.73	1.03
4- 20	M	40	25	NEW YORK	NA	NA	OS/AD	70.0	50	25	0.000	<M/L	<M/L	<M/L
4- 20	M	40	25	NEW YORK	NA	NA	R/L	285.0	250	10	.005	<M/L	<M/L	<M/L
4- 22	M	23	10	NEW YORK	HEART MYEARTH	434.5	LIVER	955.0	500	25	.103	2.06	2.13	3.63
4- 22	M	23	10	NEW YORK	HEART MYEARTH	434.5	LUNG	1000.0	500	25	.010	<M/L	<M/L	<M/L
4- 22	M	23	10	NEW YORK	HEART MYEARTH	434.5	OS/AD	25.0	50	10	.001	<M/L	<M/L	<M/L
4- 22	M	23	10	NEW YORK	HEART MYEARTH	434.5	R/L	100.0	250	10	.004	<M/L	<M/L	<M/L
4- 24	NA	NA	NA	NEW YORK	NA	NA	LIVER	300.0	250	25	.051	.51	1.70	2.00
4- 24	NA	NA	NA	NEW YORK	NA	NA	LUNG	470.0	500	25	.021	<M/L	<M/L	<M/L
4- 24	NA	NA	NA	NEW YORK	NA	NA	OS/AD	50.0	50	10	.012	<M/L	<M/L	<M/L
4- 24	NA	NA	NA	NEW YORK	NA	NA	R/L	160.0	250	10	.011	<M/L	<M/L	<M/L

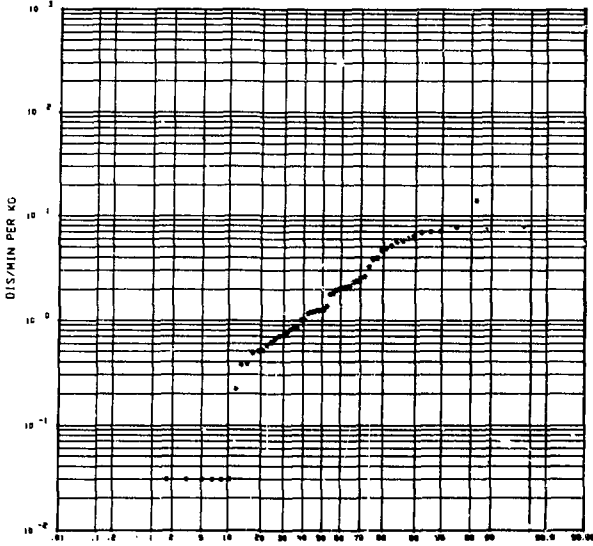
			TISSUE	NET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/GM)	ACTIVITY PER KG (DIS/MTN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)	
CASE NO.	4- 24	SEX	M	LIVER	435.0	250	25	.060	.60	1.38	2.34
OCCUPATION	NA	AGE	24	LUNG	350.0	500	25	.017	<PRL>	<MRL>	
RESIDENT	NA	YEARS	NA	GONAD	40.0	50	10	.011	<PRL>	<MRL>	
STATE	NEW YORK			RIB	190.0	250	10	.019	<PRL>	<MRL>	
CAUSE OF DEATH	AUTO ACCIDENT	YEAR	1968								
NEW CODE NO.	E225.0	KG	NA								
CASE NO.	4- 28	SEX	M	LIVER	310.0	250	25	.144	1.44	4.45	7.90
OCCUPATION	NA	AGE	27	LUNG	600.0	500	25	.011	<PRL>	<MRL>	
RESIDENT	NA	YEARS	NA	GONAD	40.0	50	10	0.000	<PRL>	<MRL>	
STATE	NEW YORK			RIB	215.0	250	10	0.000	<PRL>	<MRL>	
CAUSE OF DEATH	AUTO ACCIDENT	YEAR	1968								
NEW CODE NO.	E225.0	KG	NA								
CASE NO.	4- 30	SEX	M	LIVER	470.0	250	25	.028	<PRL>	<MRL>	
OCCUPATION	NA	AGE	25	LUNG	435.0	500	25	.041	.42	1.89	1.89
RESIDENT	NA	YEARS	NA	GONAD	30.0	50	10	.008	<PRL>	<MRL>	
STATE	NEW YORK			RIB	180.0	250	10	.141	3.52	19.58	137.08
CAUSE OF DEATH	GUN INJ HEAD	YEAR	1968								
NEW CODE NO.	E019.0	KG	NA								
CASE NO.	4- 32	SEX	M	LIVER	485.0	250	25	.058	.58	1.20	2.03
OCCUPATION	NA	AGE	50	LUNG	950.0	500	25	.014	<PRL>	<MRL>	
RESIDENT	NA	YEARS	NA	GONAD	30.0	50	10	.005	<PRL>	<MRL>	
STATE	NEW YORK			RIB	435.0	500	10	0.000	<PRL>	<MRL>	
CAUSE OF DEATH	STAR WOUNDS	YEAR	1968								
NEW CODE NO.	E983.0	KG	NA								
CASE NO.	4- 34	SEX	M	LIVER	365.0	250	25	.033	.33	.90	1.54
OCCUPATION	NA	AGE	31	LUNG	705.0	500	25	.028	<PRL>	<MRL>	
RESIDENT	NA	YEARS	NA	GONAD	42.0	50	10	.008	<PRL>	<MRL>	
STATE	NEW YORK			RIB	155.0	250	10	.001	<PRL>	<MRL>	
CAUSE OF DEATH	CHEST STAR WD	YEAR	1968								
NEW CODE NO.	861.1	KG	NA								
CASE NO.	4- 36	SEX	M	LIVER	350.0	250	25	.082	.82	2.34	3.98
OCCUPATION	NA	AGE	37	LUNG	340.0	250	25	.024	<PRL>	<MRL>	
RESIDENT	NA	YEARS	NA	GONAD	30.0	50	10	.020	<PRL>	<MRL>	
STATE	NEW YORK			RIB	220.0	250	10	.005	<PRL>	<MRL>	
CAUSE OF DEATH	STAR WOUNDS	YEAR	1968								
NEW CODE NO.	869.0	KG	NA								
CASE NO.	4- 38	SEX	M	LIVER	285.0	100	25	.209	.84	2.93	4.99
OCCUPATION	NA	AGE	21	LUNG	630.0	500	25	.005	<PRL>	<MRL>	
RESIDENT	NA	YEARS	NA	GONAD	40.0	50	10	0.000	<PRL>	<MRL>	
STATE	NEW YORK			RIB	220.0	250	10	.031	.77	3.52	24.66
CAUSE OF DEATH	AUTO ACCIDENT	YEAR	1968								
NEW CODE NO.	E225.0	KG	NA								
CASE NO.	4- 40	SEX	F	LIVER	278.0	100	25	.062	.25	.92	1.56
OCCUPATION	NA	AGE	22	LUNG	640.0	500	25	.011	<PRL>	<MRL>	
RESIDENT	NA	YEARS	NA	GONAD	15.0	50	10	0.000	<PRL>	<MRL>	
STATE	NEW YORK			RIB	208.0	250	10	.010	<PRL>	<MRL>	
CAUSE OF DEATH	HEAD INJURIES	YEAR	1968								
NEW CODE NO.	E225.0	KG	NA								
CASE NO.	4- 42	SEX	M	LIVER	458.0	250	25	.077	.77	1.71	2.91
OCCUPATION	NA	AGE	60	LUNG	540.0	500	25	.012	<PRL>	<MRL>	
RESIDENT	NA	YEARS	NA	GONAD	32.0	50	10	.003	<PRL>	<MRL>	
STATE	NEW YORK			RIB	270.0	250	10	.052	1.38	4.81	33.70
CAUSE OF DEATH	MYOCARDIAL HYPER	YEAR	1968								
NEW CODE NO.	476.5	KG	NA								
CASE NO.	4- 44	SEX	F	LIVER	460.0	250	25	.118	1.18	2.57	4.36
OCCUPATION	NA	AGE	22	LUNG	375.0	500	25	.034	.68	1.80	1.80
RESIDENT	NA	YEARS	NA	GONAD	15.0	50	10	.057	.28	19.00	.76
STATE	NEW YORK			RIB	255.0	250	10	.040	1.08	3.92	27.45
CAUSE OF DEATH	STATUS ASTHMATIC	YEAR	1968								
NEW CODE NO.	241.0	KG	NA								
CASE NO.	4- 46	SEX	M	LIVER	540.0	250	25	.005	<PRL>	<MRL>	
OCCUPATION	NA	AGE	25	LUNG	385.0	500	25	.003	<PRL>	<MRL>	
RESIDENT	NA	YEARS	NA	GONAD	30.0	50	10	.011	<PRL>	<MRL>	
STATE	NEW YORK			RIB	242.0	250	10	.185	4.62	19.11	133.78
CAUSE OF DEATH	MULTIPLE INJ	YEAR	1968								
NEW CODE NO.	E225.0	KG	NA								
CASE NO.	4- 48	SEX	M	LIVER	388.0	250	25	.057	.57	1.58	2.55
OCCUPATION	NA	AGE	37	LUNG	795.0	500	25	.029	<PRL>	<MRL>	
RESIDENT	NA	YEARS	NA	GONAD	35.0	50	10	.018	<PRL>	<MRL>	
STATE	NEW YORK			RIB	238.0	250	10	.117	2.92	12.72	89.02
CAUSE OF DEATH	MULTIPLE INJ	YEAR	1968								
NEW CODE NO.	986.0	KG	NA								

			TISSUE	WET WEIGHT SAMPLE (GRAM)	VOLUME OF SAMPLE (CC)	VOLUME SAMPLE ANALYZED (CC)	ACTIVITY PER VOL ANAL (DIS/MIN)	ACTIVITY PER ORGAN WEIGHT (DIS/μIN)	ACTIVITY PER KG (DIS/MIN)	ACTIVITY PER STANDARD ORGAN (DIS/MIN)	
CASE NO.	4- 50	SEX	M	LIVER	340.0	250	25	.051	.51	1.42	2.41
OCCUPATION	NA	AGE	41	LUNG	680.0	500	25	.024	<MRL*	<MRL*	
RESIDENT	NA	YEARS	NA	GONAD	58.0	50	10	.002	<MRL*	<MRL*	
STATE	NEW YORK			RIB	250.0	250	16	.018	<MRL*	<MRL*	
CAUSE OF DEATH	MULTIPLE INJ	YEAR	1968								
MEN CODE NO.	996+9	KG	NA								

## APPENDIX B

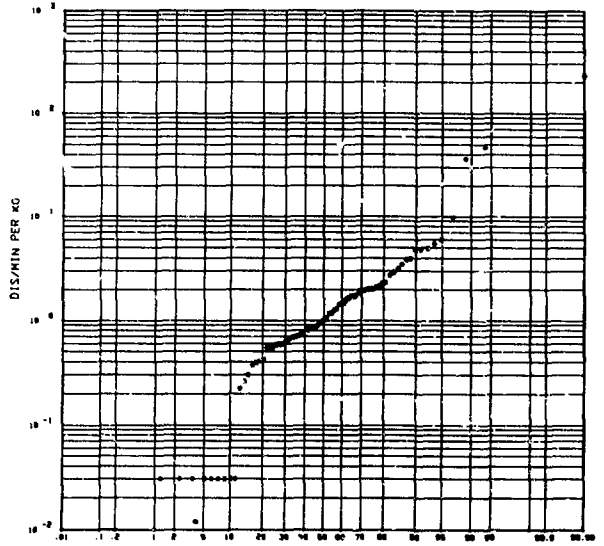
### CUMULATIVE FREQUENCY DISTRIBUTIONS

FIG B-1 LOS ALAMOS CASES, LUNG DATA FROM TABLE A-1



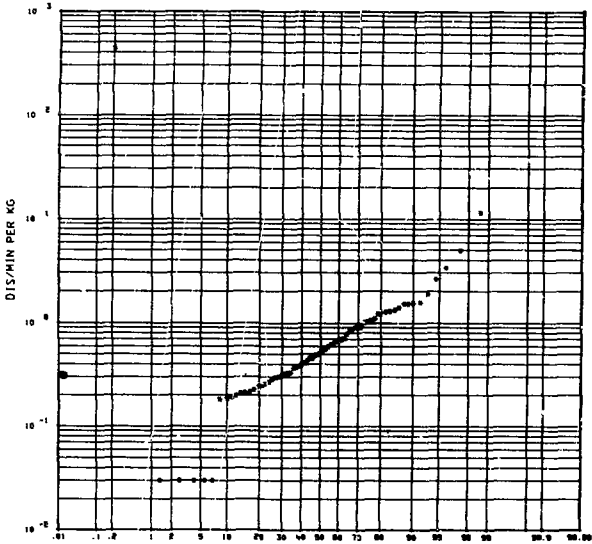
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LUNG TISSUE: CONCENTRATION PER KG  
 NO OF CASES = 57    MEDIAN = 1.3    5TH AND 95 PERCENTILE = 0.1, 10.0

FIG B-2 NEW MEXICO AND OTHER AREAS, LUNG DATA FROM TABLE A-11



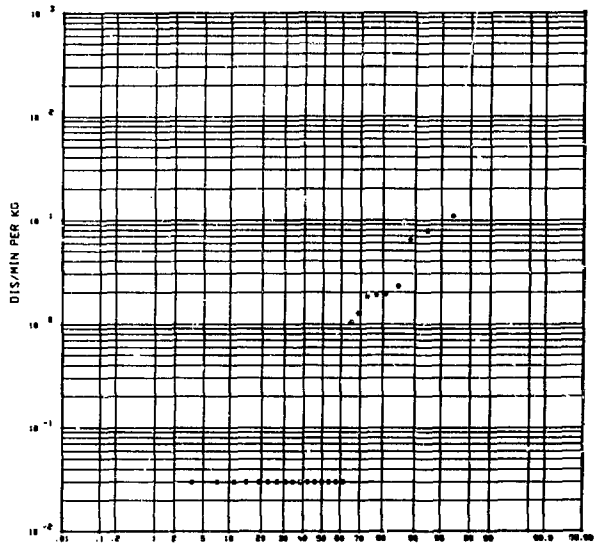
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LUNG TISSUE: CONCENTRATION PER KG  
 NO OF CASES = 76    MEDIAN = 1.0    5TH AND 95 PERCENTILE = 0.1, 7.0

FIG B-3 COLORADO CASES, LUNG DATA FROM TABLE A-III



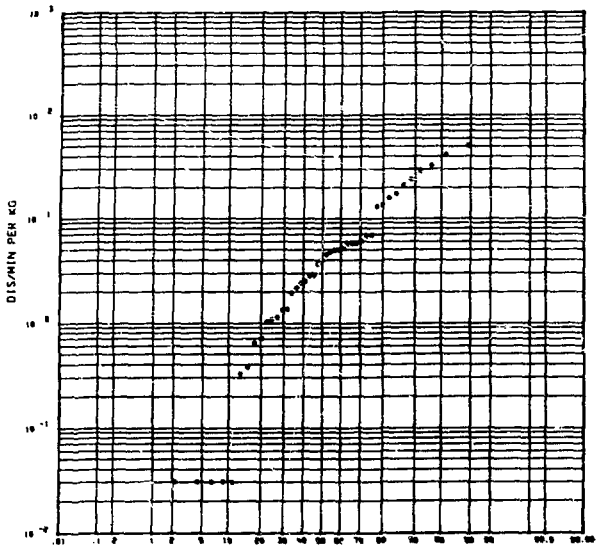
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LUNG TISSUE: CONCENTRATION PER KG  
 NO OF CASES = 66    MEDIAN = 0.5    5TH AND 95 PERCENTILE = 0.1, 2.0

FIG B-4 NEW YORK CITY CASES, LUNG DATA FROM TABLE A-VII



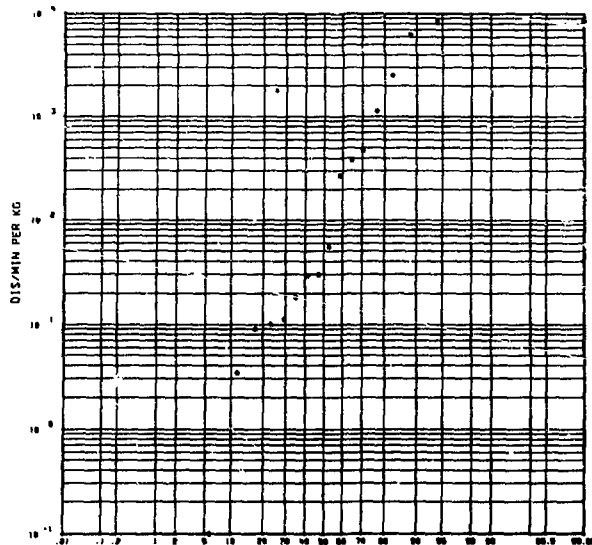
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LUNG TISSUE: CONCENTRATION PER KG  
 NO OF CASES = 26    MEDIAN = 0.4    5TH AND 95 PERCENTILE = 0.1, 10.0

FIG B-5 LASL LOW EXPOSURE CASES. LUNG DATA FROM TABLE A-IV



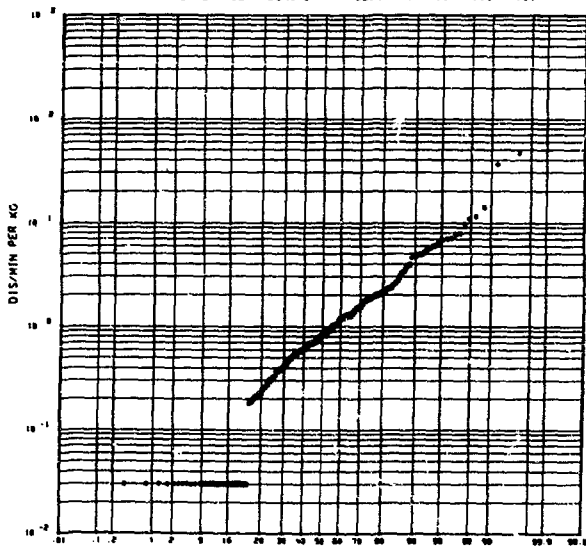
CUMULATIVE FREQUENCY IN PERCENT  
LOG-PROBABILITY PLOT OF PU IN LUNG TISSUE, CONCENTRATION PER KG  
NO. OF CASES = 44 MEDIAN = 4.0 5TH AND 95 PERCENTILE = 0.1, 80.0

FIG B-6 LASL HIGH POTENTIAL CASES. LUNG DATA FROM TABLE A-V



CUMULATIVE FREQUENCY IN PERCENT  
LOG-PROBABILITY PLOT OF PU IN LUNG TISSUE, CONCENTRATION PER KG  
NO. OF CASES = 15 MEDIAN = 100.0 5TH AND 95 PERCENTILE = 1.0, 1.0E+04

FIG B-7 GENERAL CASES. LUNG DATA TABLES A-I, A-II, A-III, A-V, VI



CUMULATIVE FREQUENCY IN PERCENT  
LOG-PROBABILITY PLOT OF PU IN LUNG TISSUE, CONCENTRATION PER KG  
NO. OF CASES = 217 MEDIAN = 0.9 5TH AND 95 PERCENTILE = 0.1, 6.0



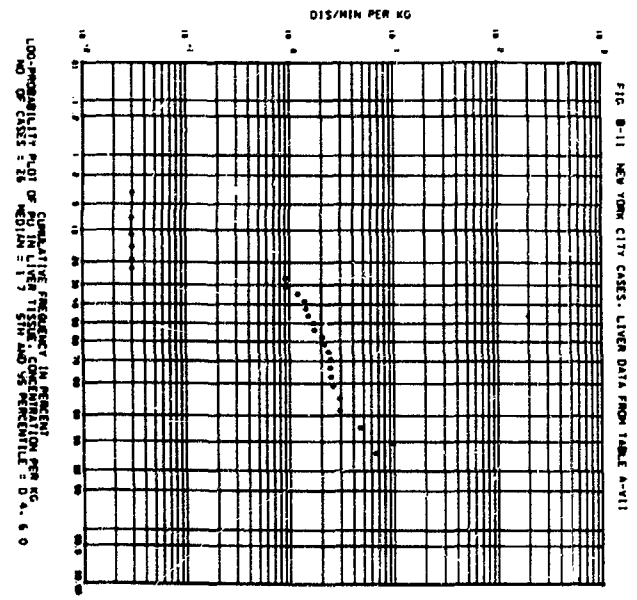
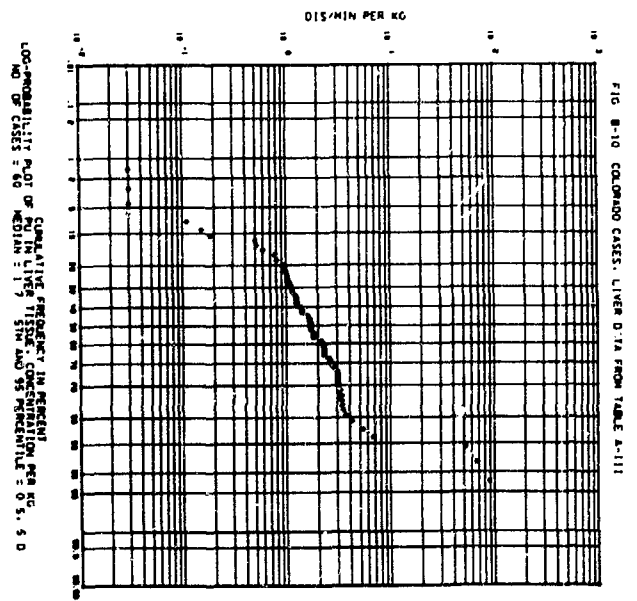
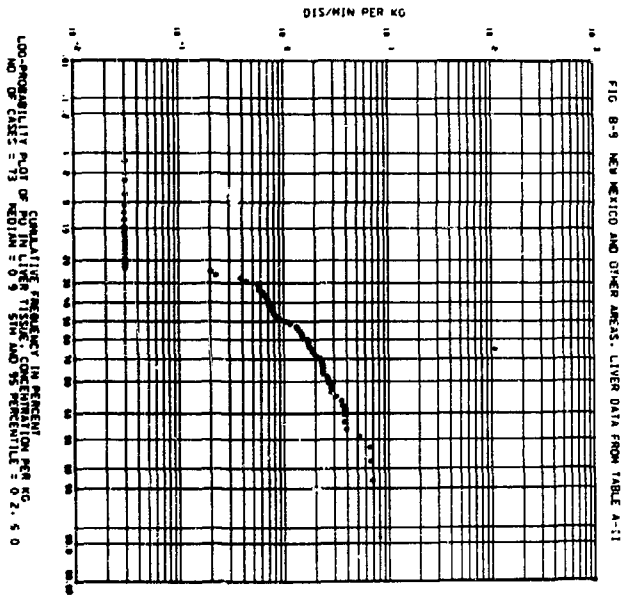
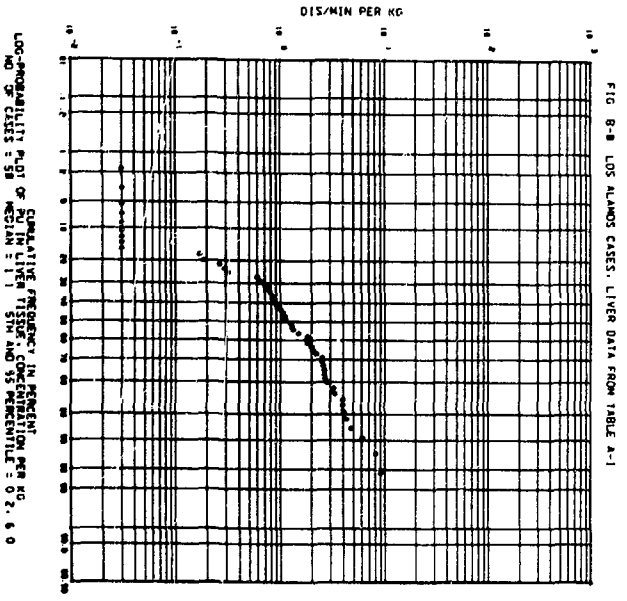
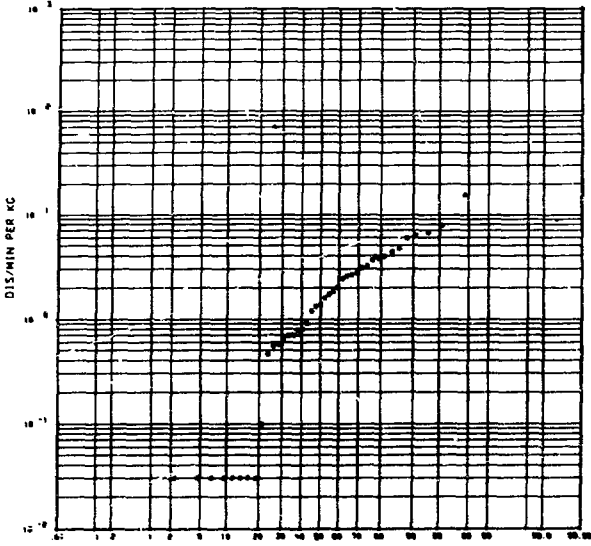
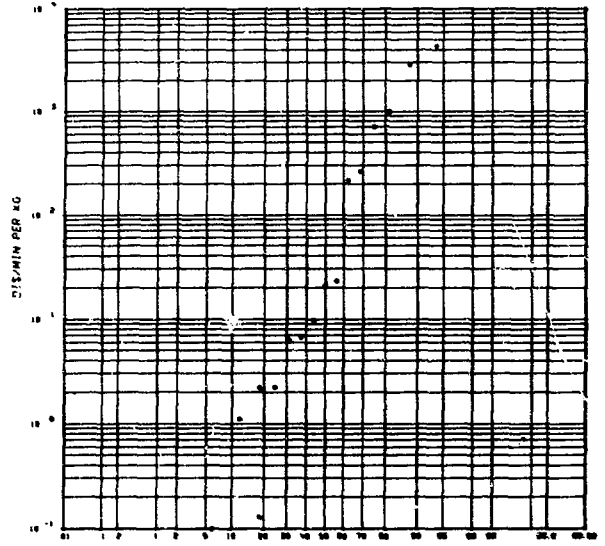


FIG B-12 LASL LOW EXPOSURE CASES. LIVER DATA FROM TABLE A-IV



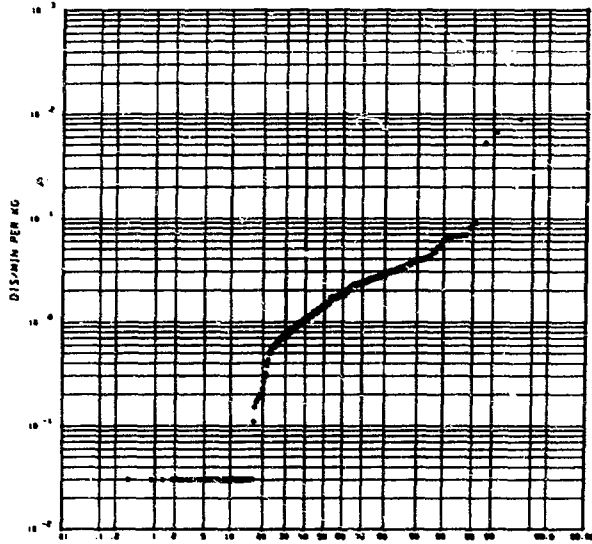
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LIVER TISSUE, CONCENTRATION PER KG  
 NO OF CASES = 41 MEDIAN = 1.0 5TH AND 95 PERCENTILE = 0.1, 10.0

FIG B-13 LASL HIGH POTENTIAL CASES. LIVER DATA TABLE A-V



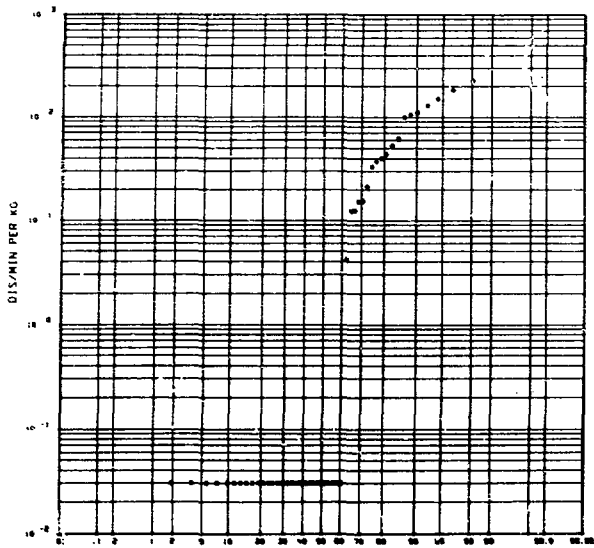
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LIVER TISSUE, CONCENTRATION PER KG  
 NO OF CASES = 15 MEDIAN = 100.0 5TH AND 95 PERCENTILE = 10.0, 10^4

FIG B-14 GENERAL CASES. LIVER DATA TABLES A-I-A-III-A-III-A-VII



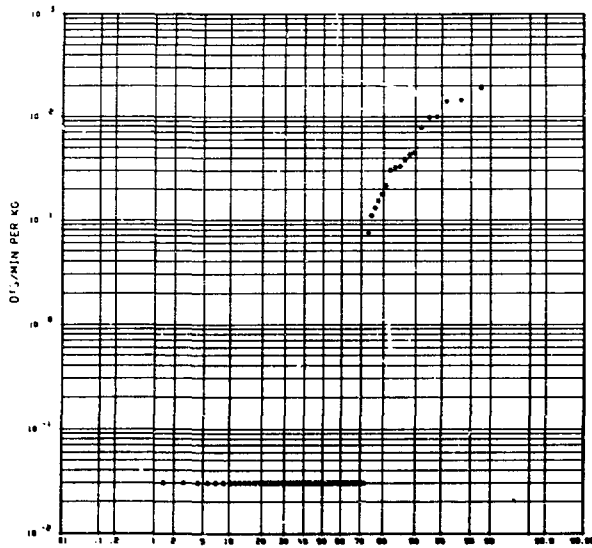
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LIVER TISSUE, CONCENTRATION PER KG  
 NO OF CASES = 217 MEDIAN = 1.4 5TH AND 95 PERCENTILE = 0.3, 5.0

FIG B-15 LOS ALAMOS CASES. LYMPH NODE DATA FROM TABLE A-I



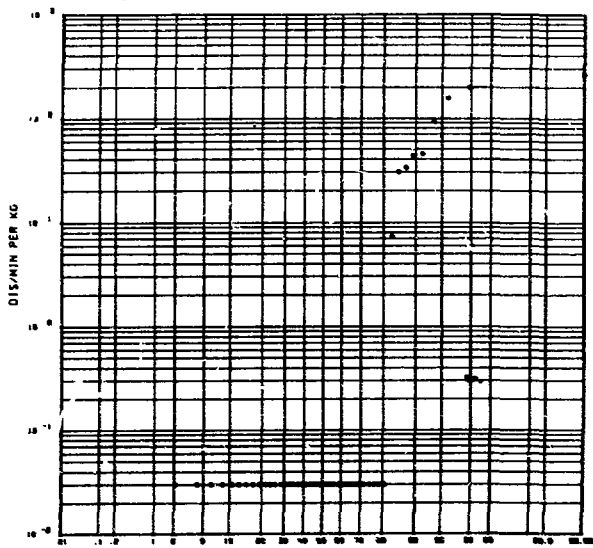
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LYMPH NODE TISSUE CONCENTRATION PER KG  
 NO OF CASES = 52 MEDIAN = 5.0 5TH AND 95 PERCENTILE = 0.1-200.0

FIG B-16 NEW MEXICO AND OTHER AREAS. LYMPH DATA TABLE A-II



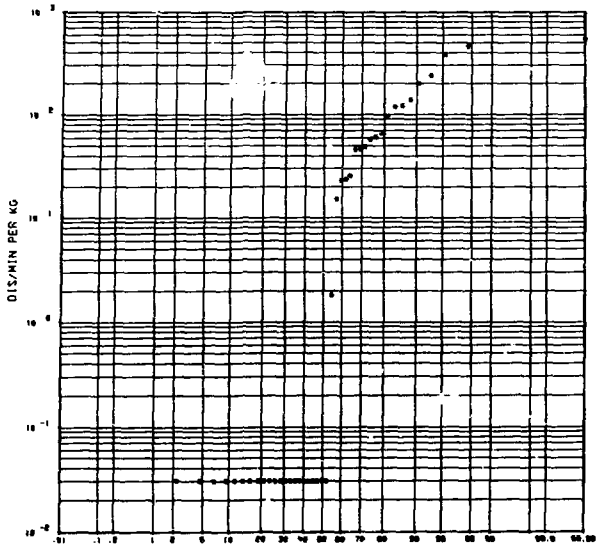
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LYMPH NODE TISSUE CONCENTRATION PER KG  
 NO OF CASES = 66 MEDIAN = 4.0 5TH AND 95 PERCENTILE = 0.1-100.0

FIG B-17 COLORADO CASES. LYMPH NODE DATA FROM TABLE A-III



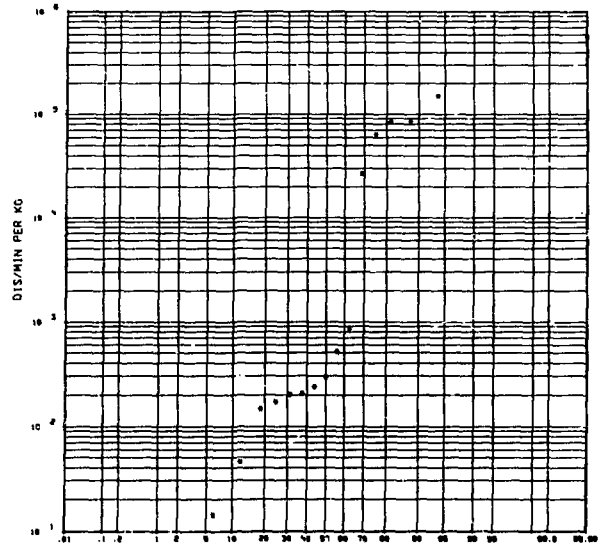
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LYMPH NODE TISSUE CONCENTRATION PER KG  
 NO OF CASES = 46 MEDIAN = 2.0 5TH AND 95 PERCENTILE = 0.1-100.0

FIG B-18 LASL LOW POTENTIAL CASES, LYMPH NODE DATA FROM TABLE A-IV



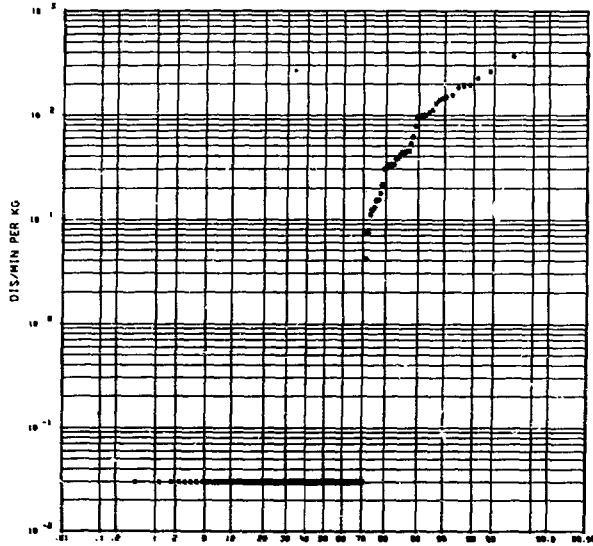
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LYMPH NODE TISSUE CONCENTRATION PER KG  
 NO. OF CASES = 42 MEDIAN = 15.0 5TH AND 95 PERCENTILE = 0.6400 0

FIG B-19 LASL HIGH POTENTIAL CASES, LYMPH NODE DATA TABLE A-V



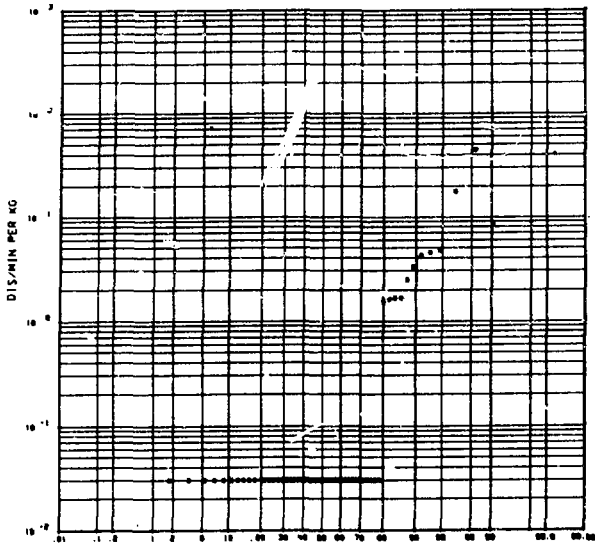
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LYMPH NODE TISSUE CONCENTRATION PER KG  
 NO. OF CASES = 14 MEDIAN = 700.0 5TH AND 95 PERCENTILE = 0.11E+06

FIG B-20 GENERAL CASES LYMPH NODE TABLE A-I.A-II.A-III



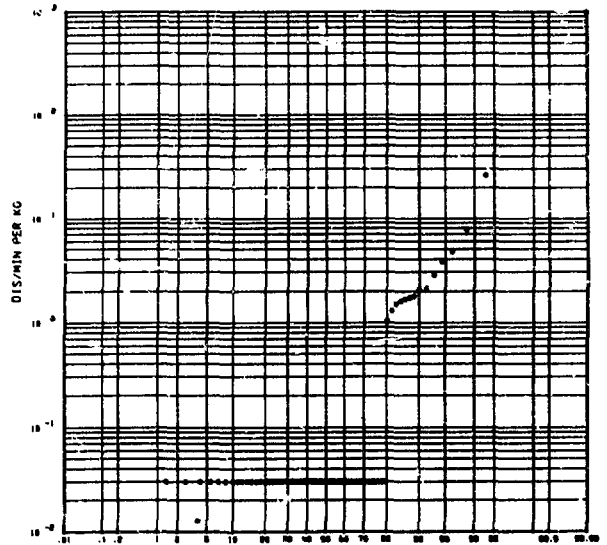
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN LYMPH NODE TISSUE CONCENTRATION PER KG  
 NO. OF CASES = 164 MEDIAN = 3.0 5TH AND 95 PERCENTILE = 0.1200 0

FIG B-21 LOS ALAMOS CASES. KIDNEY DATA FROM TABLE A-1



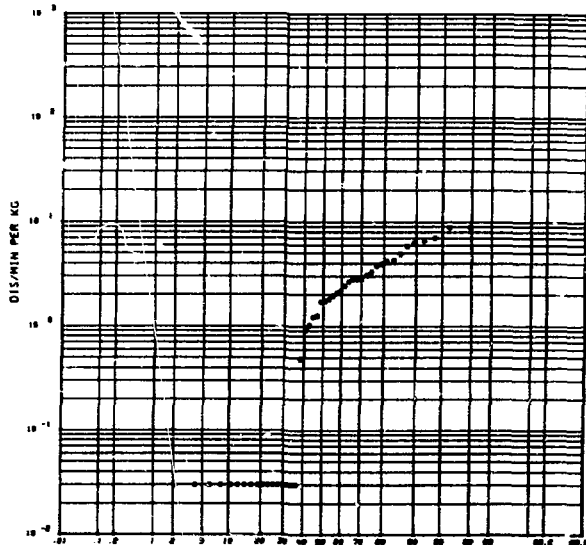
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN KIDNEY TISSUE, CONCENTRATION PER KG  
 NO. OF CASES = 54 MEDIAN = 0.1 5TH AND 95 PERCENTILE = 0.01, 10.0

FIG B-22 NEW MEXICO AND OTHER AREAS. KIDNEY DATA FROM TABLE A-11



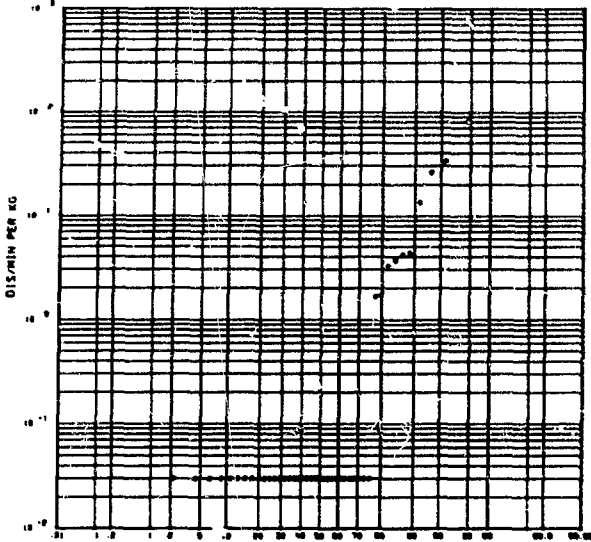
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN KIDNEY TISSUE, CONCENTRATION PER KG  
 NO. OF CASES = 66 MEDIAN = 0.2 5TH AND 95 PERCENTILE = 0.01, 5.0

FIG B-23 COLORADO CASES. KIDNEY DATA FROM TABLE A-111



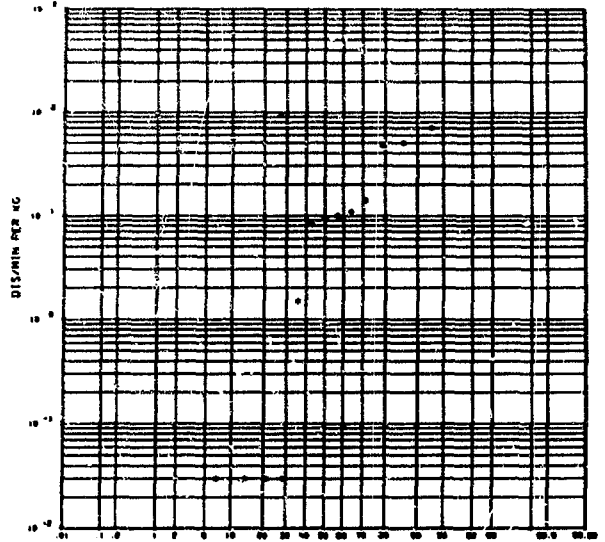
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN KIDNEY TISSUE, CONCENTRATION PER KG  
 NO. OF CASES = 45 MEDIAN = 1.4 5TH AND 95 PERCENTILE = 0.2, 8.0

FIG B-24 LASL LOW POTENTIAL CASES. KIDNEY DATA FROM TABLE A-IV



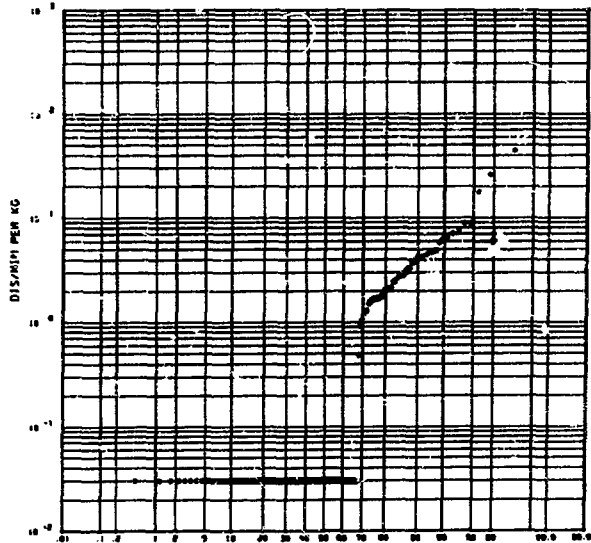
CUMULATIVE FREQUENCY IN PERCENT  
LOG-PROBABILITY PLOT OF PU IN KIDNEY TISSUE - CONCENTRATION PER KG  
NO OF CASES = 42 MEDIAN = 0.1 5TH AND 95 PERCENTILE = 0.01, 20.0

FIG B-25 LASL HIGH POTENTIAL CASES. KIDNEY DATA TABLE A-V



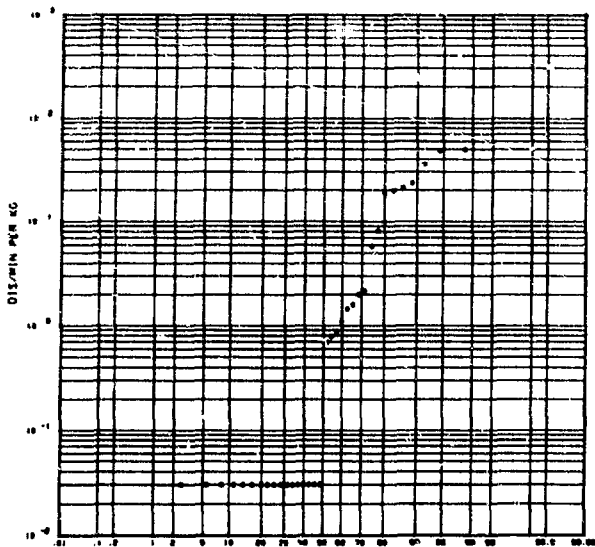
CUMULATIVE FREQUENCY IN PERCENT  
LOG-PROBABILITY PLOT OF PU IN KIDNEY TISSUE - CONCENTRATION PER KG  
NO OF CASES = 13 MEDIAN = 10.0 5TH AND 95 PERCENTILE = 0.61, 100.0

FIG B-26 GENERAL CASES. KIDNEY DATA TABLES A-I, A-II, A-III



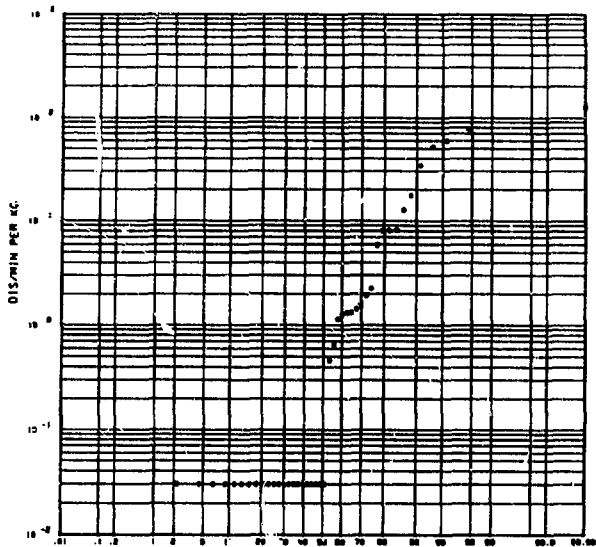
CUMULATIVE FREQUENCY IN PERCENT  
LOG-PROBABILITY PLOT OF PU IN KIDNEY TISSUE - CONCENTRATION PER KG  
NO OF CASES = 165 MEDIAN = 0.6 5TH AND 95 PERCENTILE = 0.05, 6.0

FIG B-27 LOS ALAMOS CASES. BONE DATA FROM TABLE A-1



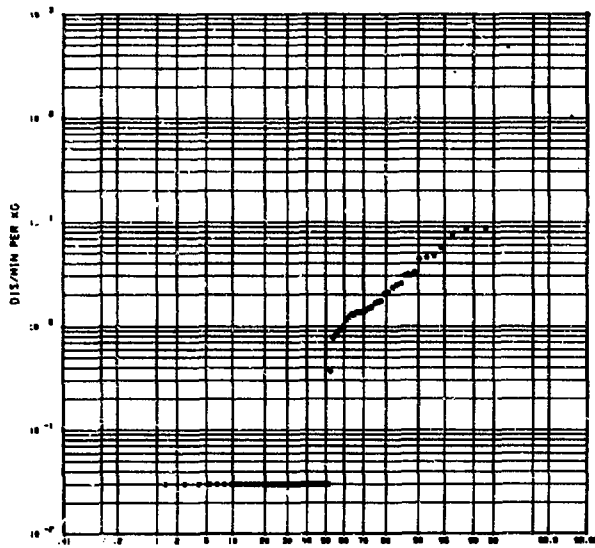
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN BONE - CONCENTRATION PER KG  
 NO. OF CASES = 35 MEDIAN = 0.4 5TH AND 95 PERCENTILE = 0.01, 60.0

FIG B-28 NEW MEXICO AND OTHER AREAS. BONE DATA FROM TABLE A-11



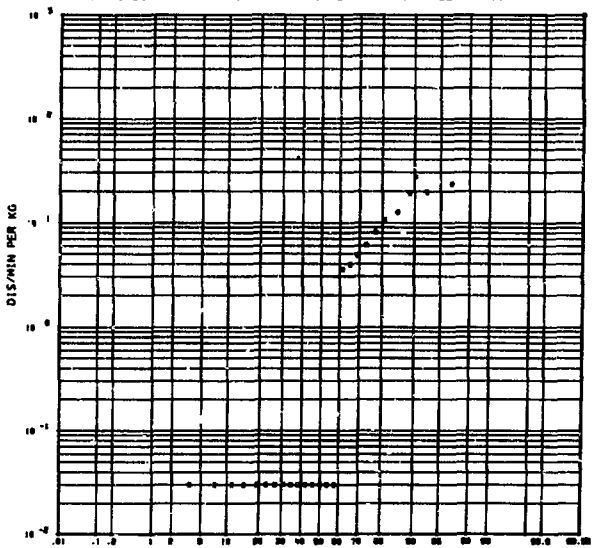
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN BONE - CONCENTRATION PER KG  
 NO. OF CASES = 41 MEDIAN = 0.6 5TH AND 95 PERCENTILE = 0.01, 60.0

FIG B-29 COLORADO CASES. BONE DATA FROM TABLE A-111



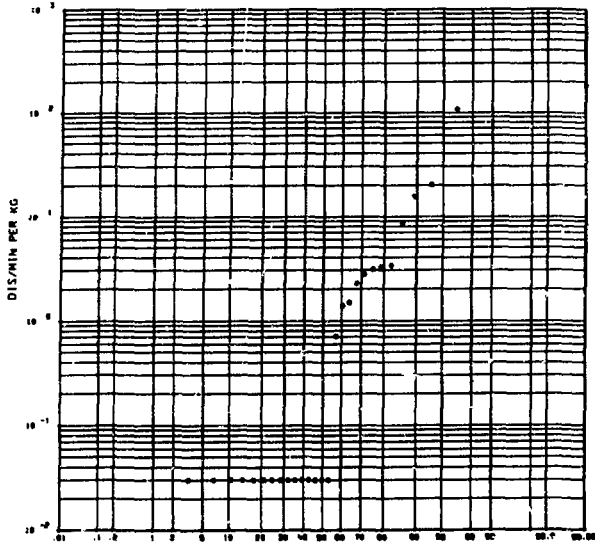
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN BONE - CONCENTRATION PER KG  
 NO. OF CASES = 66 MEDIAN = 0.9 5TH AND 95 PERCENTILE = 0.1, 6.0

FIG B-30 NEW YORK CITY CASES. BONE DATA FROM TABLE A-VII



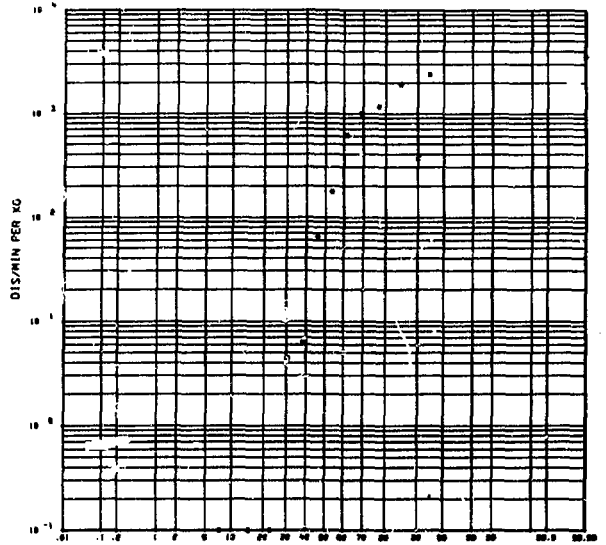
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN BONE TISSUE, CONCENTRATION PER KG  
 NO. OF CASES = 26 MEDIAN = 2.0 5TH AND 95 PERCENTILE = 0.1, 30.0

FIG B-31 LASL LOW POTENTIAL CASES, BONE DATA FROM TABLE A-IV



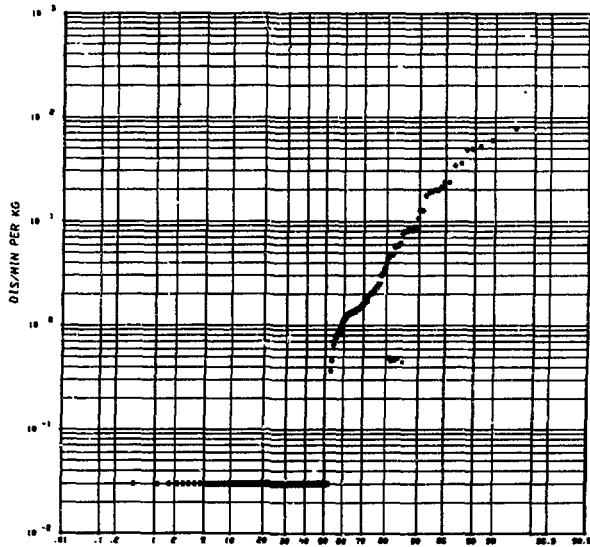
CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN BONE TISSUE CONCENTRATION PER KG  
 NO. OF CASES = 26 MEDIAN = 0.2 5TH AND 95 PERCENTILE = 0.01, 30.0

FIG B-32 LASL HIGH POTENTIAL CASES, BONE DATA TABLE A-V



CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN BONE TISSUE CONCENTRATION PER KG  
 NO. OF CASES = 11 MEDIAN = 50.0 5TH AND 95 PERCENTILE = 0.1, 1E+04

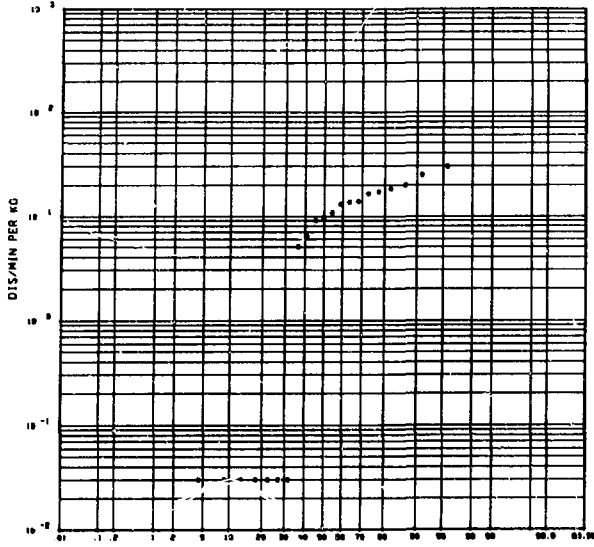
FIG B-33 GENERAL CASES, BONE DATA TABLES A-I, A-II, A-III, A-VII



CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN BONE CONCENTRATION PER KG  
 NO. OF CASES = 166 MEDIAN = 0.6 5TH AND 95 PERCENTILE = 0.02, 20.0

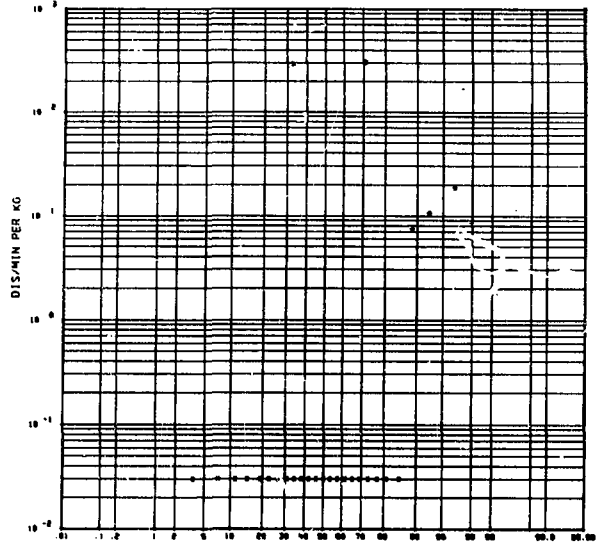


FIG B-34 COLORADO CASES, GONAD DATA FROM TABLE A-III



CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN GONAD TISSUE, CONCENTRATION PER KG  
 NO OF CASES = 23 MEDIAN = 10.0 5TH AND 95 PERCENTILE = 2.0, 30.0

FIG B-35 NEW YORK CITY CASES, GONAD DATA FROM TABLE A-VII



CUMULATIVE FREQUENCY IN PERCENT  
 LOG-PROBABILITY PLOT OF PU IN GONAD TISSUE, CONCENTRATION PER KG  
 NO OF CASES = 26 MEDIAN = 1.0 5TH AND 95 PERCENTILE = 0.07, 10.0

APPENDIX C  
SUMMARY TABLES

TABLE C-I  
50TH PERCENTILE DISTRIBUTION OF PLUTONIUM IN HUMAN TISSUE

Nonoccupationally Exposed	Plutonium Disintegrations per Minute per Kilogram					
	Lung	Liver	Lymph Node	Kidney	Bone	Gonad
Los Alamos	1.3(57) <sup>a</sup>	1.1(58)	5.0(52)	0.1(54)	0.4(35)	b
New Mexico & U. S.	1.0(76)	0.9(73)	4.0(66)	0.2(66)	0.5(41)	b
Colorado	0.5(66)	1.7(60)	2.0(46)	1.4(45)	0.9(65)	10.0(23)
New York	0.4(26)	1.7(26)	b	b	2.0(25)	1.0(26)
All Populations	0.8(217)	1.4(217)	3.0(164)	0.6(163)	0.6(166)	b
<b>Occupationally Exposed<sup>c</sup></b>						
Potential	4.0(44)	1.0(41)	15.0(42)	0.1(42)	0.3(25)	b
High Potential	100.0(15)	100.0(15)	700.0(14)	10.0(13)	50.0(11)	b

<sup>a</sup>(n) number of samples.

<sup>b</sup>Samples not requested.

<sup>c</sup>Data cannot be compared as a group because of differences in type and duration of exposure.

TABLE C-II  
SUMMARY OF PLUTONIUM IN HUMAN TISSUE  
ESTIMATED FROM LOG-PROBABILITY PLOTS OF  
CONCENTRATION PER kg OF TISSUE

Population	Tissue	Median (dis/min/kg)	5th to 95th Percentile of Results (dis/min/kg)
General	Lung	0.8	0.1 to 8.0
Low-Potential		4.0	0.1 to 80.0
High-Potential		100.0	1.0 to 1x10 <sup>4</sup>
General	Liver	1.4	0.3 to 5.0
Low-Potential		1.0	0.1 to 10.0
High Potential		100.0	0.1 to 1x10 <sup>4</sup>
General	Lymph Node	3.0	0.1 to 200.0
Low-Potential		15.0	0.6 to 400.0
High-Potential		700.0	0.1 to 1x10 <sup>6</sup>
General	Kidney	0.6	0.05 to 6.0
Low-Potential		0.1	0.01 to 20.0
High-Potential		1.0	0.01 to 100.0
General	Bone	0.6	0.02 to 20.0
Low-Potential		0.2	0.03 to 30.0
High-Potential		30.0	0.6 to 1x10 <sup>4</sup>

KT:1162(940)